Goldwind

新疆金风科技股份有限公司

XINJIANG GOLDWIND SCIENCE & TECHNOLOGY CO., LTD.

SZEx Stock Code: 002202 HKEx Stock Code: 2208

2023 Annual Results

Industry Review

Business Review

Financial Results

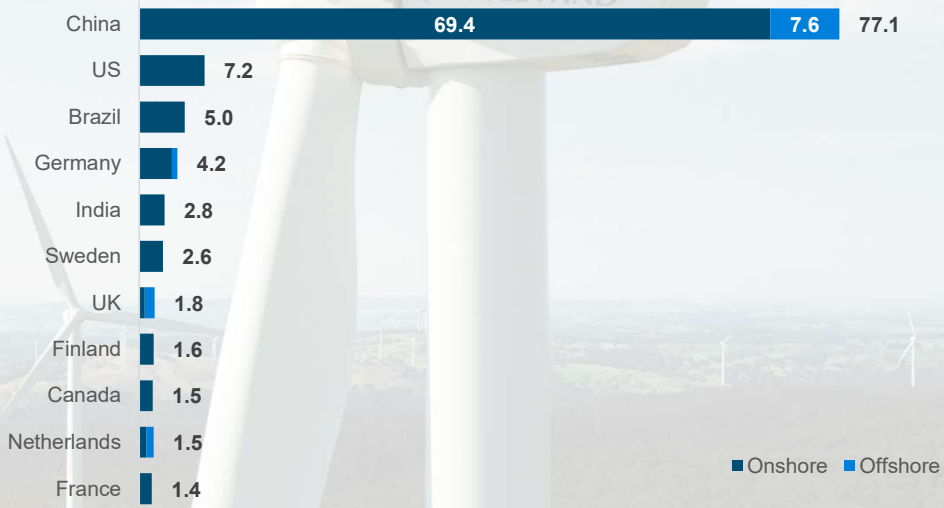
Outlook

Global Wind Power Market

Global Annual New Installation (GW)

- Global new installations in 2023 achieved **118GW**, an increase of 36% yoy, with onshore wind of **106.7GW,** an increase of 37% yoy, and offshore wind totaling **11.3GW,** an increase of 25% yoy.

2023 New Installation (GW)

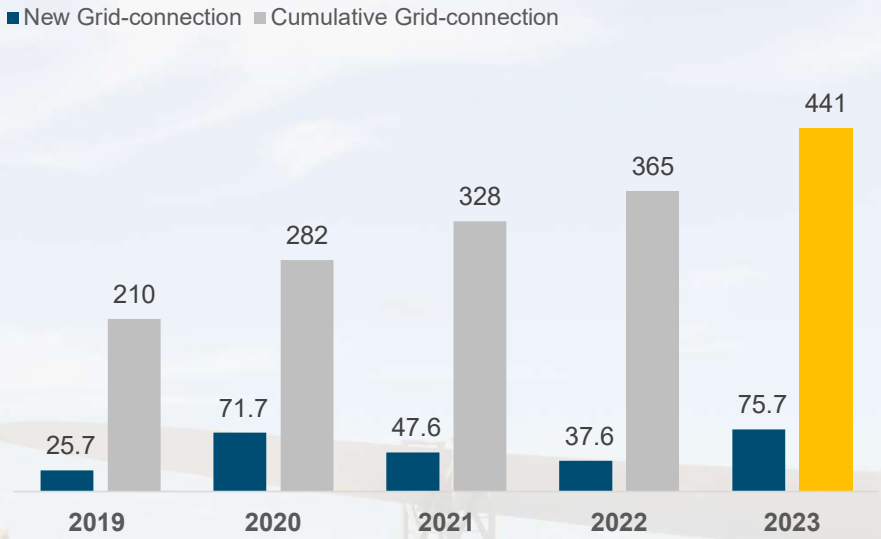


- Mainland China' s booming wind market underpinned the strong growth, with **77.1GW** of new capacity added, accounting for **65%** of global new build, and surpassed the second largest market, the United States **(7.2GW),** with nearly 70GW. Brazil took the third place in the ranking, its installed capacity increased significantly to 5.0GW in 2023.

Note: data from Bloomberg New Energy Finance.

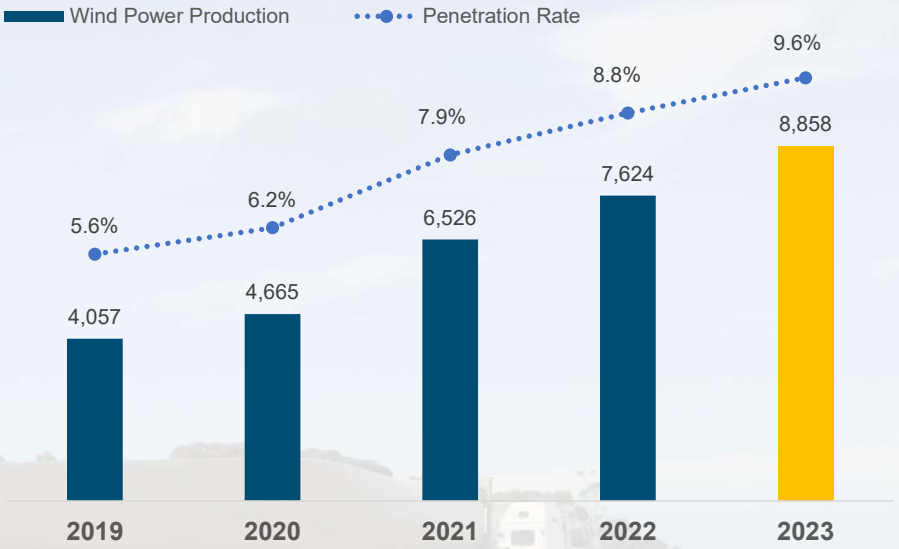
Wind Power Development in China

Grid Connection (GW)



- In 2023, China recorded **75.7GW** of new grid-connection, an increase of **101%** yoy.
- As of the end of 2023, China's cumulative grid-connected wind power capacity totaled **441.3GW**, taking **15.1%** in China's power mix. Meanwhile, thermal power declined to 47.6%.

Electricity Production (billion kWh)

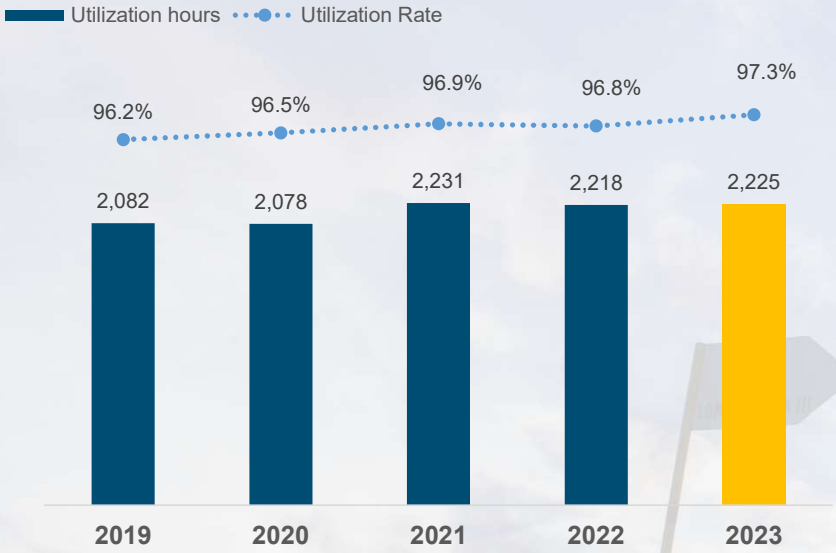


- In 2023, China's total power consumption was **9,224.1** billion kWh, an increase of 6.7% yoy. **885.8** billion kWh of wind power production represented an increase of **16.2%** yoy and a penetration rate* of **9.6%**.
- 27 member states of the European Union and the UK had an average wind energy share reached **20%** in 2023. Denmark had the highest share of wind (**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 (%)



- National average wind utilization was **2,225** hours in 2023, up 7 hours relative to 2022.
- National average wind power utilization rate was **97.3%**, increasing by 0.5 percentage point yoy. The utilization rate of wind power in 12 provinces and cities, including Tianjin, Shanghai, Jiangsu, Zhejiang, Anhui and so forth has reached 100%, respectively.

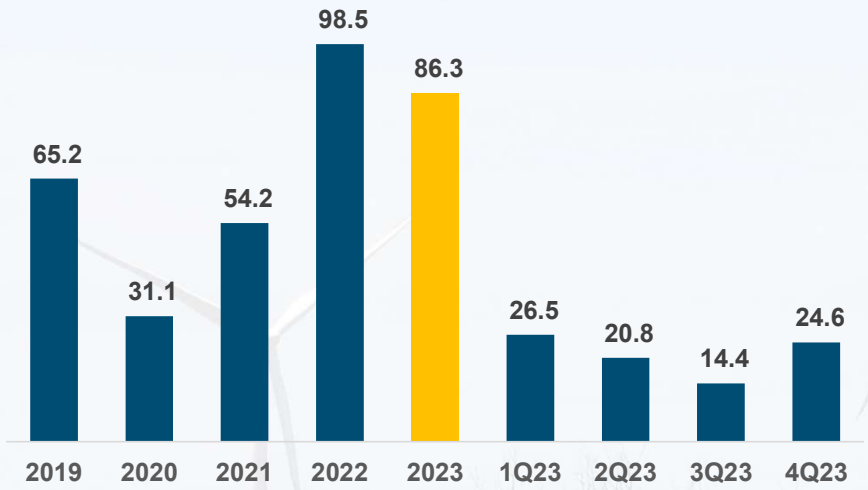
Cost Advantage (USD/kWh, USD/kW)

- Levelized cost of electricity (LCOE) of China's onshore wind dropped to a more competitive level of **USD 0.027/kWh** in 2022, reducing **53%** in the past 5 years.
- China's average construction cost of onshore wind in 2022 lowered to USD **1,103/kW**, decreasing **15%** relative to 2018. The global average construction cost for onshore wind in 2022 was USD 1,274/kW.

Note: data from China Electricity Council， China Renewable Energy Monitoring Platform and IRENA.

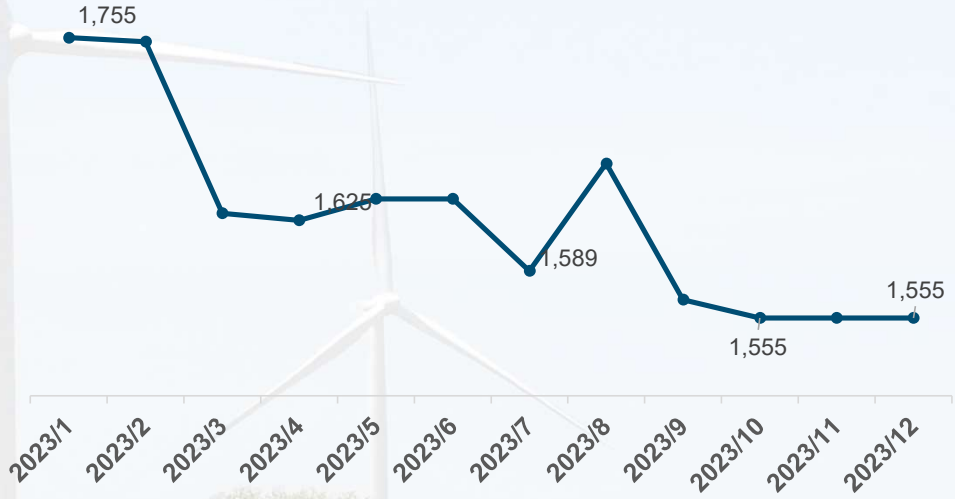
Chinese Public Tender Market

Public Tender Market (GW)



- Domestic public tender market totaled **86.27GW** in 2023, representing **12.5%** yoy decrease.
- Onshore public tender totaled **77.38GW** and offshore totaled **8.89GW**.
- By region, 71% of the tenders originated from the Northern part of China while 29% were in the South.

Average Bidding Price (Rmb/kW)



- In December 2023, the overall average bidding price of all WTG suppliers in the market recorded Rmb **1,555/kW.**

Note: data from public information.

Policy Support

1Continue to improve the top-level design of energy policies and accelerate the transformation towards green energy and low-carbon

- On 19 January, the State Council Information Office released the white paper "China's Green Development in the New Era", proposing to promote green and low-carbon energy development and vigorously develop non-fossil energy. With an aim to accelerate the construction of large-scale wind power photovoltaic bases focusing on deserts, Gobi, and desert areas, China will actively and steadily develop offshore wind power, actively promote urban and rural rooftop photovoltaics, and encourage the development of decentralized wind power in rural areas.
- On 6 April, the NEA issued the "Guiding Opinions on Energy Work in 2023", proposing to further promote structural transformation and increase the proportion of non-fossil energy in total energy consumption to about 18.3%. The proportion of non-fossil energy power generation installed capacity should be increased to about 51.9%, and the proportion of wind power and photovoltaic power generation accounted for 15.3% of the electricity consumption of the whole society.
- On 2 June, the NEA organized and released the "Blue Book on the Development of New Power System", proposing the overall structure and key tasks of building the new power system, which includes strengthening the construction of the four major systems such as the power supply support system, the new energy development and utilization system, the large-scale layout and application system of energy storage, and the intelligent operation system of the power system, while enhancing the standards and specifications adapted to the new power system, core technologies and major equipment, and promoting the relevant policy and institutional mechanism innovation so as to formulate the three-dimensional pillar support.

Improve green power and green certificate policy mechanisms to ensure the consumption of renewable energy

- On 15 February, the NDRC, the Ministry of Finance, and the NEA jointly issued the "Notice on Matters Related to the Participation of Green Power Projects Enjoying Central Government Subsidies in Green Power Trading", proposing to expand the scale of green power projects participation in the market. With an aim to promote all renewable energy grid-parity projects participating in green power trading, China will steadily promote the participation of green power projects enjoying national renewable energy subsidies in green power trading.
- On 3 August, the NDRC, the Ministry of Finance, and the NEA jointly issued the "Notice on Full Coverage of Renewable Energy Green Power Certificates to Promote Renewable Energy Electricity Consumption", proposing to issue green certificates for all the electricity produced by registered renewable energy power generation projects nationwide to achieve full coverage of green certificate issuance.
- On 4 August, the NDRC and the NEA jointly issued the "Notice on the Responsibility Weight of Renewable Energy Power Consumption and Related Matters in 2023", proposing the weight of the renewable energy power consumption responsibilities of each province (autonomous region and municipality) in 2023 and requiring the national non-hydropower generation capacity to be no less than 1.6 trillion kWh. It is expected that for weight of the renewable energy power consumption responsibilities of each province (autonomous region and municipality) in 2024, the target national non-hydropower generation capacity will be no less than 1.83 trillion kWh.

Continue to strengthen greenhouse gas emission management and enhance carbon footprint management levels

- On 18 October, the Ministry of Ecology and Environment issued the "Notice on Completing Greenhouse Gas Emission Reporting and Verification of Enterprises in Certain Key Industries from 2023 to 2025" to clarify that for key industries such as petrochemicals, chemicals, building materials, steel, non-ferrous metals, papermaking, and civil aviation, key enterprises with annual greenhouse gas emissions of 26,000 tons of carbon dioxide equivalent (comprehensive energy consumption of approximately 10,000 tons of standard coal) or above are included in the scope of the notice's annual greenhouse gas emission reporting and verification.
- On 24 November, the NDRC and other departments issued the "Opinions on Accelerating the Establishment of Product Carbon Footprint Management System", proposing that by 2025, about 50 key product carbon footprint accounting rules and standards will be introduced at the national level, a number of key industry carbon footprint background databases will be initially established, a national product carbon label certification system will be basically established, the application scenarios of carbon footprint accounting and labeling in the fields of production, consumption, trade, and finance will be significantly expanded, and the carbon footprint accounting rules, standards, and carbon labels of several key products will achieve international mutual recognition.

Promote the development of decentralized wind power and strengthen the Renovation, upgrading and decommissioning management of wind farms

- On 23 March, the NEA, the Ministry of Ecology and Environment, the Ministry of Agriculture and Rural Affairs, and the National Rural Revitalization Bureau issued the "Notice on Organizing the Construction of Rural Energy Revolution Pilot Counties", proposing to coordinate the development of urban and rural clean energy with the county as the basic unit. By 2025, renewable energy in the pilot counties will account for more than 30% of the total primary energy consumption and more than 60% of the increase in primary energy consumption.
- On 17 August, six departments including the NDRC, the NEA, and the Ministry of Industry and Information Technology jointly issued the "Guiding Opinions on Promoting the Recycling of Decommissioned Wind Power and Photovoltaic Equipment", proposing to establish and improve the responsibility mechanism for the disposal of decommissioned equipment, improve the equipment recycling system, and encourage wind power and photovoltaic equipment manufacturing enterprises to proactively provide recycling services. By 2025, the responsibility mechanism for the disposal of decommissioned equipment in centralized wind farms and photovoltaic power stations will be basically established, and standards and regulations related to the recycling of decommissioned wind power and photovoltaic equipment will be further improved. By 2030, the full-process recycling technology system for wind power and photovoltaic equipment will be basically mature.

Note: information from NEA (National Energy Administration), NDRC (National Development and Reform Commission)

Industry Review

Business Review

Financial Results

Outlook

Business layout and segment results

WTG Manufacturing & Sales

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

RMB 32,937 mm

% of Rev. 65.28%

Wind Farm Investment & Development

Wind Farm Development, Transfer & Operation
Green Power Sale

RMB 10,915mm

% of Rev. 21.72%

Wind Power Service

Comprehensive Solution of Wind Power
Load-side Power Service

RMB 5,241 mm

% of Rev. 10.43%

Other Businesses

Integrated Energy and Carbon Management, Water Treatment
Investment & Technology
Financial Service & Equity Investment

RMB 1,150 mm

% of Rev. 2.29%

13

Consecutive years of No.1 M/S in China & Consecutive 9 years of top 3 M/S in the world

114GW

Cumulative WTG installation worldwide by end-2023

36

Global installed countries, 8 global regional centers

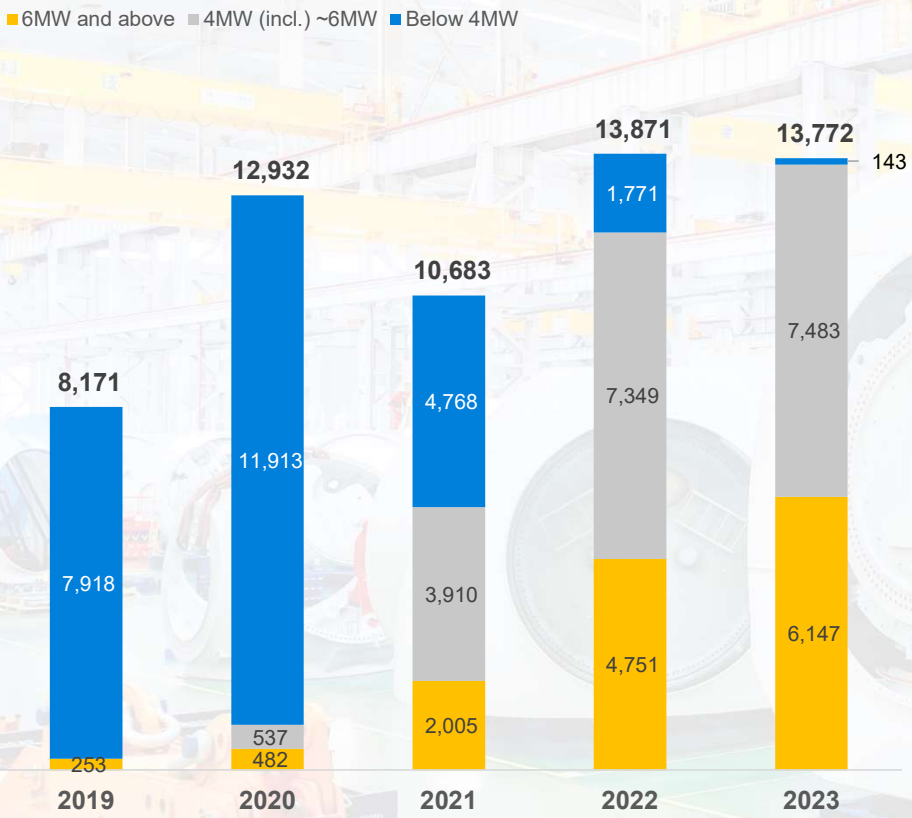
8

Global R&D centers to drive an innovative future

500+

Domestic and foreign standard-setting to guide the industry

Sale Capacity （MW）



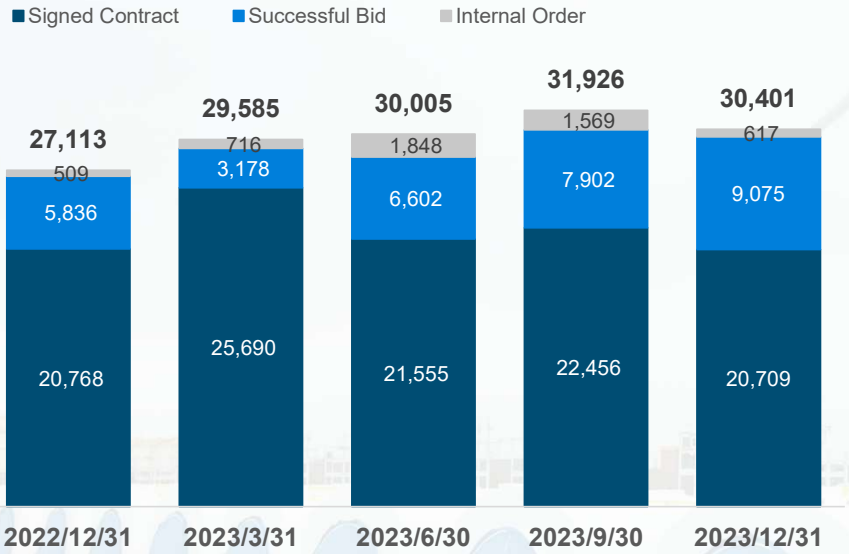
For the full-year 2023, the Company's external sale capacity totaled **13,772MW**, slightly down **0.7%** yoy, among which:

- The sale capacity of WTG below 4MW totaled **143MW**, taking **1.1%** of total sale capacity
- The sale capacity of WTG 4MW(incl.) -6MW totaled **7,483MW**, taking **54.3%** of total sale capacity
- The sale capacity of WTG 6MW and above totaled **6,147MW**, taking **44.6%** of total sale capacity

Note: Data from Company files.

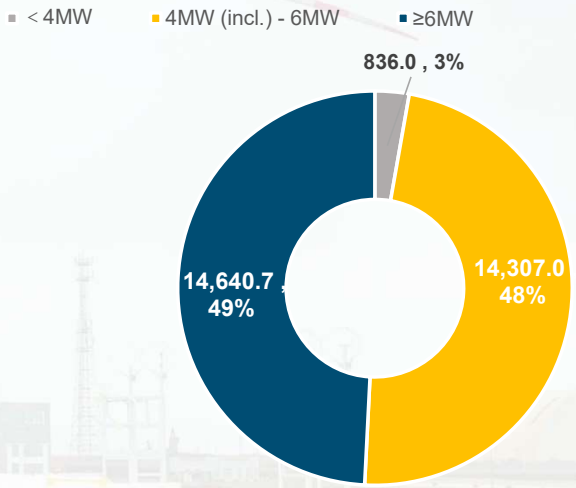
Wind Turbine Order Backlog

Order Backlog (MW)



- As of the end of 2023, Company's total order backlog was **30.4GW**. External order backlog* totaled **29.8W**, including **9.1GW** of successful bid and **20.7GW** of signed contract.
- Additional 617MW of order was for Company's own wind farm development projects.

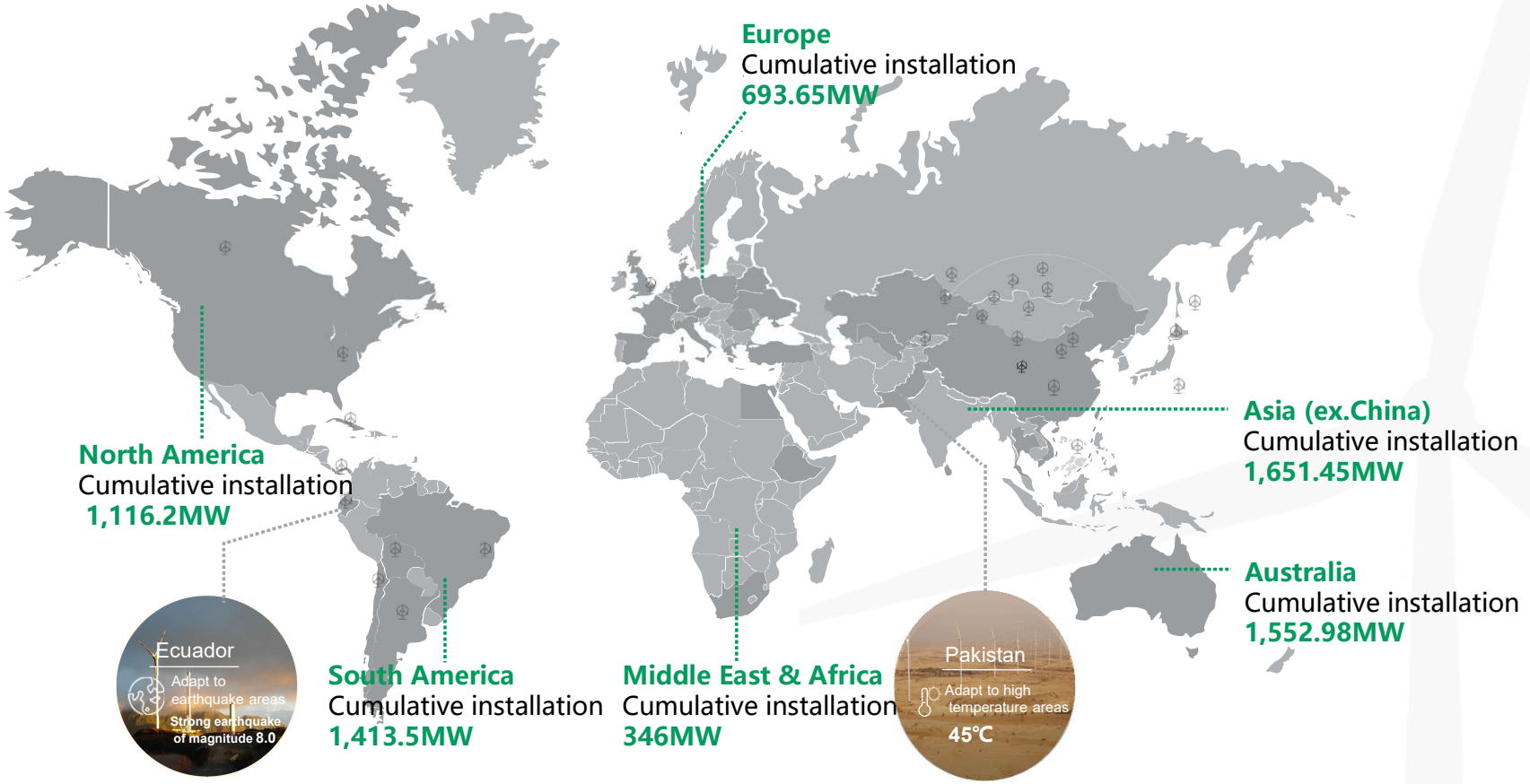
External Order Mix



- Company's external order mix continues to optimize along with the development of market demand. As of the end of 2023, the older backlog of 6MW and above rated WTG totaled **14.6GW**, take **49%** of external order; the older backlog of 4MW (incl.)~6MW rated WTG totaled **14.3GW**, take **48%** of external order.

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

Global Business Expansion



December 31, 2023

Global Installations by country

36

Global Regional Centers

8

Global R&D Centers

8

- 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 2023, the cumulative installation in overseas market was **6,773.78MW** , of which the installation in North America, Australia, Asia (excl. China) and South America has exceeded 1GW
- By the end of 2023, Company's overseas external order backlog was **4,677MW.** Company's overseas operating capacity totaled **463MW**.

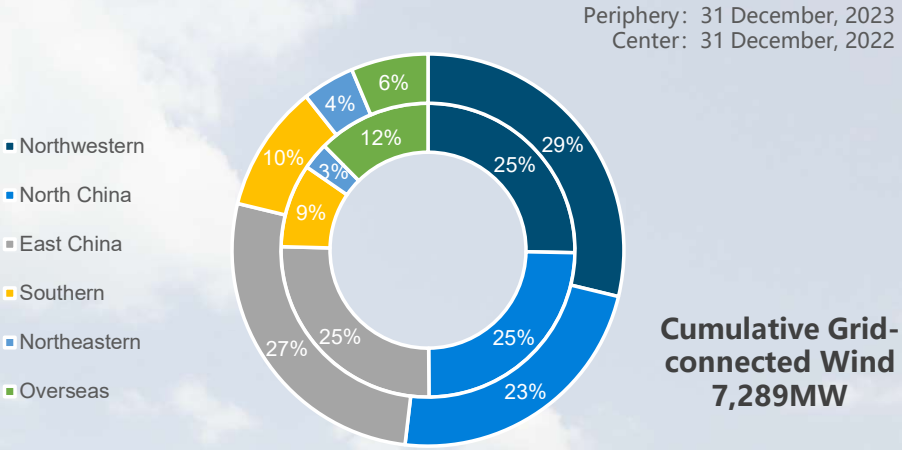
Note: data from Company files.
*The capacity under construction and to be developed is the capacity of overseas wind power projects invested by the company but not yet installed.

Wind Power Generation

Grid-connection (MW)

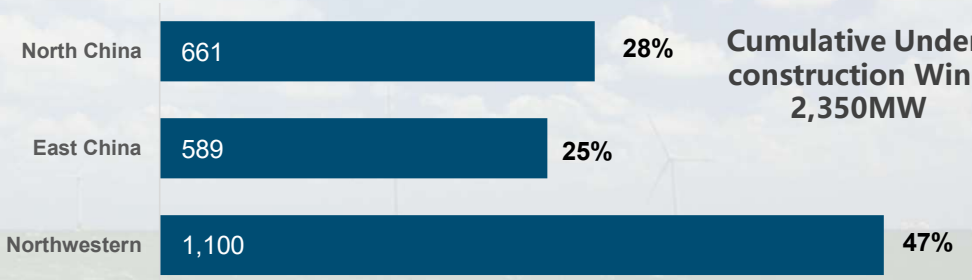
- As of the end of 2023, Company's attributable, grid-connected wind power projects totaled **7,289MW**, of which **23%** domiciled in North China, **27%** domiciled in East China, **29%** in Northwestern region, **4%** in Northeastern region, **10%** Southern region, and **6%** in overseas' .
- Company added **1,793MW** of attributable, grid-connected wind power capacity at home and abroad in 2023, and a total of 1,568MW* were sold at home and abroad.
- As of the end of 2023, Company's attributable, under-construction wind capacity at home and abroad totaled **2,350MW**.

Grid-connection by Region



Cumulative Grid-connected Wind 7,289MW

Under-construction by Region (MW)



Cumulative Under-construction Wind 2,350MW

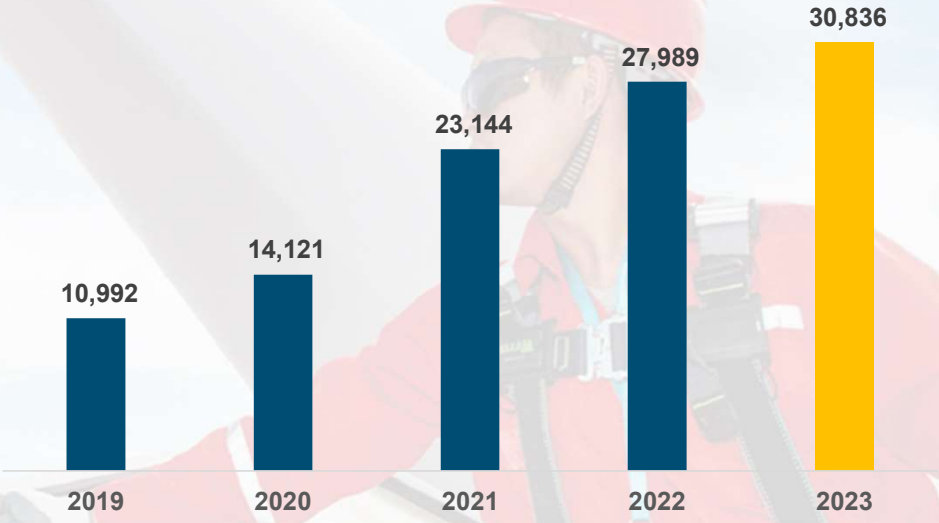
Note: data from Company files.
* Including sale of power station products. Projects invested by Goldwind yet unconstructed are not included in this slide.

Wind Farm Operation & Wind Power Service

National & Company Utilization (h)

- Company's self-run wind farms recorded **2,441** hour utilization, **216** hours higher than the national average in 2023.

Wind Power Service (MW)

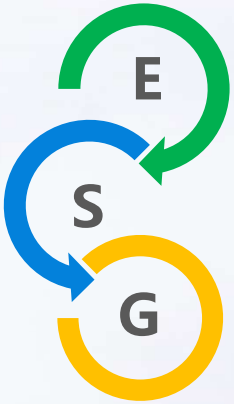


- Attributing to Company's installed fleet and O&M experience, wind power service business maintains healthy growth.
- As of the end of 2023, Company's under-operation capacity nearly **31GW**, **2.8** times of the capacity in 2019.

Note: data from China Electricity Council and Company files.

Sustainability

Fields	2023 Sustainability achievements
Honest and compliant operations	•Goldwind has been awarded class “A” in the 2023 information disclosures quality rating from SZSE •In 2023, closing rate of complaints and reporting reached 100% •In 2023, 100% employees carried out "Declaration of Interests"
Green and environment-Friendly Operations	•In 2023, successively achieved carbon neutrality at the operational level (Scope 1 and Scope 2) •In 2023, the hazardous waste per MW generated by the wind turbines manufacture lowered 34%, comparing to 2022 •In 2023, the water consumption in production and operation down 29% relative to 2022
Sustainable industry chain	•In 2023， the social responsibility audit rate of major suppliers of wind turbine components (manufacturing category) reached 100% •In 2023, the major suppliers of Goldwind used 60% of green power for manufacturing Goldwind products
Fair and sound working environment	•In 2023, no child labor, forced labor, bonded labor or human trafficking in Goldwind. •In 2023, health management programs covered all the employees
Harmonious community relations	•In 2023， completed the construction and citification process of youth science and technology practicing bases in Beijing, Xinjiang, Shandong and Jiangsu •By end-2023, Goldwind’ s cumulative volunteer work reached 18,677 hours



Sustainability

The carbon emission per kWh of V12 turbines certified is about 4g

The Company continues to carry out Life Cycle Assessment (LCA) of wind turbines to analyze their environmental impact factors throughout their life cycle. In 2023, 4 types of WTG (V12 platform) were carried out. The carbon emission per kWh of V12 turbines is about 4 grams, less than 1% of the traditional thermal power, which fully proves the low-carbon feature of Goldwind's turbines.

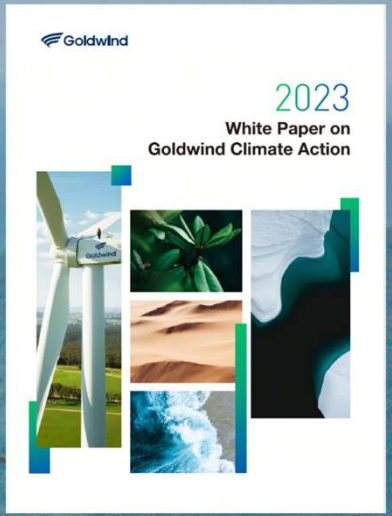
Turbine category	Carbon emission per kWh*
4S wind turbine	
Goldwind GW155-4.5MW wind turbine	7.25g
Goldwind GW136-4.2MW wind turbine	8.04g
5S wind turbine	
Goldwind GW165-5.2MW wind turbine	6.25g
Goldwind GW165-5.6MW wind turbine	5.99g
Goldwind GW165-6.0MW wind turbine	5.74g
V12 wind turbine	
Goldwind 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

Logistics Packaging Recycling

To reduce the use of packaging for large parts of wind turbines, the Company achieved a **14% reduction** in the weight of plastic packaging for large parts of wind turbines per kilowatt per year in 2023 compared to 2022 by applying rigid packaging made of biodegradable plastic materials to the packaging of large parts of the GWHV12 platform model, applying partial packaging to all the onshore wind turbines, and simplifying the packaging protection of internal components of large parts, so as to avoid over-protection.

Recyclable wind turbine blades successfully tested and rolled off the production line

Goldwind has been committed to the R&D of green blades to address this recycling challenge from the root and realizing the sustainable development goal of 100% recycling of wind turbines by 2040. In 2023, Goldwind joined hands with blade plants and material plants in the development of Arkema thermoplastic resin and biodegradable epoxy resin. As of the end of the reporting period, the trial production of the 100-meter blade and full-size static test of Arkema resin were successfully completed; the resin is expected to enter into the stage of industrialization and application in 2024.



2023 White Paper on Goldwind Climate Action

The 2023 White Paper on Goldwind Climate Action has been released in year 2023. It presents the actions and outstanding contribution of Goldwind in addressing global climate change, promoting energy transformation and leading to a sustainable future.

Note: *The data for the carbon equivalent emission per electricity fed into grid of 4S turbines and 5S turbines are based on a 20-year life cycle; the data for the carbon equivalent emission per electricity fed into grid of V12 turbines are based on a 25-year life cycle.


Industry Review
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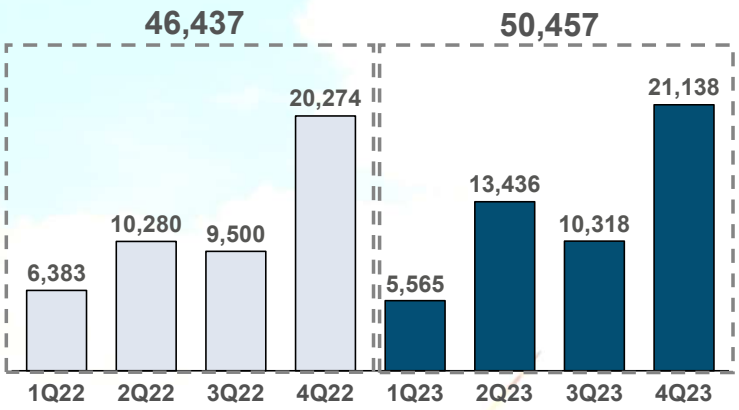
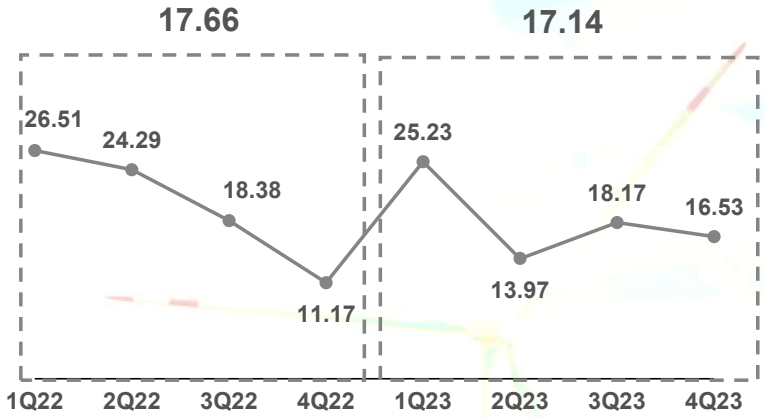
Outlook

Profitability Index

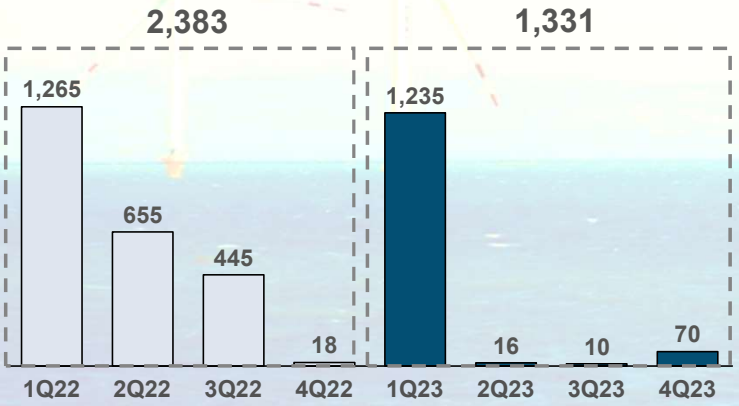
Revenue (Million RMB)



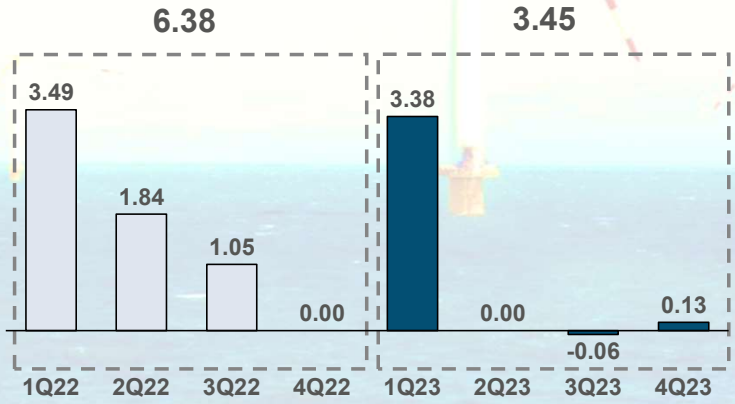
Profit Margin (%)



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



Weighted Average Return on Equity (%)

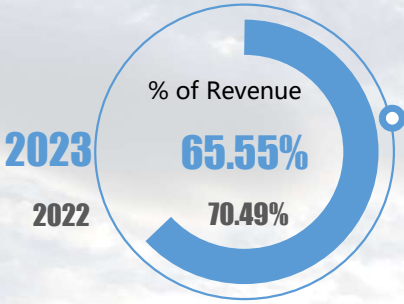


- Revenue for 2023 totaled RMB**50,457 million**, representing an increase of 8.66% YoY
- The Comprehensive Profit Margin for 2023 was **17.14%**, maintaining the same level YoY
- Net Profit Attributable to Owners of the Company for 2023 was RMB **1,331**millon
- The Weighted Average Return on Equity for 2023 was **3.45%**

Note: Data in compliance with PRC GAAP

Segment Results

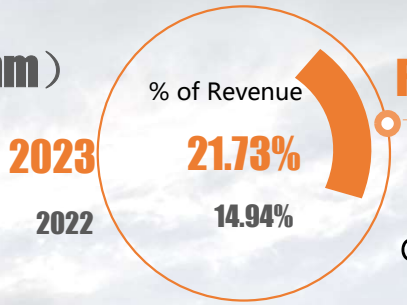
WTG Manufacturing and Sale



Revenue 32,937mm（32,602mm）

Gross Margin 5.97%（6.02%）

Wind Farm Development

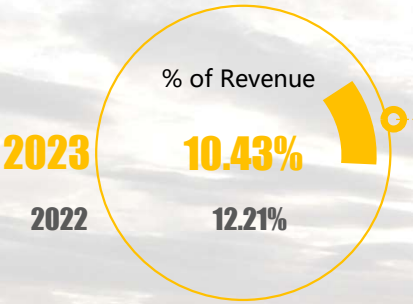


Revenue 10,915mm（6,910mm）

Among which: Electricity Generation 6,431mm
Power Station Products 4,484mm

Gross Margin 47.30%（65.39%）

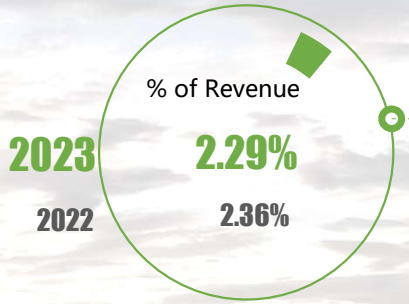
Wind Power Service



Revenue 5,241mm（5,647mm）

Gross Margin 19.84%（23.81%）

Other Business/Environmental Protection



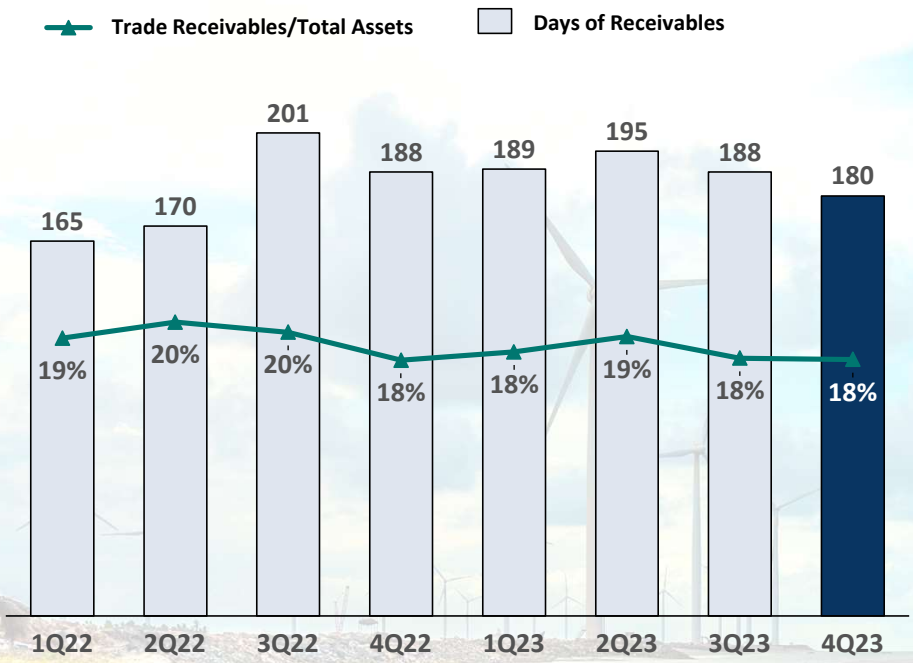
Revenue 1,150mm（1,094mm）

Gross Margin 20.37%（19.47%）

Note: Data in compliance with IFRS.

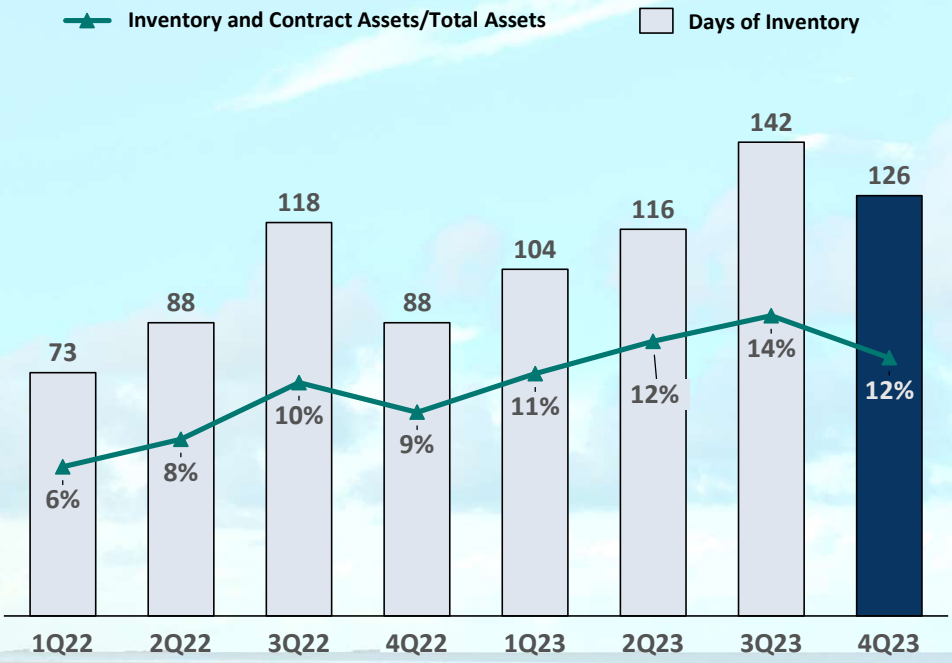
Operation Index

Days of Trade Receivables (Annualized)



- As at year end of 2023 the Company's trade receivables totaled RMB25,548 million, taking **18%** of total assets
- In 2023 the Days of Trade Receivables was **180** days

Days of Inventory (Annualized)

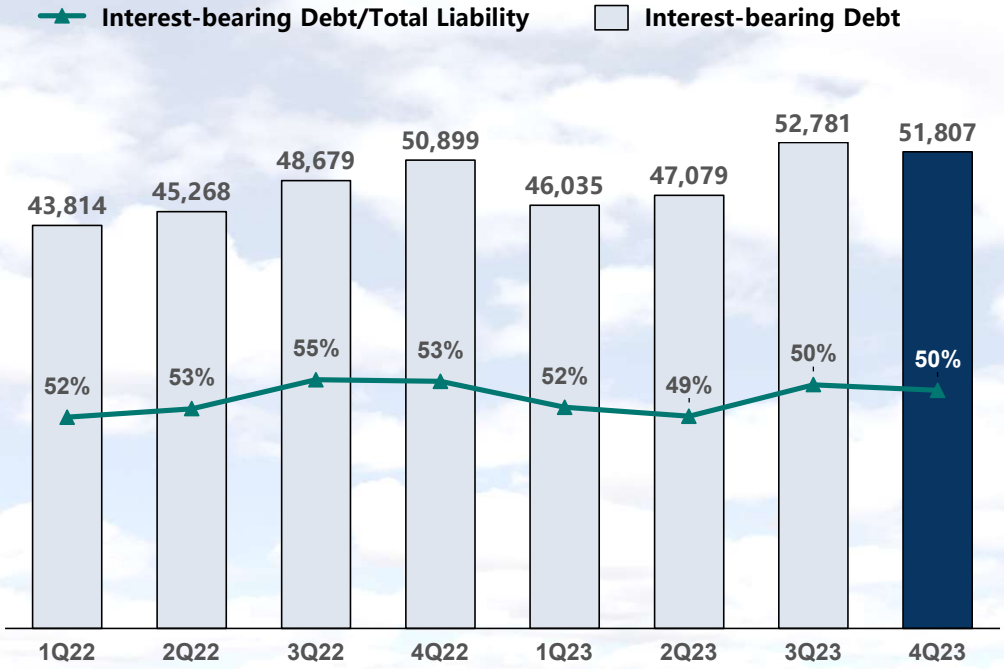


- As at year end of 2023 the Company's inventory and contract assets totaled RMB16,610 million, taking **12%** of total assets
- In 2023 the Days of Inventory was **126** days

Note: Data in compliance with PRC GAAP.

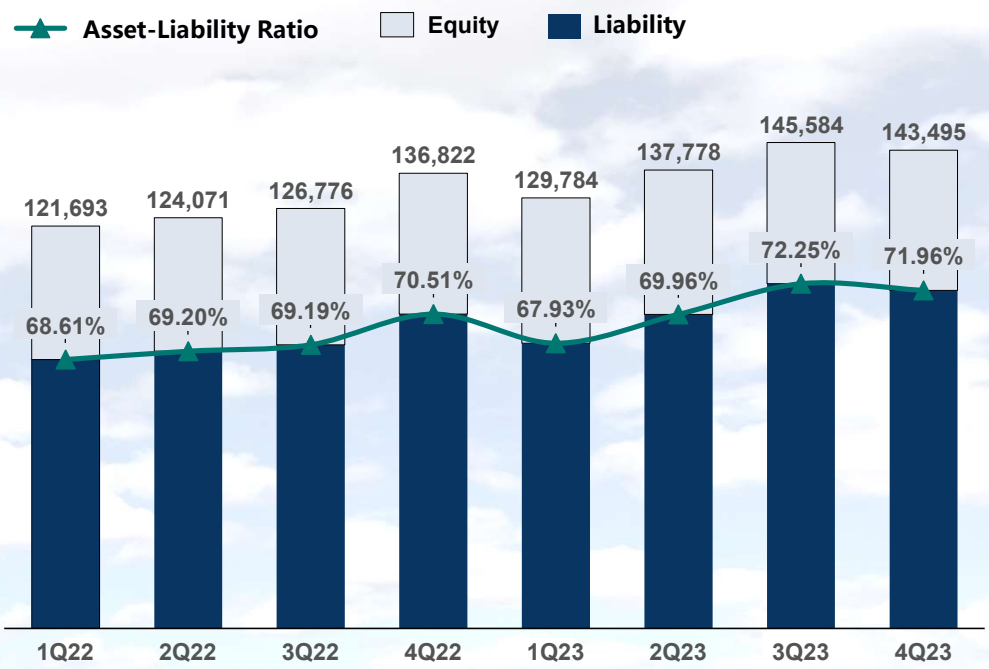
Solvency Position

Interest-bearing Debt (Million RMB)



- As at year end of 2023, the Company's Interest-bearing Debt totaled RMB**51,807 million**, taking **50%** of total liabilities

Asset-Liability Ratio (%)

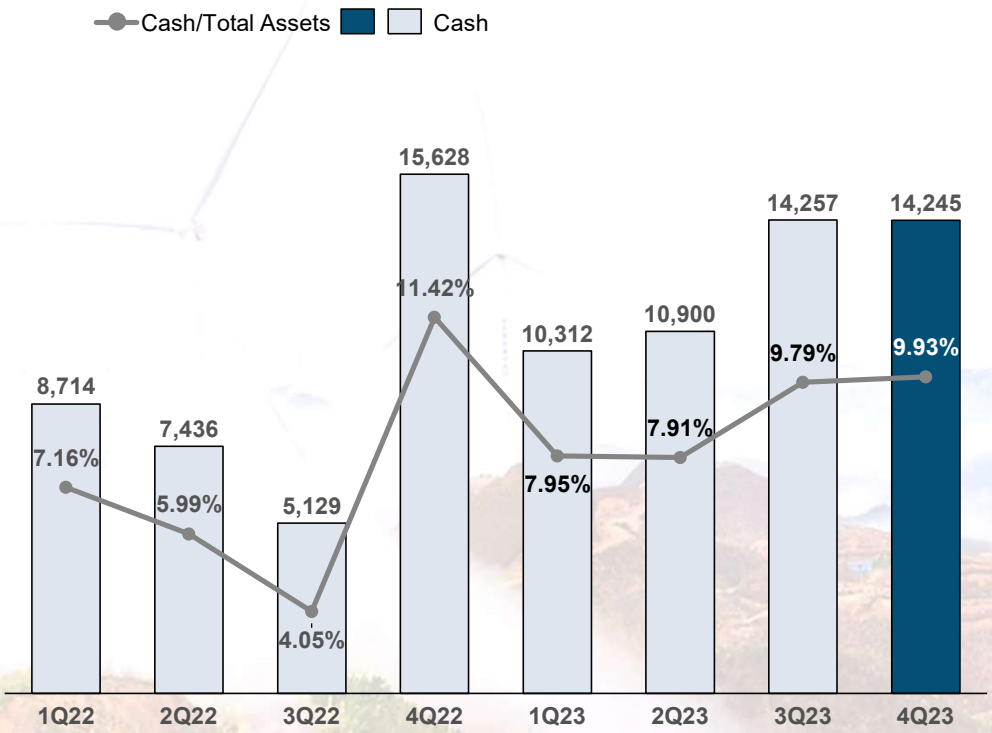


- As at year end of 2023, the Company's Asset-Liability Ratio was **71.96%**

Note: Data in compliance with PRC GAAP.

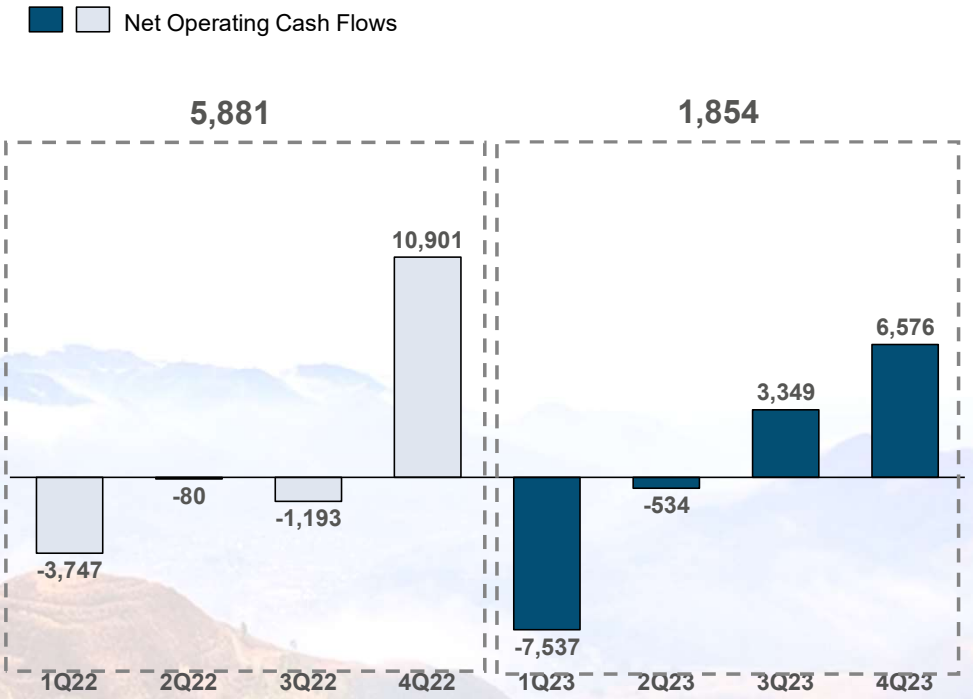
Cash Flows

Cash/Total Assets (Million RMB)



- As at year end of 2023 the ratio of Cash to Total Assets was **9.93%**

Net Operating Cash Flows (Million RMB)



- Net Operating Cash Flows for 2023 totaled **RMB1,854 million**

Note: Data in compliance with PRC GAAP.

Industry Review

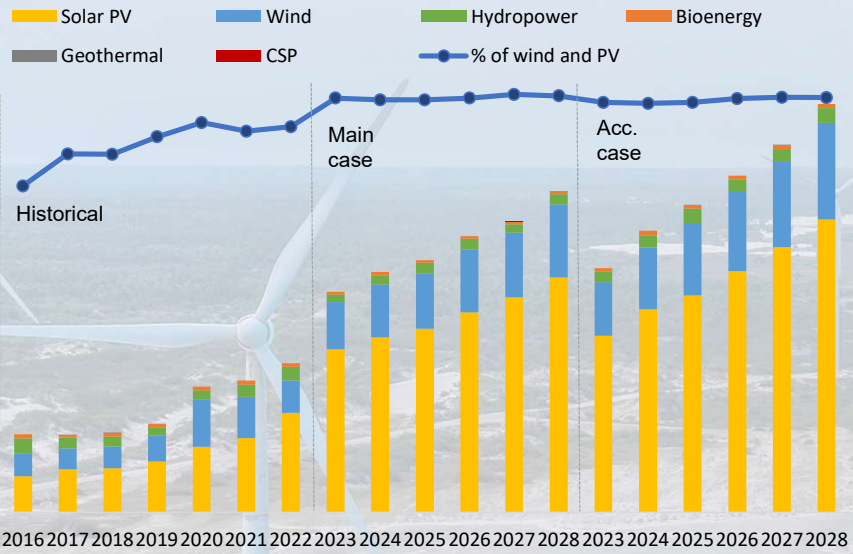
Business Review

Financial Results

Outlook

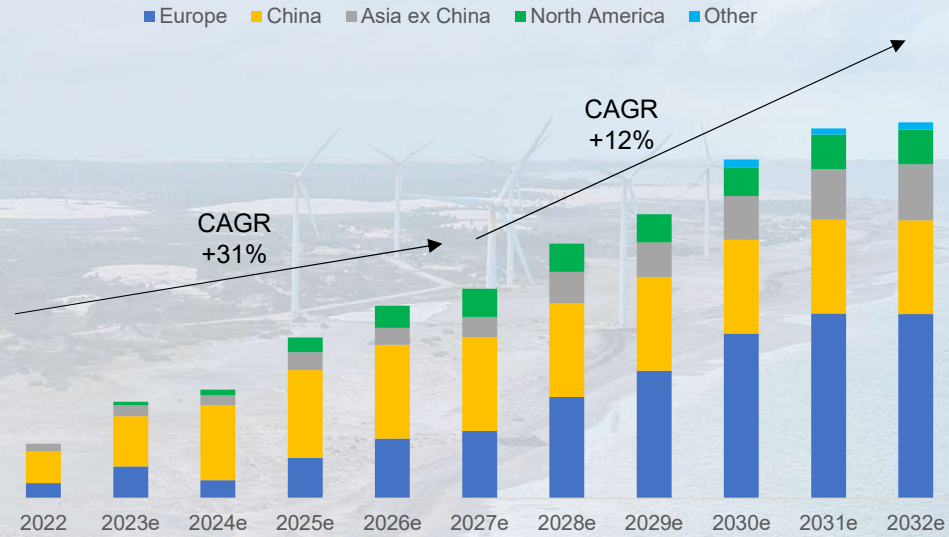
Global Wind Power Outlook

Renewable Annual Net Capacity Additions



According to IEA 's Renewables 2023, under existing policies and market conditions, global renewable capacity is forecast to reach **7,300GW** by 2028 in the main case. Solar PV and wind additions are forecast to more than double by 2028 compared with 2022, continuously breaking records over the forecast period to reach almost **710GW**. Renewable power capacity additions will continue to increase in the next five years, with solar PV and wind accounting for a record 96%.

Global New Installations Outlook for Offshore Wind

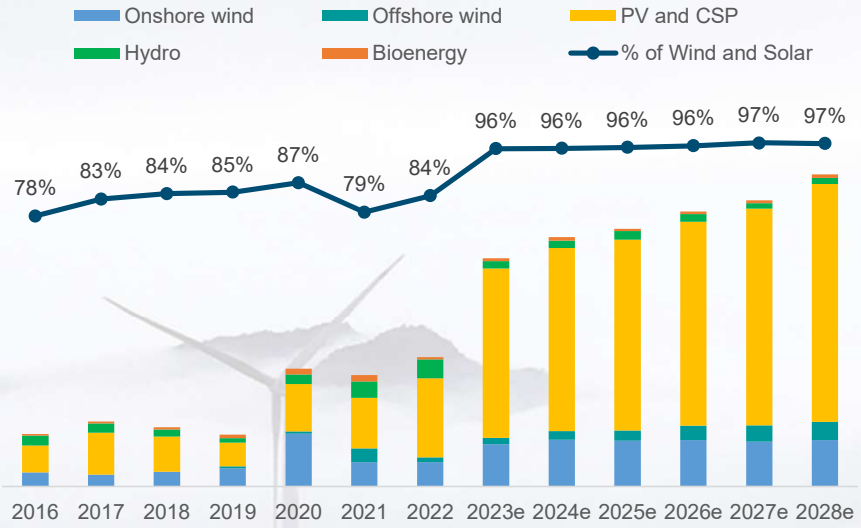


GWEC expects that the global new offshore wind power installations will be over **30GW** in 2026 and **50GW** by 2030, with a compound average annual growth rate of 31% until 2027 and 12% up to the beginning of the next decade. GWEC also expects more than **380GW** of new offshore wind capacity to be added over the next decade (2023–2032), bringing total offshore wind capacity to **447GW** by the end of 2032.

Note: Data and charts are from IEA and GWEC.

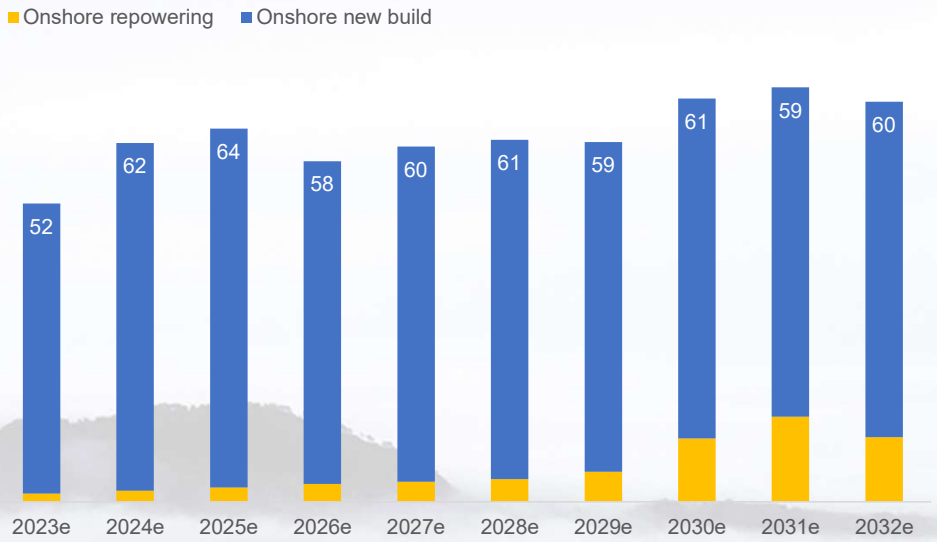
China's Wind Power Outlook

China is the world’s renewables powerhouse



According to IEA ‘s Renewables 2023, China’ s renewable energy capacity is expected to expand by over **2TW** over 2023-2028, tripling growth of the last five-year period. Today, generation costs for new utility-scale solar PV and onshore wind systems are lower than for coal in almost all provinces, creating a more optimistic outlook as they help provinces achieve lower electricity prices. IEA expects that China will reach its **1,200GW** of cumulative solar PV and wind capacity target by 2030.

China’ s new onshore wind additions and repowering outlook



Wood Mackenzie forecasts China’ s new grid-connected onshore wind power capacity will exceed **59GW** annually from 2023 to 2032, as the total new additions to reach **597GW**. China’ s new policy boosts the onshore wind repowering outlook to 62GW by 2032, making China the largest repowering market globally.

Note: data and information are from IEA and Wood Mackenzie

Sustainability Development Goals

Honest and compliant operations	• Adhere to the concept of "honest and compliant operations", and continuously improve the corporate governance and compliance management system to implement risk management and internal control, strengthen its internal supervision, inspection and constraint mechanisms, and create a culture of integrity and compliance, so as to ensure the sound development of the Company.	• Continuously improve the corporate governance and compliance management system and improve the level of corporate governance. • Foster a culture of integrity, self-discipline and compliance with the law.
Green and environment friendly operations	• In line with the corporate mission, continue to leverage the advantages of wind power in reducing greenhouse gas emissions, and further strengthen the green and environment-friendly feature of a wind power company with strengthened environment-friendly operations, to protect the environment, and secure the sustainable development of the Company, in an effort to become a global pioneer in combating climate change.	• By 2025, the greenhouse gas emissions per MW should be 25% lower than that in 2020.1 • By 2025, the hazardous waste per MW generated by the wind turbines manufacture should be 20% lower than that in 2020. • By 2025, the water consumption in production and operation should be 15% lower than that in 2020. • .....
Sustainable industry chain	• Integrate the concept of sustainable development into every link of the industrial chain, encourage upstream and downstream enterprises to fulfill their social responsibilities, and guard against environmental and social risks in the supply chain, so as to strengthen the synergy and cooperation on sustainable development of the industrial chain, and lead the sustainable transformation and upgrading of the industry.	• By 2023, the social responsibility audit rate of major suppliers of wind turbine components (manufacturing category) should reach 100%. • 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 able to be recycled and reused.
Fair and sound working environment	• 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.	• Build a diverse, equitable and inclusive internal work environment. • By 2023, health management programs should cover all the employees.
Harmonious community relations	• Respect and uphold the legitimate rights and interests of stakeholders 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.	• By 2023, the number of Goldwind volunteers should reach 5,000, with approximately 6,000 hours of volunteer work. • By 2025, at least 10 youth science and technology practicing bases should be built.

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FORWARD-LOOKING STATEMENTS

This presentation contains certain forward-looking statements with respect to the financial condition, results of operations and business of the Company, the wind industry in the PRC and certain of the plans and objectives of the management of the Company. Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results of performance of the Company to be materially different from any future results or performance expressed or implied by such forward-looking statements. Such forward-looking statements were based on assumptions regarding the Company's present and future business strategies and the political and economic environment in which the Company and its subsidiaries operate currently and will operate in the future. Reliance should not be placed on these forward-looking statements, which reflect the view of the Company's management as of the date of this presentation only.

Goldwind Science & Technology Co.,Ltd
SZEx Stock Code: 002202 HKEx Stock Code: 02208

Reaching out Goldwind IR team:
+86-10-6751-1996
goldwind@goldwind.com.cn

Company contacts:

Ms. Ma Jinru
Vice President, Secretary to the board and company secretary

Ms. Yu Yang
yuyang53704@goldwind.com

Ms. Tian Tingting
tiantingting@goldwind.com

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