

# HOPEWIND

Stock Code: 603063





Crystal waters and Lush Mountains Are Invaluable Assets.

**Hopewind** and you  
contribute to environmental protection

Renewable energy delivery capacity

**150GW<sup>+</sup>**



Equivalent to **299+ million tons**  
carbon dioxide emissions reduced per year

CO<sub>2</sub>

Equivalent to planting

**16.3+ billion trees** per year





# About Hopewind

Shenzhen Hopewind Electric Co., Ltd. (Stock Code: 603063) focuses on the R&D, manufacturing, sales and services of renewable energy & electric drive products, including products for wind power generation, photovoltaic generation, energy storage, hydrogen production power supply products, power quality and electric drive. Furthermore, Hopewind owns integrated independent R&D and testing platforms of high-power power electrical equipment and monitoring systems. Through innovation in technology and service, Hopewind continuously creates value for customers, and has become one of China’s most competitive enterprises in the renewable energy field.

## Renewable Energy Field

Products cover 750kW~30MW wind power converters, 3kW~3.125MW PV inverters and 1.0MW~6.25MW inverter-transformer integrated containers.

## Energy Storage Field

100kW~3.45MW power conversion system, 5~12kW PV hybrid inverter, 1MW~6.9MW turnkey PCS station as well as EMS and other equipment, which widely used in generation side, grid side,user side and microgrid side.

## Hydrogen Energy Field

500kW~20MW IGBT hydrogen production power supply and hydrogen production intelligent management system and other equipment, which can be applied to grid-connected and offgrid renewable hydrogen production.

## Power Quality Field

Provide 30kvar~140Mvar SVG products, which have been widely used in regional grids, wind power, photovoltaics, petrochemicals, coal, steel, oil fields and rail transit and other fields and industries.

## Electric Drive Field

Provide a complete set of 0.75kW~22.4MW low-voltage and 4MVA~102MVA (single inverter) medium-voltage variable frequency drive solutions, widely used in metallurgy, petroleum and petrochemical, mining machinery, port cranes, distributed energy power generation, large-scale test platforms, marine equipment, textiles, chemicals, cement, municipal and other various industrial applications.



# About Hopewind



## A Shares

Listed on the Main Board of the Shanghai Stock Exchange in 2017



## 2 Areas

Specialized in renewable energy and electric drive products, shipping all over the world



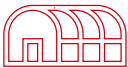
## 10%

Of operating income invested in R&D



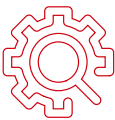
## 1000+

Intellectual property rights such as patents and copyrights



## 5

R&D manufacturing bases



## 20 Years+

Experience in power electronics product development





# Company Culture

## Corporate Vision



To become a world-class power conversion and control solution provider

## Values



Responsibility, integrity, innovation, pursuing excellence and growth with collaboration

## Our Mission



To promote technological progress in the industry and create a better life for mankind



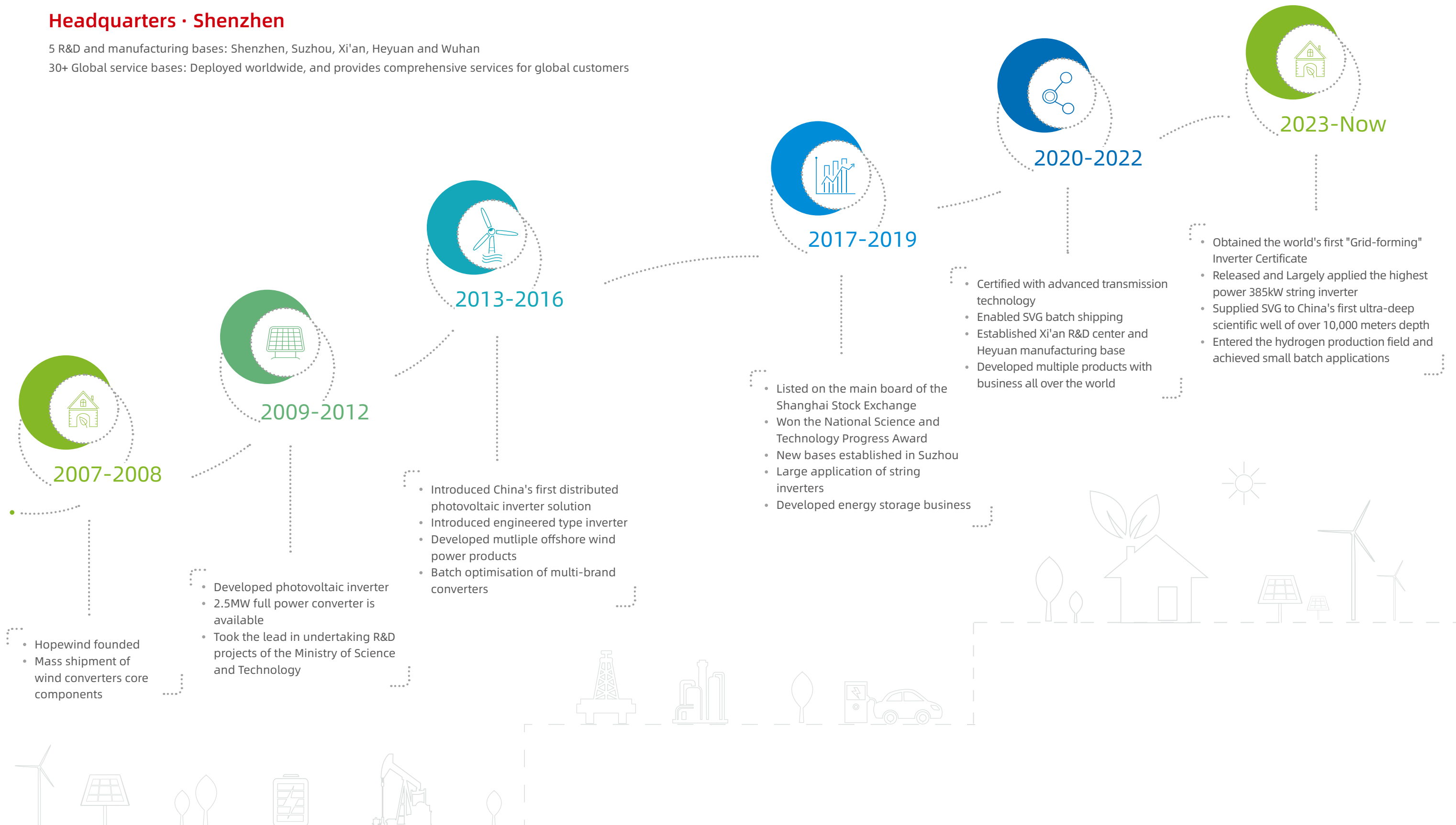


# Development History

## Headquarters · Shenzhen

5 R&D and manufacturing bases: Shenzhen, Suzhou, Xi'an, Heyuan and Wuhan

30+ Global service bases: Deployed worldwide, and provides comprehensive services for global customers





# Company Awards

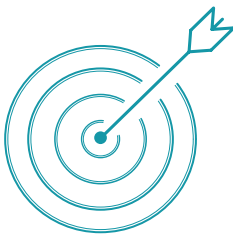
## ■ 200+ Awards

- National High-Tech Enterprise
- National Science and Technology Progress Award
- National Energy Science and Technology Progress Award
- First Prize of Science and Technology
- Progress Award of China Renewable Energy Society



- National Manufacturing Single Champion Product (offshore wind power converter)
- 2024 China's Top 15 Photovoltaic Inverter Listed Companies (No. 7)
- Top 6 high power PCS manufacturer in China
- Top 10 Electric Drive Brands in 2023
- Top 10 Power Quality Brands in 2022
- 2021 Best System Integration Solution Supplier Award

- 2023 Low Carbon Business Pioneer
- 2022 Social Responsibility Award for Listed Companies
- 2020 Energy Science Innovative Enterprise Award
- Second Prize of 2019 Power Technology Innovation Award
- .....



# Certification

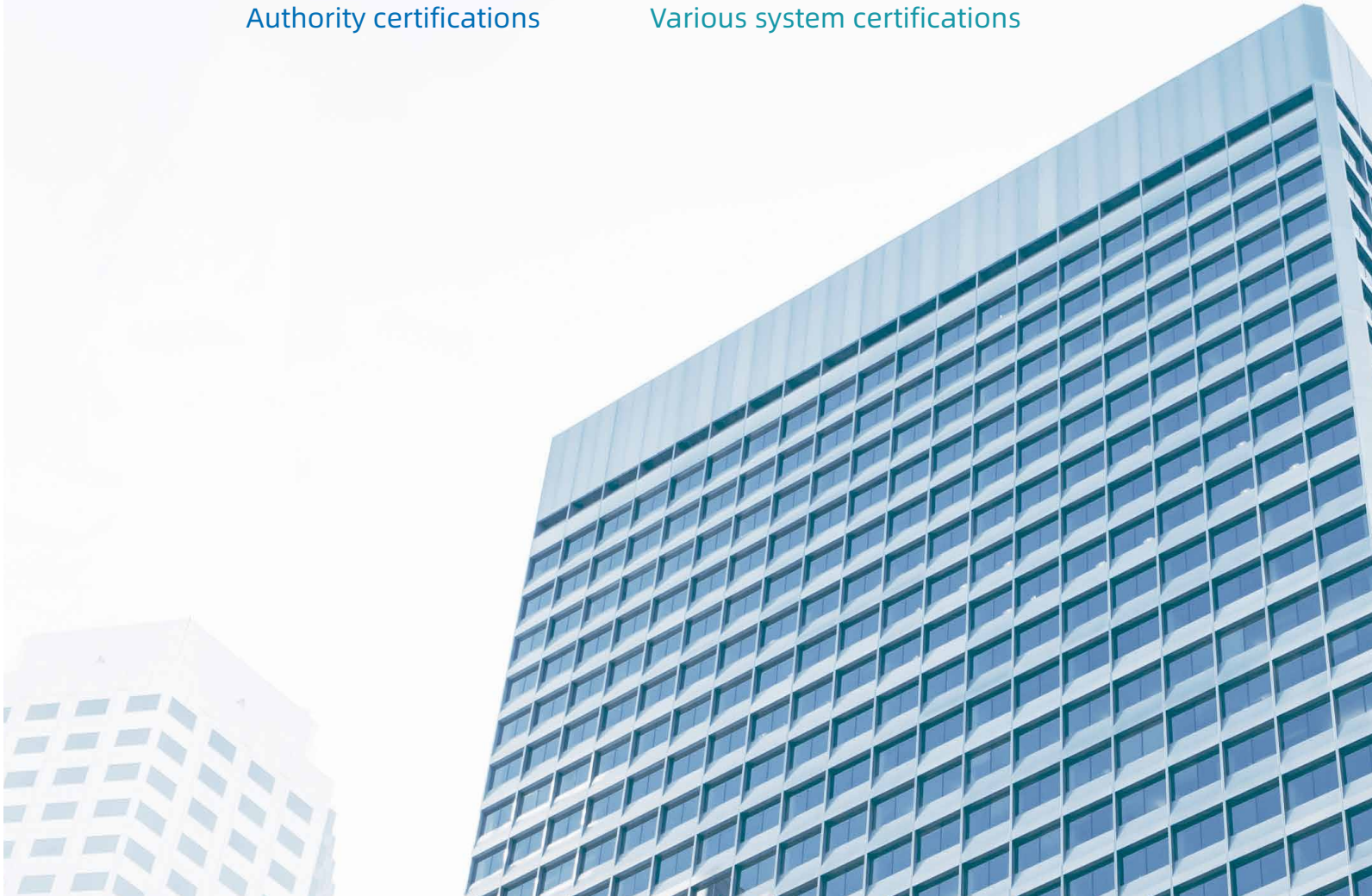


TÜV、BV、SGS、ITS、CQC、CGC、PCCC、CCS.....

Authority certifications

ISO9001、ISO14001  
ISO45001...

Various system certifications





# Partners



\*No ranking



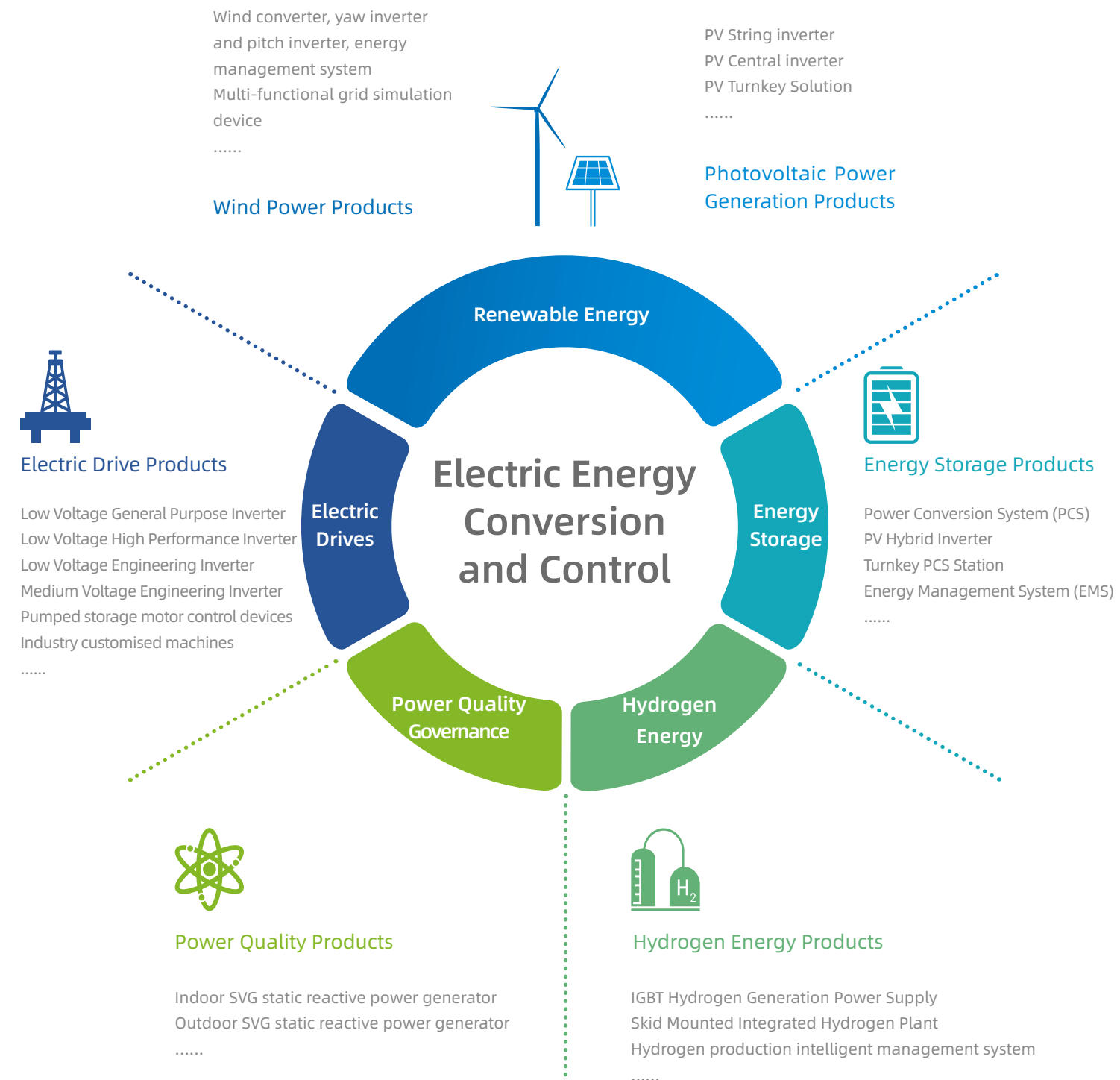
About Hopewind

## Business Category

R&amp;D Strength

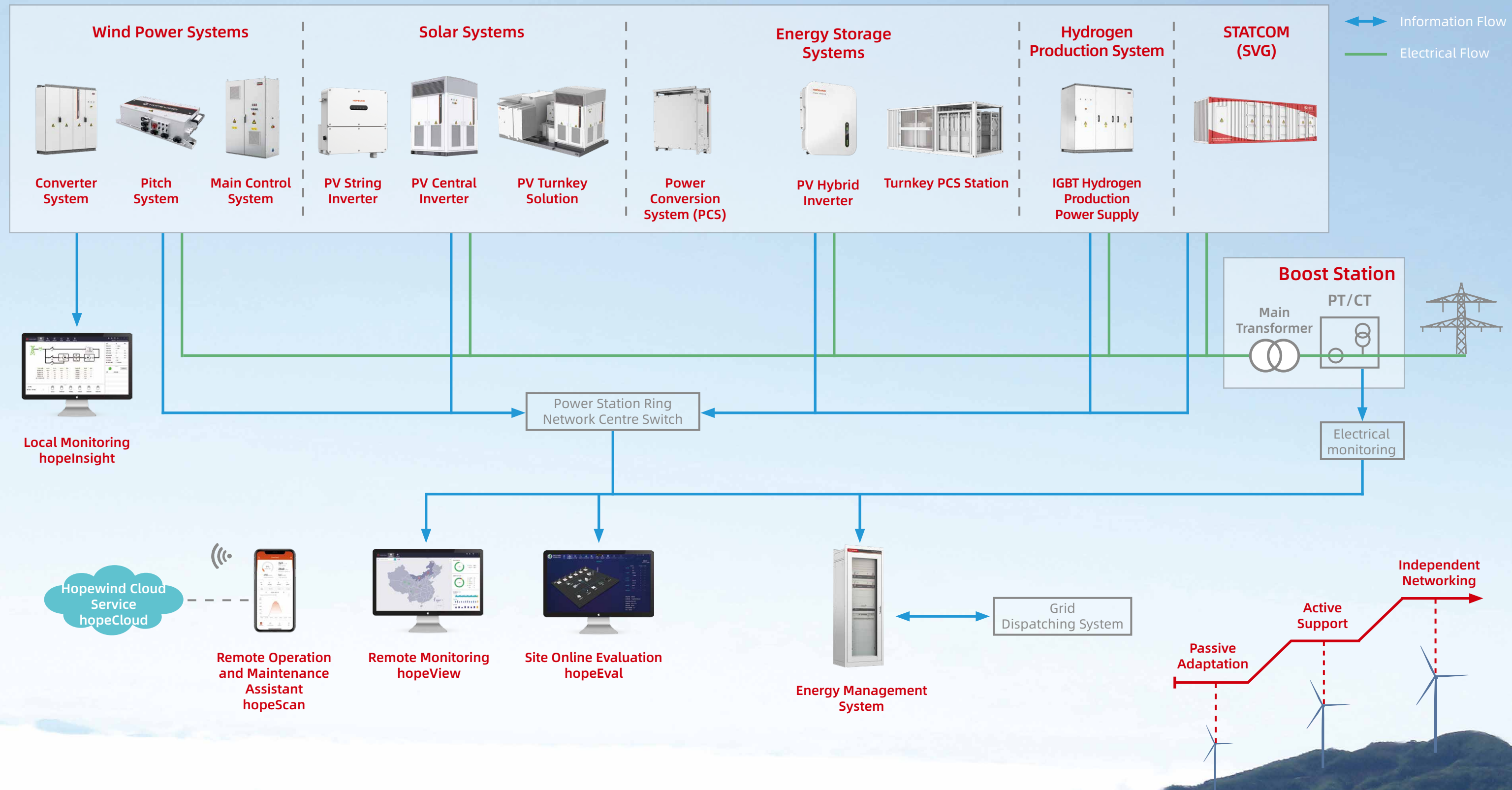
Service Map

Classic Cases





# Grid-Friendly Station Ecology





### Doubly-fed Converter (690V)

> Air-cooled, water-cooled  
1.5MW~6.XMW



### Full Power Converter (690V)

> Permanent magnet, electric  
excitation, high-speed asynchronous  
1.0MW~12.0MW



### Three-level Doubly-fed Converter (900V/950V/1140V)

> 3.XMW~20.0MW



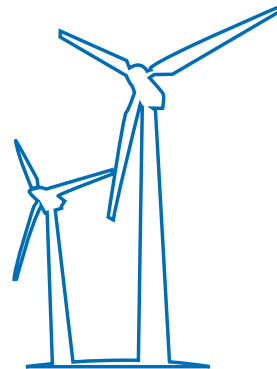
### Three-level Full Power Converter (900V/950V/1140V)

> 3.XMW~30.0MW



### Medium-voltage Three-level Full Power Converter

> 5.0MW~25.0MW



### Leading wind power converter company in China

Obtained National Science and Technology  
Progress Award

Cutting-edge wind power converter and control  
system key technology, leading and participating  
in the drafting of industrial standards.

### Exported to Europe, America, Southeast Asia and other regions



## Wind Power Generation

Wind Power Generation





## Pitch System and Energy Management System

### HIL

> RTLab, RTDS, ModelingTech, ADPSS, dSpace, Speedgoat



### Multi-Functional Grid Simulation Device

> 2.5MVA / 6MVA / 10MVA  
> 10MVA~20MVA  
> 60MVA



### Pitch Inverter

> Suitable for 1.0MW~20.0MW wind turbines



### Pitch System

> Suitable for 1.0MW~20.0MW wind turbines



### Yaw Inverter

> 2.2kW~110kW

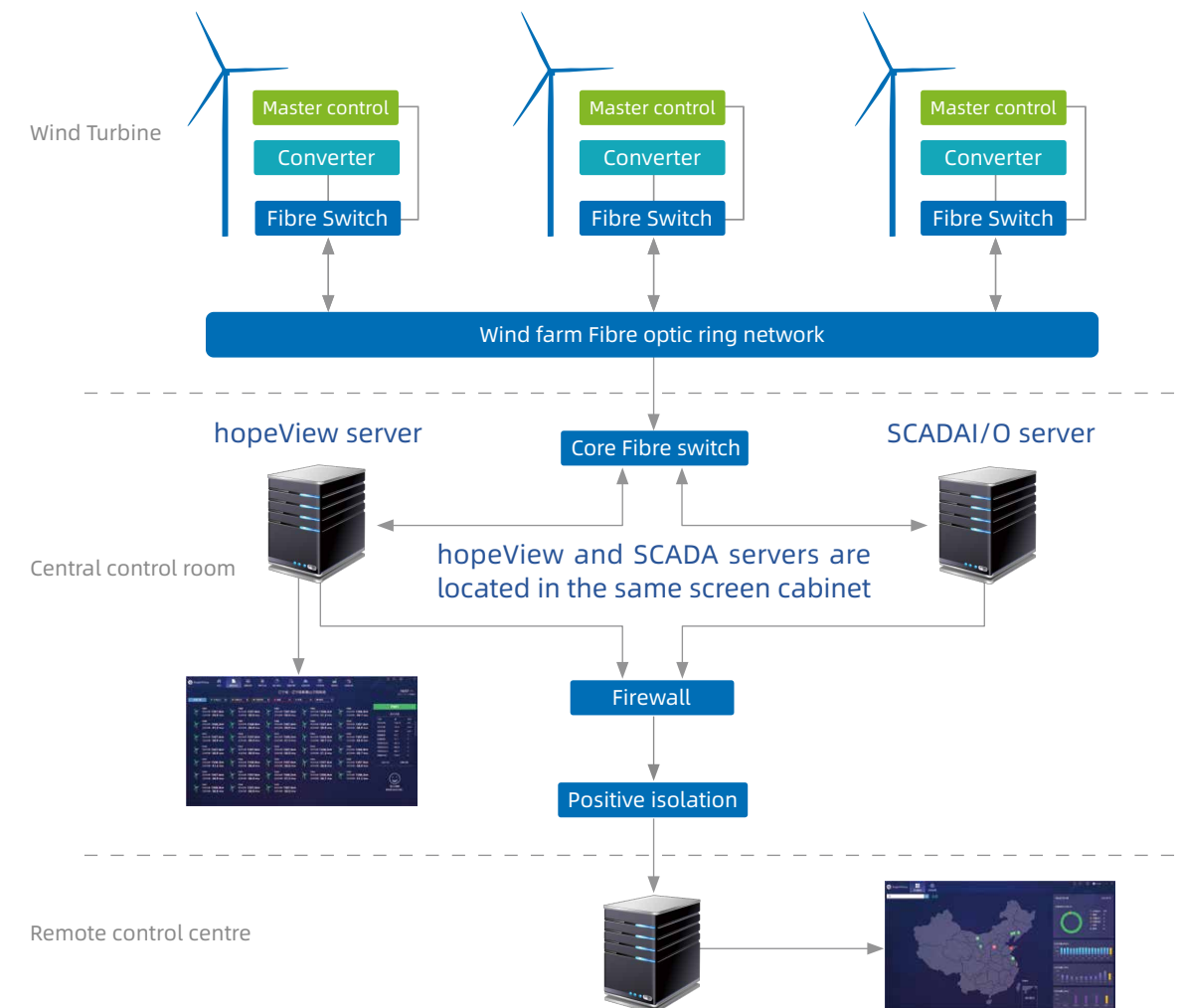


### Energy Management System

> AGC, AVC, PFR



## Remote Intelligent Operation and Maintenance System



### Data Collection

High-precision, multi-variable collection and presentation of electrical parameters, with remote oscilloscope and remote fault recorder functions



### Data Statistics

Featured statistical reports which can accurately count and sort the detailed faults of converter



### Data Analysis

In-depth data analysis, with expert system, intelligent fault diagnosis and trend prediction functions

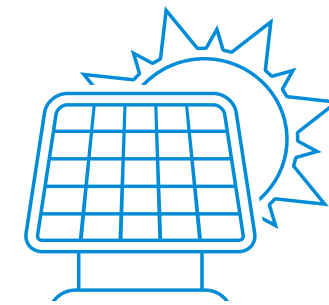






## Photovoltaic Generation

# Photovoltaic Generation



### Tier 1

Tire 1 Photovoltaic inverter maker by  
BloombergNEF

### China's TOP 7 PV Inverter Supplier

Ranked among the top 7 Chinese inverter  
in 2023

#### String Inverter

- > Multiple MPPTs, distributed  
grid-tied connection
- 3kW~10kW (600V)
- 8kW~150kW (1100V)
- 250kW~385kW (1500V)



#### Central Inverter

- > Single MPPT, centralised grid  
-tied connection
- 500kW/630kW (1100V)
- 1.25MW/1.5625MW/  
2.5MW/3.125MW (1500V)



#### MV Transformer Station

- > Suitable for 385kW string  
inverters
- > 3000kVA/6000kVA/9000kVA



#### MW-Level Inverter Container and Inverter-Transformer Integrated Container

- > 1.0MW~6.25MW





### Power Conversion System

- > 1000V Power Conversion System  
400Vac, Air-cooled 500kW~630kW
- > 1500V Power Conversion System  
Outdoor type 2.5MW~3.45MW
- > String Power Conversion System  
690Vac, Air-cooled 186kW~250kW



### PV Hybrid Inverter

- > 5kW~12kW, match high voltage batteries
- > Provide PV + battery + EV Charge Solution



### Turnkey PCS Station

- > 6kV~35kV full range can be customised
- > 1MW~6.9MW can be customised
- > Both dry-type and oil-type transformers can be customised



### Energy Management System (EMS)

- > Linux&Windows
- > Pre-built solutions for multiple energy storage scenarios



### System Integration

- > Single container 100kWh~4MWh
- > Customised battery and electrical container design



### Early strategic planning and large shipment volume

Top 6 high power PCS manufacturer in China  
Achieve breakthroughs in multiple  
100-megawatt-level projects

### Grid-forming storage

Leading grid-forming control technology



## Energy Storage

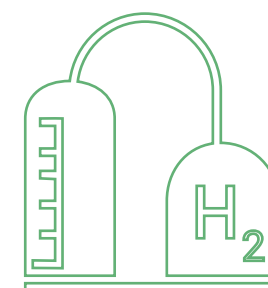
Energy Storage







## Hydrogen



### Reliable Techonology

Product development based on wind+solar+storage high-power electronics testing platform, more than 300,000 sets of IGBT module system applications

### Flexible Hydrogen Generation

Efficient, smart and safe, can be applied to on-grid and off-gird renewable hydrogen generation

### IGBT Hydrogen Power Supply

500kW~20MW

$U_{dc}$ : 0V~1500V

- > AC-DC level-1 topology
- > AC-DC-DC level-2 topology
- > DC-DC power supply



### Skid-Mounted Integrated Hydrogen Production Device

> Including switch cabinet, transformer, IGBT hydrogen power supply, etc.



### H<sub>2</sub> + Hydrogen Production Intelligent Management System

> As the microgrid control center, coordinating power generation, power grid, load, energy storage, etc.



Hydrogen





Strong grid and environmental adaptability

The first equipment manufacturer in China to pass the on-site SVG high/low-voltage ride-through test of the Electric Power Research Institute

**STATCOM (SVG)**  
**(3kV~10kV)**

> 1Mvar~15Mvar  
Direct-connection type  
Air/Water/Air conditioned cooling  
Indoor & outdoor (container type, prefabricated cabin type)  
Conventional & customised (high prototype, offshore type, automatic bypass redundant type)



**(10kV~35kV)**

> 1Mvar~140Mvar  
Direct-connection type, step-down type  
Air/Water/Air conditioned cooling  
Indoor & outdoor (container type, prefabricated cabin type)  
Conventional & customised (high prototype, offshore type, automatic bypass redundant type)



Power Quality

Power Quality







## Electric Drive

# Electric Drive

### Low Voltage General Purpose Inverter (HV350)

> 380V

> 0.75kW~560kW



### Low Voltage High Performance Inverter (HV510)

> 380V

> 0.75kW~132kW



### Crane Inverter (HV610)

> 380V

> 0.75kW~400kW



### Low Voltage Engineering Inverter (HV500)

> 220V, 380V, 690V

> 2.2kW~560kW



### (HD2000)

> 400V, 690V, 1140V, 1380V

> 5.5kW~22400kW



### Medium Voltage Engineering Inverter (HD8000)

> 1.65kV, 2.4kV, 3.3kV, 4.16kV, 6.6kV, 10kV, 13.8kV, 19.8kV

> 4MVA~102MVA (Single Inverter)



### High-end intelligent transmission expert

First prize of Metallurgical Science and Technology Award

VFD Applied to the world's first automated drilling rig designed for 12,000 meters ultra-deep well



About Hopewind

Business Category

**R&D Strength**

Service Map

Classic Cases

## Innovation Platform

Platform-based R&D framework  
Matrix project management  
Owned multiple CNAS professional laboratories with advanced equipment and perfect management

## 20+

Years of development experience

Core technical team and management team  
More than 20 years' experience in power electronic product development

## 10%

Of operating income is invested in R&D

Up to 10% of operating income is spent on R&D investment

## 1000+

Intellectual property rights such as patents, works, etc.

The company has completely independent intellectual property rights. Hopewind has completely independent intellectual property rights with 1040 patents applied and 642 patents authorized (113 invention patents)

\* By July 2024

» Hopewind has an advanced experimental platform for renewable energy power generation and transmission, and has complete scientific testing and inspection capabilities for the full range of products.

2 Research Centers

- Guangdong Province Wind Turbine Electric Control Equipment Engineering Technology Research Centre
- Shenzhen Wind Turbine Electric Control Equipment Engineering Research Centre

Three Contracted Laboratories

- CNAS laboratory
- TÜV Witness Laboratory
- Jianheng Signed Laboratory



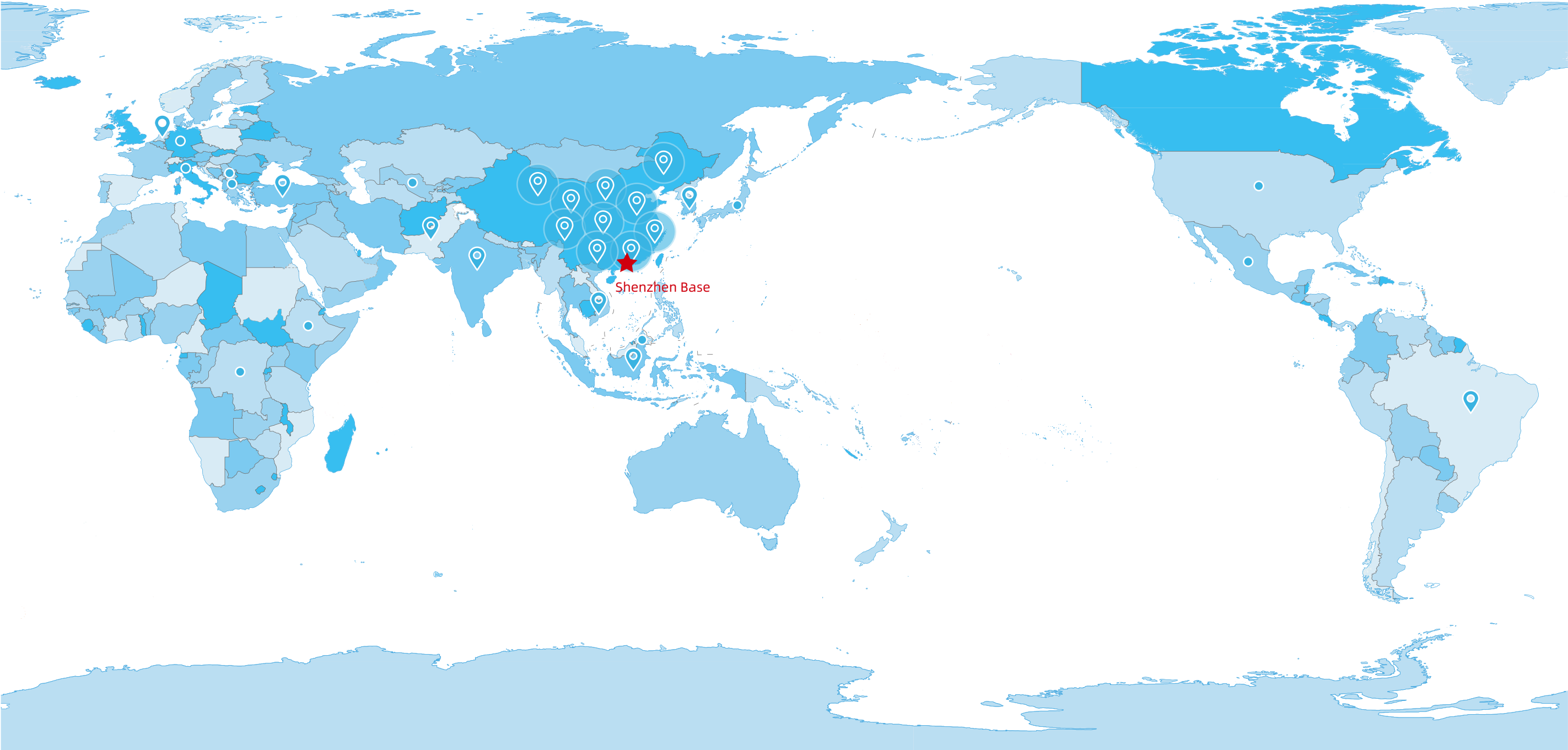
# Service Map



**Global Service: share clean energy and mutual benefit with the world**

Business spread across Asia, Europe, Africa, South America and North America

- 24/7 fast response
- High quality, fast and efficient
- Globalsupport@hopewind.com





## Wind Power Generation Cases

About Hopewind  
Business Category  
R&D Strength  
Service Map

### Classic Cases

#### Difficulties of Electrified Train Crossing

Sanmenxia, Henan

The world's first solution to the problems caused by the crossing of electric trains  
Three-phase voltage unbalance problem

-----  
Hopewind doubly-fed wind power converter

#### Adaptation to Ultra-Low Temperature Environment

Inner Mongolia Phaeton Liang

Extreme weather areas, heavy sands, long cold winters  
Snow and ice accumulation, extreme temperature around -38°C

-----  
Hopewind air-cooled doubly-fed ultra-low temperature converter

#### Batch Application of Offshore Models

Guangdong, Fujian, Jiangsu, Zhejiang and Shanghai, Liaoning, etc.

High operation and maintenance costs, increased requirements for converter reliability, high levels of humidity and salt spray which results in corrosive environments

-----  
Hopewind offshore wind power converter

#### Solve the Problem of Low Frequency Fluctuations

Hebei Zhangbei Wind Farm

Provide solutions to low-frequency fluctuations of wind farms  
Adapt to fluctuating grids, long-term stable operation

-----  
Hopewind "low frequency suppression" algorithm

#### Batch Operation of Plateau/ Super Plateau Models

Tibet, Yunnan, Qinghai, Ningxia, Guizhou, etc.  
3000m, 4000m, 5000m above sea level  
Large diurnal temperature difference, low air pressure, high humidity, and frequent thunderstorms

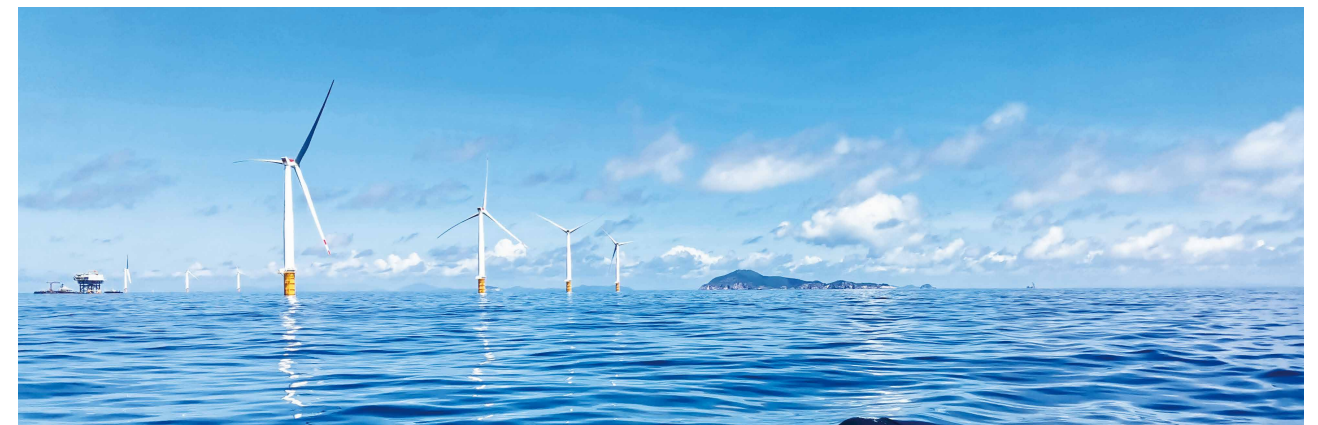
-----  
Hopewind High Prototype/Ultra High Prototype Wind Power Converter

#### Batch Application of Overseas Projects

United States, Mexico, Italy, South Korea, Vietnam, etc.

Used in different wind farm environments to achieve high efficiency and low failure rate

-----  
Hopewind full power/dual-fed wind power converter





# Photovoltaic Power Generation Cases



## Roof Applications

1  
China: Guizhou, Hubei, Shandong, Dalian, Brazil, and Turkey etc.  
Residential roofs, industrial and commercial roofs  
Increased power generation and profit  
-----  
Hopewind string inverter

## Poverty Alleviation Projects

2  
Baoding, Shijiazhuang, Lu'an, etc.  
Actively respond to the "Targeted Poverty Alleviation" policy  
Adjusted measures to local conditions, beneficial to many towns  
-----  
Hopewind string inverter

## Extreme Weather

3  
Xinjiang, Inner Mongolia, Gansu, Shaanxi, etc.  
Windy and sandy, high temperature  
The highest temperature can reach 50°C  
-----  
Hopewind centralised/string Inverter

## Complex Mountain Scenarios

4  
Hebei, Shanxi, Hunan, Guangxi, etc.  
Complex layout of photovoltaic modules for rugged mountains and undulated terrains  
-----  
Hopewind centralised/string inverter

## Agriculture, Fishery and Floating Solar Combination

5  
China: Anhui, Liaoning, Guangdong, Zhejiang, Vietnam, etc.  
Adaptable on-top deployment for grain farming and fish farming  
affected by weather, region, environment, etc.  
-----  
Hopewind centralized outdoor/string inverter

## High Altitude

6  
Qinghai, Sichuan, Yunnan  
3000-4200m Altitude  
Difficult construction situation  
-----  
Hopewind centralised/distributed inverter



# Energy Storage Cases

## Power Generation Side

China: Inner Mongolia, Tibet, Shanxi, South Korea, etc.  
Renewable energy/thermal power plant and energy storage  
Improve the frequency modulation ability to ensure grid stability  
-----  
Hopewind PCS equipment  
Turnkey PCS Station

## Grid Side

Henan, Hebei, Ningxia, Guangdong, etc.  
Solve grid peak and frequency modulation  
Alleviate power supply problems  
-----  
Hopewind PCS equipment

## Super Capacitor Energy Storage

Ningbo, Zhejiang  
National Super Capacitor Demonstration Project  
Complex application for equipment working conditions  
-----  
Hopewind PCS and a complete set of electrical equipment integration

## Flywheel Energy Storage

Zhangjiakou, Hebei  
Modulate grid frequency  
Provide an overall integrated solution except flywheel  
-----  
Hopewind PCS, transformer, high and low-voltage cabinet, system integration

## User Side

Beijing, Jiangsu, Guangdong, Zhejiang, Shandong, etc.  
Balanced peak and valley electricity output by peak load shifting  
Off-grid running for emergent power supply  
-----  
Hopewind Turnkey PCS Station  
PCS off-grid parallel controller

## Microgrid

Shaxi, Yunnan  
Improved power supply stability  
Integrated solution of solar+energy storage+charging with on and off-grid switching, which is difficult to deploy  
-----  
Hopewind PCS, charging pile, inverter





# Hydrogen Energy Cases



## Renewable Hydrogen Generation

1

- Hydrogen generation with wind and solar power
- Quick response and great grid adaptability
- Well adapted to grid fluctuations
- Continuous power output under extreme operating conditions

Hopewind provides 500kW~20MW high-power IGBT hydrogen generation power supply solutions, with multiple types of air-cooled/water-cooled, indoor/containerized, primary topology/secondary topology, etc to choose from, and support integrated solutions for smart management of renewable hydrogen production.

## Petrochemical Industry Applications

2

- Hydrogen production from renewable energy sources in oil fields
- Equipped with high-capacity alkaline (ALK)/PEM electrolyzers
- High efficiency and reliability, low harmonics and high power factors
- In-depth de-carbonization of the industry

## Hybrid System Hydrogen Generation Applications

3

- Dual power input for plant PV and grid power
- Multiple operating modes with PEM/
- Real-time system power generation tracking with ALK electrolysis tanks MPPT to ensure optimal hydrogen production power
- Featured with power fed into grid function

Hopewind's IGBT hydrogen power supply products have been successfully applied in many places such as Gansu, Shaanxi, Yunnan, etc. They are suitable for various occasions such as grid-connected AC, off-grid DC, etc. Hopewind is also the first manufacturer of power supplies for high-power MW-class IGBT hydrogen generation in China that manages to maintain a long-term and stable operation.

## High Altitude Applications

4

- Application in plateau with 3000m altitude
- Strict accordance with corrected electrical and safety regulations
- Adaptability to environment with 5000m altitude
- Stable and trouble-free operation that can fully meet various project requirements



# Power Quality Cases

## Renewable Energy Industry

SVG has HVRT/LVRT and broadband operation capabilities  
Station reactive power linkage adjustment with accurate compensation  
-----

## Traditional Power Industry

Provide solutions for Coal, Steel and Petrochemical industries for problems as high reactive power consumption, low-power factor, complex harmonic content, voltage fluctuations, etc.  
-----

## High Altitude Environment

High adaptability and stability for environments of 3000m, 4000m or even 5000m altitude with severe challenges of large temperature difference, strong ultraviolet rays, high moisture and condensation.  
-----

## Marine Environment

Adapt to high pollution and humidity environments caused by high levels of salt spray  
-----

## Desert/Loess Plateau Environment

SVG is designed to be highly protective that can adapt to strong sunlight and large temperature ranges, harsh environments which are dry and dusty  
-----

## Renovation Project

Partial reutilization or overall replacement for original equipments with unstable conditions, high failure rate, troublesome and high cost maintenance  
-----

Hopewind provides a full range of SVG products from 220V to 35kV, supporting multiple types of SVG such as direct-connection/step-down, air/water/air conditioned cooling, indoor/outdoor (container type, prefabricated cabin type), prototype, offshore type, etc.

Our SVG products have been widely used in China's Heilongjiang, Jilin, Liaoning, Inner Mongolia, Hebei, Henan, Shandong, Jiangsu, Zhejiang, Guangdong, Guangxi, Yunnan, Guizhou, Sichuan, Hunan, Shaanxi, Shanxi, Gansu, Xizang, and other provinces and cities, as well as in Vietnam, Congo (DRC), Myanmar, and other countries.





## Electric Drive Cases



### Metallurgical Steel Rolling

Hebei, Tianjin, Fujian, Guangxi, etc.

The frequency converter is used in the main rolling and auxiliary drive of the whole steel rolling line.

Blast furnace hoisting, CDQ lifting, etc.

-----  
More than 100 large and medium-sized steel mill customers

More than 500 steel mill application sites

### Oil Drilling

Xinjiang, Chongqing, Shandong, Hubei, etc.

Used in batches of oil gas fracturing, top drive, 5000m~15000m oil rig platform oil-to-electricity projects and pumping units, etc.

-----  
Hopewind provides air-cooled and water-cooled multi-drive solutions

Excellent control performance, high power density, stable operation

### Mining Machinery

35m<sup>3</sup> electric shovel, Xiangdian 120t electric-powered mining dump truck

110t diesel-powered mining dump truck

Mine explosion-proof movement, etc.

-----  
Hopewind provides air-cooled and water-cooled multi-drive solutions

### Pipeline Transportation

China National Pipeline Network Gansu Zhangye Compressor Station

The first Chinese-made medium-voltage IGCT five-level 24MW frequency converter is applied in the field of natural gas transmission

-----  
Hopewind HD8000 series inverters are used in the replacement of imported electric drive inverters for large-scale compressors in petroleum pipelines

### Large-scale Test Bench

Jiangsu, Chongqing, Shanghai, Hunan, etc.

1MW~24MW wind power gearbox test platform  
Motor drag test platform, loading platform, etc.

-----  
Hopewind provides a complete and customizable set of mature solutions for medium and low-voltage motors/gearboxes test platform

### Hoisting Machinery

Traveling cranes, portal cranes

Dock grab, gantry crane, etc.

-----  
Hopewind provides a series of highperformance high-end inverters  
Widely used in major ports and docks and greatly improves the safety of hoisting machinery system

Hopewind





# ***150 GW<sup>+</sup>***

## ***SHIPMENTS WORLDWIDE***



Email: [marketing@hopewind.com](mailto:marketing@hopewind.com)

Tel: +86 189 4874 2347

Website: [www.hopewind.com](http://www.hopewind.com)

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If the product size and parameters have changed, the latest actual product shall prevail