

金风科技股份有限公司 GOLDWIND SCIENCE&TECHNOLOGY CO., LTD.*

SZEx Stock Code: 002202 HKEx Stock Code: 2208

2024 Annual Results

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Industry Review Business Review Financial Results Outlook

Global Wind Power Market

Global Annual New Installation (GW)



2024 New Installation (GW)



• Global new installations in 2024 achieved **121.6GW**, an increase of 3.9% yoy, with onshore wind of **109.9GW**, an increase of 3.7% yoy, and offshore wind totaling **11.7GW**, an increase of 6% yoy.

 China Mainland' s booming wind market underpinned the strong growth, with 85.5GW of new capacity added, accounting for 70% of global new build, and surpassed the second largest market, the United States (5.4GW), with nearly 80GW. Brazil kept the third place in the ranking, with an installed capacity of 4.2GW in 2024. 3

Wind Power Development in China

Grid Connection (GW)

New Grid-connection

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Cumulative Grid-connection



- In 2024, China recorded **79.8GW** of new grid-connection, which includes **75.8GW** from onshore wind power and **4.0GW** from offshore wind power
- As of the end of 2024, China's cumulative grid-connected wind power capacity totaled **520.7GW**, taking **15.5%** in China's power mix. Meanwhile, thermal power declined to 43.1%.

Electricity Production (billion kWh)



In 2024, China's total power consumption was **9,852.1** billion kWh, an increase of 6.8% yoy. **991.6** billion kWh of wind power production represented an increase of **16%** yoy and a penetration rate* of **10.1%**.

27 member states of the European Union and the UK had an average wind energy share reached **20%** in 2024. Denmark had the highest share of wind at **56%**.

Note: data from National Energy Administration, China Electricity Council and Wind Europe. *Wind Penetration rate=wind power production/total power consumption.

Wind Power Development in China

Utilization (hr) & Utilization Rate (%)

Utilization hours ••••• Utilization Rate



- National average wind utilization was 2,127 hours in 2024
- National average wind power utilization rate was **95.9%**. The utilization rate of wind power in 6 provinces and cities, including Shanghai, Jiangsu, Zhejiang, Anhui, Fujian and so forth has reached 100%, respectively.

LCOE (USD/kWh, USD/kW)



- Levelized cost of electricity (LCOE) of China's onshore wind dropped to a more competitive level of USD 0.019/kWh in 2023, reducing 59.6% in the past 5 years.
- China's average construction cost of onshore wind in 2023 lowered to USD **986/kW**, decreasing **19.3%** relative to 2019.

Chinese Public Tender Market

Public Tender Market (GW)



- Domestic public tender market totaled **164.1GW** in 2024, representing a **90%** yoy increase.
- Onshore public tender totaled 152.8GW and offshore totaled 11.3GW.
- By region, 80.5% of the tenders originated from the Northern part of China while 19.5% were in the South.

Average Bidding Price (Rmb/kW)



 In December 2024, the overall average bidding price of all WTG suppliers in the market recorded Rmb 1,527/kW.

Policy Support



Establish a new mechanism for energy development and utilization and build a green and low-carbon economic system

- On 11 January, the Central Committee of the Communist Party of China and the State Council issued the Opinions on Comprehensively Promote the Construction of a Beautiful China proposing that by 2035, green production and lifestyle shall be widely formed, carbon emissions will stabilize and decline after peaking. The diversity, stability and continuity of ecosystem have improved significantly, the modernization of the ecological environment governance system and governance capabilities realizing basically, and the goal of a beautiful China achieved as a whole.
- On 29 May, the State Council issued the Energy Conservation and Carbon Reduction Action Plan for 2024-2025, proposing that in 2024, energy consumption and carbon dioxide emissions per unit of GDP will reduce by approximately 2.5% and 3.9%, respectively, the proportion of non-fossil energy consumption will reach approximately 18.9%.
- On 31 July, the Central Committee of the Communist Party of China and the State Council issued the Opinions on Accelerating the Comprehensive Green Transformation of Economic and Social Development, and explicitly proposed that, by 2030, the proportion of non-fossil energy consumption in the whole society would be increased to about 25%.
- On 30 October, six departments, including the NDRC and the NEA, issued the Guidelines for Vigorously Implementing the Renewable Energy Substitution Action, which aims to promote the construction of a green, low-carbon and recycling development economic system, and promote the formation of a green, low-carbon mode of production and lifestyle.

Improve policies and measures for the consumption and regulation of new energy and accelerate the construction of a unified national electricity market

- On 22 March, the NEA issued the Guiding Opinions on Energy Work in 2024, stating that the energy structure continues to be optimized. The proportion of non-fossil energy power generation installed capacity has increased to approximately 55%. Wind power and solar power generation account for more than 17% of the national power generation.
- On 8 November 2024, the twelfth meeting of the Standing Committee of the 14th National People's Congress voted to adopt the Energy Law of the People's Republic of China (the "Energy Law"), which came into force on 1 January 2025. It explicitly supports the priority development and use of renewable energy, and establishes a guarantee system for renewable energy power consumption.
- On 29 November 2024, under the coordination and organisation of the NEA, the China Electricity Council, together with a number of units, released the Blue Paper on the Development Plan for a National Unified Electricity Market. According to the plan, by 2025, the preliminary construction of the national unified electricity market will be completed; by 2029, the national unified electricity market will be fully completed. In terms of the construction of market mechanisms to adapt to the green low-carbon transition, by 2025, the new energy market consumption will account for more than 50%; by 2029, new energy will be fully participated in the market.

Build a dual-control policy and management mechanism for carbon emissions and create a

green environment for electricity consumption

- On 30 July, the General Office of the State Council issued the Work Plan to Accelerate the Establishment of a Dual-Control System for Carbon Emission, proposing to improve the management system for energy conservation and carbon reduction of enterprises, improve the management system for key energy-consuming and carbon-emitting units, and give full play to the regulatory role of market mechanisms, such as the national trading of carbon emission rights, the national trading of greenhouse gases for voluntary emission reductions, and the trading of green electricity certificates.
- On 26 August, the NEA issued the Rules for Issuance and Trading of Renewable Energy Green Electricity Certificates, which clarifies the division of responsibilities for green electricity certificates, account management, issuance of green electricity certificates, green electricity certificate trading and transfer, green electricity certificate cancellation, information management and supervision, and other specific requirements. It helps to cultivate the green electricity certificate and green power trading market, and create a green power consumption environment.
- On 23 October, the NDRC, the Ministry of Ecology and Environment and other departments jointly issued the Work Plan for Improving the Carbon Emission Statistics and Accounting System, with the goal that by 2025, the national and provincial annual and interim reporting system for carbon emissions will be fully established, the level of capacity for carbon emission-related measurement, testing, monitoring, and analysis will have been significantly upgraded; by 2030, the construction of a systematic and complete statistical accounting system for carbon emissions will be completed.

Promote the development of decentralized wind power and open up space for the development of deep-sea wind power

- On 13 March, the State Council issued the Action Plan for Promoting Large-Scale Equipment Renewal and Consumer Goods Trade-in, proposing to improve the standards for upgrading and decommissioning wind turbines, photovoltaic equipment and products. By accelerating the research and development of residual life assessment technology for wind power, photovoltaics, power batteries and other products and equipment, the cascade utilization of products, equipment and key components shall be promoted orderly.
- On 1 April, the NDRC, the NEA and the Ministry of Agriculture and Rural Affairs issued a Notice on Organizing and Launching the "Thousands of Villages Wind Power Coverage Action", proposing that during the "14th Five-Year Plan" period, in rural areas of counties (cities, districts, and banners) fulfilling conditions, a number of wind power projects developed and utilized locally and nearby will be constructed village-by-village, with each administrative village not exceeding 20MW in general, to explore the formation of a new model of wind power investment and construction of "villageenterprise cooperation" and a new mechanism for the distribution of benefits of "co-construction and sharing ".
- On 29 August, the State Council Information Office released a White Paper on China's Energy Transition. It proposes to accelerate the construction of a new energy supply system that is diversified, clean, secure and resilient. It also proposes to promote the construction of large-scale wind power and photovoltaic bases in an orderly manner, promote the development of offshore wind power on a large scale and in clusters, and carry out the Thousands of Villages Wind Power Coverage Action to promote the development of distributed new energy.

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Business layout and segment results

35_{GW}

worldwide by end-2024

WTG Manufacturing

& Sales

R&D, Manufacturing & Sales of Onshore & Offshore WTG & Component

RMB 38,921 mm

% of Rev. 68.87%

Wind Farm Investment

& Development

Wind Farm Development, Transfer & Operation **Green Power Sale**

RMB 10,854mm

% of Rev. 19.20%

Wind Power Service

Comprehensive Solution of Wind Power Load-side Power Service

RMB 5,507 mm

% of Rev. 9.74%

Other Businesses

Water Treatment Solution & Technology **Equity Investment**





Domestic and foreign standardsetting to guide the industry

Consecutive years of No.1 (M/ in China & Consecutive 10 years of top 3 M/S in the world

Cumulative WTG installation Global installed countries, 8 global regional centers

38

Global R&D centers to drive an innovative future

Sale Capacity (MW)

■6MW and Above ■4MW (incl.) ~6MW ■Below 4MW



For the full-year 2024, the Company's external sale capacity totaled **16,053MW**, an increase of **16.6%** yoy, among which:

- The sale capacity of WTG 6MW and above totaled 9,782MW, taking 60.9% of total sale capacity
- The sale capacity of WTG 4MW(incl.) -6MW totaled
 6,112MW, taking 38.1% of total sale capacity
- The sale capacity of WTG below 4MW totaled 159MW, taking 1.0% of total sale capacity

Wind Turbine Order Backlog

Order Backlog (MW)



- As of the end of 2024, Company's total order backlog was 47.4GW.
- External order backlog* totaled **45.1GW**, including **8.6GW** of successful bid and **36.4 GW** of signed contract.
- Additional 2.3GW of order was for Company's own wind farm development projects.

External Order Mix



Company's external order mix continues to optimize along with the development of market demand. As of the end of 2024, the older backlog of 6MW and above rated WTG totaled **35.9GW**, take **80%** of external order; the older backlog of 4MW (incl.)~6MW rated WTG totaled **8.6GW**, take **19%** of external order.

Note: data from Company files. MSPM: Medium Speed Permanent Magnet. *External order backlog = successful bid + signed contract.

Global Business Expansion



- The company has actively implemented internationalization strategy, and has successfully expanded the business in North American, Australia, European, Asian(excl. China), South American, as well as African markets. By the end of 2024 the cumulative installation in overseas market was 8,780.60MW, of which the installation in North America, Australia, Asia (excl. China) and South America has exceeded 1GW
- By the end of 2024, Company's overseas external order backlog was 7,031.82MW. Company's overseas operating capacity totaled 433MW.

Note: data from Company files.

*The capacity under construction and to be developed is the capacity of overseas wind power projects invested by the company but not yet installed.

Wind Power Generation

Grid-connection (MW)

Annual New Installation
Cumulative Installation



- As of the end of 2024, Company's attributable, grid-connected wind power projects totaled 8,043 MW, of which 30% domiciled in Northwestern region, 22% domiciled in North China region, 29% in East China region, 9% in Southern region, 4% in Northeastern region, and 5% in overseas'.
- Company added 1,980MW of attributable, grid-connected wind power capacity at home and abroad in 2024, and a total of 1,226MW* were sold at home and abroad.
- As of the end of 2024, Company's attributable, under-construction wind capacity at home and abroad totaled **3,764MW**.

Note: data from Company files.

* Including sale of power station products. Projects invested by Goldwind yet unconstructed are not included in this slide.

Grid-connection by Region

Periphery: 31 December, 2024 Center: 31 December, 2023



Cumulative Gridconnected Wind 8,043 MW

Under-construction by Region (MW)



Wind Farm Operation & Wind Power Service

National & Company Utilization (h)

National Average Company Average

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Company's self-run wind farms recorded **2,340** hour utilization, **213** hours higher than the national average in 2024.



- Attributing to Company's installed fleet and O&M experience, wind power service business maintains healthy growth.
- As of the end of 2024, Company's under-operation capacity reached nearly 40GW, an increase of 30% yoy.

Wind Power Service (MW)

39,978

Sustainability Development in Practice

Fields	2024 Sustainability Achievements	
Honest and compliant operations	 Goldwind has been awarded class "A" in the 2024 information disclosures quality rating from SZSE. In 2024, closing rate of complaints and reporting reached 100%. 	
Green and environment- friendly operations	 In 2024, maintained carbon neutrality at the operational level (Scope 1 and Scope 2). In 2024, 61.8% of global production and operation activities were powered by green 	
	 electricity. By the end of 2024, 10 plants have passed the ISO 50001 energy management system certification; 8 plants have obtained the national/provincial certification for green factories. 	
Sustainable industry chain	 In 2024, the social responsibility audit rate of major suppliers of wind turbine components (manufacturing category) has been maintained at 100%. In 2024, the major suppliers of Goldwind used 78% of green power for manufacturing Goldwind products. 	
Fair and sound working	In 2024, no child labor, forced labor, bonded labor or human trafficking in Goldwind.	
environment	 In 2024, 100% of health intermediate and senior risk employees are in charge. 	
Harmonious community relations	 By the end of 2024, Goldwind had established science and practice bases in four of its campuses located in Beijing, Xinjiang, Shandong, and Jiangsu. 	
	• By end of 2024, Goldwind's cumulative volunteer work reached 47,346 hours.	
	 In 2024, more than 1,000 teenager students participated in the Goldwind Youth Science Popularization Project. 	



Sustainability Development in Practice

Low carbon wind turbine

By end of 2024, the company had completed Life Cycle Assessment (LCA) for 12 wind turbine models, and had obtained the Environmental Product Declaration (EPD) certification. Data reveals that the lowest carbon emissions per kilowatt-hour throughout the entire lifecycle of Goldwind's currently available wind turbine units are down to 3.52 grams—less than 1% of emissions from traditional thermal power sources, demonstrating the company's commitment to sustainability and low-carbon technology in its products.

Turbine category	Carbon emission per kWh*
Goldwind GW155-4.5MW wind turbine	7.25g
Goldwind GW136-4.2MW wind turbine	8.04g
Goldwind GW165-5.2MW wind turbine	6.23g
Goldwind GW165-5.6MW wind turbine	5.95g
Goldwind GW165-6.0MW wind turbine	5.71g
Goldwind GWH182-5.3MW wind turbine	4.41g
Goldwind GWH182-6.2MW wind turbine	4.05g
Goldwind GWH182-7.2MW wind turbine	3.82g
Goldwind GWH182-7.5MW wind turbine	3.72g
Goldwind GWH170-7.2MW wind turbine	3.77g
Goldwind GWH175-7.8MW wind turbine	3.64g
Goldwind GWH182-8.0MW wind turbine	3.52g

*According to the type of unit, the data for the carbon equivalent emission per electricity fed are separately based on 20-year and 25-year life cycle

Green Production and Operations

In 2024, over 50 energy-saving and carbon-reduction measures were implemented, including the construction of photovoltaic facilities at new water plants and wind farms, the development of wind power projects within the park, precise aeration techniques, and the replacement of traditional vehicles with new energy vehicles. These measures are expected to reduce electricity consumption by approximately 6.55 million kilowatt-hours (kWh) per year and carbon emissions by around 3,949 tons annually.

Major Measures	Estimated Annual Energy Consumption Savings
Electricity Saving	
Wind farm photovoltaic construction	
Water plant photovoltaic construction	
Retrofitting of aging blower in water treatment system	
Optimization of aeration method in water treatment (aeration retrofitting, Precise aeration, etc.)	6.55 million kWh of electricity saving /year
Wind farm lighting fixture retrofitting (led-based), station temperature control optimization, and office & living energy consumption management optimization, etc.	
Petrol Saving	
Replacement with new energy	156 tons of

petrol saving/year

vehicles

Wind Turbine Recycling

In 2024, Goldwind launched the development of its first GWBD-A recyclable blade, which boasts over 97% recyclable materials in its composition. This innovative blade facilitates the green recycling of all components, including the blade shell, spar caps, shear webs, and blade root sections, effectively addressing the longstanding issue of blade recycling at its source. The GWBD-A blade has successfully undergone all necessary functional tests, such as static load testing and flapwise and edgewise fatigue testing along with componentlevel degradation verification. It is now poised for mass production.

Green Supply Chain

The Company actively influences and encourages supply chain enterprises to utilize renewable resources such as green electricity, progressively increasing the coverage of green electricity and the proportion of green electricity used in the production of Goldwind products each year. In 2024, the major suppliers of Goldwind used 78% of green power for manufacturing Goldwind products. Industry Review

Business Review

Financial Results

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Outlook

Profitability Index



Net Profit Attributable to Owners of the Company (Million RMB)



Profit Margin (%)



Weighted Average Return on Equity (%)

- Revenue for 2024 totaled RMB56,699 million
- The Comprehensive Profit Margin for 2024 was 13.80%
- Net Profit Attributable to Owners of the Company for 2024 was RMB 1,860 million
- The Weighted Average Return on Equity for 2024 was 4.91%

Notes: 1.Data in compliance with PRC GAAP 2. According to the "Accounting Standards for Business Enterprises Interpretations No. 18" issued by the Accounting Department of the Ministry of Finance, Product Warranty Expenses are now classified as cost of sales and will no longer be included in selling expenses. The company has retrospectively adjusted the financial statements for the comparative periods.

Segment Results



WTG Manufacturing and Sales

R&D, Manufacturing & Sales of **Onshore & Offshore WTG & Component**

32,937

2023

Revenue (Million RMB)

38,921

2024



2024

Wind Farm Development

Wind Farm Development, Transfer & **Operation, Green Power Sale**

Revenue (Million RMB)

10,854 10,915 2023

Profit Margin 4.9% (2023: -0.3%)

Profit Margin 40.0% (2023: 47.3%)

Wind Power Service

Comprehensive Solution of Wind Power Load-side Power Service

Revenue (Million RMB)

5,507 5,241 2024 2023

Profit Margin 21.5% (2023: 19.8%)

Business

Other

Water Treatment Solution & **Technology, Equity Investment**

Revenue (Million RMB)

1,235	1,150
2024	2023

Profit Margin 22.8% (2023: 20.4%)

Operation Index

Days of Trade Receivables (Annualized)



- As at year end of 2024 the Company's trade receivables totaled RMB30,825 million, taking 20% of total assets
- In 2024 the Days of Trade Receivables was 181 days

Days of Inventory (Annualized)



• As at year end of 2024 the Company's inventory and contract assets totaled RMB16,069 million, taking **10%** of total assets

In 2024 the Days of Inventory was 122 days

Solvency Position

Interest-bearing Debt (Million RMB)

Asset-Liability Ratio (%)

Total Asset

---- Asset-Liability Ratio



 As at year end of 2024, the Company's Interest-bearing Debt totaled RMB49,687 million, taking 43% of total liabilities



• As at year end of 2024, the Company's Asset-Liability Ratio was 73.96%

Note: Data in compliance with PRC GAAP.

Cash Flows



Cash/Total Assets (Million RMB)

Net Operating Cash Flows (Million RMB)

Net Operating Cash Flows



As at year end of 2024 the ratio of Cash to Total Assets was 7.49%

Net Operating Cash Flows for 2024 totaled RMB2,316 million

Note: Data in compliance with PRC GAAP.

Industry Review Business Review Financial Results Outlook

Global Wind Power Outlook



Renewable Annual Net Capacity Additions

According to IEA, under existing policies and market conditions, annual global renewable capacity is forecast to reach **935GW** in 2030 compared to 666GW in 2024. During the period from 2024 to 2030, total global onshore wind power capacity additions is forecast to reach **846GW**.

Global New Installations Outlook for Offshore Wind



GWEC expects that the global new offshore wind power installations will remain promising, with a compound average annual growth rate of 25% until 2028 and 15% up to the early 2030s. New installations are expected to exceed **40GW** by 2029 and **60GW** by 2032.

China's Wind Power Outlook



China's leadership in renewables will continue

2010 2017 2016 2019 2020 2021 2022 2023 20246 20256 20266 20276 20286 20296 20306

According to IEA, China' s renewable energy capacity is expected to expand to over **3TW** from 2024 to 2030, **tripling** growth of the last five-year period(2017-2023). Solar PV and wind are forecast to account for up to 97% of renewable capacity additions in the next five years.

China's onshore wind power grid-connected outlook



Wood Mackenzie forecasts China's new grid-connected onshore wind power capacity will exceed **72GW** annually from 2024 to 2033. Cumulative grid-connected capacity is forecast to reach **1.3 TW** by 2033.

Sustainability Development Goals



• Adhere to the concept of "honest and compliant operations" and continuously enhance its corporate governance and compliance management system to implement risk management and strengthens its internal supervision, inspection, and constraint mechanisms. Foster a culture of integrity and compliance, we aim to ensure the healthy development of the organization.

- To continuously improve the corporate governance and compliance management system and improve the level of corporate governance.
- To foster a culture of integrity, self-discipline, and compliance with the law.





- Comprehensively identify and address climate change risks and opportunities. Actively implement energy-saving measures, improve the effective use of energy and resources, deepen green operations, protect the ecological environment, and safeguard sustainable development for our business, in an effort to become a global leader in addressing climate change.
- By 2025, hazardous waste generated per MW of wind turbine manufactured should be 20%
- lower than that in 2020.
- By 2025, the water use intensity for production and operations should be 15% lower than that in 2020.
- Since 2022, carbon neutrality at the operational level (Scope 1 and Scope 2) should be achieved.
- By 2031, 100% of its global production and operations will be powered by green electricity.



• Integrate the concept of sustainable development into every link of the industrial chain, influence and encourage upstream and downstream enterprises to fulfill their social responsibilities, so as to prevent environmental and social risks within our supply chain while enhancing collaborative sustainability efforts in our industry, leading a sustainable transformation.



 Strictly comply with relevant laws and regulations and international conventions, to govern the management of employment and employees' rights and interests, and foster a workplace free of discrimination, child labor, and forced labor. Emphasize diversity, equality, and inclusiveness, and care about employees' development and their well-being to enhance employee cohesion and satisfaction.



Respect and uphold the legitimate rights and interests of its interested parties such as communities, manage and protect the natural and social resources in locations where it operates in a sustainable manner, improve the livelihoods of residents in the surrounding communities as much as possible by leveraging our business strengths and resources, and realize mutual benefits and synergistic development to jointly build a fair and harmonious development environment.

- From 2023 onwards, we will achieve a 100% social responsibility audit rate for our major component suppliers (manufacturing) for wind turbines.
- By 2025, the major suppliers of Goldwind should use 100% of green power for manufacturing Goldwind products.
- By 2040, 100% of wind turbines should be recycled and reused.
- To foster a diverse, equitable, and inclusive working environment
- Starting in 2023, health management programs will encompass all employees within the company.
- By 2030, the number of Goldwind volunteers should reach 5,000, with approximately 5,000 hours of annual volunteer work.
- By 2025, at least 10 youth science labs should be built.



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