

# 2019

## Sustainability Report

Innovating for a Brighter Tomorrow





# About the Report

## Scope

This report discloses the work of social responsibility carried out by Xinjiang Goldwind Science & Technology Co., Ltd. (hereafter referred to as “Goldwind” or “the Company”) from January 1, 2019 to December 31, 2019, as well as its commitment to sustainable development. Some contents where appropriate are traced back to previous years. The report covers Goldwind and its subsidiaries.

## Reporting Frequency

This is an annual report. The report of the previous year was issued on March 29, 2019.

## Reporting Reference

The report was compiled basing on Hong Kong Stock Exchange’s *Environmental, Social and Governance Reporting Guide*, Shenzhen Stock Exchange’s *Social Responsibility Guidelines for Listed Companies*. It also draws extensive reference from the Global Reporting Initiative’s (GRI) *Sustainability Reporting Guidelines*, International Organization for Standardization (ISO) *26000: Guidelines for Social Responsibilities (2010)* and other related documents.

## Data Specification

All financial data disclosed in the report is obtained from the Company’s *Annual Report*, while other data is obtained from the Company’s official documents and related statistics. Unless indicated otherwise, any financial data in the report is expressed in RMB.

## Reporting Commitment

This Report was examined and approved by Goldwind’s Board of Directors. It has been guaranteed that the reported contents do not contain any false information or misleading statement.

## 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 HYPERLINK “<http://www.goldwind.com.cn>” [www.goldwind.com.cn](http://www.goldwind.com.cn), or visit HYPERLINK “<http://www.cninfo.com.cn>” [www.cninfo.com.cn](http://www.cninfo.com.cn) and Hong Kong Stock Exchange’s website at HYPERLINK “<http://www.hkexnews.hk>” [www.hkexnews.hk](http://www.hkexnews.hk).





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## Letter from the Chairman



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We combine sustainable operation with global sustainable development. In addition to developing and expanding our wind power business, providing reliable green power, and reducing carbon emissions, we also focus on adapting to the development of the industry and promoting the integration and transformation from old growth drivers to new ones for the implementation of our strategies. The expectations of shareholders, employees, suppliers, communities, and other stakeholders are well integrated into corporate business development, so as to generate mutual support, and boost and achieve common development.

”

Since the beginning of the 21st century, a series of environmental and social issues such as environmental pollution, shortage of resources, and widened wealth gap, have severely interrupted people's normal production activities and lives. What's worse, natural disasters caused by environmental changes have already resulted in more casualties than regional conflicts and wars around the globe. To address these issues, governments across the world have issued policies or proposed solutions; companies in various countries have gradually realized their responsibilities, and began to integrate the handling of environmental and social issues into their business activities. Corporates are making the most of their creativity and innovation capabilities to jointly address the challenge of global sustainable development.

As a world-leading wind turbine R&D and manufacture enterprise and a comprehensive solution provider in wind power, Goldwind plays an active role in tackling climate change, and continuously develops and promotes wind power technologies and products. Currently, we provide wind turbines to more than 20 countries, and have built wind farms in multiple countries and regions, securing steady supplies of green power. As of the end of 2019, our accumulative global installed capacity of wind power has exceeded 60GW, with an annual power generation of about 120 billion kilowatt-hour (kWh), an equivalent of carbon dioxide emission reduction of 122.82 million tons per year when compared with thermal power.

In 2019, we were granted China's supreme honor in quality management, the China Quality Award, becoming the first winner in wind power industry. We introduce the Performance Excellence Model and establishes a layered management standard to guide the continuous improvement and innovation of WTGs and services so as to deliver excellent business performance. We always adhere to the idea of long-term quality management of wind power, and work to build a fully optimized industrial chain so as to ensure the quality and stability of wind turbines over the entire life cycle, and thereby reduce the levelized cost of energy.

In 2019, we continue to advance wind power technologies and product innovation, and enhance power generation efficiency of wind turbines, as well as their performance, so as to boost the advantage of wind power over various other power sources. By integrating cutting-edge technologies, we have launched two smart wind turbines, namely, GW155-4.5 MW and GW136-4.8 MW, which can better adapt to the wind conditions and environment with medium and high wind speed.

Goldwind has been promoting technological innovation and optimizing the industrial ecology simultaneously, aiming to build a business ecosystem for upstream, midstream, and downstream enterprises along a fully optimized industrial chain. We strive to surpass traditional technologies, and integrate advanced technologies such as artificial intelligence, Internet of Things (IoT) and big data with the technological development of wind power industry, so as to build a green and smart wind power industrial chain. For the Green Supply Chain Project, we have established environmental information management platform for suppliers, and remote analysis and diagnosis of energy consumption and emissions. We also provide energy-saving and environmental protection solutions, and strengthen green manufacturing capabilities of the supply chain. We have developed and applied technological products such as distributed energy resources, energy storage technologies, and smart micro-grid, to create more scenarios for the application of wind power. What's more, we have innovated an intelligent operation and maintenance service platform that integrates a variety of information systems and intelligent control software and enables multiple functions including

turbine status warning, fault diagnosis, and wind turbine operation optimization. Consequently, on-site work hours for maintenance personnel are substantially shortened, yet operation and maintenance efficiency is significantly improved.

Goldwind is committed to enhancing the environmental friendliness of wind turbines, optimizing control strategies, and minimizing noises, light-shadow flickering, and impacts on birds when wind turbines operate. The tailored wind turbine coating process is designed to properly blend the coating of wind turbine surfaces into the natural environment and local culture. On top of it, we have also applied green energy management techniques to our own office areas and operation sites, in the form of energy efficiency improvement, resource conservation, and renewable energy use projects. Our smart park located in Yizhuang, Beijing makes full use of clean energy by utilizing wind power, photovoltaic power, and natural gas. Goldwind has achieved 65% of clean energy totally in 2019.

We combine sustainable operation with global sustainable development. In addition to developing and expanding our wind power business, providing reliable green power, and reducing carbon emissions, we also focus on adapting to the development of the industry and promoting the integration and transformation from old growth drivers to new ones for the implementation of our strategies. The expectations of shareholders, employees, suppliers, communities, and other stakeholders are well integrated into corporate business development, so as to generate mutual support, and boost and achieve common development. In 2019, with the joint efforts of all employees and the support of stakeholders, the total assets of Goldwind exceeds RMB 100 billion for the first time, rising to a new level.

Wind power is an enduring and promising cause. With our founding missions firmly in mind, clean water and clear sky will persist. In 2020, the wind power industry will usher in a new era of grid parity, which is both challenging and with a lot of opportunities. Driven by the core value of "creating values for life achievements", Goldwind will continue to create an ecosystem conducive to its development through professionalism, intelligence, and technological innovation. We will make full use of various challenges to consolidate our basic management, and promote the business philosophy of working efficiently and living happily, so as to create new growth opportunities and realize leapfrog development.

With the mission "innovating for a brighter tomorrow" in mind, Goldwind moves ahead based on its expertise and experience, and gives full play to the role of wind power in addressing climate change and alleviating global energy tensions so as to benefit the human society. Together with stakeholders, we grow and progress, and we jointly promote the sustainable development of the economy, society, and environment for a brighter future.

Wu Gang  
Chairman of Goldwind





RMB **103.1** billion  
Total asset

RMB **38.2** billion  
Revenue

RMB **2.2** billion  
Net profits attributable to shareholders of the Company



**>60** GW  
Global installed capacity

**>35,000** units  
WTG operating worldwide

**65** %  
Ratio of renewable energy use



**No. 3**  
Global ranking of WTG manufacturers

**No. 1**  
Domestic ranking of WTG manufacturers

**28** %  
Domestic market share of wind power

**2,752**  
Patent licenses



**8,961**  
Total number of employees

**2,826**  
R&D engineers

**20** %  
Ratio of female managers

**106** days  
Working day loss due to occupational injuries

## 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 high-quality 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 the rapid market growth and meet a wide range of client needs, we have been improving and refining our product portfolio. Now we have 1.5 MW, 2.X MW, 2.5 MW, 3.0 MW(S), and 6.X MW PMDD WTGs that are adaptable to various operating environments, such as high and low temperature, high altitude, low wind speed, and coastal area. According to statistics released by Bloomberg New Energy Finance (BNEF), with domestic newly installed capacity of 8.01 GW in 2019, the Company achieved a domestic market share of 28% and was ranked No.1 in Chinese market for 9 consecutive years; with the global newly installed capacity of 8.25 GW, the Company achieved a global market share of 14%, ranking among the top three global wind power generator manufacturers for many consecutive years.



## Our Businesses

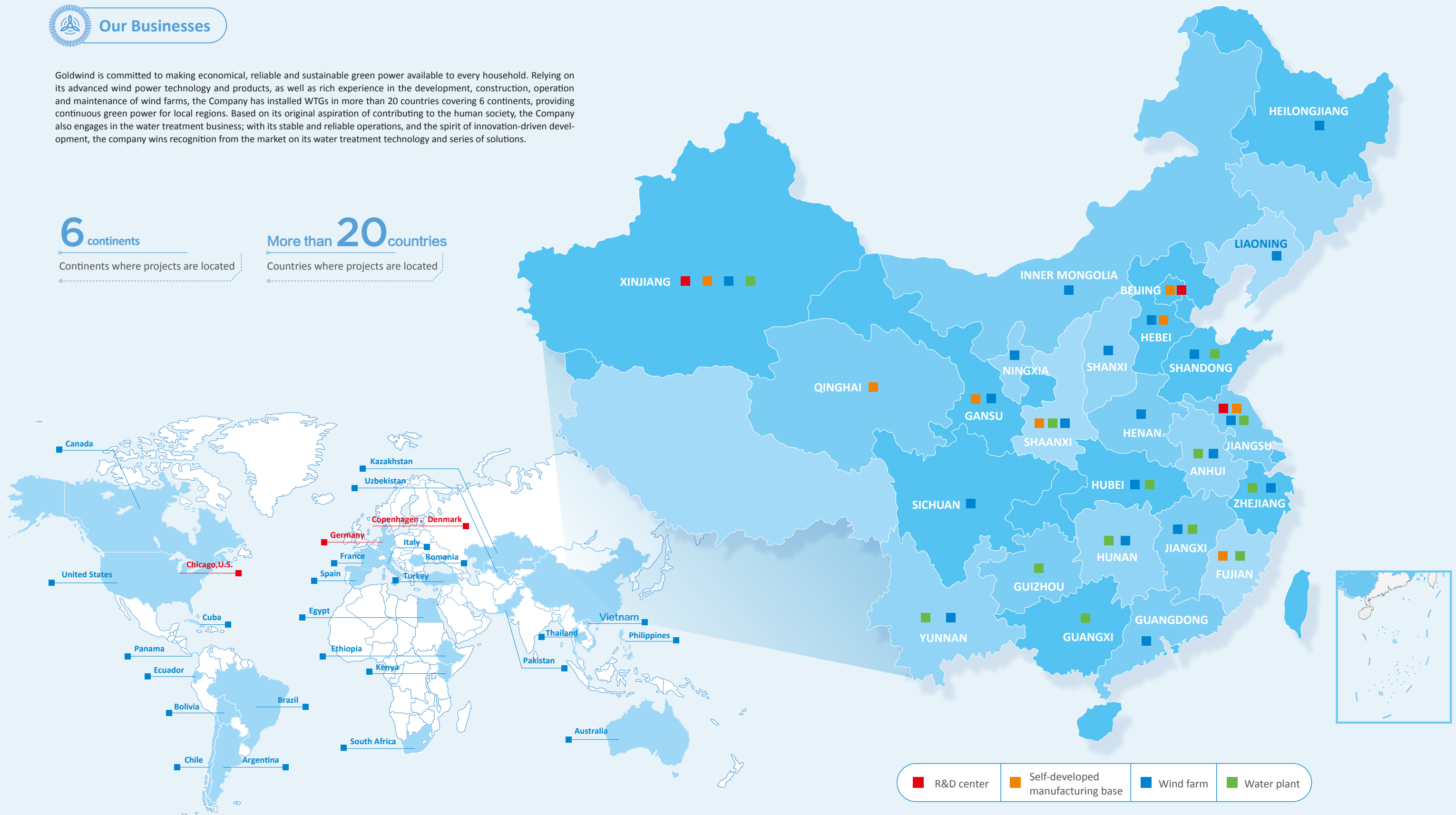
Goldwind is committed to making economical, reliable and sustainable green power available to every household. Relying on its advanced wind power technology and products, as well as rich experience in the development, construction, operation and maintenance of wind farms, the Company has installed WTGs in more than 20 countries covering 6 continents, providing continuous green power for local regions. Based on its original aspiration of contributing to the human society, the Company also engages in the water treatment business; with its stable and reliable operations, and the spirit of innovation-driven development, the company wins recognition from the market on its water treatment technology and series of solutions.

**6** continents

Continents where projects are located

More than **20** countries

Countries where projects are located







## Our Strategy

With “innovating for a brighter tomorrow” as our mission, Goldwind is committed to becoming a global leader to provide clean energy, energy conservation, and environmental protection solutions, and is fully focused on the noble undertaking of utilizing technological power to make a significant contribution to the sustainable development of society. In this critical timing of energy transformation, we see both opportunities and challenges. In addition to enhancing strategic core businesses, Goldwind will continue to explore and develop innovative “seed” businesses, and to gain deeper access to the entire industrial chain of wind power. Guided by the “Offshore & Overseas Strategy”, we will build up five business sectors, including onshore wind power, offshore wind power, overseas wind power, wind power related services, and wind power engineering, to provide full-life-cycle solutions to wind farms. We will keep on building up the network of “source-grid-load” along the industrial chain to provide clients with comprehensive energy related services, such as renewable energy resources and related services, distributed energy resources and related services, and energy conservation and storage solutions. With our development in water treatment technology, water treatment engineering capabilities, and our technological exploration in the Internet of Things, we can develop integrated and intelligent water solutions for efficient water asset management. In addition, we shall adhere to providing financial services to support the development of other businesses and develop the financial equity investment business in a steady manner.



### Mission

Innovating for a brighter tomorrow



### Vision

To be a global leader of clean energy, energy conservation and environmental protection solutions



## Strategic Actions



### Digitalization

Leverage our digitalization nature to build up three digital ecosystems, namely, digitalized wind farms, energy network, and fully optimized industrial chain, and to make our products, businesses, and management digitalized and intelligent.



### Internationalization

Speed up the internationalization of our strategic businesses, and focus on three international business models of “sales, invest-build-transfer, and services” with a steady scale of investment to drive the development of wind turbine sales and related services and strengthen our core competitiveness in global market.



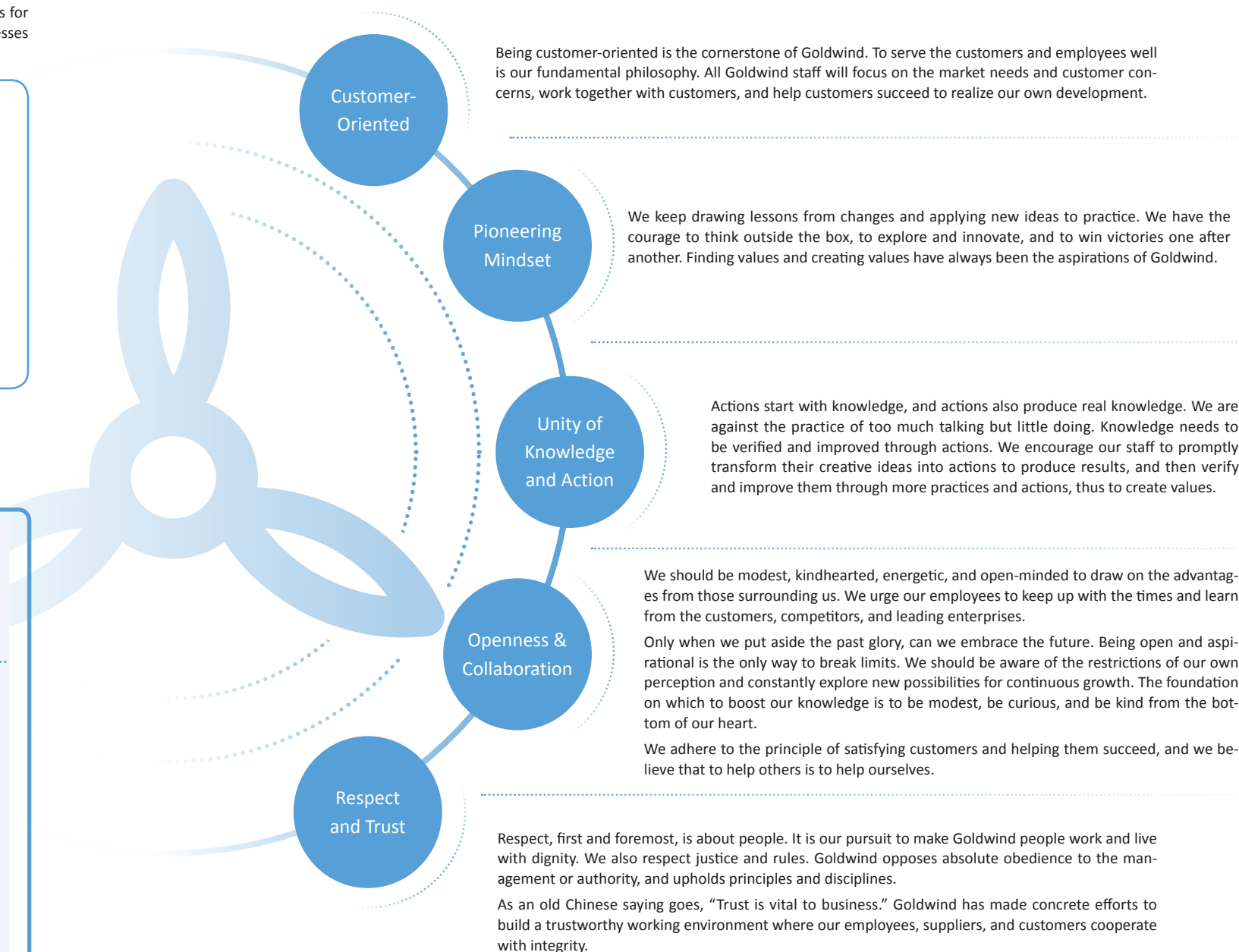
### Diversification

Enhance the clean energy industrial chain, strengthen our leading position in the wind turbine industry, explore complementary businesses such as photovoltaics and energy storage, promote full-life-cycle operations from project development, investment, to trading in the energy network of “source-grid-load”, and continuously expand our environmental protection solution business to promote diversified business development.



## Corporate Culture

The value shared by all Goldwind staff is to “create values for life achievements”. Creating values is our unswerving pursuit, and is also the motive power behind our healthy development. And life achievements are the embodiment of both our business development and personal achievements, and are the driving force for sustained and remarkable development.





## Awards and Honors

Named as a Fortune China 500 company by fortunechina.com and CICC Wealth Management

Named as a New Fortune Best Listed Company by New Fortune and Guanghua-Rotman Center for Information and Capital Market Research

Granted 18th China Quality Award by the China Association for Quality

Ranked 54th in Carbon Clean 200 by As You Sow, a non-profit organization in the US, and Corporate Knights, a market research company in Canada

Granted the Climate Leadership Awards at the annual Climate Leadership Awards ceremony sponsored by the Energy Foundation

Granted China ESG Golden Awards 2019 for Sustainable Development and Environmental Responsibility at Sina Gold Kirin Forum organized by Sina Finance

Named as Top 500 Chinese Brands by the Brand Observer magazine, the Brand Observation Institute, the Brand Observation Business School, and other organizations

Granted the Standardization Innovation Award and Standardization Organization Award at the Annual Conference and Standards Review Meeting of National Mechanical Committee for Standardization of Wind Machinery

Named as Top 100 Green Development Pioneers at the ESG Information Disclosure Evaluation Conference of Chinese Listed Companies

Goldwind has participated in the project “Key Technologies and Applications of Large Low-Speed High-Efficient Permanent Magnet Direct-Drive Wind Turbine Generator”, which has been granted the second prize of the State Technological Innovation Award 2019

Ranked 17th among Top 100 Enterprises in China Machinery Industry by China Machinery Industry Federation (CMIF)

Granted Outstanding Contributor during the 30 Years of Wind Power Industry Development in the annual conference and the 30th anniversary celebration of the National Wind Energy Equipment Industry Association

Listed on National Top 100 Quality and Integrity Benchmarking Enterprises released by China Association for Quality Inspection

Awarded Green Development Contributions in the CSR promotion program, China Benefit Corporation, organized by Tencent News

Awarded Top 10 Listed Energy Companies with Green Development Contributions at the 2019 Energy Annual Conference and the 11th China's Energy Enterprises Summit Forum

Named as Top 500 Chinese Enterprises with Most Patents released at the China Marketing International Conference and China Creation Forum

Listed on 2019 China Best Employers by zhaopin.com and Peking University Institute of Social Science Survey

Awarded the Excellent Corporate Culture Practices in the 2019 Happy Enterprise Forum hosted by People's Daily

## Sustainable Development Management

Goldwind adheres to the culture-based manager-leading sustainable development management policy that covers all employees, and applies to industry, households, and society. In Goldwind, sustainable development concepts are well integrated with corporate governance and business operations, in order to set up a unique sustainable development management system that enhances systematization, standardization and internationalization year by year, and maximizes contributions to the economy, society and environment. Meanwhile, the company keeps in alignment with international initiatives and standards such as the 2030 Agenda for Sustainable Development, and organically connects the operation with the efforts in promoting the sustainable development of society and the environment, so as to identify risks in its business activities, discover business opportunities to boost social development based on its advantages, and achieve the sustainable development of both the Company and society.

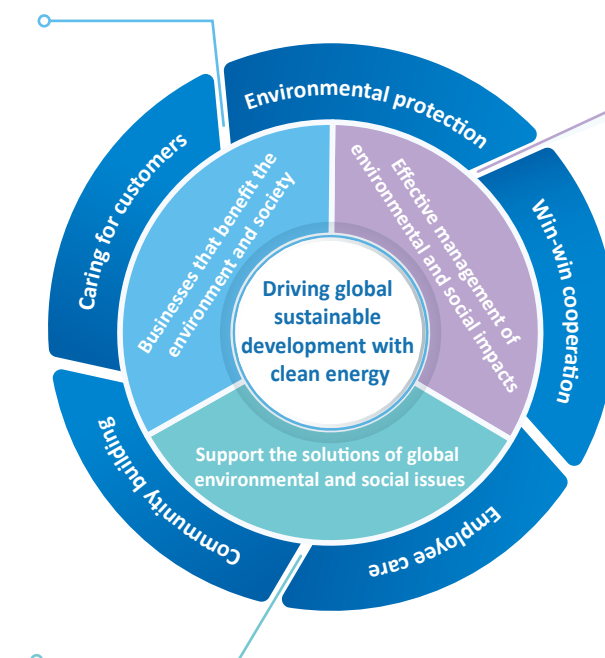


## Sustainable Development Concepts

The Company is committed to making economical, reliable and sustainable green power available to innumerable households, and protecting our beautiful homeland together with the general public while boosting the economic and social prosperity and development. All the businesses that the Company is engaged in should benefit the environment and society. Through transparent and regulated operations, the Company effectively manages the impacts of business decisions and operations on society and the environment, and strives to achieve sustainable development with its stakeholders. In addition, it positions its own development in the general framework of global sustainable development, and exploits its unique business advantages to promote the solution of global issues such as resource constraints, poverty, and environmental degradation, creating both business value and social value.

Be it wind power or water treatment, all the businesses the Company engages in should benefit the environment and society at first. This is an important criterion for Goldwind's current and future business development, and also the basis for furthering its efforts in sustainable development.

Take action and make contributions regarding urgent and important global economic, social and environmental challenges, select appropriate sustainable development topics, and exert positive effects and influence based on its business advantages and resource accumulation in clean energy equipment manufacturing and energy management, so as to contribute to the solutions of problems concerning global sustainable development.



The Company focuses on the environmental and social impacts of its business operations such as the R&D and manufacturing of wind turbines, wind power services, and wind farm development and construction, and tries to maximize the positive effects by actively promoting technological innovation, management process improvement, project implementation, and other campaigns.

Goldwind Sustainable Development Model





## Sustainable Development Organization System

The Sustainable Development Management Committee has been established to systematically manage efforts in promoting sustainable development under the supervision of the Board of Directors, promote the establishment of an appropriate sustainable development management structure, institutional system and cultural environment, and lay a solid foundation for fulfilling CSR and achieving sustainable development. The Committee comprises senior corporate managers and is responsible for defining the strategic direction for CSR and sustainable development, addressing critical problems of implementation, and ensuring that such strategies and other social or environmental appeals are included into its decision-making process.



## Sustainable Development Communication

The company actively adopts multiple means of communication to maintain smooth communication with various stakeholders. While promoting sustainable development concepts and actions, the Company also listens to advices and suggestions from its stakeholders, in order to improve its performance in sustainable development.

- ◆ Sustainability Report is the main media for the Company to communicate sustainability-based information with its stakeholders. The Company has issued the Report for many consecutive years, demonstrating its progress in the management and practice of sustainable development;
- ◆ The Collection of Goldwind Excellent Cases in Sustainable Development 2019 was compiled to summarize Goldwind's best practices in fulfilling CSR and boosting sustainable development, providing reference for improving the sustainable development practices within the Company;
- ◆ The Company joined China's professional platforms for sustainable development such as China ESG Leaders Association to share the latest progress and best practices in the field of sustainable development with counterparts.



The Company was a constituent of the MSCI ESG Leader Index for two consecutive years. Created by the U.S. company MSCI, this index is one of the world's key indexes in CSR investment, and constituents are companies with excellent ESG results.



The Company was included in the FTSE4Good Index Series for the first time, which is the first index series to measure corporate performance that meets globally accepted corporate responsibility standards.



The Company became a constituent of Hang Seng Corporate Sustainability Benchmark Index and the Hang Seng A-share Sustainable Development Index for the third consecutive year since September 2017.

As one of the 100 best-performing A-share companies in ESG, it was included in Beautiful China ESG 100 Index.

As one of the 100 listed companies with high comprehensive value in economic, social, environmental and governance aspects, the Company was included in the CSI Sustainable Development 100 Index (ETF).



## Stakeholder Engagement

Communication with stakeholders is an important part of Goldwind's sustainable development management. The Company accurately identifies its stakeholders and communicates with them by organizing meetings, visiting them at regular intervals and conducting satisfaction surveys to understand their expectations and interests for the Company, and taking measures based on the production and operational situation of the Company to make efforts to respond to stakeholders and reasonably satisfy their demands.

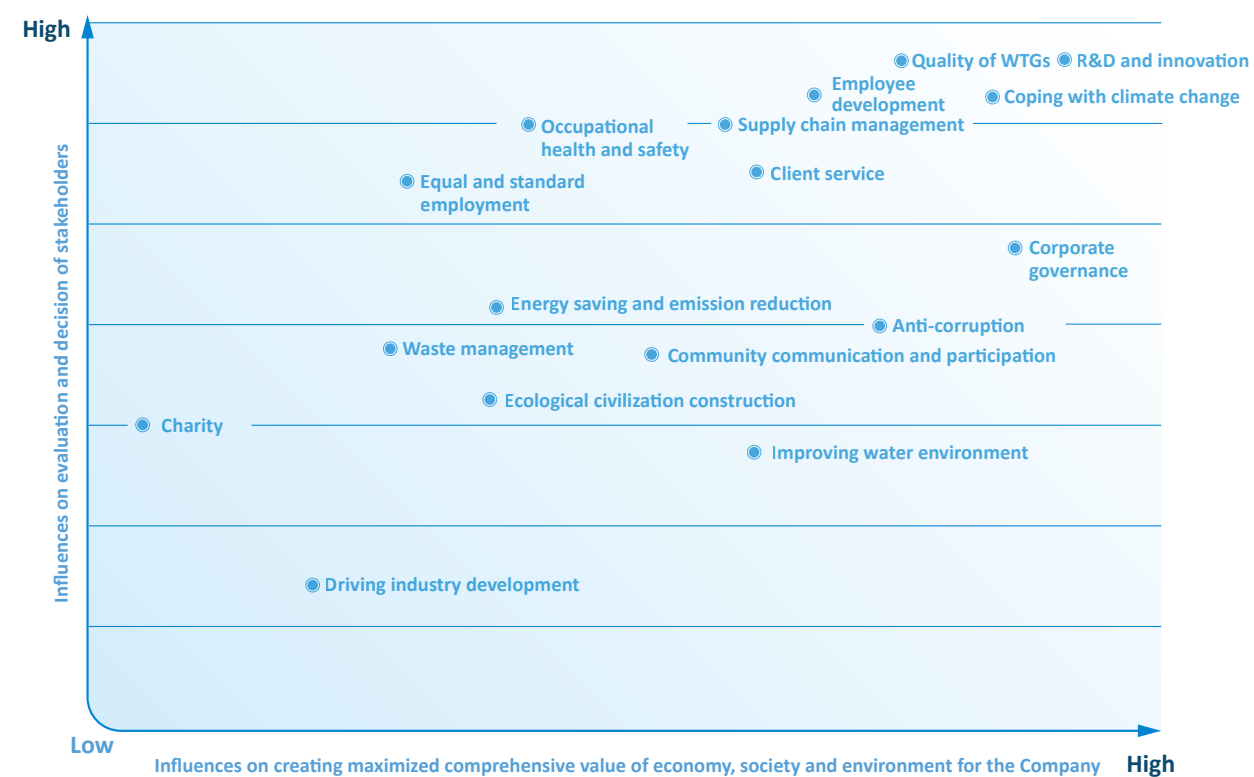
| Stakeholders  | Major Concerns or Expectations  | Responses   |
|---|---|---|
| Shareholders and creditors                            | <ul style="list-style-type: none"> <li>Sustainable profitability</li> <li>Regulation of corporate governance</li> <li>Disclosure of business information</li> <li>Enhance the profitability to reward shareholders</li> </ul> | <ul style="list-style-type: none"> <li>Enhance business management capacity</li> <li>Strengthen management of debt risk</li> <li>Optimize internal compliance management system</li> <li>Timely disclosure of information</li> <li>Organize shareholders' meeting</li> <li>Reasonable profit return</li> </ul>                              |
| Clients   | <ul style="list-style-type: none"> <li>Honest contract performance and integrity</li> <li>High-quality products</li> <li>Excellent services</li> <li>Responses to client requests</li> </ul>                                  | <ul style="list-style-type: none"> <li>Strictly implement requirements set forth in contracts</li> <li>Strengthen product quality management</li> <li>Offer differentiated, high-quality products</li> <li>Offer excellent services</li> <li>Improve the procedure to handle client complaints</li> <li>Protect customer privacy</li> </ul> |
| Employees   | <ul style="list-style-type: none"> <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>                 | <ul style="list-style-type: none"> <li>Equal and standard employment</li> <li>Appropriate salary and social insurance payments in a timely manner</li> <li>Improve talent development channels</li> <li>Offer competitive salaries</li> <li>Offer diversified welfare</li> <li>Offer healthy and safe work environment</li> </ul>           |
| Suppliers and other partners                          | <ul style="list-style-type: none"> <li>Transparent procurement</li> <li>Honest contract performance and integrity</li> <li>Win-win cooperation</li> </ul>   | <ul style="list-style-type: none"> <li>Open and fair procurement</li> <li>Timely payment for goods</li> <li>Support the healthy development of suppliers</li> <li>Improve supplier quality and technology</li> </ul>  |
| Community   | <ul style="list-style-type: none"> <li>Protection of local environment</li> <li>Support of community development</li> <li>Charity and welfare</li> </ul>  | <ul style="list-style-type: none"> <li>Carry out energy conservation and emission reduction actions</li> <li>Protect ecological environment</li> <li>Support public affairs of the community</li> <li>Carry out charity activities within the community</li> </ul>  |
| Government  | <ul style="list-style-type: none"> <li>Follow laws and regulations</li> <li>Drive local economic development</li> <li>Pay taxes according to law</li> </ul>   | <ul style="list-style-type: none"> <li>Follow 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. | <ul style="list-style-type: none"> <li>Common development</li> <li>Information disclosure</li> </ul>  | <ul style="list-style-type: none"> <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 of Key Aspects

On the basis of internal and external stakeholder expectations, its business scope and global sustainable development, and with reference to domestic and international CSR standards, guidelines, initiatives, as well as regulations on the development of wind power industry, a total of 40 topic issues concerning the Company's economic, social and environmental impacts that are of importance to stakeholder decisions were identified. After being reviewed by the Company management and being adjusted according to surveys involving stakeholders, all the issues to be disclosed in the Sustainability Report were confirmed.

In December 2019, the Company issued to its stakeholders a questionnaire concerning topics to be covered in the Sustainability Report, and received feedback and suggestions from investors, customers, employees and suppliers. A total of 100%-valid 120 questionnaires were collected.



Matrix for the key aspects of the 2019 Sustainability Report of the Company





# 01

## Corporate Governance

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.

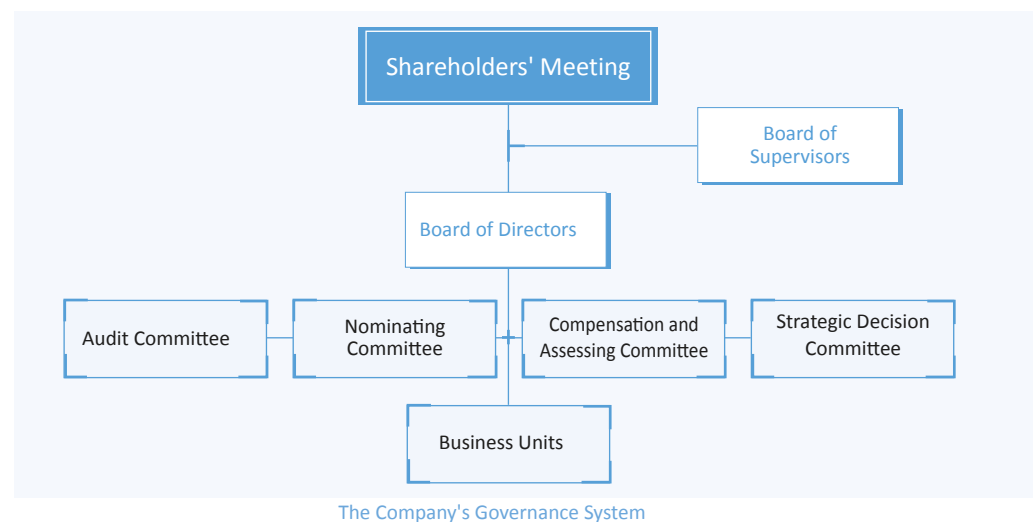
### United Nations Sustainable Development Goals Supported



Goldwind has established a robust anti-corruption system. It spares no effort in raising public awareness against corruption and in expanding its training programs. It has set up complaint channels and strives to create a transparent and healthy work environment. [P22](#)

# Corporate Governance

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 are Audit Committee, Nominating Committee, Compensation and Assessment Committee, and Strategic Decision Committee, with each specializing in its field to promote the efficient, scientific, and standardized operation of the Company.



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

The Board of Directors consists of 9 directors, with deep industry professional background or rich corporate management experience. In order to ensure the diversity of board members in terms of skills, experience and perspectives, improve the efficiency of board operations, and maintain a high standard of corporate governance, the Company formulates and abides by diversity policies, and makes scientific and reasonable appointments of candidates by considering factors such as gender, race, age, language, cultural background, education background, industry experience and professional experience in accordance with the procedure set by the Nominating Committee. Three directors have many years of experience in the wind power industry and management, and three independent directors are experts in accounting, financial management and wind power, complementing the corporate members. There are two female directors, accounting for 22% of the total number. The Board of Directors adheres to the communication and decision-making mechanism with "integrating collective wisdom and making democratic decisions" as its core, giving full play to the wisdom and professional capabilities of directors. When reviewing major issues, it seeks the opinions of each independent director regarding major issues such as capital operations, profit distribution, connected transactions, external guarantees, venture capital, and internal control self-assessment reports.

The Board of Supervisors is the Company's permanent supervisory body, responsible for supervising the board of directors and its members, as well as senior managers such as the President, Vice President, and Chief Financial Officer, so as 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 the corporate development. In 2019, the Company held 13 board meetings and reviewed 55 proposals including annual reports and profit distribution plans. The Company held 3 shareholder meetings and reviewed 20 proposals. It also held 4 meetings of the Audit Committee, 3 meeting of the Nomination Committee and 2 meeting of Compensation and Assessment Committee.

22%

The percentage of board members who are women

Please refer to the "Corporate Governance" section of the 2019 Annual Report (A-shares: 002202) or the "Corporate Governance Report" section (H-shares: 2208) 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, and continuously improves its compliance system with daily consultations, major issue assessments, compliance training and inspection, accepting feedback and suggestions to improve itself, as well as amending the *Articles of Association*, *Fundraising Governing Mechanisms*, *Working Rules of the Nominating Committee*, and Working Rules of the Audit Committee in accordance with relevant rules and regulations. Following the rules of stock exchanges in both Shenzhen and Hong Kong, the Company sorts out subsidiaries and business units that may have compliance risks according to their business characteristics, and conducts investigation and verification of their compliance. In addition, the Company tailors compliance training materials in accordance with different characteristics of subsidiaries and business units, providing them with multiple training sessions and promotional activities throughout the year, thereby enhancing their compliance awareness and capabilities and raising the overall quality of management.

# Risk Management

The Company attaches great importance to risk management, continuously strengthens its risk management and control, and gradually establishes standardized risk management methods, tools and standards, so as to facilitate the identification, evaluation and response of risks in various business systems. In addition, the Company strengthens the tracking and containment of potential risk events, and enhances the risk awareness and risk management capabilities of employees to promote the realization of corporate strategic goals. In 2019, the Company investigated all the business segments to evaluate the effectiveness of current risk management and control, so as to improve its risk management system.



## Risk Classification

Establish a risk classification framework according to the characteristics of business for risk review and classification



## Risk Identification

Based on the risk classification framework, analyze and identify potential factors that may affect the realization of corporate strategic business objectives by adopting methods such as questionnaires, report analysis, process analysis and expert discussions



## Risk Assessment

Assess the possibility of risk occurrence and its influence, prioritize major risks through comparative analysis, and preliminarily determine the management priority and response strategy



## Risk Response

Based on the actual conditions and external environment, establish risk management plans including risk aversion, risk reduction, risk sharing, and risk acceptance.

Corporate Risk Management Process



## Anti-Corruption

Under the guidance of the Board of Director Audit Committee, the Company has set up an independent Audit and Supervision Department to monitor and tackle corruption. The Company continuously improves its anti-corruption system, establishes anti-corruption behavior and ethical standards, optimizes related supervision, inspection and restriction mechanisms, and set up anti-corruption systems and processes by identifying key areas and links. In 2019, no legal proceedings related to company corruption were recorded.

The main anti-corruption regulations of the Company include:

- *Regulations against Bribery in Work*
- *Employee Ethics & Code of Conduct*
- *Goldwind Executives Sunshine Convention*
- *Reward & Penalty Management System*
- *Supervision Management System*

In 2019, the Company further improved its anti-corruption mechanism, and formulated and issued the “Supervision Management System” to clarify the supervision organization, job responsibilities, disciplines and principles, and supervision measures among others, stipulate procedures for reporting, acceptance, investigation, and handling of supervision matters, strengthen supervision and accountability to strictly punish corruption, and introduce professional supervisors to strengthen the prevention and crackdown of major violations of laws and regulations.

The Company promotes its corporate culture, and builds a long-term mechanism that prevents employees from conducting corruption through extensive publicity on legal and moral rules. More than 10 anti-corruption sessions were carried out in 2019, covering over 300 employees.

The company encourages all employees and external personnel to report any corruption incidents. It publishes on its official website, office space and digital platforms the channels through which complaints and reports can be made, designates staff to handle these complaints and reports, and guarantees measures to protect employees or related persons who are involved in the reporting and investigation.

Anti-corruption reporting

Hotline: +86-0(10)-67511888-1127

Email: [audit@goldwind.com.cn](mailto:audit@goldwind.com.cn)

Address: Audit & Legal 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, strictly fulfills its information disclosure obligations, and discloses corporate management information in a timely, accurate and complete manner. The Company improves its investor rights protection mechanism, and strictly implements decision-making procedures in accordance with relevant laws and regulations. As for all the resolutions of the Shareholders' Meetings, the Company separately counts and discloses the voting results of small and medium investors. Its management has been continuously optimized to improve operating performance and realize value sharing with investors.



### Information Disclosure

As a company listed on both the Shenzhen and Hong Kong Stock Exchange, Goldwind continues to refine information disclosure system and releases company information in a timely, accurate and complete manner in accordance with the principle of “strictly implementing regulatory rules and disclosing consistent information in both exchanges”, so as to ensure that investors of both exchanges have fair access to corporate information and fully understand corporate operation and business conditions in a timely manner. In 2019, the Company issued 4 regular reports, 149 A-share announcements and 190 H-share announcements in both Chinese and English.



### Investor Communication

The Company attaches great importance to investor relationship management. Through information disclosure and communication, it enhances transparency and increases investors' understanding and recognition of the Company. As a player in the new energy industry featuring frequent regulatory policies and fierce market competition, the Company keeps itself updated on operations and finances as well as competitors' conditions, and monitors and analyzes the policies formulated by the regulatory departments, the capital market, and the macro economy as well, so as to communicate with investors in a timely and effective manner and establish good investor relationships of mutual benefit and trust. The Company builds a comprehensive platform for timely and effective communication with investors through regular performance conferences and roadshows, regular surveys of investors, and communication channels such as investor email, hotline, official website, WeChat official account and WeChat group. In 2019, the Company organized 2 overseas roadshows, 3 performance conferences, 2 online reception days, and 86 communicational conferences, and participated in 3 sell-side summits, receiving a total of 1,942 investors throughout the year. It responded to all the questions investors raised via IR platforms, email and hotline.



In the 10th China Listed Company Investor Relations Selection sponsored by the Securities Times in April 2019, Goldwind won the “Tianma Award” for the Best Board of Directors and the Best New Media Operation consecutively.



Global Press Conference on the 2019 Half-year Results



### Returns of Investors

The Company attaches importance to investors' long-term and sustained returns. Through stable operation and scientific management, it continuously improves its profitability and rewards investors with sound operating performance. It has been implementing a proactive and stable cash dividend policy for consecutive years, enabling investors to receive continuous returns from sound corporate development. In 2019, the Company generated a revenue of RMB 38.24 billion; net profits attributable to shareholders of the Company RMB 2.21 billion; the basic earnings per share RMB 0.51/share.

# 02

## Research & Development

Goldwind strives to drive corporate development through technological development, promotes active innovation, and facilitates high-efficiency green energy production and application based on big data and artificial intelligence, so as to transform the way energy is produced and acquired, and to drive the development of an increasingly smart energy world.

### United Nations Sustainable Development Goals Supported



Goldwind is leading the industry with innovation. It has reduced the cost of wind power, developed technologies such as smart microgrids, and strived to meet global electricity demand in a clean and green way. [P27](#)



# Management Based on Science and Technology Innovation

The Company implements an innovation-driven development strategy, continuously improves its company-based, market-oriented technological innovation that integrates cooperation among industrial, academic and research fields, and continues to explore and optimize innovation management processes and methods, thereby enhancing both management and effectiveness of technological innovation.

The Company has set up 7 major R&D centers around the world as an integral part of the Goldwind R&D system. Each major R&D center continuously powers the Company in its wind power technology, products, services and industrial co-operation, acting as an open engine for the Company's technological innovation. While continuously strengthening its own technological capabilities, the Company also actively expands cooperation with universities and research institutes, and innovates with suppliers to jointly implement major scientific research projects, striving to make breakthroughs in major and bottleneck technologies for the industry, and actively promoting the application of scientific and technological researches.

|  | 2019  | 2018  | 2017  |
|--|-------|-------|-------|
| R&D investment (RMB 100 million)                     | 15.57 | 15.77 | 14.73 |
| R&D investment as a proportion of total revenue (%)  | 4.07  | 5.49  | 5.86  |
| Number of R&D personnel                              | 2,826 | 3,132 | 2,881 |
| R&D personnel as a proportion of total employees (%) | 31.53 | 35.78 | 34.41 |

|    |   |     |   |
|----|---|-----|---|
| 1  | National Enterprise Technology Center     | 90+ | Chinese and foreign experts with international influence          |
| 26 | key national scientific research projects | 3   | postdoctoral work-stations  |
| 25 | provincial and ministerial-level projects | 20+ | provincial and ministerial-level science and technology platforms |

With the support of the Strategic Innovation Business Committee, the Company has established a mechanism for organizational security and operation, formulated regulations such as the *Innovation and Application Management Measures* and *Innovation Project Approval and Evaluation Management Measures* that serve as the foundation of innovation management and create an active atmosphere for innovational work. It also provides innovation platforms such as forums, technology awards, and creativity contests to unlock employees' innovation potential. In September 2019, the Company held a Technology Innovation and Application Conference to internally exchange and discuss latest innovation practices and future technology development trends in renewable energy industry, awarding role models and outstanding teams in the field of innovation.



# Product and Technological Innovation

Relying on its leading technological advantages and strong research capabilities in the field of wind power, the Company has developed industry-leading products and technologies through scientific and technological research, technology introduction, cooperative design, and independent R&D, so as to continuously improve generation efficiency of WTGs, lower levelized cost of energy (LCOE), enhance both security and environmental friendliness of WTGs, and promote high-quality development of the industry.



## Optimal Levelized Cost of Energy (LCOE)

The Company develops wind turbines with forward-looking competitiveness. With more cost-effective products and solutions, it promotes quality control, cost reduction, and efficiency improvement during the full lifecycle of wind power, and reduces the levelized cost of energy. Based on the large-scale development of wind power and complex operating environments such as decentralization, low wind speed and offshore conditions, the Company continues to innovate in product technology routes, wind energy resource location, and operation and maintenance services, so as to provide a strong impetus for achieving grid parity.

## Accurate assessment of wind resources

The Company has launched a number of digital tools including GoldGIS, New Freemeso and GoldFarm, enabling wind power developers to achieve one-click accurate site selection, maximize the use of wind resources, and improve the efficiency of wind farm power generation. In 2019, the Company launched the wind energy resource assessment cloud platform called the "Wind Master", which made use of the self-developed wind flow field calculation simulation kernel and professional technologies such as advanced weather forecasting and geographic information system to help users evaluate wind energy resources more accurately, efficiently and conveniently. In addition, it features extended functions such as WTG noise assessment and terrain map correction to achieve one-stop wind resource assessment.

## Superior technology

The Permanent Magnet Direct Drive (PMDD) technology, which the Company adopts and has independent intellectual property rights on, features a wider range of wind speed adjustment and generators that produce power with direct drive of rotors. Compared with traditional technologies, PMDD technology raises power generation efficiency by 5%, and lowers overall O&M costs by roughly 10% due to simpler turbine structure that reduces the number of components and minimizes system error. In recent years, the Company has introduced advanced technologies such as artificial intelligence, big data and Internet of Things, in order to develop smart WTGs with functions such as the perception of external environment, operational status, and behavioral patterns, cognition and control, and collaborative decision-making. In 2019, the Company launched GW155-4.5MW and GW136-4.8MW smart turbines that were enabled automatic adjustment, adaptation and control through advanced sensors, which allowed the perception of external environment and evaluation of operational status and behavioral patterns.

## One-stop service during full life cycle of a WTG

With experience in operating and maintaining more than 35,000 wind turbines, a nationwide O&M service network, and an intelligent operation system with SOAM™ as its core, the Company is able to provide service in terms of daily O&M, material support, in-depth technical transformation, and efficiency improvement. The Company's smart and digital O&M services have already extended to the whole value chain, providing one-stop service during full life cycle of a turbine and thus improving O&M efficiency and power generation capacity of WTGs.

| Goldwind Smart WTG              |   |                                       |  |
|---------------------------------|---|---------------------------------------|--|
| Permanent Magnet Direct Drive   | In-depth Perception                       |                                       |  |
| More efficient power generation | Environmental state perception technology | 2%-5%<br>Increase in power generation |  |
| High reliability                | WTG state perception technology           |                                       |  |
| Low maintenance cost            | WTG behavior perception technology        |                                       |  |
| Grid-friendly                   |   | 20%-30%<br>Increase in MTBF           |  |
| Collaborative Decision-making   | Self-recognition and Control              |                                       |  |
| Station level                   | Environmental state recognition           | 5%-10%<br>Decrease in O&M costs       |  |
| Cluster level                   | WTG state recognition                     |                                       |  |
| Energy system level             | WTG behavior recognition                  |                                       |  |



Examples of Goldwind innovative products:

#### Big data application platform

integrates data within the full life cycle of a turbine, and provides digital application services for wind farm operation and optimization

#### Global monitoring center

engineers monitor the operational status of WTGs, remotely guide the handling of abnormal WTGs, and evaluate the status of WTGs in advance through back-end technology, thus optimizing the WTG management and control

#### Wind farm mobile O&M platform “GO PLUS”

enables wind farm operation management personnel to obtain real-time data and keep close contact with Goldwind’s back-end experts to improve WTG performance



### Offshore wind turbine with the largest rotor diameter in Asia Pacific runs at full capacity

Case

To match China’s offshore areas with low wind speed, Goldwind launched GW184-6.45MW offshore large-rotor WTG in 2018, registering the largest capacity offshore WTG in China by then. By reducing the number of deployment sites, it reduced multiple investments such as sea area occupation and acquisition cost, basic construction cost, installation, and submarine cable laying. In December 2019, this batch of 90-meter-rotor wind turbine started full-capacity operation in Three Gorges Offshore Wind Power Project, Dafeng, Jiangsu Province and became the largest rotor-diameter offshore wind turbine in operation in China. Through adopting tower dampers, as well as multiple advanced techniques such as laser wind measurement technology, blade tip-to-tower clearance monitoring system, and smart wind turbine control technology, this wind turbine features better stability and adaptability, so as to ensure safe operation, and improve reliability and power generation efficiency.



Participated in “Key Technology and Application of Large Low-speed High-efficient Permanent Magnet Direct Drive Wind Generator” project that was awarded second prize of the “Annual National Technological Innovation Award”



GW140-2.5MW onshore smart turbine and GW154-6.7MW offshore smart turbine were both awarded “Annual China Wind Energy Best Wind Turbine”



“Key Technology Research and Application of 140-meter Ultra-high Wind Tower” project won the Second Prize of “Annual Scientific and Technological Progress Award of Electric Power Construction”



## Protection of Intellectual Property Rights

Goldwind has established a complete intellectual property management system to effectively manage and protect its technological innovation fruits, thus promoting internal scientific and technological innovation. In the process of technology introduction and cooperation, the Company researches on development status of similar technologies at home and abroad through patent literature, conducts reviews and forecasts on imported projects, and learns patent information, as well as the scope of patent protection, technical content, and legal information about patentees, patent validity and covered regions, thus respecting intellectual property rights of others and preventing itself from any infringement.

### Intellectual Property Management Measures



#### Set up an Intellectual Property Management Office

Set up an Intellectual Property Management Office staffed with professionals responsible for daily patent search and analysis, patent mining and deployment, and patent applying and granting



#### Develop System Management Regulations and Workflow

Formulate and revise systems and regulations such as the *Intellectual Property Management System*, *Patent Management Measures*, *Technical Materials Management System*, and *Trademark Management Measures*, and facilitate their implementation



#### Enhance Intellectual Property Awareness

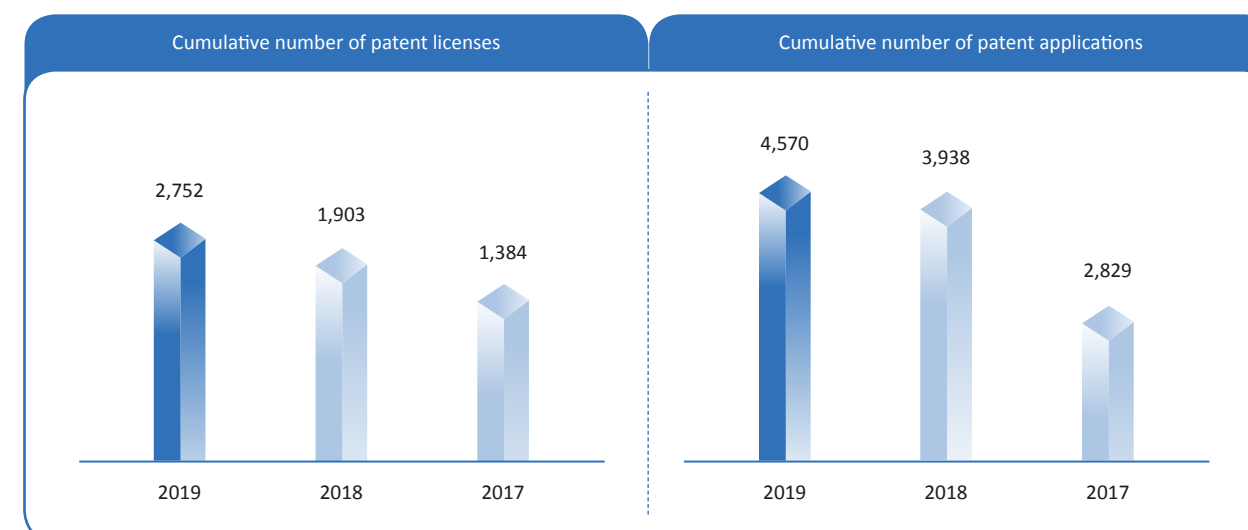
Carry out targeted training sessions for middle-level and senior managers, R&D engineers, intellectual property personnel, with a total of approximately 2,500 people receiving intellectual property training in the past three years



#### Establish Patent Database

Establish a dedicated database of wind power patents, learn about the technology trend of the industry based on latest patent applications in wind power, and timely identify obstacle patents, thus avoiding patent infringement risks and protecting the intellectual property rights of others

As the end of 2019, the Company has obtained 350 domestic trademark registration approvals, and 127 overseas trademark registration approvals.





## Drive the Development of the Industry

The Company gives full play to its leading role in the industry and continuously invests in technology R&D, industrial chain resource integration, international exchange and cooperation, and industrial talent cultivation, so as to contribute to industrial development and progress.



### Deepen Exchanges and Cooperation

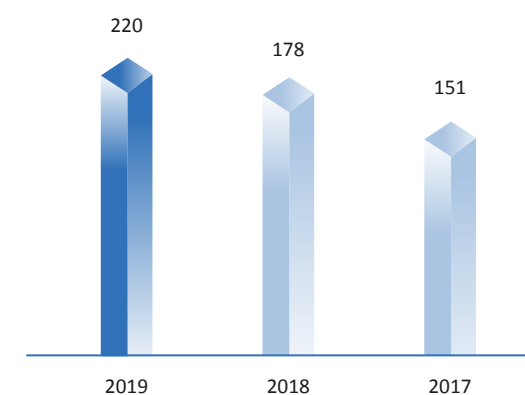
The company actively organizes and participates in industry exchange activities to share experience in wind power sector with domestic and international counterparts and discuss cutting-edge development trends, so as to promote the development of the wind power industry. In November 2019, as a director member, Goldwind allied with 12 other influential energy-related companies to initiate the Energy Industry Internet Joint Innovation Center, aiming to create a new ecology for the whole energy industrial chain together with industrial partners.



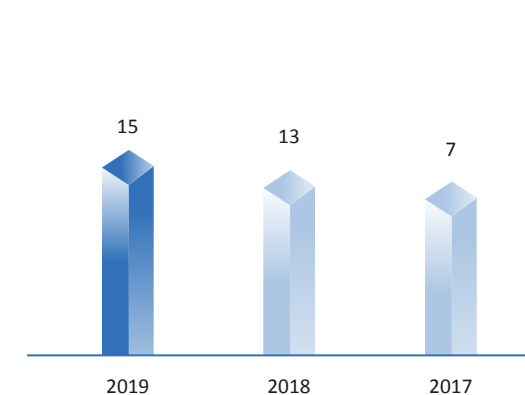
### Participate in Standard-setting

The company actively participates in the compilation and revision of standards of wind power technology, providing fundamental support for quality enhancement and technological improvement of the industry, and leading the development of industry standardization. As the end of 2019, the Company has presided over and participated in the formulation of 235 standards, including 220 domestic standards and 15 international standards.

Cumulative number of domestic standard-setting participated



Cumulative number of international standard-setting participated



### Cultivate Talents for the Industry

The Company establishes an internal training system to enhance staff skills, and cooperates with universities to jointly cultivate reserve talents. The Company also cultivate talent for the entire industry through sharing training resources with upstream and downstream enterprises such as customers and suppliers. In 2019, the Company established an offshore wind power training center based on the offshore wind power survival on-site training platform, compiled a series of teaching materials for offshore wind power personnel, and cultivated talents, laying the solid foundation for the development of offshore wind power. Over 50 clients, suppliers and other companies in the industry and about 1,300 people received the training throughout the year.

# 03

## Products and Services

Keeping in mind the belief of making contributions to the future of mankind, Goldwind continuously consolidates its business advantages in the field of wind power, provides overall solutions including WTGs, wind power services, and wind farm development, and focuses on the development of other renewable energy. The Company also actively explores technologies such as smart micro-grid, distributed energy, and water treatment, striving to contribute to the cause of global energy and environmental protection.

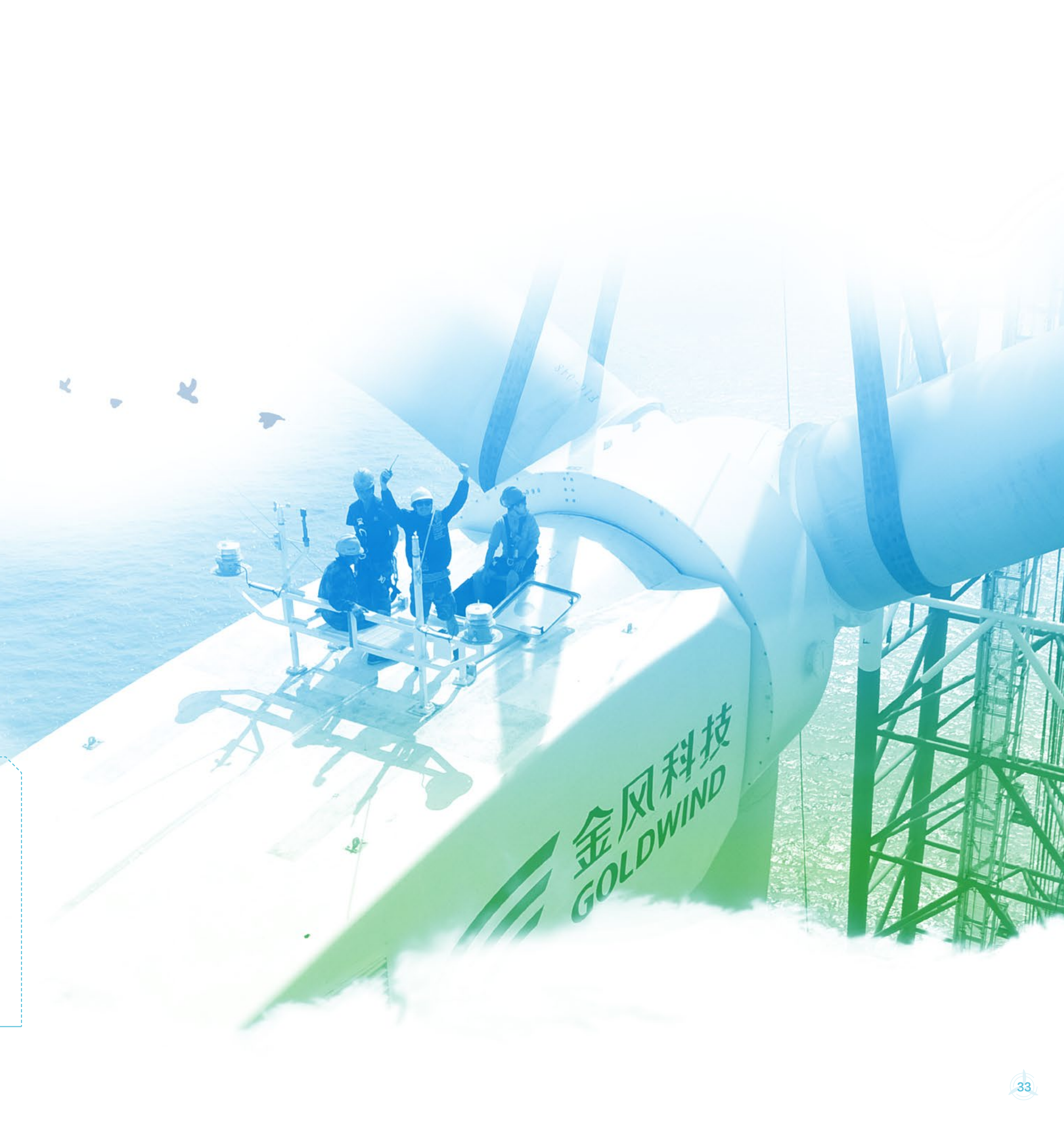
### United Nations Sustainable Development Goals Supported



Goldwind engages in water treatment business and launches wastewater treatment, water reuse and sludge disposal projects on a larger scale. It integrates water treatment with energy technologies to create a new model of clean energy utilization and smart water plant management. [P37](#)



Goldwind is committed to providing affordable, reliable and sustainable green power to the global community through innovating wind power technology and products, reducing electricity costs, as well as building wind farms around the world to popularize green energy. [P35](#)





## Quality and safety of WTGs



### Quality Management of WTGs

In order to ensure the reliable operation of wind turbines through the entire lifecycle, the Company provides systematic guarantees for WTGs quality from five dimensions, namely, culture-oriented, technology-innovated, leadership-driven, exceptional supply chain, and customer experience. Meanwhile, the Company facilitates collaboration between upstream and downstream enterprises to optimize the whole industrial chain, aiming for improved end user experience and optimal product quality during full life cycle of WTGs. The Company implements standardization management through three platforms of reliability verification of the WTGs and components, quality management digitalization and wind turbine early warning system, and utilizes quality improvement tools with lean management and Six Sigma as the core; these measures have received positive feedback. In August 2019, the Company was granted “National Quality Award” and became the first wind power company to ever receive this nationwide, highest-level honor of quality. The award was sponsored by China Association For Quality.

In 2019, the Company thoroughly applied the “Prevention First” concept and carried out comprehensive quality management for the full life cycle of WTGs, covering WTGs design, component procurement, manufacturing, operation, and maintenance, so as to manage the overall product quality through risk forecast and health early-warning. Quality control and management processes were digitalized for the sharing of quality data and standardization of solutions, thus improving the Company’s remote quality management capability and optimizing full-lifecycle product quality. The Company provides quality assurance service in the form of free repair and replacement of parts within 2-5 years of warranty period since the delivery of WTGs, so as to ensure the performance and normal operation of WTGs.

In order to enhance the supervision and management of product quality, the Company conducts quality inspection in three stages: component procurement, manufacturing, and delivery, so as to improve the quality of WTGs.

- **Component procurement:** inspect the quality of parts through integrated methods of first-item inspection, on-site operation assessment, and small-batch inspection, and conduct quality inspections of batch product based on quality supervision, process inspection, quality system inspection, running test, and incoming/arrival inspection, etc.
- **Manufacturing:** identify key production processes, features, and risks of wind turbines, and make manufacturing quality control plans; inspect the manufacturing process of WTGs in accordance with *General Inspection Specifications for Goldwind MW-class WTG Assembly Process*, and conduct function tests in simulated on-site operation conditions by using debugging-free testing fixtures, so as to ensure the functions of WTGs;
- **Delivery:** perform review and verification of WTG documents, packaging, transportation, and other conditions according to *General Inspection Regulation on Product Delivery*.

The Company has formulated rule and regulations including, *Customer Complaint Handling Process*, and *Regulation on Quick Response to Wind Farm Failure*. It has established customer complaint response mechanism, implemented accountability system of being first one to the complaint call and inter-departmental collaboration mechanism, and set up a management team to classify and manage complaints accordingly. The Company also evaluates overall effectiveness of problem-solving in accordance with the *Assessment on Solutions of On-site Complaints and Customer Complaints*. The Company attaches importance to improving customer experience. It conducts self-assessment and third-party surveys to learn customer satisfaction, and employs scientific statistical methods to analyze surveyed data and the change of trend, thus continuously improving the quality of product and the level of service.



### The R&D and test verification system ensures the high reliability of wind turbines

High quality and reliability of wind turbines are inseparable from repeated verification. The Company has increased its technological investment and continuously improved its basic experiment capabilities. Through investment in the establishment of laboratories and introduction of experimental equipment and test personnel, the Company utilizes digital simulation technology, on-site trial operation and other methods to simulate actual operating conditions and inspect the performance of wind turbine control systems, complete WTG and large components. The Company has, with either independent investment or joint funding from suppliers, built multiple testing platforms for large components including blades, pitch/yaw systems, and generators. The Company has successively established experimental bases in Dabancheng of Xinjiang Province, Dafeng of Jiangsu Province, and other places. Combined with the testing capabilities of Zhangbei National Wind Power Research and Testing Center, the Company has expanded testing on a single unit to the coordination of multiple units, multiple wind farms, and field networks, and has formed four levels of testing and verification capabilities that penetrate components, sub-systems, WTGs, and wind farm and grid networks.

Case



### Wind Turbine Safety Management

During the R&D, design and manufacturing of wind turbines, the Company strictly follows the sequence of “integrating health and safety requirements, developing protective devices, and providing prompt information”, and implements stringent safety standards, thus continuously improving the safety performance of WTGs. In 2019, the Company did not recall any wind turbine due to safety and health-related issues.

The Company includes safety professionals in the WTGs development process, refines safety design parameter requirements, and systematically plans and manages the impact of WTGs on customers’ safety and employees’ occupational health. Based on the product development process, the Company collects and interprets HSE requirements and related standards in wind power markets around the world, and translates them into its internal design requirements for WTGs, ensuring comprehensive and authoritative HSE design from the start. On the basis of meeting the needs of function design of wind turbine sub-systems, the Company conducts the multidimensional review of the overall design scheme of wind turbines and sub-systems, and based on safety design requirements, includes warning signs, and safety colors application in its final products. It also develops an HSE system design based on product HSE design requirement so as to meet specific health and safety requirements, and ensure the intrinsic safety of WTGs.

## Provide Reliable Green Power Energy

Wind turbines barely generate harmful emissions to the environment, nor do they consume fossil fuels, making wind power more beneficial for environmental protection and sustainable development, when compared with conventional thermal power. The Company provides WTGs to more than 20 countries of 6 continents, and supplies high-quality and reliable green power to those regions. As of the end of 2019, the Company has installed more than 60GW, namely more than 36,000 WTGs worldwide, with 120 billion kWh annual power generation.

In response to the problems of long-distance transmission and random fluctuations of wind power, the Company has actively developed core technologies such as distributed energy, efficient energy storage, and energy management and control. The Company provides diversified energy products and solutions in terms of network, source, load, storage, control and others, thereby building stable and reliable green power production and consumption platforms for users.

120 billion kWh

Annual power generation

**Energy storage system:** separate the traditional, centralized energy storage system into electronic storage systems and battery storage systems, then store and release energy for different scenarios, thus laying the foundation for local consumption of wind power.

**Smart micro-grid:** establish a stable energy supply system comprising mainly of renewable energy such as wind and solar power, and clean energy such as natural gas, as well as maximize the use of renewable energy by using efficient energy storage methods and energy management control systems

From 00:00 on June 9 to 24:00 on June 23, 2019, for 360 consecutive hours in 15 consecutive days, manufacturing and residential power in Qinghai Province was provided 100% by clean energy, including hydro, solar and wind energy. Generating zero pollution or emission during power consumption, Qinghai made a new record of clean energy usage, after “Green Energy for 7 Days” and “Green Energy for 9 Days”. Goldwind has worked with State Grid Qinghai Electric Power Corporation to build the Qinghai New Energy and Big Data Innovation Platform, and has provided strong support for “Green Energy for 15 Days” in Qinghai.



### Goldwind-Yulin Xiehe Smart Micro-grid Technology Project was officially launched

Case

In December 2019, the Yulin Xiehe Smart Micro-grid Technology Project planned and constructed by Goldwind was officially launched and put into operation. It was the first commercial MW-level complementary smart micro-grid technology project of wind power, solar power and battery storage in Shaanxi Province, and it was also the first micro-grid project in China to utilize the resources of new energy power step-up substation. The project utilized the unused land of Yulin Xiehe ecological solar step-up substation to construct the load-side wind and solar power as well as power storage and fast-charging complementary supply system to provide economical, green and convenient power solutions for photovoltaic step-up substations and companies in local industrial parks. The overall plan consisted of a 2 MW wind turbine, a 100 kWp rooftop photovoltaic panels, a 500 kWh container energy storage system, a 50 kWp photovoltaic carport, and two fast-charging piles. It is estimated that the project can save approximately 4.74 million kWh of energy consumption on the load side of step-up substations each year and reduce 4,997.86 tons of carbon dioxide emissions. It could help effectively optimize the power structure of step-up substations and reduce energy costs, setting an example for large-scale commercialization of micro-grids of wind power, solar power and battery storage.

## Wind Power Operation and Maintenance Service

The Company puts forward the concept of “full lifecycle service” with the goal of creating high-quality service throughout full lifecycle of WTGs, and builds the intelligent wind power operation system, with the service maintenance mode of online smart monitoring and offline efficient implementation, increasing WTG stability and wind power generation capacity.

The Company integrates gradually developing and maturing technologies such as the Internet of Things, big data, cloud computing, artificial intelligence, and VR/AR with wind power technologies to develop a series of information platforms. It also collects, transmits, and analyzes wind farm operation data to build up an intelligent operation and maintenance supporting platform for service, together with intelligent analysis, fault early-warning, professional support, knowledge-sharing, and other functions. The Company also forms a wind power service talent team and optimizes the layout of spare part resource network, thus establishing a service and material network across China and other countries, as well as a standardized, high-quality, and efficient operation and maintenance guarantee mechanism. Some operation and maintenance staff are not required to be stationed in the wind farms, as they only need to store and deploy materials, vehicles and tools, and repair wind turbines according to the plans of the smart service platform, so as to respond to wind farm demands swiftly.



### Hami New Energy Sharing Service Center was put into use, opening up the era of new energy service sharing

Case

Hami, located in eastern Xinjiang Province, has a total installed wind power capacity of more than 10 million kW, has been identified as a national “Ten Million kW-level Wind Power Base”. In 2019, the Company’s first large-scale new energy sharing service center in Xinjiang was officially put into use in Hami, mainly providing operation and maintenance services such as business training, electrical testing, spare part repair and storage, centralized monitoring, and resource allocation. The center monitors the operational status of wind turbine equipment through remote monitoring system, and utilizes big data to provide early warning and intelligent fault diagnosis. In addition, it works together with on-site maintenance personnel and technical support personnel to provide one-stop component maintenance and spare part supply services, thus reducing the economic loss caused by wind turbine shutdown. Through centralized forecasting across regions, types, and windmills, the center realized information-sharing among multiple wind farms, thereby improving forecast accuracy and reducing operation and maintenance costs.

In 2019, the Company changed its traditional operation and maintenance mode of “failure troubleshooting + regular maintenance” and developed targeted preventive maintenance measures basing on years of operation of WTGs. Based on the evaluation of service life of overall components, an in-depth maintenance scheme for prolonging the service life of components was formulated to replace the components which have reached the end of the service life and ensure

safe and stable operation of WTGs throughout their full lifecycle. The Company built asset management platform of full life cycle with WTG operation data as basis, accumulated turbine operation patterns and experience, and offered accurate maintenance strategies and suggestions, thereby achieving lean management throughout the whole life cycle of WTGs, from wind farm construction to operation.

## Water Treatment

While consolidating its wind power business, the Company actively expands other energy-saving and environmental protection businesses, contributing to the sustainable development of the environment and society. The Company established Goldwind Environmental Science & Technology Co., Ltd. in 2015 to carry out water supply, sewage and sludge treatment, and water reuse businesses. As of the end of 2019, the Company has 54 water business projects.

The Company continuously develops, introduces, and applies new techniques, technologies, and equipment in water treatment business to improve the efficiency and quality of processed water. Water quality of various Goldwind water treatment factories surpassed the designed discharge standards. With wind power equipment, new energy technologies, and emerging technologies such as IoT and big data, Company’s water treatment plants are able to utilize clean energy and intelligent management, so as to reduce energy consumption, improve qualification rate of water discharge, and boost automated factory operation and green development. Relying on wind power equipment manufacturing and use of new energy technology, combined with emerging technologies, such as the Internet of things, big data realize clean utilization of water energy resources and intelligent management, reduce energy consumption of tons of water treatment, improve the water level of automatic operation success rate, improve water and green-development.

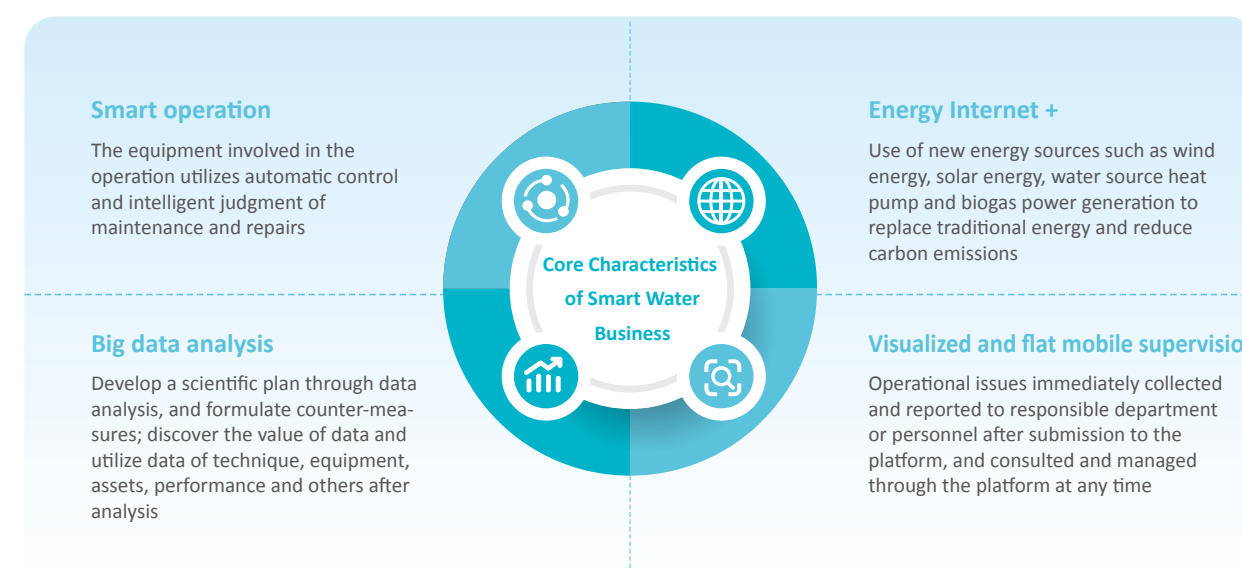
54

Water Treatment Plants

3

million tons per day

Water treatment processing quantity



Goldwind Environmental, a wholly-owned subsidiary of Goldwind, extends the industrial chain through smart water services, industrial water treatment technology services, and water plant operation services, and deploys water businesses in multiple sectors. Within 3 years of its establishment, it has acquired quality water assets

through investment and acquisition, with water treatment processing quantity exceeding 3 million tons per day. In March 2019, Goldwind Environmental was awarded “Investment and Operation Enterprise with Most Growth Potential in the Water Industry in 2018” at the E20 China Water Industry Strategy Forum.





## Environment

As a leader in the wind power equipment manufacturing industry, Goldwind actively responds to international climate change policies and national energy strategies, and strives to play a vital role in the new energy industry in optimizing energy structures and creating ecological civilizations. While exploring the fields of clean energy, energy conservation and environmental protection, the Company is also dedicated to strengthening its environmental management system, so as to achieve green development.

### United Nations Sustainable Development Goals Supported



Goldwind regards the wide usage of wind power as an approach to tackle climate change. It actively implements resilient strategies to adapt to climate change.

P40-P41



When utilizing offshore wind power resources, Goldwind concerns about marine protection and avoids causing any adverse effect on the marine ecological environment.

P46



Goldwind establishes an effective system to avoid damage to forests and vegetation during its development and construction of wind farms, thereby protecting wildlife.

P47



# Coping with Climate Change

Goldwind has been paying close attention to climate change and the impact on its business. Amidst global response to climate change, various countries actively promote energy transformation and encourage the development and use of renewable energy, which serves as an opportunity for Goldwind to promote wind power. The Company has installed wind turbines in more than 20 countries and regions around the world to provide green power. Meanwhile, the Company recognizes the impact of climate change on its production and operation, and studies and analyzes possible scenarios under climate change in the future, thereby gradually developing countermeasures and solutions.

## Environmental Benefits Achieved through Company's WTG Products

More than 60 GW of Cumulative Global Installations

**60<sub>GW</sub>**

Compared with coal-fired power, it is equivalent to:

Carbon Dioxide Reduction

**122.83** million tons

Standard Coal Reduction

**36.94** million tons

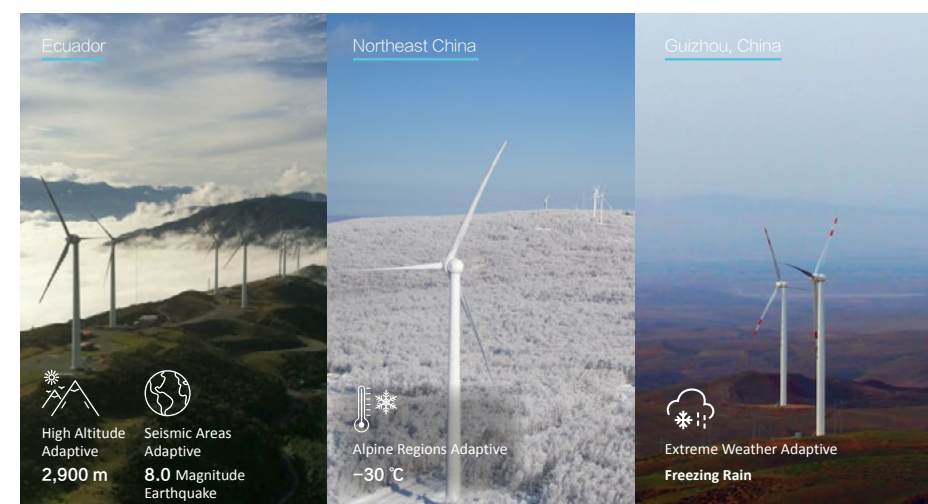
Forestation

**67.12** million m<sup>3</sup>



Wind turbines are mostly installed in regions with complex ambient conditions such as the desert, mountains and plateaus. The Company continues to enhance the adaptability of wind turbines under harsh environments. After more than 20 years of technical optimization and testing, the Company's wind turbines can adapt to extreme weather conditions such as typhoons, thunderstorms, high temperatures, low temperatures, and salt mist at sea. In 2019, the Company launched the GW175-8.0MW offshore wind turbine, which is able to adjust the rotor speed in real time according to the weather conditions, effectively reducing the erosion of blade leading edge, extending blade service life, and improving reliability.

In August 2019, the ninth named typhoon Lekima, a rare super typhoon in 70 years, made landfall in Wenling, Zhejiang Province of China, with the maximum winds of Class 16 (52 m/s). The 105 steel concrete towers installed by the Company are located in the hardest-stricken area. However, featured with high rigidity and strong damping, those steel concrete towers had fairly small swing amplitude amidst raging typhoon, without hidden dangers of resonance under special working conditions such as strong gust, shutdown, and off-grid. All the 105 steel concrete towers withstood this harsh test and remained in a controlled safe state, demonstrating the excellent flood control and anti-wind performance of the steel concrete towers of the Company.



### Typhoon



Use high-strength materials to improve the torsional rigidity of blades and the rigidity of turbines. Increase the overall resistance to typhoons by adding riveting devices;

### Lightning



Install lightning rod and surge protective device to protect wind turbine from lightning stroke. Implement different lightning protection measures as per specific weather conditions;

### High temperature and high humidity



Add moisture absorption devices within nacelle to prevent condensation on electrical equipment. Enhance humidity and heat resistance of the surface coating of towers and blades;

### Low temperature

Select materials and components that are resistant to low temperature. Properly design electrical control cabinets and blade structures to enhance the resistance to low temperature, with anti-icing and de-icing devices.

The Company proactively analyzes, identifies and evaluates various extreme weather conditions and natural disaster scenarios, and manages them throughout the life cycle management process of wind power projects.



### Planning stage

Collect long-term observation data from meteorological stations where wind power projects are located to analyze the data of meteorological disasters such as typhoons, strong gust, extreme temperatures, and lightning. Try to avoid carrying out wind power projects in high-risk areas. Choose appropriate parameters regarding the wind turbine model, rotor diameter, tower height and material, and foundation type. Optimize wind turbine layout, collection line, step-up substation, and other auxiliary engineering design.



### Construction stage

Constructions that have high requirements for weather conditions include long-distance transportation of ultra-long equipment such as wind turbine blades, and ultra-heavy wide equipment such as generators, ultra-high lifting and fine installation of heavy equipment, and outdoor installation and operation of electrical equipment. On the one hand, the Company rationally plans the construction period based on meteorological information. On the other hand, it establishes a meteorological disaster contingency plan to prevent or mitigate risks; relevant risk prevention and control measures and project management measures are supervised by supervision units, and execution is monitored on a regular basis.



### Operation stage

Professional emergency and rescue equipment is equipped based on the features of wind power projects and meteorological disasters, as well as the meteorological early warning and forecasting system. Integrate climate disaster system-building into operation management system, formulate specialized management systems and contingency plans, and carry out training and emergency drills for wind farm operators to improve emergency response capabilities.




# Utilization of Energy and Resources


In the process of wind power equipment R&D and manufacturing, wind power services, and wind farm development and construction, the main energy and resources the Company consumes include electricity for offices and during production processes, gasoline for business vehicles, diesel for engineering vehicles, and LPG for employee catering. Water treatment business mainly consumes electricity but does not consume water from the nature. Water is mainly used for offices and canteens, and little water is used for dust suppression and greening in the process of wind farm development and construction.

The Company advocates smart energy use. Based on its experience and advantages accumulated in the field of renewable energy, and supported by the Internet and renewable energy technologies, it actively promotes the use of renewable energy together with other clean energy, so as to improve energy efficiency and lower energy cost.


The Goldwind Smart Park, located in Yizhuang, Beijing, has integrated various solutions on the efficient supply and intelligent scheduling of energy and resources, and formed an energy internet system that comprises distributed energy, intelligent micro-grid, intelligent services for energy consumption, and energy conservation, thereby effectively increasing the proportion of clean energy, and improving energy efficiency. In 2019, the company achieved 65% of use of the renewable power such as wind power and photovoltaic power.



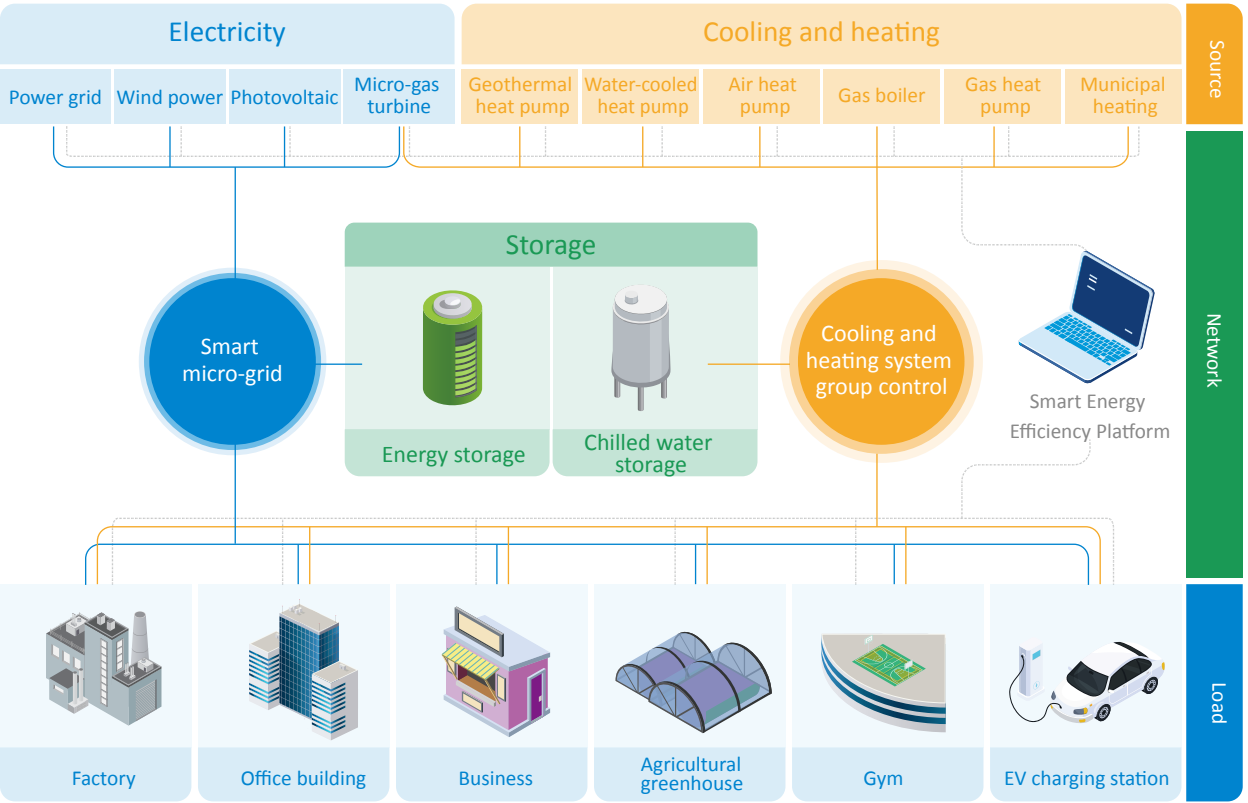
Most of the energy demand in the park was met through the comprehensive energy supply network that consists of two WTGs near the park, photovoltaic panels installed on the roofs, natural gas, microturbines and energy storage system;



Sewage treatment system was built to collect water from various sources such as sewage and rainwater, which would be used for the softening of air-conditioning and boilers. Purified sewage was also used for plant irrigation. The park utilized recycled water 100% on watering and bathroom;



The intelligent lighting control system and intelligent temperature and humidity control system were applied to properly manage indoor lighting sources, temperature and humidity, thus effectively saving energy.



Structure Chart of Goldwind Smart Park in Yizhuang, Beijing

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

| Type of energy or resource  | 2019     | 2018     | 2017     |
|---|----------|----------|----------|
| Power consumption (thermal) (100 million kWh)                                 | 1.57     | 1.05     | 0.65     |
| Power consumption (wind/solar) (100 million kWh)                              | 2.97     | 2.60     | 2.20     |
| Gasoline (kL)   | 802.30   | 908.05   | 654.53   |
| Diesel (kL)   | 1,280.77 | 1,357.45 | 1,062.69 |
| Liquefied Petroleum Gas (10k m³)  | 1.66     | 1.53     | 1.14     |
| Natural Gas (m³)  | 49.73    | 50.73    | 74.88    |
| Overall energy consumption per RMB 10k revenue¹(ton of standard coal/RMB 10k) | 0.0154   | 0.0167   | 0.0153   |
| Water consumption (10k ton)   | 45.71    | 40.43    | 37.07    |
| Water consumption per capita (ton/capita)                                     | 51.01    | 46.19    | 44.28    |
| Packaging material - wood² (ton)  | 3,004.27 | 2,145.09 | 1,665.35 |
| Density of wood packaging usage (ton/pc)                                      | 0.71     | 0.75     | 0.54     |

Water treatment consumes a large amount of energy. In order to lower the energy consumption of sewage treatment, the Company fully integrates wind power technology with water treatment to innovatively develop smart water energy solutions. Through technologies such as distributed energy and energy efficiency platform, the Company realizes clean utilization and intelligent management of the entire energy consumption process of the water plant in a refined and dynamic manner, with higher proportion of renewable energy and energy efficiency than those of traditional water plant.



**Providing wind power remanufacturing solutions, and recycling used wind turbine components**

According to statistics, 70% of the defective components in the wind power industry can be repaired and reused. The Company aims to improve the performance of used products and maximize resource utilization. Based on the analysis and evaluation of the performance and service life of waste and damaged parts of wind turbines, the Company conducts remanufacturing engineering design, and adopts a series of advanced manufacturing technologies to enable the quality and performance of repaired or remanufactured components to outperform those of new products. The Company has been continuously enhancing the reuse capability of recycled components. It has independently developed over 50 sets of testing platforms, and been granted over 50 patents of maintenance and monitoring, with the capability of performing high-tech repair and remanufacturing on waste wind turbine components, thereby improving the recycling rate of WTGs. As of the end of 2019, the Company had repaired and remanufactured more than 100,000 components, improving the overall resource utilization efficiency of the wind power industry.

1.Refer to GB/T2589-2008: General Principles for Calculation of the Comprehensive Energy Consumption for the conversion of various energy forms to standard coal equivalents

2.In 2019, as the production quantity and sales of WTGs increased, the Company increased the use of wooden packaging. Further optimizing the weighting method of wooden packaging, the Company calculated nearly actual use of packaging in a more appropriate way.





# Emissions and Waste Management

The Company generates relatively little waste in wind turbine manufacturing, mainly comprising a small amount of hazardous waste and some general solid waste. Hazardous waste are mainly organic resins and organic solvents; solid waste are solid packaging materials and general waste, as well as some solid waste generated during the construction of wind farms.

The Company strictly abides by relevant laws and regulations such as the Prevention and Control of Environmental Pollution by Solid Waste, and properly handles all types of waste in compliance with the principles of category-divided recycle, centralized management and comprehensive assessment. For general solid waste, the Company takes the approach of centralized management and recycling. 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 environment.

The construction of wind farms will generate solid waste such as construction waste. On the one hand, the Company minimizes the amount of construction waste; on the other hand, it actively recycles construction waste:

- Wind turbines must rely on heavy cement bases fixed firmly on the ground to maintain smooth operation. During the foundation pouring process, steel molding plates are used for recycling and reuse in the future, thus avoiding construction waste;
- Prefabricated warehouse design is preferred for building step-up substation so as to reduce construction waste generated on site;
- Trash bins are placed in the construction area and are cleared regularly to ensure that “the site is cleaned up right after the completion of construction”;
- Sedimentation tanks are set up to treat concrete residues, which will then be used for road maintenance in the construction area.

## Emissions of Primary Waste

| Waste   | Primary source    | 2019   | 2018     | 2017     |
|---|-------------------|--------|----------|----------|
| Hazardous waste <sup>1</sup> (ton)                    | Factory workshops | 103.21 | 38.20    | 23.42    |
| Construction waste from wind farms <sup>2</sup> (ton) | Wind farms        | 363.59 | 2,082.71 | 2,111.79 |

## Greenhouse Gas Emissions

| Emission scope | Overall emissions <sup>3</sup> (ton of CO <sub>2</sub> ) |           |           |
|----------------|--|-----------|-----------|
|                | 2019   | 2018      | 2017      |
| Scope 1        | 6,279.62   | 8,694.49  | 7,032.00  |
| Scope 2        | 112,074.12   | 64,788.85 | 44,514.09 |
| Total          | 118,353.74   | 73,483.35 | 51,546.09 |

1: Goldwind’s WTG components are mainly produced in the OEM mode. Due to the increasing demand of the wind power market in 2019, the Company expanded its wind turbine production capacity and opened more generator production plants, which in turn significantly increased emissions of hazardous waste. The Company strictly stored and disposed of hazardous waste in accordance with the *Standard for Pollution Control of Hazardous Waste Storage (GB18597)* and the *Administrative Measures for the Forms of Hazardous Waste Transfer (No. 5 Order of the Ministry of Ecology and Environment)*.

2: In 2019, the Company adjusted the statistical criteria of construction waste. As the EPC project was contracted by a third-party independent legal entity, construction waste was not included in the statistics.

3: Refer to *GHG Emissions Accounting Method & Reporting Guidance for Machinery & Equipment Manufacturers* for calculation of greenhouse gas emissions. Emissions from purchased electricity for operation of overseas offices are not included.



Density of Waste Generation and Greenhouse Gas Emissions

| Indicator   | Emission density |        |        |
|---|------------------|--------|--------|
|   | 2019             | 2018   | 2017   |
| Hazardous waste generated per WTG manufactured (ton/set)      | 0.0102           | 0.0063 | 0.0039 |
| Construction waste generated per MW of WTG installed (ton/MW) | 0.0441           | 0.3560 | 0.3434 |
| CO <sub>2</sub> emissions per RMB 10k revenue (ton/RMB 10k)   | 0.0309           | 0.0256 | 0.0205 |

The Company enhances environmental monitoring capabilities and completes the installation and data networking of online monitoring equipment of waste water and gas for real-time monitoring and early warning of emissions from key pollution sources, thereby ensuring source control and process control. The Company implemented “Goldwind Phase I Sewage Treatment Online Monitoring Equipment Project” and “Goldwind Fume Evolution Facility Renovation Project”, which were listed in the “Projects Supported by the Beijing Green Development Fund 2019”.

In 2019, the Company compiled and issued the Marine Environmental Protection Management System, and adopted the target-oriented responsibility system for environmental protection, which clarified the work responsibilities of offshore

project personnel, management requirements for on-site sewage, solid waste, equipment and facilities, and environmental emergency control, thereby preventing the pollution of the marine ecological environment. Water cooling liquid, waste oil and other waste generated on site are stored in dedicated storage tanks, and regularly recycled by manufacturers or disposed by units with recycling qualifications, with discharge to seas strictly forbidden. In accordance with ship garbage management regulations, waste bins for domestic waste, non-hazardous construction waste, and hazardous construction waste are set up and labeled respectively. Solid waste should be classified according to their toxicity before being thrown into these bins. Anti-spread and anti-leakage measures should be taken for bins and piling places for hazardous waste.



Green coating for wind power equipment to promote the development of a green economy

Case

In 2019, the Company launched a “smart coating solution” with “gas catalyst infrared heating” technology as the core, using infrared heaters of natural gas catalytic combustion for the drying and curing of the surface coating of turbine stators and rotors, without the need of air as the heat transfer medium. Therefore, all energy is concentrated and directly transferred to the coating film, reducing the curing time to only 1/3 of the hot air cycle time, and saving the energy consumption by 50% or more. More importantly, this technology can accelerate the oxidation of hazardous gases such as VOCs in the coating curing furnace, process 90% of VOCs in the furnace, and reduce VOC emissions by 40% compared with the traditional technology. This provides an alternative solution for wind power equipment manufacturers in the face of increasingly strict standards for volatile organic compounds emissions from industrial coatings in China.



Ambient Noise Control

Different levels of noises will be generated during the processes of WTG 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.

The Company adopts advanced wind turbine control strategies and optimization schemes of wind farm noise reduction to control noises. The nacelle cover features strong sound insulation and absorption, which can absorb and insulate generator noises. In addition, direct-drive permanent magnet technology is applied in the wind turbines, which can effectively avoid gear drive noises. The Company also reduces noises generated from the operation of wind turbines by installing sawtooth trailing edges on the blades; assessment of wind farm noises and research on countermeasures are carried out; a wind farm noise emission model is developed so as to accurately calculate the noise level of sensitive points based on site factors, and automatically adjust and control turbine noises at those abnormal points according to the noise limit, thereby reducing noise emission.



Ecological Environmental Protection

The Company respects the nature and actively protects the nature. It strictly abides by relevant international and domestic laws and regulations, takes the initiative to take into account the impact of decisions and activities on the environment, prevents hidden dangers throughout the production process, cherishes resources of land, water, and biodiversity, and enhances ecological restoration, so as to achieve harmony with the environment.

During the development, construction and operation of wind farms, the Company identifies and assesses environmental risks from earlier stages and manages the environmental risks throughout the entire project construction process. Environmental protection facilities and wind farms are designed, constructed and put into operation simultaneously to ensure that environmental protection risks are fully controlled.



Project development

Establish a project development risk prevention and control system, incorporate environmental impact factors in the preliminary investigation into project risks, including wild animal and plants and their habitats, birds migration routes, water source protection areas, and scenic spots. For risky areas, measures such as relocation and cancellation are taken;



Project construction

Strictly keep to the designed land boundary during construction; the land is fenced by colored flags or temporary earthen fences, to ensure that the civil construction causes no additional damage to the ecological environment, and prevent wild animals from entering the construction site;



Project operation

Build interception and drainage ditches with stones and soil to prevent water flow from over-washing mountains, and properly use water flow to irrigate plants; purchase and sow tree seeds or rapeseed to cultivate green land and restore vegetation.

With years of experience in wind farm development, construction, operation and maintenance, and basing on laws, regulations, standards and technical requirements regarding environmental protection and wind power quality techniques, the Company protects the ecological environment of project sites during construction of wind farms and gradually forms a *standardized management approach*. In 2019, the Company released the *Standardization Management and*

*Promotion of Safety, Quality and Environmental Protection of Wind Power Engineering*, which summarized the experience in quality process, environmental protection, soil, and water conservation, and formed a series of standardization manuals for wind power engineering, winning the “Second Prize of the Science and Technology Progress Award in Power Construction 2019”.





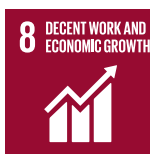
## Employees

Following a people-first principle, the Company fully protects the legitimate rights and interests of employees, 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 working environment, and facilitate the sustainable development of both employees and the Company.

### United Nations Sustainable Development Goals Supported



Goldwind advocates and strives to ensure that female employees have equal opportunities to participate in career recruitment, hiring, training and development, safeguarding their rights. **P50-P51**



Goldwind adheres to a “people-first” philosophy. Whilst creating employment opportunities for its employees, it provides them with desirable working and living conditions, cares about their basic needs and spares no effort in giving them full benefits and security. **P56-P57**



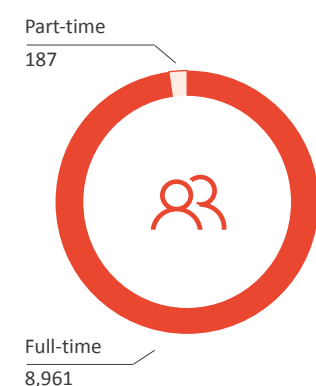


## Fair and Standard Employment

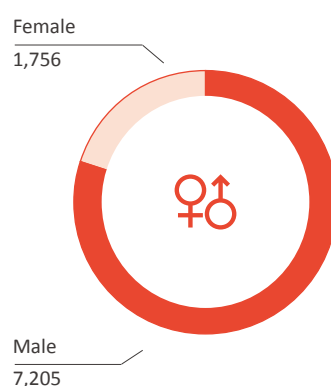
The Company strictly abides by China's Labor Law, Labor Contract Law, and other policies and regulations, as well as the laws and regulations of the countries and regions where it operates overseas, and relevant international conventions approved by the Chinese government. It implements an equal employment policy, treating employees of different races, skin colors, nationalities, genders, ages, religious beliefs and cultural backgrounds fairly and properly, and strictly prohibiting and discouraging any form of child or forced labor. The Company has formulated the Recruitment Management System to standardize the recruitment process,

ensuring that staff employment is conducted in compliance with laws and regulations. During the overseas recruitment of local personnel, the Company actively seeks to understand the labor laws and regulations of various countries as well as international practices, specially formulating the operating mechanisms such as the Equal Employment System and Local Recruitment Process Guidance to improve the compliance of talent recruitment and management. In 2019, the Company did not employ child or forced labor.

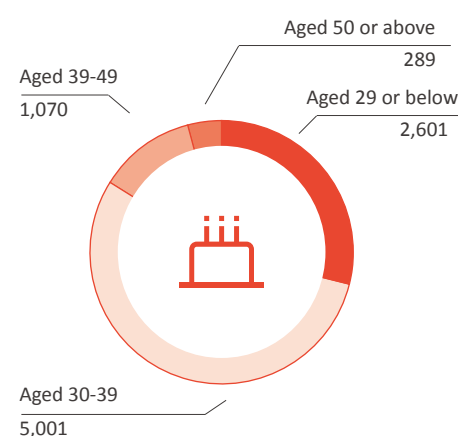
Number of employees by type of employment (person)



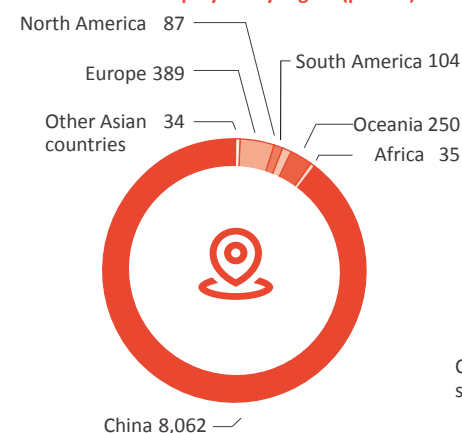
Number of employees by gender (person)



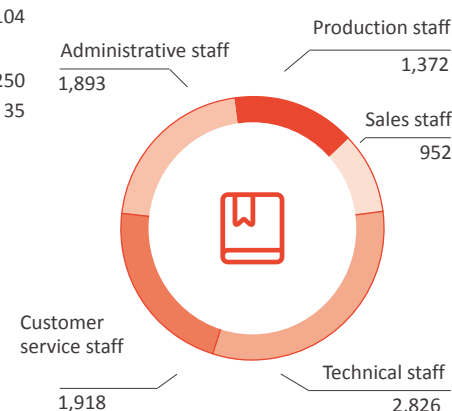
Number of employees by age (person)



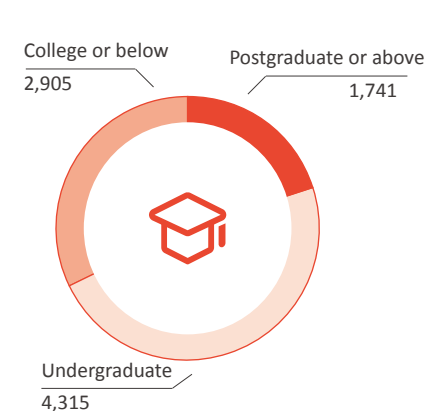
Number of employees by region (person)



Number of employees by expertise (person)



Number of employees by educational level (person)



In accordance with the relevant laws and regulations of China and the countries/regions in which it operates, and adhering to the principle of equal compensation for male and female employees, the Company obtains industry compensation information each year through competition analysis, public government data analysis, third-party compensation reports, and internal research, as well as establishes 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 on a timely manner, and pays five social insurances and one housing fund in full, protecting legitimate rights and interests of employees.

As a globalized company, Goldwind pays attention to diversification of employee's composition, recruits employees with different nationalities, races and cultural backgrounds with an open attitude, actively creates an open, comprehensive and diversified working environment and enhances the Company's creativity and innovation spirit.

| Area                      | America | Australia | Asia (except China) | Europe | South America | Africa | Middle East, North African |
|---------------------------|---------|-----------|---------------------|--------|---------------|--------|----------------------------|
| Localized employment rate | 100%    | 100%      | 73%                 | 66%    | 78%           | 63%    | 56%                        |

## Training and Development

The Company establishes a comprehensive and multi-level talent training system to meet employees' needs to enhance their expertise and basic vocational skills, and encourages them to choose the appropriate career development path according to their own conditions, so as to achieve their values while promoting corporate development.



### Employee Training

In order to provide systematic training courses and exchange platform for employees, the Company founded Goldwind University in 2011, with the goal of "cultivating outstanding new energy value creators". The Company makes full use of internal and external knowledge resources of the Company, and actively develops and introduces training courses suitable for the Company's current and future development, so as to establish itself as a learning institute, enhance staff capabilities, and cultivate talents for the development of the Company and the entire wind power industry. In 2019, Goldwind University was listed in "Top 50 Chinese Corporate Universities in 2019".

The Company follows the principle of "position-related, input-output, division-based management, and collaborative sharing", and establishes a three-tier training management system comprising Goldwind University, 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. In accordance with the current status of talent training, the Company established "six-level talent training system" in 2019, and conducted different types of training according to the talent development system and learning maps of employees at all levels, cultivating reserve talent at all levels for corporate development.

In 2019, the Company compiled and released *Curriculum and Curriculum Development Management Measures*, making full use of internal and external knowledge resources to develop and introduce training courses suitable for the Company's current and future development, while meeting the learning needs of employees. Additionally, the *Training Evaluation Management Measures* was also launched to review the role and effectiveness of training programs, and improve training quality according to evaluation results, so as to better help employees improve their capabilities to apply knowledge and skills. The Company has developed and revised a total of 269 courses throughout the year, enriching corporate learning resources.

| Talent Pyramid | Key Aspects  | Training Methods   | Implementing Projects   |
|----------------|--|--|---|
| Level 1        | Strategic thinking, transformation-driven, team motivation   | Training, job rotation, further education  | Coaching, dispatch for further education  |
| Level 2        | Inter-departmental collaboration, team building, personal leadership development, and commitment enhancement | Training, coaching, workshop performance interview, online learning, further education | G+ Oscar talent development program, new manager training, applied leadership, applied management knowledge, “A Hundred Talent Project”, etc. |
| Level 3        |  |  |   |
| Level 4        |  |  |   |
| Level 5        | Performance-oriented, organizational integration, professional skills, professionalism                       | Training, coaching, job rotation, online learning                                      | High-altitude operation, new employee training, digitalization personnel training, business empowerment training, etc.                        |
| Level 6        |  |  |   |

In 2019, the Company provided more training resources to entry-level employees, offering more training opportunities and creating better training conditions for those employees. As the training focused on team management and collaboration, internal teams together with their managers attended the training, so as to enhance their team collaboration and business arrangement capabilities.

| Indicators                                     | 2019  | 2018  | 2017  |
|--|-------|-------|-------|
| Proportion of employees receiving training (%) | 64.61 | 63.01 | 56.60 |
| Employee training hours (hour)                 | 32.07 | 31.87 | 26.59 |

| Training Hours per Capita                            | Category              | 2019  | 2018  | 2017  |
|--|-----------------------|-------|-------|-------|
| Training hours per capita by management level (hour) | Senior management     | 15.47 | 52.95 | 16.94 |
|  | Middle management     | 33.56 | 73.77 | 51.38 |
|  | Entry-level employees | 32.32 | 29.16 | 25.83 |
| Training hours per capita by gender                  | Male                  | 31.39 | 27.89 | 26.21 |
|  | Female                | 34.05 | 43.96 | 28.24 |

## Employee Development

The Company attaches great importance to career development of its employees, striving to provide room for them to achieve their values through establishing multiple development channels. To facilitate employees' expected self-development, the Company assists them in formulating personal development plans, and creating career blueprints, integrating employee development with business development, and providing systematic career development channels for employees. Through design, planning, execution, evaluation, and feedback, the career development goals of each employee can be consistent with the strategic goals of corporate development.

The Company establishes both vertical and horizontal career development paths for its employees. Based on career development channels, the vertical career development path helps enhance employees' specialization in profession or management through job qualification assessment, so as to achieve job promotion. Employees can also enrich and expand their professional experience through secondment, job rotation and transfer and thus achieve horizontal career development. As of the end of 2019, the Company has established a position system comprising 8 horizontal sequences, 40 horizontal sub-sequences, and 60 vertical levels. With each position put into a certain sequence and level to form together a position map, the Company establishes a variety of career development paths for employees.

## Health and Safety

The health and safety of employees is crucial to the happiness of their families and the sustainable development of the Company. The Company abides by the national and other relevant laws and regulations, establishes and improves the production safety management system, and consolidates various safety management, while continuously optimizing working conditions for protecting employees' occupational health and safety. The Company did not record any occupation-related casualties, serious injuries or occupation-related poisoning accidents throughout the year, and a total of 106 working days loss were caused by occupational injuries.

### Production Safety

The Company implements production safety measures in all aspects of its production and operation, actively promotes the building of a long-term mechanism for production safety, and comprehensively improves production safety management.

### Safety Management Strategy

The Company continues to optimize its safety management system; based on safety capability building, safety technology enhancement, safety culture shaping, safety informatization, 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 2019, the Company introduced the International Safety Rating System (ISRSTM) to comprehensively carry out production safety standardization certification and rating, quantify the HSE management classification and rating standards, improve assessment tools, and optimize the performance measurement of health and safety management, thereby achieving the scientific evaluation and diagnosis of HSE management. Goldwind won the "Outstanding Contribution Award" given by the Global Wind Organization in 2019, due to its outstanding performance in promoting the production safety and relevant training in Chinese wind power industry.

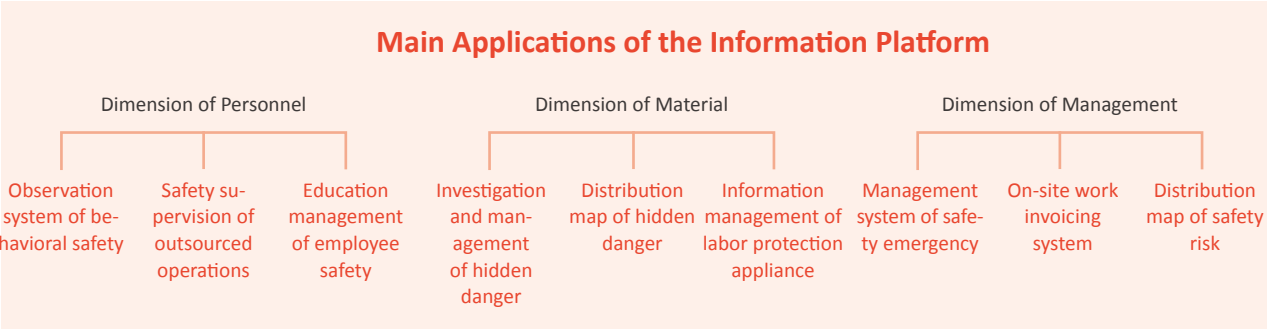
### Safety Culture Shaping

The Company actively facilitates the transition of its HSE management from system management to cultural management, enabling employees to actively participate in safety matters, and forming safety policies and guidelines that all employees adhere to. In 2019, the Company carried out activities such as the team collaboration training "HSE is my choice" and the themed salon "Controlling surrounding safety risks starts from me", and promoted the building of the safety culture based on "Group HSE Safety Monthly Newsletter", "Wind Sources", "HSE Security Information Platform", and other formats of communication.

### Safety Capability Building

The Company strengthens the building of employees' safety capabilities and consolidates the foundation for production safety. In 2019, the Company focused on strengthening the safety capability building of superintendents, conducting training, capacity confirmation, and organization performance and evaluation for superintendents of various branches and subsidiaries, in order to enhance their HSE management and performance. Risks concerning front-line production posts were reviewed, and various methods such as practical operations, interviews, and simulation demonstration verification were adopted to enhance the effectiveness of training. In addition, the regular rotation mechanism, and the reward and punishment mechanism were implemented to improve safety awareness and capabilities of front-line employees. Based on the "Five Dimensions and Six Capabilities" behavior capability model set out in the Goldwind Safety Engineer Capabilities Building Standard, the Company has developed HSE engineer job training and certification based on the six dimensions of HSE engineer capabilities, so as to improve the safety management capabilities of HSE engineers.

In order to enhance the safety awareness and capabilities of front-line employees in wind farms, the Company uses information-based tools to upload relevant safety information and materials through dynamic data scanning, builds an HSE knowledge base, and alleviates project management pressure, thus securing a safe working environment.





## Safety Emergency Management



In 2019, the Company led the compilation and release of the national standard GB/T 37898-2019 "WTGs-Technical Regulation for Installation Safety", which regulates the safety of WTGs installation from five aspects of human, machine, material, law and environment, thereby ensuring the safety of the installation personnel during installation, operation and maintenance.

In March 2019, China's State Council released the Regulation on Emergency Responses to Work Safety Accidents as standards and guidance of related work. The Company also compiled and released the *Comprehensive Contingency Plans for Work Safety Accidents*, collaborated with government and social resources to enhance its safety emergency response capabilities. Throughout the year, more than 800 emergency drills including earthquake escape, fire fighting, traffic safety accidents, electric shocks, high-altitude falling, flood prevention and emergency rescue were organized at the corporate level, covering a total of over 10,000 people.

## "Offshore and Overseas" Wind Power Safety Guarantee

The Company always considers employee safety as top priority while developing offshore wind power and expanding overseas wind power markets. Health and safety management plans are compiled for overseas projects based on the Company's overall safety management requirements and the actual situation of the country or region where the project is located. For first-time operation or challenging operation, full-process control and analysis are carried out to systematically identify risks, and information management platforms are used for remote management and monitoring of the real-time production safety dynamics. To better adapt to the complex operating conditions at sea, Goldwind has built China's first survival training platform that meets the Global Wind Organization (GWO) standards, to simulate the harsh conditions at sea such as rain, fog, waves and lightning, and provide training on emergencies such as falling into the water and ship docking, thus laying strong support for securing the safety of personnel working at sea.



## Occupational Health

The Company compiled and released the Occupational Health Management System to regulate the notification, training, declaration and monitoring of occupational hazards, occupational health examinations, employee monitoring files, and occupational disease prevention and treatment. The Company regularly identifies and inspects occupational hazard factors in the workplace, organizes employee health examinations, analyzes the examination results, and strives to eliminate and control the impact of occupational diseases on employee health.

In order to protect the occupational health of employees, the Company creates occupational health monitoring files for each employee in positions of occupational risks, and organizes medical examinations before, during and after employees take their positions. The Company regularly organizes health examinations, monitors sites involving occupational risks, and announces occupational health information. Technical measures such as noise reduction and ventilation improvement are carried out to address occupational hazards such as noise and high temperature. For those who need to work long hours in high altitude or at desks on sites, examinations of lumbar and cervical spine are added, and workplace exercises are promoted to enhance their physical fitness.

In order to help employees scientifically manage their health, the Company has worked with China Institute of Sport Science (CISS) to conduct health checks on employees with professional examination equipment for four consecutive years since 2016. The health data of employees are collected through modern medical and informational technologies, and their physical and mental health status is tracked and evaluated. CISS analyzes the research results to provide scientific exercise and dietary prescriptions to employees, thus improving their fitness. The Company possesses several sports venues for football, basketball, badminton, tennis, swimming and gymnasium, allowing employees to enjoy their sports hobbies and keep fit.



# Employee Care

The Company builds an open and transparent internal communication mechanism, actively creates a harmonious communication atmosphere, and continuously optimizes and improves the working environment to enhance employees' cohesion and sense of belonging.



## Communication and Exchange

It has always been the goal of Goldwind to provide an open working atmosphere for its employees, allowing them to become acquainted with the business and participate in it. The Company places a strong emphasis on the communication between its leaders and employees. It creates different conditions and opportunities for communication according to different subjects and purposes, and establishes a platform for the exchange of employee information through various forms of communication and sharing activities.

### Subjects, Formats and Contents of Employee Communication

| Dimension             | Subject                          | Format  | Content  |
|-----------------------|----------------------------------|---|--|
| Different levels      | Middle and senior management     | Democratic day, management conference   | Business management and strategic planning   |
|                       | Executives and employees         | Assembly meeting, onsite visit by management, WeChat platform, management mailbox, senior management meeting, general manager coffee time, survey | Corporate culture<br>Issues concerning the development of the Company and that of the employees themselves |
|                       | Among employees                  | OA forum, internal newsletter, monthly employee birthday party, sports gala, home Friday, self-service portal                                     | Latest company development<br>Various internal company information   |
| Different departments | Foreign employees                | Cultural exchange   | Corporate culture  |
|                       | Among departments                | Regular divisional meeting, business operation meeting, technology seminar, experience exchange, production communication conference              | Business progress of the Company and various departments<br>Cutting-edge knowledge and techniques          |
| Different regions     | Among various regional companies | OA forum, internal newsletter, WeChat platform, inter-regional video conference, survey, staff zone poster  | Updated company development<br>Various internal company information  |

Most wind farms are located in remote areas away from cities, with a small number of project staff. After staying in such an almost closed environment for long, those staff are prone to fatigue, irritability, and depression. The Company cares about the mental health of employees, and continues to carry out Employee Assistance Program (EAP) on psychological counseling, providing 24-hour mental health counseling, special event crisis intervention and other support for frontline employees as well as their families. The Company has also formulated the Wind Power Personnel Health Management Manual to provide simple health tips for those working at wind farms, optimize their daily work and living habits, and improve the health of frontline employees.

## Work-Life Balance

The Company advocates “work efficiently and live happily”. Focusing on sports and health, it introduces sports professionals, organizes various activities every year, and builds and maintains fitness facilities and venues in the workplace, enabling employees to enjoy sound work-life balance.

The Company has 12 sports clubs such as yoga, swimming, table tennis and basketball, and employs retired national athletes and professional coaches to conduct professional coaching. The Company also integrates sports knowledge, physical health check, sports health management, nutritional diet and psychological relaxation with professional medical treatment, guiding employees to exercise in a scientific manner and improving their physical and mental health.



Nearly **1,030**  
employee families

were served throughout the year

Nearly **3,800**  
people

were served throughout the year

The Company cherishes the efforts of every employee and the support from their families. It organized two Family Open Day events in June and November 2019 respectively, inviting their family members to visit the Beijing Park to learn more about the working environment and corporate development. Meanwhile, a variety of activities including exhibitions, interactive games and fun photos were carried out, enabling those family members to better understand the corporate culture. A total of 1,030 employee families and nearly 3,800 people were served throughout the year.



## Employee Welfare

The Company highly values employee care, and establishes a comprehensive welfare guarantee system to protect employees' legal rights such as social insurances, statutory holidays and paid annual leaves. The Company attaches great importance to employee welfare and provides them with welfare in catering, transportation, housing and medical care among others. For frontline employees, employees in difficulty, and pregnant employees, additional care is offered accordingly.

The Company has set up a shared service hall to provide employees with standardized services for handling social insurances/housing fund, employment-related procedures, talent introduction, contract files and other related affairs. The Company works closely with institutions including governmental departments, schools and insurance companies to create opportunities for its employees, such as public rental housing, educational resources for employees' children, and customized commercial insurances. To facilitate employees' daily work and life in the Company's Beijing Park, western restaurants, supermarkets, dry cleaning shops, printing shops and package lockers, etc., have opened up. The Company is actively improving facilities within the smart park, and integrates various basic services into a mobile App, so as to realize self-help services and improve management and service efficiency.

### Benefits for special employee groups:

#### Frontline Employees

For on-site employees with certain working age, allow their family to visit windmills;  
Add specific health examination in annual physical check for frontline employees;  
Offer special care packages regularly and pay visits to frontline employees.

#### Employees in Difficulty

Assist employees in difficulties, i.e. disasters, illnesses and other special reasons, through employee donation, corporate contribution, and prepaid salary among others.

#### Pregnant Employees

Set up reserved seats for pregnant employees in the canteen;  
Set up breastfeeding rooms;  
Offer maternity leave, prenatal check leave, nursing leave and breastfeeding leave.



## Supply Chain

Goldwind always adheres to ethical practices and business norms for fair operations. We not only protect suppliers' legitimate rights and interests but also support their development. As a leading company in the industry, we stand up to our responsibilities and utilize our advantages to work with our suppliers in building a friendly business environment to promote the sustainable and healthy development of the industry.

### United Nations Sustainable Development Goals Supported

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Goldwind incorporates sustainability concepts into procurement processes. It prioritizes the procurement of environmentally friendly products and services, encourages responsible suppliers, implements green supply chain projects and guides suppliers to save energy, reduce emissions and use renewable energy, thereby building a sustainable wind power industry chain. **P61-P62**



## Procurement

We comply with the principles “transparent and compliant” and “fair, just, and open” during procurement activities. We set reasonable purchase prices, fulfill our contract obligations in a timely manner, and safeguard the legitimate rights and interests of our suppliers. We strongly oppose any form of corruption and commercial bribery.

We have formulated documents such as the *Guidelines for Company Procurement Management and Evaluation System for Qualified Suppliers of the Wind Turbine*, which clarified the responsibilities of various departments including the department of procurement demand, purchase department, technical department, auditing department, and legal department, and specified the procurement process and supplier management requirements to manage compliance issues in procurement activities. The Sunshine Procurement Pledge is a mandatory document when signing procurement contracts with suppliers,

in order to maintain professional and honest relationships with our suppliers to prevent from commercial bribery and promote the healthy development of all businesses.

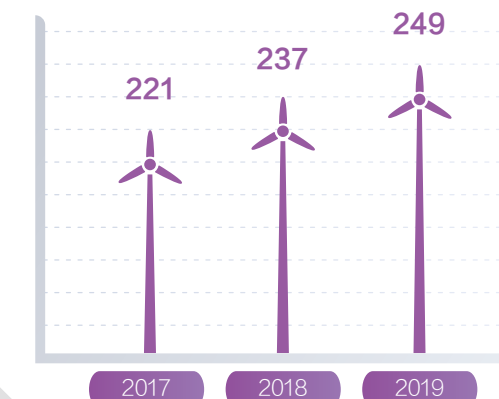
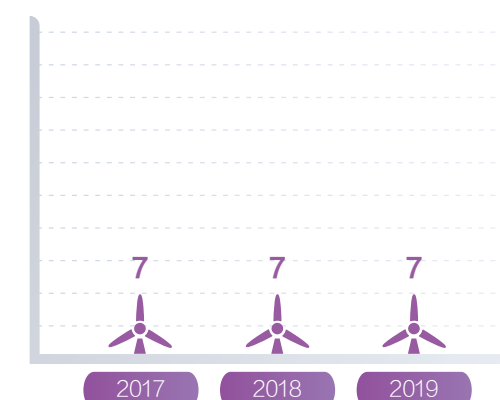
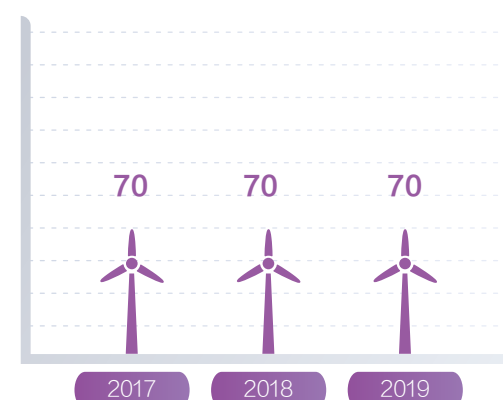
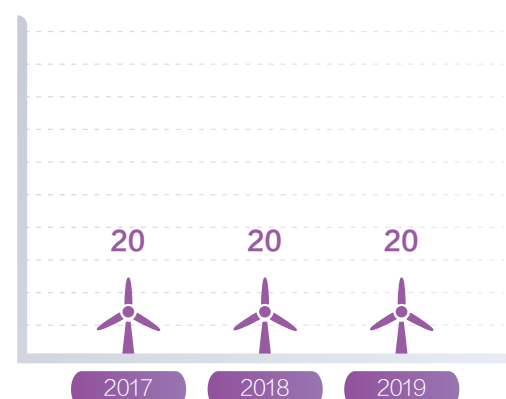
We have set up the Supply Chain Collaboration (SCC) platform as a portal for the communication and collaboration with suppliers, which has integrated such functions as online information exchange, purchase order coordination, and digital contract management. All procurement processes are recorded and managed online to ensure fairness and transparency. Suppliers can access the platform by registering accounts, and in the system, they can maintain basic information, confirm orders, and search for payment details and other information, making information sharing and business collaboration efficient and convenient.

We attach importance to the compliance and sustainability of the supply chain management. In terms of supplier management, we require suppliers to comply with applicable laws, regulations and codes of conduct. We also guide suppliers to fulfill social responsibilities, and manage the environmental and social risks of the supply chain. We have formulated the Code of Conduct for Suppliers, requiring suppliers to comply with regulations regarding environmental protection, labor rights, health and safety, business ethics, and other aspects. In 2019, we released the Administrative Measures for Qual-

ified Suppliers of Wind Turbine Components, which incorporates compliance with environmental regulations, safe production, and occupational health management into supplier evaluation standards. The suppliers will be evaluated as per these standards on a quarterly and annual basis by both self-inspection and random inspection by Goldwind. For suppliers with serious performance issues, we will urge them to make corrections accordingly within specified time limit and suspend their qualification for an evaluation cycle.

# 3 × 100%

100% purchase based on supplier contract  
100% payment to supplier  
Encourage and supervise main supplier to make payment to secondary supplier



Distribution of numbers of the Company's major suppliers<sup>1</sup>

1. The number of qualified suppliers who provide components, production and service, tools, devices, packaging and other raw materials and services and pass test consisting over 100 stringent indicators of business, quality, service, and safety, in accordance with Development and Management Measures for Suppliers of Wind Turbine Components.



# Green Supply Chain

In 2017, we took the lead in putting forward the “Green Supply Chain” concept and smart energy system solutions within the industry, helping suppliers discover their potentials in energy conservation and emission reduction and promoting the green transformation of upstream companies for better competitiveness and sustainable development of the entire industrial chain. By building up a complete supply chain management system in the wind power industry, we have built a platform for comprehensive supply chain information management with seamless connection and data communication, integrating many energy conservation and environmental protection systems, such as smart energy efficiency management, wastewater management, solid waste management, atmospheric monitoring management, and green material management. Up until now, this platform has gathered energy consumption and emission information from more than 70 suppliers in total, 50 of which are companies with annual consumption of more than 300 tons of standard coal. After remote analysis and diagnosis, we

visited some suppliers with huge energy-saving potentials to conduct field surveys and propose plans for energy-saving transformation, smart control, and renewable energy usage, and worked with them to improve environmental performance through energy management contract. As of the end of 2019, we have assisted 31 suppliers with the implementation of energy efficiency diagnosis projects, helping them save more than 40 million kWh of electricity. Local regions have used 32 million kWh of renewable energy.

We also work to bring the concept of green supply chain to the downstream companies in the wind power industry. By integrating wind farm intelligent service cloud platforms and remanufacture test platforms, we transform and innovate its key process technologies to set up a full-life-cycle green supply chain management platform involving design, procurement, and production to logistics, operations, and remanufacture.

*“In addition to green and high-quality products, we also create green and energy-efficient production processes. Goldwind hopes to utilize its industrial influence and integrate the efforts of all parties to jointly promote the green transformation and competitiveness enhancement of the whole supply chain and achieve better development of economy, society, and environment at the same time.*

——Wu Gang, Chairman of Goldwind

Through learning from the experience of our green supply chain management, we have formulated internal regulations such as *Goldwin Green Supplier Evaluation Code (Trial Version)*, and worked together with China General Certification Center to release the industry standards of *Green Supply Chain Evaluation Technical Specifications for Wind Power Equipment Manufacturing Industry*. We have compiled and released a total of 25 green procurement standards, green supplier management regulations, and evaluation standards.

**Goldwind was the only wind turbine manufacturer in China that has been awarded:**

by the Ministry of Industry and Information Technology

One of the first batch of 15 “Pilot Enterprise of Supply Chain Innovation and Application”

“National Green Supply Chain Management Enterprise”

by the Ministry of Commerce

“Pilot Enterprise of Supply Chain Innovation and Application”



# Win-win Cooperation



Enhancing ourselves and driving the development of the whole industry, we have built up a platform to work with our suppliers to develop new technologies, exchange industry trend information, share market opportunities and risks, and achieve mutual complementarity for joint development.

Since 2010, we have been holding annual supplier conferences with our top management present at each event to discuss with our suppliers the future development direction of the industry and facilitate better cooperative relationship. In March 2019, the 10th Supplier Conference was held with the theme “Innovation for a Better Future”. It brought together our suppliers around the globe in the fields of equipment, material, and logistics. And representatives from the government, the media, and other industries were gathered to discuss the development trend of the wind power industry. The conference continued with the traditional ceremony for rewarding the suppliers with outstanding performance and contributions.

In 2019, we continued to offer technical and management support to our suppliers, and organized various programs such as product, quality, and project manager training camps, anti-corrosion and salt mist experiment intermediate training sessions, quality management audits, cross-border communication, and corporate visits, with an aim to improve suppliers’ management capabilities.

Based on years of experience in building a fully optimized industrial chain, we have formed a cooperative relationship with our suppliers in terms of “quality, cost, technology, and coordination”. In 2019, in our efforts to urge the suppliers to carry out process and technological innovations, we discovered their potentials for quality and efficiency improvements. We also made incentive policies to grant corresponding awards to high-performing suppliers based on implementation difficulties and applications of their innovations.

In addition, we have been trying to work with more suppliers in other fields, and to innovate collaboration methods and form strategic relationship with various industry-leading technological companies. In September 2019, Goldwind worked together with eight more supply chain companies to establish a cooling technology innovation alliance, by which innovative resources are integrated to build a mechanism for in-depth research and development of wind turbine cooling system. The alliance aims to “develop new technology, improve reliability, and reduce costs”, and, under the cooperation framework of “openness, innovation, coordination, and win-win”, build a cooling technology innovation platform. Through joint efforts in researches on major technical problems, the alliance intends to develop its own core technologies to support and lead industrial technological innovation.

*We have always regarded our partners in the supply chain as core members of the industrial ecosystem. Through continuous and effective communication, mutual technical training and support, and joint scientific and technological breakthroughs, we will create a fully optimized industrial chain and improve supply chain management to achieve win-win cooperation.*

——Cao Zhigang, President of Goldwind

## Community and Charity

The understanding, support, and help that communities have given us play a key role in the development of Goldwind. While providing green, reliable, and stable energy to the society, we adhere to the principles of transparency, openness, win-win cooperation, and mutual benefit. On one hand, we manage and protect local natural and social resources in a sustainable manner; on the other hand, we make full use of our business advantages and resources to improve the lives of residents in surrounding communities, making them benefit from our business operations as much as possible and helping them grow.

### United Nations Sustainable Development Goals Supported



Goldwind insists on “wherever there are Goldwind people, there are Goldwind’s social responsibilities”. Whenever the Company builds a wind farm, it will donate teaching materials to local schools and support poor local households. It places emphasis on helping the development of Southern Xinjiang region, adding care and vitality to the area. **P67-P68**



Goldwind has been carrying out the charitable project “Nurturing Wind for China” for many years. From donating teaching materials to funding poor college students, from education to training rural teachers, it spares no effort in improving the quality and standard of rural education. **P68 P73**





## Community Relations

Our corporate social responsibility goes wherever we go. Goldwind always complies with relevant local laws and regulations, respects local culture and customs, takes the initiative to communicate with local residents, and maintains a close relationship with local communities. We always strive to integrate our own progress into the local economic and social development, and promote the prosperity and well-being of local communities. In the process of domestic wind power development and construction, the Company has compiled the Environment and Social Risk Assessment and Action Planning Management and Measures for Stakeholder Consultation and Participation Management, identified the impact on the community, established consultation and participation mechanism between the Company and community residents, government agencies and other stakeholder.

**In office areas:** Our corporate social responsibility goes wherever we go. Goldwind always complies with relevant local laws and regulations, respects local culture and customs, takes the initiative to communicate with local residents, and maintains a close relationship with local communities. We always strive to integrate our own progress into the local economic and social development, and promote the prosperity and well-being of local communities.

**At the wind farms:** through communication with local residents, we disclose the latest progress of our wind farm projects, and collect, discuss, and respond to issues that are of great concern to surrounding communities;

**At overseas locations:** we set up positions such as community relation manager as per local situations to coordinate and conduct community development related activities.

### Pave the "Road of Love" to Build Community Relationship

Case

Goldwind installed 25 wind turbines with a total capacity of 49.5 MW at the wind farm in Taohua Mountain, Shishou County, Jingzhou City, Hubei Province. During the construction, as it came to our knowledge that the local roads were in very bad conditions, we offered to invest to build a two-lane driveway named "Hongxingqiao Driveway". It now functions as the main passageway from urban Shishou to Taohua Mountain scenic areas, which not only facilitates tourists but also addresses the problem of traffic jams in the densely populated region. The Hongxingqiao Driveway has become the local mountain driveway, and was named the "Road of Love" for its section at the last kilometer, which is now an important scenic spot in Taohua Mountain's "18 Scenic Spots". Every March during the local "Peach Blossom Season" festival, the wind turbine platform at our wind farm will serve as one of the stages for holding various events and activities, which becomes a new landmark for local tourism. It has attracted many tourists every year for sightseeing, revealing our harmonious relationship with the local residents.



## Poverty Relief

We support the economic and social development of the communities where our business is located, utilize our accumulated business resources and experiences to participate in and support community development, and also share the results of corporate development for common sustainable development.

In order to hold community public welfare activities in a systematic and standardized manner, with the approval of the Beijing Municipal Civil Affairs Bureau, Goldwind Public Welfare Foundation was initiated and established in September 3, 2019, aiming to relieve the plight of the under-privileged through continuous and effective actions.



The first meeting held by the First Council of Goldwind Public Welfare Foundation

The employees are encouraged to take part in various public welfare events, as they all have one day of paid annual leave for charitable events. The staff members can apply online for different kinds of public welfare programs. Also, our internal Volunteer Service Association will regularly organize volunteers in such programs as helping the elderly, making donations to less privileged students, and planting trees, etc. A total of 302 Goldwind volunteers served 1,674 hours in 2019.

302

Volunteers number

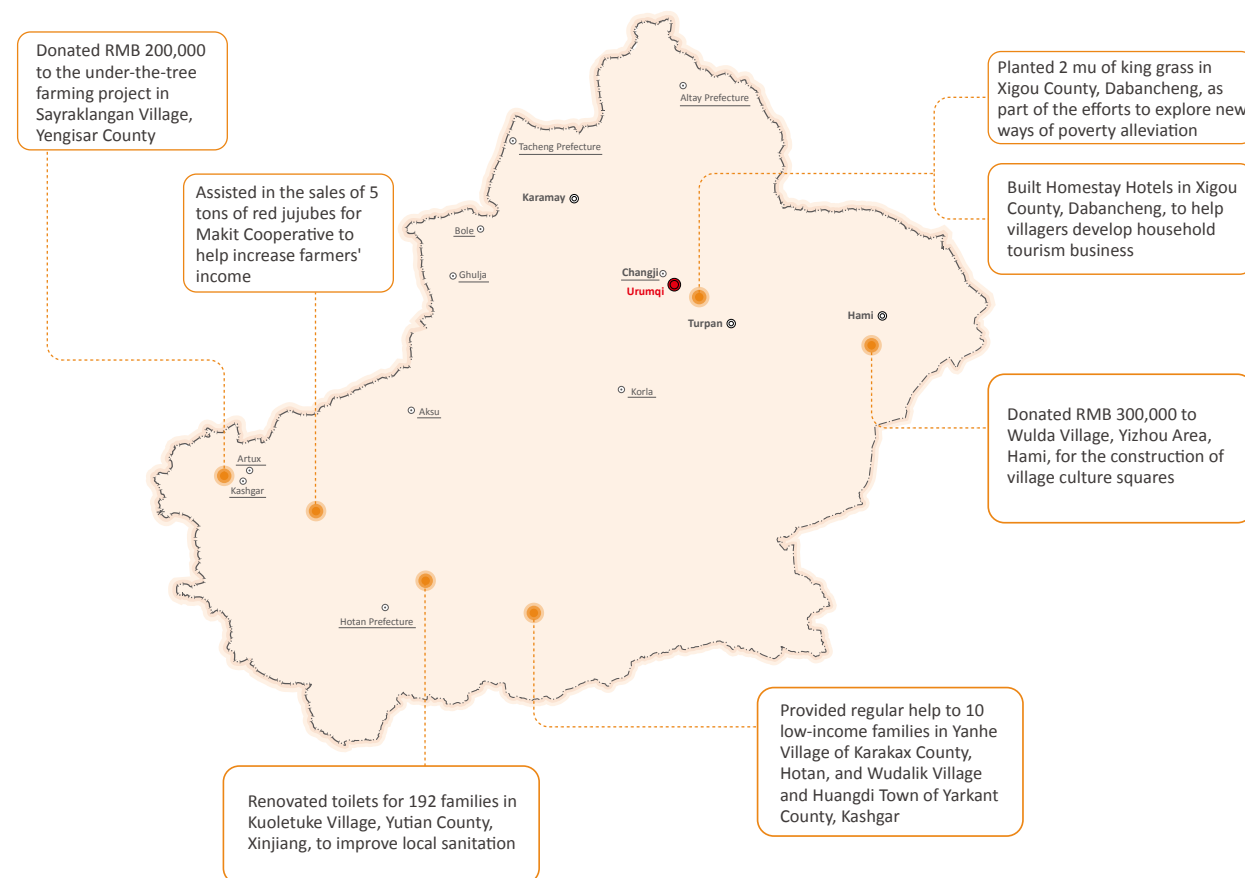
1,674

Volunteers served hours

RMB 16.59 million

Total charity donations

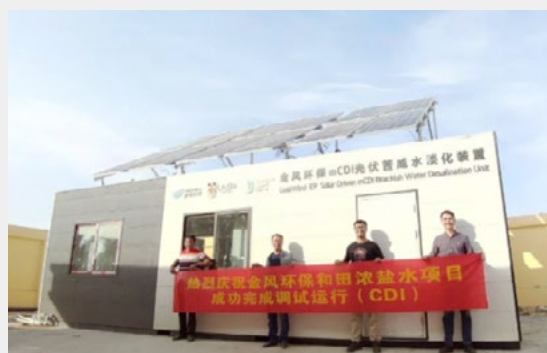
We stay committed to our efforts on supporting the development of poverty-stricken areas, and have conducted various poverty alleviation programs in Xinjiang and poverty-stricken areas surrounding our wind farms. In addition to continuous increase of our poverty alleviation input, we also strive to find new ways and perspectives for our poverty alleviation efforts.



Community poverty alleviation activities in Xinjiang

## New Water Treatment Technology to Ensure the Supply of Clean Drinking Water for Communities

China has a relatively high coverage of brackish water. Partial data shows that more than 40 million people are affected by brackish water, and Hotan in Xinjiang is among the most affected regions. In 2019, Goldwind cooperated with the University of New South Wales to carry out a brackish water treatment project in Minfeng County, Hotan, Xinjiang. Considering poor local traffic conditions and the lack of management technicians, we developed a water treatment technology based on the principle of capacitive adsorption to desalinate brackish water, handle water-soluble radioactive waste, and demineralize water. This technology has low operating costs with no clogging problems or chemical additives, and also supports remote control. As it can be directly fueled by solar energy, the system can run without any external power supply and ensure non-stop clean drinking water supply every day. In October 2019, we successfully completed the installation and commissioning of the project, which helped address the drinking water issue for local residents.



Case

## Education

As a leading company focusing on technological innovations in the wind power industry, Goldwind pays close attention to rural elementary education and the cultivation of the next generation of innovative talents for the wind power industry. We donated teaching facilities and materials during the implementation of the “Chinese Linguistics Training” and “Wind for the Future” charitable rural teacher training program. We also supported universities and colleges in holding science and technology contests to promote education.

### "Wind for the Future" charitable rural teacher training program:

Goldwind has been carrying out the program for 4 consecutive years, during which we would invite rural teachers from remote regions to Beijing for trainings to help them improve teaching qualities and learn about modern education concepts and models. As of the end of 2019, the project has reached out to 780 rural teachers of 10 different ethnic groups across 20 provinces, cities, and regions, benefiting more than 41,000 rural students. In order to further expand the coverage and benefit more rural teachers, we invited outstanding teachers and educational experts from Beijing to visit remote villages in Xinjiang, Hebei, Henan, and other places as part of our “Send education to the countryside” program.



“

The program is well organized and packed with a variety of courses, including on-site visits and discussion sessions on specific teaching methods. The teaching center focuses on cultural cultivation, which is of great help to rural teachers to broaden their horizons and improve their teaching skills.

—— He Xuebin, Principal of Xingyi Guangcai Primary School, Anbian Town, Dingbian County, Yulin, Shaanxi Province

It was both entertaining and educational. I have learned quite a lot. I will review many times what I have learned to grasp them and enrich my professional knowledge! We greatly appreciate Goldwind for its support of national education and caring for rural teachers. With your understanding and support, we shall try our best to do a better job to serve rural education!

—— Ma yanlei, Teacher of Caolou Primary School, Dushan Town, Juye County, Heze, Shandong Province

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### Youth Training Center:

Goldwind developed a series of popular science courses for young students as part of the efforts to enlighten and develop their interests in new energy, stimulate their creativity, and promote the cultivation of innovative talents for the new energy industry. In 2019, a total of 2,054 teenagers from 11 schools and 2 communities were invited to various programs such as the “Goldwind Open Day”, non-profit research and study, new energy innovation education classrooms, “Goldwind on Campus” technology week, and “Into the Community”.



### The "Goldwind Cup" Energy Innovation Challenge:

The “Goldwind Cup” Energy Innovation Challenge was co-sponsored by Goldwind, China Wind Energy Association (CWEA), and Chinese Wind Energy Equipment Association (CWEEA), aiming to develop students’ abilities to “put theories into practices” and find the best application of innovations to the wind power field. During the event, we invited the participating teams to company headquarters and wind turbine manufacturing bases for field investigation and educated them on manufacturing and assembly processes of our large-scale wind power equipment. During the visits, we also arranged senior Goldwind engineers to provide guidance and introductions. In 2019, the second “Goldwind Cup” Energy Innovation Challenge welcomed 85 teams from 7 top universities nationwide, including Tsinghua University and Peking University.



## Public Health

“Work efficiently and live happily” is our idea in advocating the importance of healthy work and lifestyles. We promoted this concept not only among employees but also to the public, through holding marathon events, granting access to our internal stadium resources, and sponsoring sports events, to help the public develop healthy lifestyles.



For the past three consecutive years, Goldwind has been providing support to the Beijing Marathon event through granting green power certificates. We set up a Runner's Club which consists of a number of running enthusiasts inside and outside the company, and also invited marathon coaches to give lectures on running exercises. We used such methods to encourage more people to participate in healthy running activities for better physical fitness. In 2019, we launched a charity program named “Run for Tracks”, in which Goldwind would donate plastic tracks for the number of kilometers accomplished by the members of the Runner's Club during the running campaign, aiming to improve the sports environment for kids. From this program, a brand-new plastic track was built in Nansai Central Primary School in Neiqiu County, Xingtai of Hebei Province.



Furthermore, we have been holding “Goldwind Footprint” marathon events for runners in the wind power industry for two years. In 2019, the second “Goldwind Footprint” Green Energy Half-Marathon event was held in Dafeng District of Yancheng, attracting more than 6,000 participants.



## Overseas Communities

We always believe that localized management should be placed at the core of internationalization. We respect the culture and customs of the places where our businesses are, pay close attention to communication with local government and communities, and strive to be integrated into local communities for harmonious community relationship. During the implementation of wind farm projects, we maintain good and regular communication with local government, communities, NGOs, and other stakeholders, to understand and respond to the demands and expectations of all parties as much as possible.

We share our accumulated wind power technologies with local communities to make local residents better acquainted with wind power and strengthen their environmental protection awareness. We provide support to local sports and cultural programs through donations, and actively participate in community activities. In addition, we invest in the construction of facilities such as roads and leisure space to facilitate the local residents in their daily travel and entertainment.



### Bringing Green Wind Turbines and Advanced Wind Power Technologies to Local Communities

Case

In August 2019, Goldwind completed the installation of the first wind turbine for the Excelsior project in the Western Cape Province of South Africa. The project had a designed capacity of 32.5 MW and installed 13 of 2.5 MW permanent magnet direct drive wind turbines. The project is expected to be completed and connected to the grid in early 2020, by which time it would deliver nearly 120 GWh of green power to the South African power system each year. During project construction, Goldwind worked together with the South African Renewable Energy Technical Education Center (SARETEC) to offer scholarships to the new-energy technicians in South Africa and help them complete trainings on wind power technologies. At the same time, Goldwind Africa has provided funds to promote the development of local small-medium enterprises, helping them improve their management capabilities and operational efficiency.

In Thailand, we donated sports facilities and equipment to local communities to support their club activities. Goldwind participated in volunteer training sessions themed “Defense” organized by local communities, and encouraged the employees to register as community defense volunteers.



In the U.S., we sponsored the Panama Community Baseball Team for the national competition and organized our employees and their families in our 5-kilometer hiking event as part of our efforts in support of Lincoln Zoo.



In Africa, we worked together with non-profit organizations to provide support in local gardening and horticultural services, donated sports facilities to local school football teams, and carried out activities of environmental protection in local schools together with suppliers.



In Australia, we paid visits to local schools to pass on wind power knowledge, and provided support to many other local community events.



In Chile, we taught the basics of wind power to local elementary school students to inspire their interests in wind power. In Brazil, we donated containers to the local Red Cross and built small-sized basic clinics in regions where our businesses operated.







## Prospect

To adapt to the global energy reform and fight against global climate change, Goldwind will always provide continuous green energy solutions through development and manufacture of wind turbines, wind power related services, and wind farm development, to help address the energy and environmental issues and make contributions to the future of human being. We will stay devoted to the business development path that is beneficial to both the society and the environment, to converge the positive energy of Goldwind timely and continuously, and to promote the steady development of smart energy and green development.

As the world's leading manufacturer of wind power equipment, we have always been thinking: how can we be sustainable and long-lasting? To accomplish our mission of "innovating for a brighter tomorrow", we will establish an organic connection between our own business operations and the development of sustainable society and environment to further social progress and sustainable social development.

In the future, we will work to integrate the concept of coordinated development of economy, environment, and society into our business operations on the basis of sustainable development management, and to try our best to meet the expectations and demands of our shareholders, clients, employees, suppliers, and other stakeholders. We shall build up a platform for all stakeholders to grow and make progress together. Through integration of the resources from all parties, we are committed to establishing a better resource platform and development environment to promote the transformation and upgrade of the entire value chain and build an industrial ecosystem of co-existence, co-dependence, and rebirth.

We will continue to learn from the philosophies and practices of sustainable development management, and develop a whole set of business models with Goldwind characteristics through on-going optimization and improvement to strive to become an international wind power enterprise widely respected and recognized both domestically and abroad.





# Performance Indicators

## Economic Performance

| Indicator                               | Unit            | 2019     | 2018   | 2017   | 2016   |
|---|-----------------|----------|--------|--------|--------|
| Total asset value                       | RMB 100 million | 1,030.57 | 813.64 | 727.88 | 644.37 |
| Revenue                                 | RMB 100 million | 382.45   | 287.31 | 251.29 | 263.96 |
| Net Income Attributable to Shareholders | RMB 100 million | 22.10    | 32.17  | 30.55  | 30.03  |
| Tax Payments                            | RMB 100 million | 11.17    | 14.62  | 17.50  | 21.00  |
| Total cumulative installed capacity     | GW              | 60.00    | 50.00  | 44.15  | 38.00  |

## Research & Development

| Indicator  | Unit            | 2019  | 2018  | 2017  | 2016  |
|--|-----------------|-------|-------|-------|-------|
| Number of R&D personnel                            | Person          | 2,826 | 3,132 | 2,881 | 2,080 |
| R&D personnel as proportion of total employees     | %               | 31.54 | 35.78 | 34.41 | 28.81 |
| R&D investment                                     | RMB 100 million | 15.57 | 15.77 | 14.73 | 13.85 |
| R&D investment as a percentage of business revenue | %               | 4.07  | 5.49  | 5.86  | 5.25  |
| Total domestic patent applications                 | Item            | 4,043 | 3,542 | 2,669 | 1,764 |
| Total domestically invented patent applications    | Item            | 2,207 | 1,990 | 1,421 | 909   |
| Total domestic patent licenses                     | Item            | 2,580 | 1,826 | 1,335 | 819   |
| Total domestically invented patent licenses        | Item            | 958   | 520   | 363   | 203   |
| Total overseas patent applications                 | Item            | 527   | 396   | 160   | 68    |
| Total overseas patent licenses                     | Item            | 172   | 77    | 49    | 16    |
| Domestic standard-settings participated            | Item            | 220   | 178   | 151   | 127   |
| International standard-settings participated       | Item            | 15    | 13    | 7     | 3     |

## Environmental Management

| Indicator                                      | Unit                         | 2019     | 2018     | 2017     | 2016 |
|--|------------------------------|----------|----------|----------|------|
| Power consumption (thermal)                    | 100 million kWh              | 1.57     | 1.05     | 0.65     | -    |
| Power consumption (wind/solar)                 | 100 million kWh              | 2.97     | 2.60     | 2.20     | -    |
| Gasoline consumption                           | kL                           | 802.30   | 908.05   | 654.53   | -    |
| Diesel consumption                             | kL                           | 1,280.77 | 1,357.45 | 1,062.69 | -    |
| LPG consumption                                | 10k m <sup>3</sup>           | 1.66     | 1.53     | 1.14     | -    |
| Natural gas consumption                        | 10k m <sup>3</sup>           | 49.73    | 50.73    | 74.88    | -    |
| Water consumption                              | 10k ton                      | 45.71    | 40.43    | 37.07    | -    |
| Water consumption per capita                   | ton/capita                   | 51.01    | 46.19    | 44.28    | -    |
| Overall energy consumption per RMB 10k revenue | Ton of standard coal/RMB 10k | 0.0154   | 0.0167   | 0.0153   | -    |
| Packaging material of wood                     | Ton                          | 3,004.27 | 2,145.09 | 1,665.39 | -    |
| Density of wood packaging usage                | Ton/pc                       | 0.71     | 0.75     | 0.54     | -    |
| Hazardous waste                                | Ton                          | 103.21   | 38.20    | 23.42    | -    |

| Indicator   | Unit        | 2019       | 2018      | 2017      | 2016 |
|---|-------------|------------|-----------|-----------|------|
| General solid wastes –construction wastes             | Ton         | 363.59     | 2,082.71  | 2,111.79  | -    |
| CO <sub>2</sub> Emissions                             | Ton         | 118,353.74 | 73,483.35 | 51,546.09 | -    |
| Scope 1   | Ton         | 6,279.62   | 8,694.49  | 7,032.00  | -    |
| Scope 2   | Ton         | 112,074.12 | 64,788.85 | 44,514.09 | -    |
| Hazardous wastes generated per MW of WTG manufactured | Ton/MW      | 0.0102     | 0.0063    | 0.0039    | -    |
| Construction wastes generated per MW of WTG installed | Ton/MW      | 0.0441     | 0.3560    | 0.3434    | -    |
| CO <sub>2</sub> emissions per RMB 10,000 revenue      | Ton/RMB 10k | 0.0309     | 0.0256    | 0.0205    | -    |

## Staff Structure

| Indicator                 | Unit   | 2019  | 2018  | 2017  | 2016  |
|---------------------------|--------|-------|-------|-------|-------|
| Total number of employees | Person | 8,961 | 8,753 | 8,212 | 6,922 |
| By gender                 |        |       |       |       |       |
| Female                    | Person | 1,756 | 1,723 | 1,593 | 1,294 |
| Male                      | Person | 7,205 | 7,030 | 6,780 | 5,926 |
| By age                    |        |       |       |       |       |
| Aged 29 or below          | Person | 2,601 | 2,807 | 3,702 | 3,930 |
| Aged 30-39                | Person | 5,001 | 4,913 | 3,600 | 2,562 |
| Aged 40-49                | Person | 1,070 | 815   | 849   | 491   |
| Aged 50 or above          | Person | 289   | 218   | 222   | 237   |
| By region                 |        |       |       |       |       |
| China                     | Person | 8,062 | 7,867 | 7,741 | 6,769 |
| Other Asian countries     | Person | 34    | 75    | 30    | 6     |
| Europe                    | Person | 389   | 395   | 337   | 267   |
| North America             | Person | 87    | 143   | 111   | 84    |
| South America             | Person | 104   | 76    | 15    | 3     |
| Oceania                   | Person | 250   | 169   | 129   | 81    |
| Africa                    | Person | 35    | 28    | 10    | 10    |
| By specialization         |        |       |       |       |       |
| Production staff          | Person | 1,372 | 632   | 864   | 1,292 |
| Sales staff               | Person | 952   | 860   | 524   | 332   |
| Technical staff           | Person | 2,826 | 3,132 | 2,881 | 2,080 |
| Customer service staff    | Person | 1,918 | 2,141 | 2,227 | 1,986 |
| Administrative staff      | Person | 1,893 | 1,988 | 1,877 | 1,530 |
| By educational level      |        |       |       |       |       |
| Postgraduate or above     | Person | 1,741 | 1,797 | 1,612 | 1,140 |
| Undergraduate             | Person | 4,315 | 4,450 | 3,948 | 3,278 |
| College or below          | Person | 2,905 | 2,506 | 2,813 | 2,802 |





## Staff Turnover Rate

| Indicator             | Unit | 2019  | 2018  | 2017  | 2016  |
|-----------------------|------|-------|-------|-------|-------|
| Staff turnover rate   | %    | 15.22 | 13.20 | 10.88 | 11.60 |
| By gender             |      |       |       |       |       |
| Female                | %    | 14.38 | 12.97 | 9.76  | 12.60 |
| Male                  | %    | 15.38 | 13.27 | 11.14 | 11.40 |
| By age                |      |       |       |       |       |
| Aged 29 or below      | %    | 15.41 | 17.47 | 14.07 | 14.60 |
| Aged 30-39            | %    | 15.01 | 11.92 | 9.17  | 8.45  |
| Aged 40-49            | %    | 14.04 | 10.16 | 9.82  | 9.30  |
| Aged 50 or above      | %    | 21.60 | 12.10 | 4.08  | 2.95  |
| By region             |      |       |       |       |       |
| China                 | %    | 15.22 | 13.00 | 11.32 | 11.60 |
| Other Asian countries | %    | 37.74 | 6.67  | 6.67  | 25    |
| Europe                | %    | 16.00 | 0     | 0     | 12.50 |
| North America         | %    | 20.21 | 26.73 | 4.67  | 17.85 |
| South America         | %    | 7.57  | 7.89  | 0     | 0     |
| Oceania               | %    | 17.18 | 17.75 | 13.95 | 6.67  |
| Africa                | %    | 28.57 | 3.57  | 30    | 20    |

## Equal Opportunities and Recruitment Compliance

| Indicator                            | Unit       | 2019       | 2018      | 2017      | 2016 |
|--------------------------------------|------------|------------|-----------|-----------|------|
| Labor contracts signing rate         | %          | 100        | 100       | 100       | 100  |
| Social insurance coverage percentage | %          | 100        | 100       | 100       | 100  |
| Female management staff              | Person (%) | 81(19.80)  | 84(21.37) | 65(18.26) | -    |
| Employees with disabilities          | Person (%) | 78(0.87)   | 30(0.34)  | 21(0.25)  | -    |
| Ethnic minorities                    | Person (%) | 429(4.79)  | 478(5.46) | 473(5.65) | -    |
| Foreign staff                        | Person (%) | 899(10.03) | 752(8.59) | 658(7.86) | -    |
| Annual paid vacation per capita      | Day        | 9.24       | 8.63      | 8.14      | -    |

## Staff Training

| Indicator                 | Unit | 2019  | 2018  | 2017  | 2016 |
|---------------------------|------|-------|-------|-------|------|
| Training hours per capita | Hour | 32.07 | 31.87 | 26.59 | -    |
| By staff level            |      |       |       |       |      |
| Senior management         | Hour | 15.47 | 52.95 | 16.94 | -    |
| Middle & lower management | Hour | 33.56 | 73.77 | 51.38 | -    |
| Junior staff              | Hour | 32.32 | 29.16 | 25.83 | -    |

By gender

|   |      |       |       |       |   |
|---|------|-------|-------|-------|---|
| Female                                  | Hour | 34.05 | 43.96 | 28.24 | - |
| Male                                    | Hour | 31.39 | 27.89 | 26.21 | - |
| Ratio of staff having received training | %    | 64.61 | 63.01 | 56.60 | - |

By staff level

|                           |   |       |       |       |   |
|---------------------------|---|-------|-------|-------|---|
| Senior management         | % | 58.69 | 72.60 | 72.34 | - |
| Middle & lower management | % | 80.30 | 89.30 | 85.63 | - |
| Junior staff              | % | 64.15 | 62.00 | 54.39 | - |

By gender

|        |   |       |       |       |   |
|--------|---|-------|-------|-------|---|
| Female | % | 58.69 | 71.72 | 65.56 | - |
| Male   | % | 66.05 | 61.06 | 53.44 | - |

## Occupational Health & Safety

| Indicator                                     | Unit   | 2019    | 2018    | 2017    | 2016 |
|---|--------|---------|---------|---------|------|
| Occupational disease                          | Person | 0       | 0       | 0       | 0    |
| Major safety incidents                        | Person | 0       | 0       | 0       | 0    |
| Casualties due to work accidents              | Person | 0       | 0       | 0       | 0    |
| Working day loss due to occupational injuries | Day    | 106     | 147     | 189     | 169  |
| Safety training sessions                      | Hour   | 354,916 | 232,987 | 187,577 | -    |

By category

|                         |      |         |         |         |   |
|-------------------------|------|---------|---------|---------|---|
| Special operation staff | Hour | 48,239  | 58,452  | 4,572   | - |
| Safety management staff | Hour | 8,864   | 8,980   | 6,977   | - |
| Frontline operators     | Hour | 273,995 | 135,268 | 159,112 | - |
| New employees           | Hour | 8,373   | 12,768  | 11,876  | - |
| Persons in charge       | Hour | 15,445  | 10,400  | 969     | - |

## Supply Chain Management

| Indicator                 | Unit    | 2019 | 2018 | 2017 | 2016 |
|---------------------------|---------|------|------|------|------|
| Number of major suppliers | Company | 346  | 334  | 318  | 314  |
| By region                 |         |      |      |      |      |
| China                     | Company | 249  | 237  | 221  | 219  |
| Other Asian countries     | Company | 7    | 7    | 7    | 7    |
| Europe                    | Company | 70   | 70   | 70   | 68   |
| North America             | Company | 20   | 20   | 20   | 20   |

## Community Charity

| Indicator               | Unit    | 2019  | 2018 | 2017 | 2016 |
|-------------------------|---------|-------|------|------|------|
| Total charity donations | RMB 10k | 1,659 | 705  | 830  | 589  |



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# Feedback Form

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Address: No. 8 Bo Xing 1st Road, Economic & Technological Development Zone, Beijing, China  
Post code: 100176  
Fax: +86-(0)10-67511983  
Email: goldwind@goldwind.com.cn

**Xinjiang Goldwind Science & Technology Co.,Ltd.**

No. 107 Shanghai Road, Economic & Technological Development District, Urumqi, Xinjiang

Tel: +86-(0)991- 3767402 Fax: +86-(0)991- 3762039

Post code: 830026

**Beijing Goldwind Science & Creation Windpower Equipment Co.,Ltd.**

No. 19 Kang Ding Street, Economic & Technological Development Zone, Beijing (first- phase project)

Tel: +86-(0)10-87857500 Fax: +86-(0)10-87857529

No. 8 Bo Xing 1st Road, Economic & Technological Development Zone, Beijing (second-phase project)

Tel: +86-(0)10-67511888 Fax: +86-(0)10-67511983

Post code: 100176