

Siemens Energy USA – Corporate presentation

2023





A successful energy transition requires to balance

**affordability, reliability,
and sustainability.**

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

~ 1/6

of global electricity generation
is based on our technology.

92,000

employees work as a team
to energize society.¹

We are present in

> 90 countries.

We invest over

\$1bn annually in
research and development.

¹ Number of employees as of September 30, 2022





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.

We focus on

5 fields of action to shape the energy world of tomorrow

Find out more

Decarbonized
Heat and Industrial
Processes



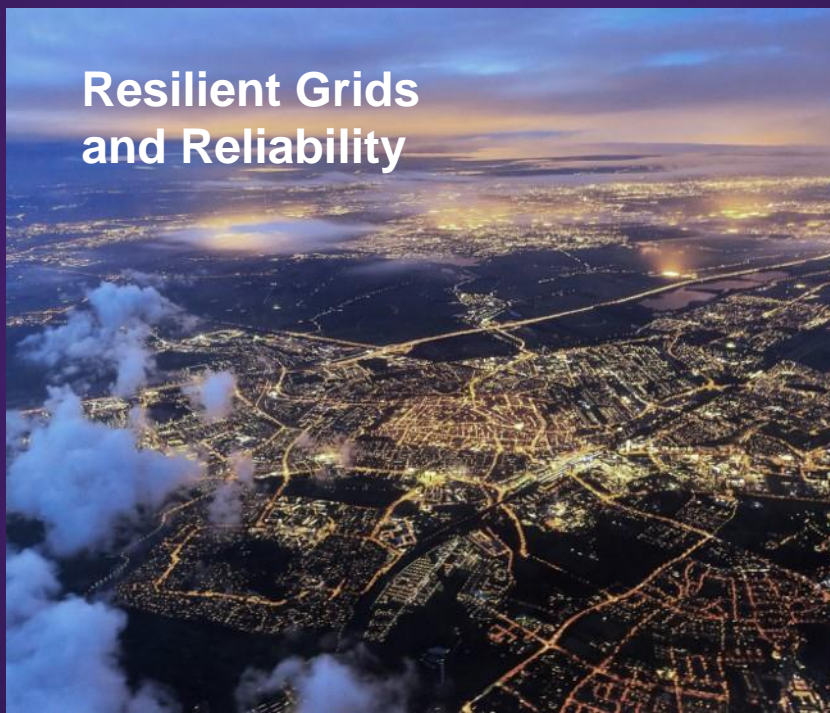
Energy Storage



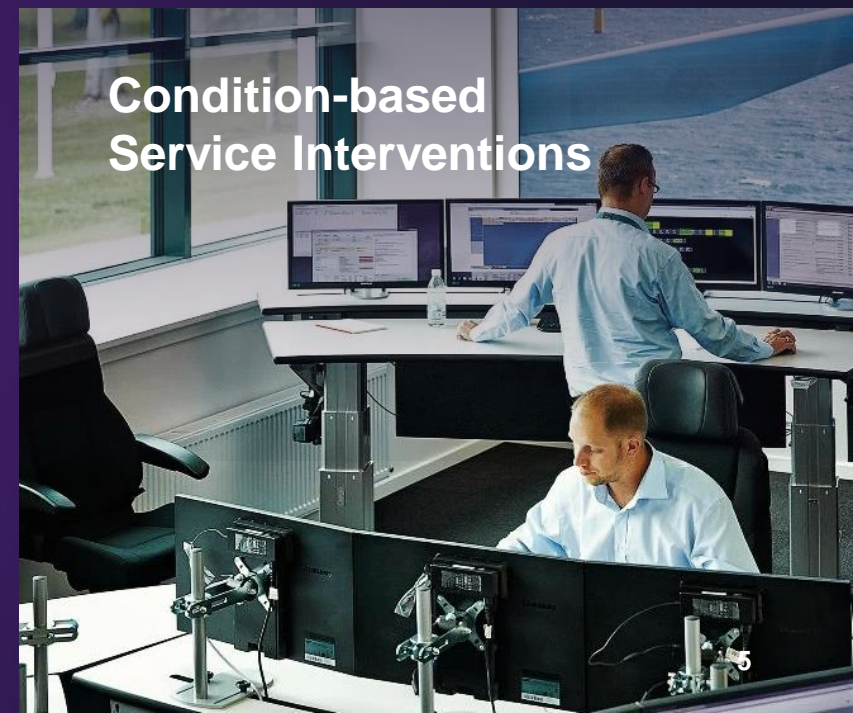
Power-to-X



Resilient Grids
and Reliability



Condition-based
Service Interventions



U.S. Presence – A Fully Integrated, Full-Service Partner and Driver of the Energy Transition

SIEMENS
ENERGY



24% of total US
Generation capacity



100+ years in the US



\$1.5B spent with US
suppliers annually



20M US homes powered
by Siemens Gamesa
renewables



4,900+ US suppliers



\$7.8B Transmission
equipment installed in the
US in last 10 years

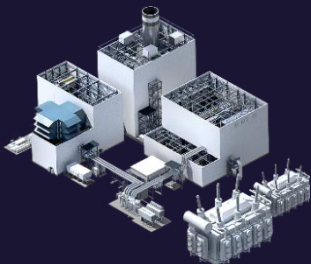
Organizational Structure



Rich Voorberg
President, North America



Scott Luzzi
Vice President, Finance



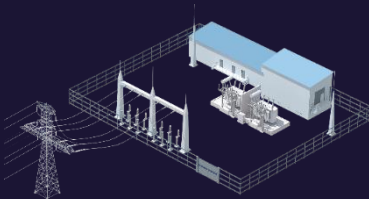
Gas Services

- Large and industrial gas turbines
- Large steam turbines
- Large generators
- Heat pumps
- Modernization and upgrades



Transformation of Industry

- Sustainable Energy Systems
- Compression
- Electrification, Automation and Digitalization
- Steam Turbines and Generators



Grid Technologies

- Decarbonized
- Digitalized
- Resilient

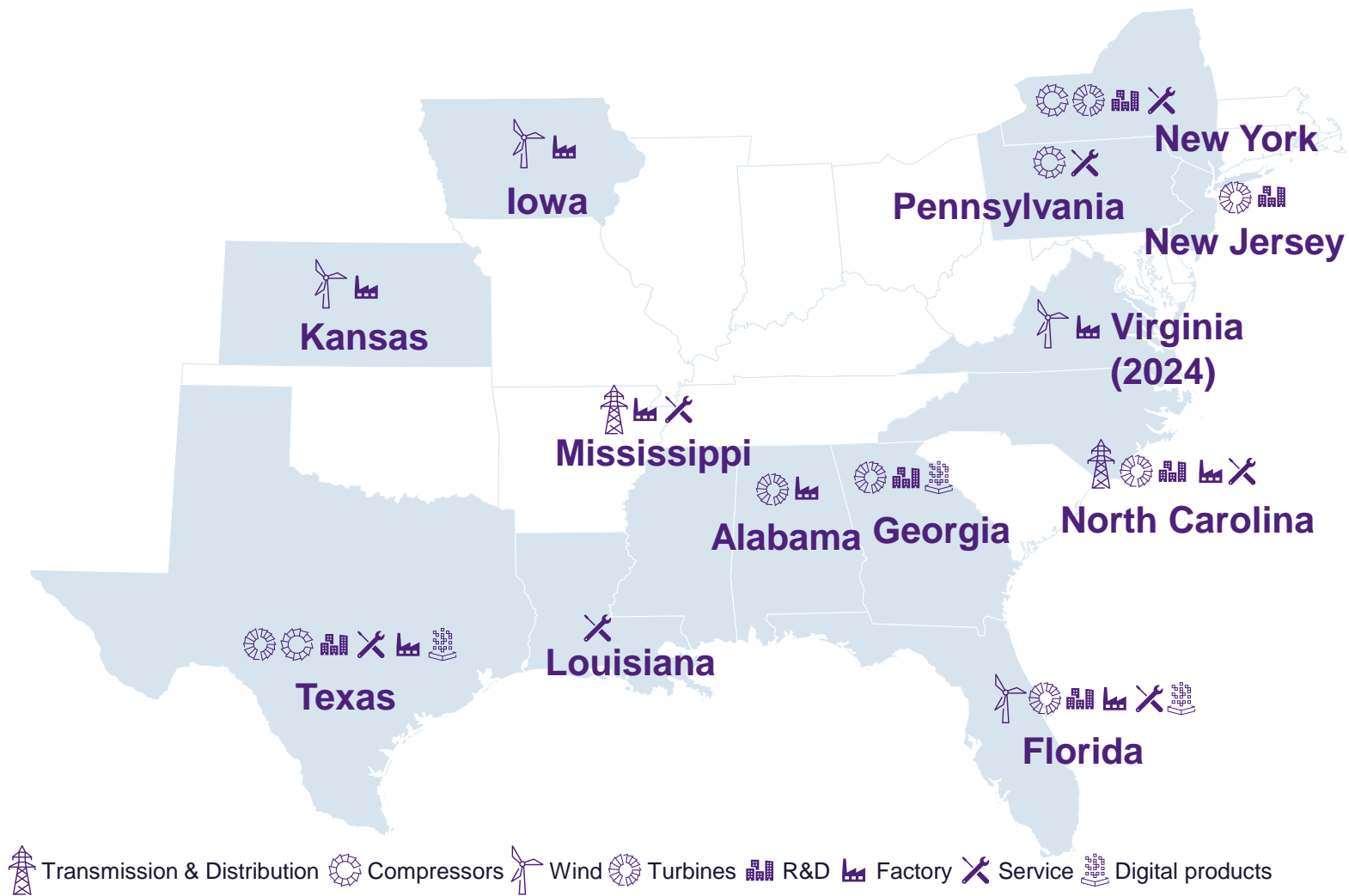
Siemens Gamesa Renewable Energy¹

- Onshore Wind Turbines
- Offshore Wind Turbines
- Service Wind

CEO Functions

- Legal & Compliance
- HR
- IT
- Communications
- Government Affairs

¹ ~ 98% ownership, managed through SGRE Board of Directors



USA - Full Value Chain

- Orlando, Gibsonton and Casselberry, FL**
Home to the FAST Logistics Center, engineering, manufacturing and lab support for power generation testing in addition to Wind R&D, service center Gibsonton is home to Advanced Airfoils Components, where we manufacture blades and vanes for our gas turbines.
- Charlotte, Winston-Salem and Raleigh, NC**
Specializes in manufacturing, engineering, business development, project management and services for Transmission & Power Generation equipment
- Houston, TX**
Provides assembly & tooling as well as engineering support for turbines, ventilators, compression solutions, power plant solutions
- Olean, Painted Post, NY**
R&D and service for gas / steam turbines & compressors
- Mount Pleasant, PA**
Home to large scale turbine and generator services, including maintenance, repair and modification
- Fort Madison, IA**
Manufacturing for Wind turbine business
- Richland, MS**
Transmission & Distribution manufacturing of our circuit breakers, arresters and voltage regulators
- Alpharetta, GA**
Specializes in instrumentation, controls and electrical solutions for power generation management
- Hutchinson, KS**
Manufacturing for Wind turbine business
- Fort Payne, AL**
Manufactures electrical components for generators including stator bars, copper components and fabricated products

Headquartered
Orlando, FL

- Offices and facilities across the region, including > 20 production & service repair sites
- Approximately 11,300 employees
- 500+ armed service veterans

Note: Excludes small sales office or manufacturing / service locations with < 50HC (~10 in total); All HC numbers are approximate

Major Canadian facilities

Calgary, Edmonton, Alberta

- Dresser Rand (Service center)

Ontario

- Scarborough (Trench coils - Transformers)
- Sarnia (Dresser Rand service center)
- Trench factory (Instrument transformers, bushings, coils)

Montreal, Trois-Rivières, Quebec

- Trois-Rivieres factory (Amorphous core Transformers)
- AGT Factory and Office (Aeroderivative gas turbines)

Mount Pearl, Newfoundland

- Office and Service center



Headquartered
Oakville, ON

- Approx. 1,700 Employees nation-wide
- 4 Factory Locations in multiple Provinces
- Offices/Warehouses from coast to coast

We are driving innovation with our partners

R&D net spending





~ €1.1bn¹

Employees in R&D

5,300¹

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

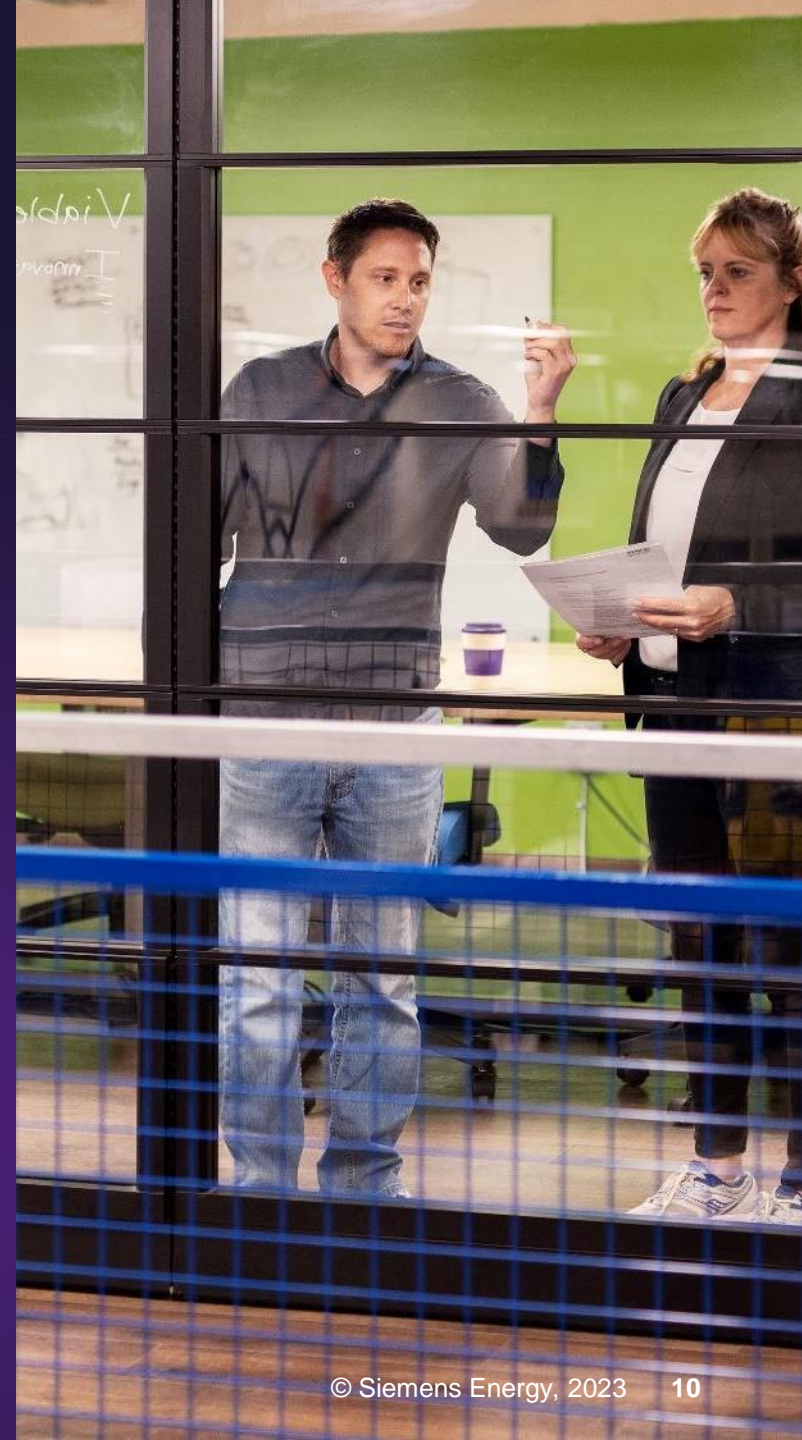
22 Start-ups through [Siemens Energy Ventures](#) (external/internal)

↗ Siemens Energy Ventures

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

August 2023

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Our lab for creating the future

Innovation Center - Orlando

Shaping the future

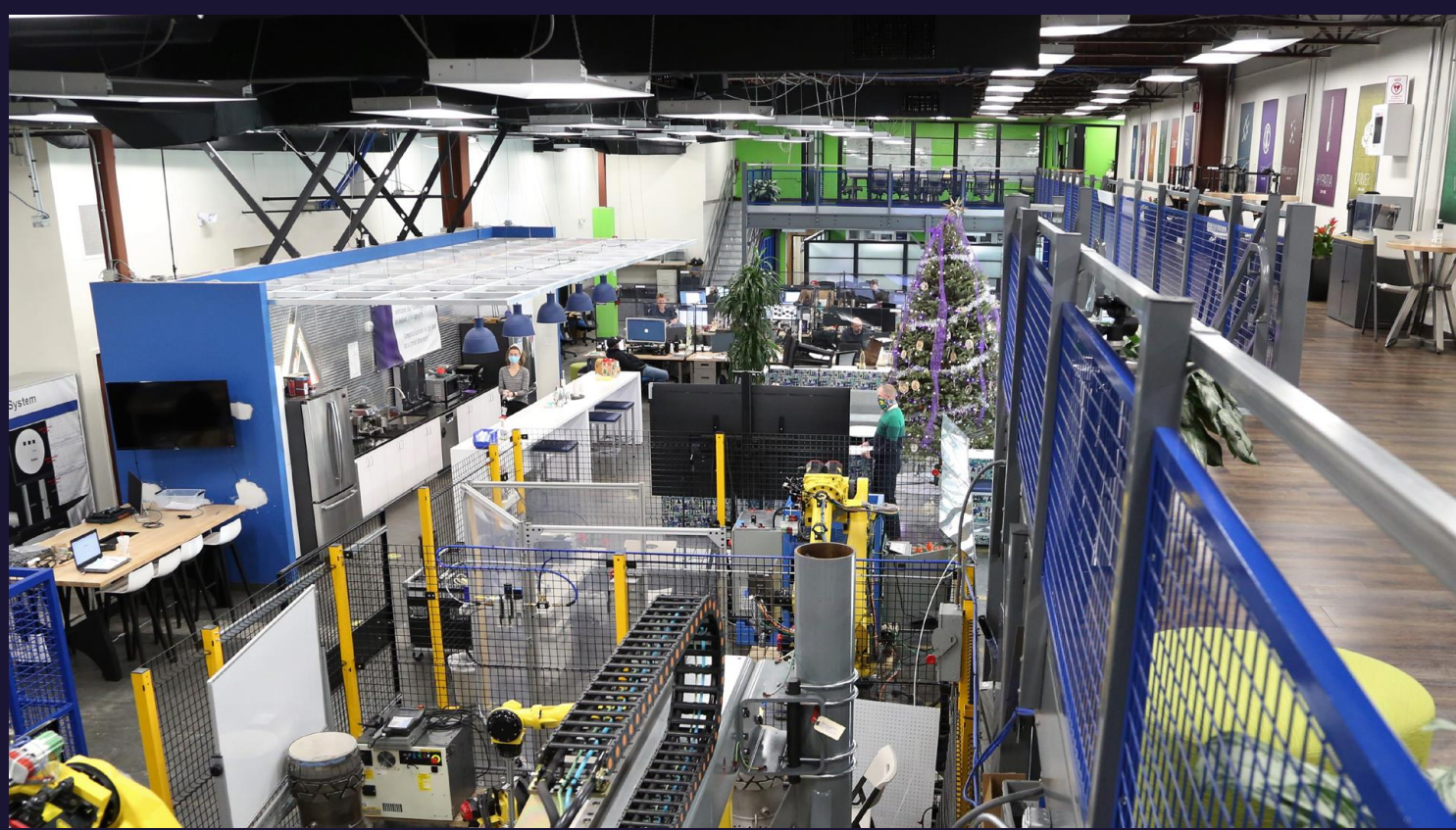
- A 30,000 sq ft. creative workshop in Orlando, Florida.
- Complete product development for customers as well as Siemens Energy—from design to simulation and from production of prototypes to tests.

Equipment:

Industrial robots, 3D scanners and printers, electron microscopes, precision machine tools (3-axis and 5-axis CNCs).

Successes:

Development time shortened from 6 months to 6 weeks; automation reduced production time to one quarter of time needed for manual production.



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 Renewable Energy



Transport and storage of energy

- Grid Technologies



Reducing GHG emissions and energy consumption in industrial processes

- Transformation of Industry

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**.

Our offerings

- Increasing electrification and efficiency are key and demand for green H₂ and derivative fuels will rise.
- 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

➤ Transformation of Industry in action

Installing the world's first integrally geared hybrid liquefaction train

Charlton

Massachusetts, U.S.

- The hybrid drive system will combine a Siemens Energy low-emissions industrial gas turbine, integrally geared compressor, and electric motor-generator to ensure stable and efficient operation of the plant's main refrigeration/liquefaction train throughout the year while slashing emissions, improving efficiency and reducing cost.
- Expected to produce a baseload of 170,000 gallons of LNG per day for Boston gas and up to 250,000 gallons per day to other utilities.
- The plant has an onsite LNG storage capacity of 2 million gallons and will be available for delivery by truck and used as a feedstock for utility distribution companies and power generation facilities.

➤ [Learn more](#)





> 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.
- Decarbonization of heat generation with unique heat pump innovations in high temperature and high MW segment.

[Visit the website](#)

Company Presentation

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Ramping up when renewables take a break

Charlotte

North Carolina, U.S.

- The gas-fired Lincoln Combustion Turbine Station, built for energy provider Duke Energy, ensures a stable supply of electricity when power from solar generation is not available.
- The installed heavy-duty HL-class gas turbine can reach full capacity within minutes. Innovative simulation was used in its design and material development to account for the extreme stresses caused by quick starts and to ensure durability.
- Its high performance earned two GUINNESS WORLD RECORDS™ titles, for the most powerful simple-cycle gas power plant and for the world's fastest ramp-up rate by a 60Hz gas turbine power plant.
- Combining sensor data with Artificial Intelligence during testing helped to optimize design and maintenance, and enabled condition and dispatch simulations, resulting in reliable, efficient, and flexible power for the future.

➤ Learn more





> 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](#)

Company Presentation

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Connecting New York's first utility-scale offshore wind farm to the grid

New York State

United States

- First offshore HVDC grid connection project in the U.S., deploying a technology that will reduce transmission losses over long distance.
- Green energy for nearly 600,000 homes in New York State.
- Sunrise Wind will support New York's goal of 100% clean electricity by 2040.
- To date, Siemens Energy has connected the offshore grid to the mainland 21 times, bringing more than 12 gigawatts of wind power to households in Europe.

🔗 Learn more



A leading position along the entire spectrum of wind

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.
- Siemens Gamesa turbines generate more than 127 GW of wind power all over the world – enough clean energy to power 117 million households.
- 335 million tons of CO₂ are avoided each year through installed wind turbines from Siemens Gamesa, compared to fossil fuel power generation.
- Service provided for more than 82 GW of installed capacity – on site or through digital and remote solutions.

¹ Source: Global Wind Energy Council

🔗 Visit the website

Three business units strongly positioned in the market



Onshore



108 GW

installed since 1979

The **technological partner of choice** for onshore wind power projects.



Offshore



22 GW

installed since 1991

Most experienced offshore wind company with the most reliable product portfolio in the market.



Service



83.5 GW

maintained

Commitment beyond the supply of the wind turbine **to reach profitability goals.**

Our Strategy

Digitalization as a value driver

Siemens Energy digitalizes the energy transformation – effectively, efficiently and securely.



New digital revenue

We create new revenue streams by offering advanced digital solutions seamlessly **across our product range**

Example:

Omnivise offering

Cybersecurity

Asset digitalization, Sensproducts™

Grid automation

SIEAERO – digital service for power line inspection

Grid simulation



Increasing the value of our offering

We combine our **domain expertise** with our **digital expertise** to differentiate our value and offerings **for our customers**.

We **automate** our internal processes and build the necessary digital **infrastructure to react to rapid changes** of the digital world

Example:

Remote Services

Intelligent Asset Performance

Digitalized outage processes

Zero Harm

Employer with a vision

Our three principles

Zero incidents – it's achievable!

We take care of each other!

No compromises on health and safety!

Our employees are our greatest asset. It is why we want every single Siemens Energy employee to be able to **rely on a safe working environment at all times.**



is a business opportunity and a core part of our strategy

Highlights within our Sustainability Program

- **Decarbonization** approach along the entire value chain
- We strive for maximum **circularity** in all our products and processes
- **Health and safety** management anchored in EHS policy and certified to ISO 45001
- **Societal engagement** initiatives 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

We honestly disclose progress

Annual disclosure of progress in our **Sustainability Report**:

➤ [Our Sustainability Report 2022](#)

Transparency is honored by **ESG ratings**:



Our Sustainability Program is underpinned by ambitious targets

Decarbonization

- **Climate-neutral** in own operations by 2030
- Aspiration of **Net zero value chain** in line with 1.5°C
- **2030 targets:** -30% greenhouse gas (GHG) emissions per Euro spent (vs. 2018) and -28% GHG emissions from products sold (vs. 2019)

Gender diversity

25% by 2025 | 30% by 2030

(share of women in top leadership positions)

Safety

Safety leader in our industry through the activities launched within our “**Zero Harm**” program

Compliance

Zero tolerance towards corruption, violations of the principle of fair competition, and other breaches of law



A collage of 20 images showing Siemens employees in various roles and settings. The images are arranged in a grid-like fashion, with some larger and some smaller. The top left shows a group of five people in a meeting, with a man standing and pointing to a whiteboard. The top right shows three people in a factory setting, with one wearing a yellow hard hat. The middle left shows three individual portraits of employees. The middle right shows a large image of a worker in a white hard hat and safety harness working on a large industrial machine. The bottom left shows four individual portraits of employees. The bottom right shows three images of employees in a factory setting, including one working on a large machine and another with arms crossed. The images depict a diverse range of Siemens employees, from office workers to factory floor technicians, all engaged in their work.

colleagues working
in over 90 countries¹

women in top leadership positions²

were invested in continuing education in FY 2022

trainees and working
students in Germany alone

2 In our former reporting segment Gas and Power, as of September 30, 2022

August 2023

Societal Engagement



Access to Education

Promote Stem and Climate Education
(targeted at under-represented demographics)



Driving Energy Transformation

Support clean Energy
R&D and projects



Sustaining Communities

Disaster Relief
(esp. related to electricity supply)

80% of donations in 2022 will support these three areas, while 10% will support the causes important to our customers and partners and 10% will support activities in local communities where we have operations.





We energize society



Thank you!

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[siemens-energy.com](https://www.siemens-energy.com)

Siemens Energy on social media:

