

Siemens Energy in China

We energize society



Siemens Energy is a
**global leader in the
energy business**

~ 1/6

of global electricity generation
is based on our technology

96,000

employees work as a team
to energize society

We are present in

> 90 countries

We invest around

€1.1bn annually in
research and development





We energize societies across the globe

based on

01

Decarbonization through Technology

We have the technologies to support our customers in transitioning to a more sustainable world.

02

People with Responsibility

We have the people that turn ideas into reality to provide reliable, affordable and sustainable energy.

03

Partnerships for Innovation

Together with our partners we are developing innovations of the future.

04

Profitability as a Foundation

Profitability is a prerequisite of a successful and sustainable company. We focus on performance.

Siemens Energy in China

Trusted partner for China's energy transition

Local for local, local for global



~6,000
employees



3
regional companies



12
branch
companies



15
operating
companies/factories



5
engineering centers



1
innovation center



1
sourcing hub

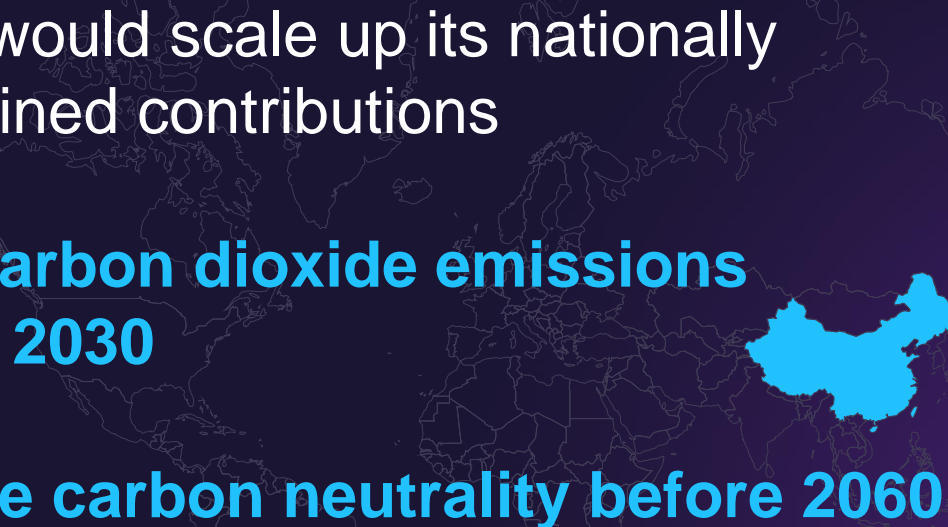


5
service centers

Siemens Energy in China

Long-term and trusted partner for China's energy transition

China would scale up its nationally determined contributions aim to **peak carbon dioxide emissions before 2030** and **achieve carbon neutrality before 2060**

A world map is shown in the background, with the country of China highlighted in a bright red color. The map is centered on the Pacific Ocean, showing the outlines of the continents.

Long history of cooperation

Firm localization process

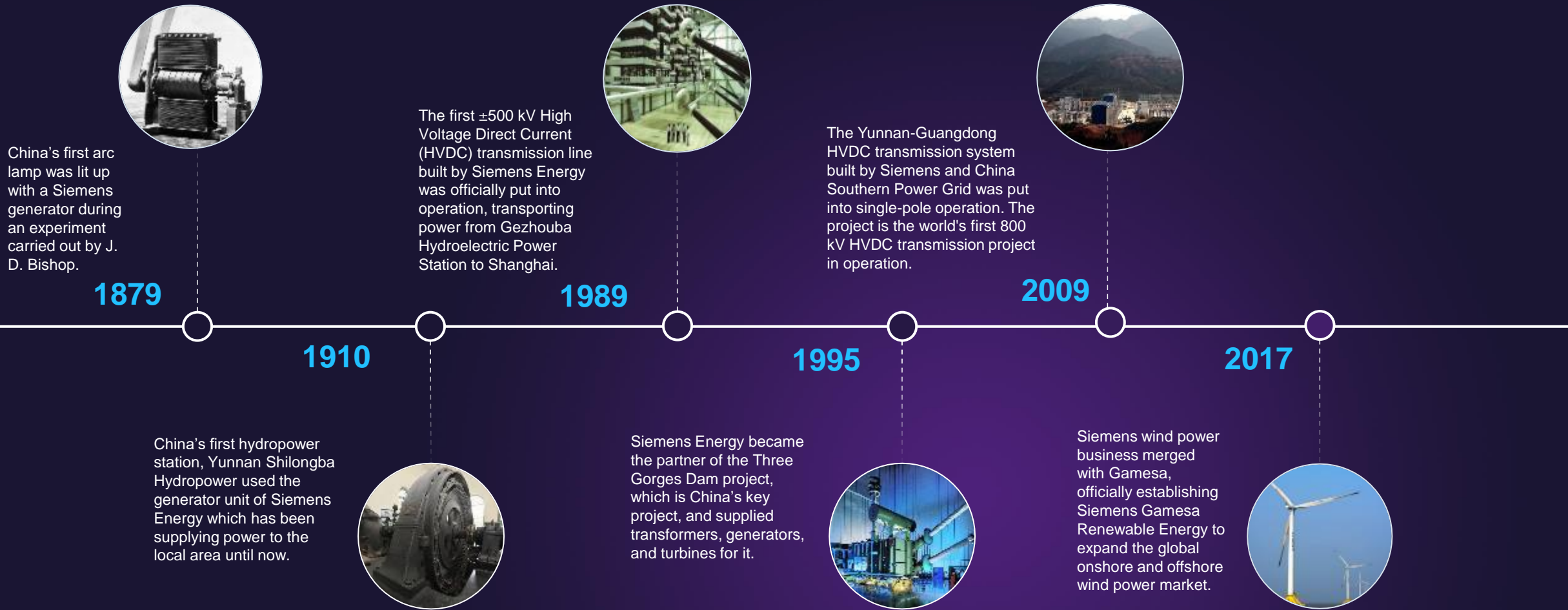
Create value with Chinese partners

Excellent operation and project experiences

People with responsibility

Siemens Energy in China

Long-term and trusted partner for China's energy transition



Siemens Energy in China

Long-term and trusted partner for China's energy transition

On May 1, Siemens Energy started operating as an independent company in China. In June 2020, the company increased its capital in China by RMB 3.8 billion. On September 28, Siemens Energy AG started trading on the Frankfurt Stock Exchange.



2020

Siemens Energy supported the construction of the 1st phase of combined cycle power plant of CLP's Hong Kong Black Point Power Station, and it was put into operation.



Siemens Energy Shenzhen Innovation Center was launched, fostering the green development of Guangdong-Hong Kong-Macao Greater Bay Area (GBA).



2021

During the COVID-19 pandemic, hundreds of workers from Shanghai Siemens High Voltage Switchgear Co., Ltd. did their best to ensure business continuity and the timely delivery of the products to fulfill the customers' promises.

2022



Siemens Energy and China Energy jointly built the Public Welfare Forest Demonstration Area in Shuozhou City, Youyu County of Shanxi Province.

2023



As the green energy technology partner of Songtsam Group, Siemens Energy customized and implemented a comprehensive low-carbon energy system solution for Songtsam Linka Hotel, creating the first green and low-carbon pilot project with Songtsam Group.



We support customers to a more sustainable future



As an integrated energy technology company

we support our customers along the energy value chain



Low- or zero-emission power generation

- > Gas Services
- > Siemens Gamesa

Transport and storage of energy

- > Grid Technologies

Reducing GHG emissions and energy consumption in industrial processes

- > Transformation of Industry



> Gas Services

Low- or zero-emission power generation through service and decarbonization

In 2021, CO₂ emissions from electricity and heat production reached an all-time high of more than **14 gigatons**. If every coal-fired power plant were to switch to natural gas, CO₂ emissions could be cut **in half**.

Our offerings

- Low- or zero-emission power generation
 - All gas turbines under one roof: from 4 MW to 600 MW; steam turbines from 90 to 1,900 MW and generators from 25 to 1,300 MVA.
 - Highly efficient and low-emission gas turbines with higher ramp-rates enable compensation of fluctuating renewables.
 - Clean fuel burning capabilities for low to zero emissions and leading hydrogen co-firing capabilities: Up to 75% hydrogen co-firing capability today and 100% by 2030.
 - Decarbonization opportunities through service offerings, modernization and digitalization of the fleet.
- Electrification of heat generation with proven high- and low-temperature heat pumps for up to 150°C and 70 MWth to decarbonize the heating sector.

[Visit the website](#)

The first double H-class heavy-duty gas turbine project in China

Guangzhou

- Siemens Energy supplied two SGT5-8000H heavy-duty gas turbines, two steam turbines and four generators for Huadian Fuxin Energy Corporation Limited and implemented two H-class gas-steam combined cycle units of 600,000 kW.
- A combined-cycle unit of this type can power a city with a population of 3 million. After the two units of 600,000 kW units were put into the operation, the annual power generation capacity reached 4.384 billion kwh, guaranteeing a safe, efficient, clean and low-carbon energy supply.
- It is currently the combined cooling, heating and power project with the largest single-unit capacity.





> Grid Technologies

Enabling a reliable, sustainable and digital grid

The rising share of renewables, growing energy demand, ageing infrastructure and increasing complexity require new connections but also upgrade and renewal of existing grids.

Our offerings

- The power grid is the backbone of the energy transition. Siemens Energy offers a leading portfolio and solutions in HVDC transmission, grid stabilization and storage, high voltage switchgears and transformers, and digital grid technology.
 - High-Voltage Direct Current (HVDC) is a key enabler of the energy transition.
 - With our project expertise and grid technologies know-how we provide holistic solutions for the storage project value chain.
 - CO₂-neutral Blue products for sustainable and greenhouse gas free power grids and eco-friendly fluids like ester.
 - Next generation digital products and solutions through IoT¹-connected grid devices equipped with edge computing, analytics and Artificial Intelligence (AI).
 - Service for power transmission products, systems and solutions.

1. Internet of Things

[Visit the website](#)

The first zero-carbon substation in China

Wuxi

- In January, 2022, the first 110 kV zero-emission substation in China, Wuxi Qingshu Substation was put into operation. The substation was built by Wuxi Power Supply Company, State Grid Jiangsu Electric Power Co., Ltd.
- Siemens Energy supplied the first two 145 kV Blue zero-carbon, fluorine-free and environmentally friendly gas-insulated switchgears (145 kV Blue GIS™).
- Combined with other environmental-friendly systems and equipment, the substation is expected to reduce 18,000 tons of carbon emissions over its entire life cycle from its construction, operation to retirement.



Decarbonizing the industrial sector

The industrial sector globally accounts for **30%** of emissions and **~38%** of energy consumption.¹ Industry needs to reduce emissions by **5 Gigatons per year**. Increasing electrification and efficiency are key and demand for green H2 and derivative fuels will rise.

Our offerings

- We enable decarbonization of the industrial sector and the transition to sustainable processes, building on a strong industrial customer base, a global network, diverse technologies and integrated execution capabilities.
- Our offerings include:
 - Hydrogen electrolyzers and Power-to-X-solutions – key to H₂ and e-fuel production
 - Integrated EAD² solutions – critical for process optimization and electrification
 - Industrial steam turbines and generators allow more energy efficient operations
 - Turbo and reciprocating compressors – fundamental components for hydrogen transport, storage, and processing
 - Advanced services cover the life-time of assets

1. Source: IEA

2. Electrification, automation, digitalization

[Visit the website](#)

Cobuilding NG14000XL Offshore Wind Power Installation Vessel

Nantong

- NG14000XL is the first new self-elevating offshore wind turbine installation vessel built by a Chinese shipyard that is equipped with BlueDrive PlusC® direct current propulsion system and BlueVault® battery energy storage solutions from Siemens Energy.
- Siemens Energy collaborated with China Merchants Heavy Industry (Jiangsu) Co., Ltd., supplying almost all of the vessel's electrical propulsion and automation systems.
- Leading a greener, cleaner, and more environmentally friendly shipbuilding industry while making contributions to the reduction of the global carbon footprint.





> Siemens Gamesa

Clean energy for generations to come

Wind energy will provide up to **20%** of the world's electricity **by 2030**.¹

Our offerings

- Leading supplier of wind turbine technology and service solutions for onshore and offshore wind.
- Versatile product portfolio, covering a wide range of customer requirements and wind conditions. Output: Up to 15 MW offshore and 7 MW onshore.
- With an installed capacity of 137 GW, Siemens Gamesa wind turbines generate enough clean energy to power 126 million households.
- Service provided for more than 84 GW of installed capacity – on site or through digital and remote solutions.

1. Source: Global Wind Energy Council

[Visit the website](#)

The largest offshore wind order in Taiwan, China

Taiwan

- In October, 2022, Siemens Gamesa signed an agreement with Hai Long Offshore Wind Project.
- Siemens Gamesa will supply 73 SG 14-222 DD offshore wind turbines for the project through the expansion of the offshore facility in Taichung.
- Siemens Gamesa will also provide offshore wind transportation and O&M services for the three Hailong offshore wind farms for a 15-year contract, with the option to extend the partnership to 20 years.







We are driving innovation with our partners

R&D net spending
~ €1.1bn¹

Employees in R&D
4,300¹

Global Innovation Centers

to drive partnerships & co-creation:

-  Orlando, United States of America
-  Berlin, Germany
-  Abu Dhabi, United Arab Emirates
-  Shenzhen, China

Key R&D partners

10 of the top 25 world-ranked universities²

22 Start-ups through [Siemens Energy Ventures](#) (external/internal)

↖ [Siemens Energy Ventures](#)

1. FY 2023 | 2. QS World University Rankings by Subject 2022: Engineering & Technology





› Innovation Center Shenzhen (ICS)

Helping China realize a green and low-carbon transition

- To help China achieve a green and low-carbon energy transition, Siemens Energy set up ICS in 2021, and established Siemens Energy (Shenzhen) Ltd. in 2022. ICS is one of the four global innovation centers of Siemens Energy.
- Focusing on R&D and the development of innovative business, the innovation center aims to develop into a new research and development center with open collaboration and Industry-University-Research cooperative development by focusing on three main areas in energy transition, namely energy storage, Power-to-X and smart energy.

Powering the first low-carbon hotel of Songtsam Group

Nyingchi

- As the green energy technology partner of Songtsam Group, Siemens Energy implemented a low-carbon energy system solution for Songtsam Basomtso Linka hotel. The system includes various technical features such as green power, green oxygen supply, clean energy supply, and long-time energy storage.
- After applying this solution, the hotel can have one million kWh of traditional energy consumption be replaced per year on average, which is equivalent to the reduction of 1,080 tons of carbon dioxide emissions.
- The project applied the Siemens Energy Omnivise T3000 microgrid control system in China for the first time.



Our people are our most important asset

96,000 colleagues working in over 90 countries¹

28% women in top leadership positions²

€80m were invested in continuing education in FY 2023

~2,100 trainees and working students in Germany alone

1. Status: September 30, 2023

2. In our former reporting segment Gas and Power, as of September 30, 2023

[To our job portal](#)



is a business opportunity and a core part of our strategy

Highlights within our Sustainability Program

- **Decarbonization** approach along the entire value chain with good progress against our targets achieved
- In fiscal year 2023, we surpassed our FY25 target of 25% women in top leadership positions (w/o Siemens Gamesa)
- New sustainability focus areas identified in 2023, highlighting the most relevant material topics for Siemens Energy
- **Societal engagement** initiatives continue to focus on driving the energy transition, access to education and sustaining communities.

Sustainability is integrated in business decisions

- Regular **progress review** in Executive Board and Sustainability Council
- ESG component in senior management **long-term incentives**
- ESG criteria for **R&D allocation** and portfolio strategy
- €100 **CO₂ price** in infrastructure investments

↖ Sustainability at Siemens Energy



is underpinned by ambitious targets



Climate-neutral

in own operations by 2030

FY 2023
59% reduction¹



100% green electricity

in own operations by 2023

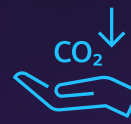
FY 2023
100%



Downstream emissions

28% reduction of emissions from sold products by 2030 as approved by SBTi

FY 2023
27% reduction¹



Upstream emissions

30% reduction of emissions by purchased goods & services by 2030²

FY 2023
19% reduction¹



Gender equality

25% women in top leadership positions³ by 2025 and 30% by 2030

FY 2023
28%³



Zero harm

Total Recordable Injury Rate for employees and contractors⁴

FY 2023
2.67

We honestly disclose progress:

[Our Sustainability Report 2023](#)

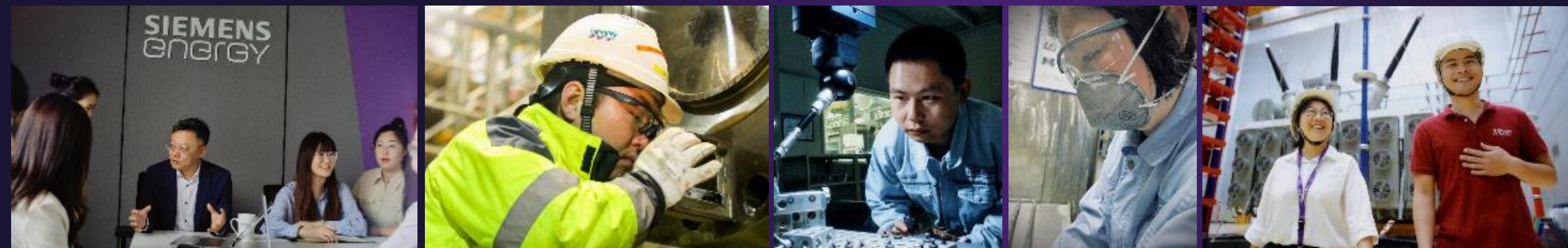
Transparency is honored by ESG ratings:



1. From a 2019 base | 2. Includes transportation and distribution | 3. Without Siemens Gamesa | 4. Total Recordable Injury Rate: Number of recordable injuries x 1,000,000/work hours performed



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Thank you!

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