



Sustainability at Siemens Energy

Summary of the Sustainability Report 2023



Climate neutral: Delivering on our commitments



The energy sector has the greatest levers – and a prime responsibility – for decarbonization. To support this, we have set ourselves ambitious targets across the entire value chain; this includes the aim to be climate neutral in our own operations by 2030.



Our Climate Neutral Program is part of our commitment to decarbonization across the entire value chain. We are working hard to reduce emissions within our own operations. Every ton of emissions counts.

The goal of the CNP is to become climate neutral in Siemens Energy's own operations by 2030. The interim goal is to reduce absolute Scope 1 and 2 greenhouse gas emissions – according to the Greenhouse Gas Protocol – by 46% by 2025, compared to 2019. The integration of Siemens Gamesa into the CNP is ongoing.

Aiming at quick wins

Achieving climate neutrality in our sector and in a company of our size is an ambitious undertaking. Naturally, we started with where we could achieve rapid implementation and impact. The switch to green power was obvious. The challenge was the global scope, requiring collaboration between the Business Areas, our countries of operation, real estate, procurement divisions, and the global sustainability team.

The urgent call for more energy efficiency has struck a chord within the company. Saving primary energy makes good business sense, especially in times of rising costs. In fiscal year 2023, we managed to reduce our primary energy by 15% due to reduced testing of gas turbines, energy efficiency measures, and consolidation of locations.

The program's levers are:

- **Using renewable electricity:** In fiscal year 2023 (i.e., by September 30), we achieved our target of 100% of our electricity consumption coming from renewable sources – globally.
- **Reducing energy consumption and increasing electrification:** We aim to reduce the consumption of primary energy and have energy efficiency projects in place at various locations for buildings and process optimization.
- **Reducing SF6 emissions:** With our Blue Portfolio, we have set ourselves the target to reduce our SF6-related emissions by 60% by 2030 compared to a 2019 baseline.
- **New mobility concepts:** We are aiming for 100% CO2-neutral benefit cars by 2030 by implementing our car policy globally.

In 2023, we have achieved a reduction of emissions of CO₂ equivalents (CO₂e) of about 59% in Scopes 1 and 2 against 2019. This means we reached our milestone for 2025 two years earlier than anticipated. For more information on our achievements, see the [Decarbonization chapter in the Sustainability Report 2023](#).

Austria: Efficiency gains save energy

To advance our Climate Neutral Program, the Siemens Energy power transformer site in Linz (Austria) is following a clear path to decarbonization. "We started two years ago by analyzing where our highest levels of CO₂ emissions were," explains Stefan Mehrl, Location Manager at the Linz factory. "This led to a switch to electric process heating called "power-to-heat" to replace natural gas. Furthermore, we have executed various energy efficiency projects, including window adjustments, a partial conversion to LED lighting, changed hall lighting



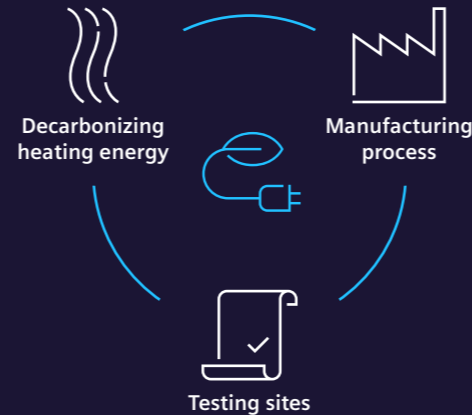
times, and the installation of a photovoltaic system." This PV system covers approximately 30% of the site's electricity demand, and two further phases of installation are planned. "More recently, we focused on the ventilation system for the production areas for insulating parts and winding," Mehrl continues. "Our solution is night and weekend programs, reducing ventilation at times when it is not needed. This enabled us to save a third of the electricity required in the relevant areas." The workforce has also learned about energy-saving measures and was encouraged to contribute and get updated on progress and results. For its energy efficiency measure of optimizing the ventilation system in the workshop in Linz, Siemens Energy received the 2023 "klimaaktiv" award from the Austrian Ministry of Climate Protection.

Bigger challenges ahead

But the work has only just begun – it will get harder to significantly reduce our emissions the closer we get to climate neutrality. We are continuing to invest in infrastructure, including energy-saving measures, decarbonizing heating energy, and strategically looking into various options to decarbonize manufacturing processes and testing sites. Our Business Areas are initially focusing on their respective top-ten emitting sites, covering approximately 60% of the emissions. They are working closely with the real estate department to implement decarbonization measures and upgrades. In parallel, operations at country level are investigating measures relating to the car fleet and logistics.



Energy-saving measures



Our Business Area Grid Technologies (GT) faces a particular challenge in reducing leakages of sulphur hexafluoride (SF_6), a greenhouse gas with a global warming potential 23,500 times higher than CO_2 that makes up more than 50% of the Scope 1 and 2 emissions. The gas is used in cylinder-shaped insulators in high-voltage switchgears, where leakages can occur. Now we are in the process of moving to an SF_6 -free Blue Portfolio, based on technical air insulation and vacuum switching technology. Our aim is to reduce our SF_6 -related emissions by 60% until 2030, compared to 2019 levels. In fiscal year 2023, we achieved a reduction of 57% compared to the base year and of 11% compared to fiscal year 2022.

With all these measures combined, and even more to come, we aim to continue to deliver on our target to become climate neutral by 2030 step by step.

Brazil: Carbon fee funds journey to net zero

Carbon pricing can be an effective instrument to incorporate the external cost of climate-related damage into the prices of products and services. As a company measure, defining a virtual price per ton of greenhouse gas emissions creates an incentive to lower emissions. This contributes to a more realistic picture of the cost of investments by considering potential damage that an investment can cause in the long run. As part of our Climate Neutral Program in Brazil, we have attached a fee to the emissions of CO_2 equivalents (CO_2e) arising from the manufacturing of our products (Scopes 1 and 2). The Business Area raises funds that are reinvested to provide capital for our journey to climate neutrality. Since fiscal year 2020, the scheme has gathered some €356,000, which we are investing in eight projects, saving around 650 tons of CO_2e . Employees are encouraged to submit project ideas that contribute to emission savings and low abatement costs. Projects are selected based on potential savings. One example is our investment in high-efficiency motors, replacing the electric motors of exhausters, vacuum systems, air conditioners, air compressors, fan coils, and older production equipment with more efficient, economical motors, leading to energy savings and a less negative environmental impact. 60 such motors have been selected for replacement in three waves until fiscal year 2024, with the total investment of about €100,000 financed through the internal carbon fee. On average, each replaced motor contributes to 8.5% of energy savings, with the scheme expected to avoid 57 tons of CO_2e per year and recover some €195,000 of savings within ten years.

Company overview

At Siemens Energy, our mission is to support our customers in transitioning to a more sustainable world based on our innovative technologies and our ability to turn ideas into reality. Our goal is to become the world's leading energy technology company with a focus on sustainability.

Our portfolio, extensive energy experience, and ambitious strategy to decarbonize global energy systems are all central to our efforts to be a valued partner and driver of the energy transition. Siemens Energy is one of the largest suppliers of technology in the energy and electricity sector, serving the entire scope of the energy market.

With our broad portfolio of products, solutions, and services, we cover almost the entire energy value chain – from low- or zero-emission power generation, transmission, and storage to reducing greenhouse gas (GHG) emissions and optimizing energy consumption in industrial processes, complemented by a wide range of training and service offers. This portfolio allows us to address the different speeds at which the energy transition is moving forward.

Our company structure

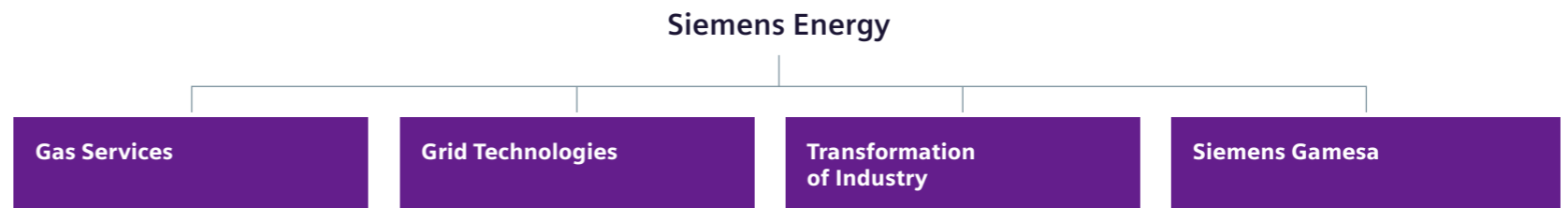
In May 2022, Siemens Energy announced its tender offer to acquire all remaining shares in Siemens Gamesa. The tender offer concluded in December 2022, and following a corresponding purchase order, Siemens Energy held around 98% of Siemens Gamesa shares. In June 2023, the minority shareholders of Siemens Gamesa approved a capital reduction, thus paving the way for the company's full integration into Siemens Energy, which now holds 100% of the Siemens Gamesa shares.

Siemens Energy changed its corporate and reporting structure as of fiscal year 2023. As a result, the former Divisions of the reportable segment Gas and Power (GP) have been newly structured into Gas Services (GS), Grid Technologies (GT), and Transformation of Industry (TI), which together with Siemens Gamesa now form the four Business Areas of the Siemens Energy Group.

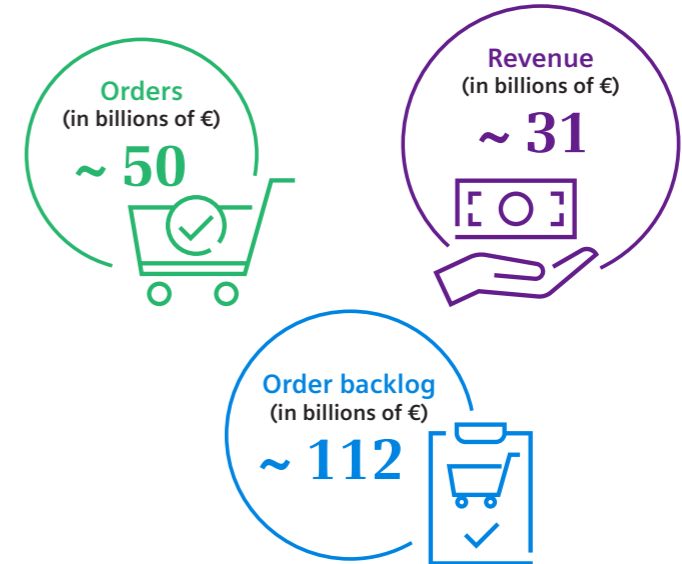
You can find more information on our set-up in the [Sustainability Report 2023](#).

As of September 30, 2023, Siemens Energy employs about 96,000 people in more than 90 countries worldwide.

Our company structure



Key financial indicators



Strategic focus

Our world is facing an ever-increasing need for a reliable and affordable energy supply to support economic development and ensure stable societies. At Siemens Energy, we believe innovative technologies are the key to combating climate change.

With our portfolio that spans the energy value chain as well as with our global setup, we are in a unique position to shape the energy transition and support global development toward net zero. However, to achieve this, it is key that we set the course today to be prepared for the future.

We will continue our journey toward a sustainable portfolio that will drive profitable growth for our company. Based on our three strategic pillars that are fundamental to achieving this goal, we are continuously developing new products and technologies that have either zero emissions or significantly lower emissions than comparable technologies. We focus on the following levers:

- Expand renewables
- Transform conventional power
- Strengthen electricity grids
- Drive industry decarbonization
- Secure supply chains

Our strategic pillars

We focus on building our company based on three strategic pillars:



Low- or zero-emission power generation



Transport and storage of electricity



Reducing GHG footprint and energy consumption in industrial processes

Our Sustainability Program is integrated into our company strategy. The program is structured around topics that help us to contribute to the most relevant Sustainable Development Goals (SDGs) and be a sustainability

leader in the industry. The SDGs and their related targets are fostering a new understanding of how economic development can be reconciled with social and environmental challenges. To ensure our efforts have the biggest impact, we focus our activities on SDG 5, 7, 8, 9 and 13.

At the core of our Sustainability Program is the goal to decarbonize energy systems along the entire value chain. With our commitment to responsible operations, we are also leveraging Siemens Energy's societal impact. Our ESG rating results show that we are continuously improving our performance. You can find more information on our ambition and program in the [Sustainability Report 2023](#).

Our businesses, regional entities, and central functions are responsible for implementing the Sustainability Program. Major achievements and examples from the businesses are highlighted on the following pages.

Our Sustainability Program

We energize society



Decarbonizing our business

- Decarbonized supply chain
- Climate-neutral own operations
- Net zero products, services, and solutions



Responsible operations

- Occupational health & safety
- Inclusion & diversity
- People development
- Employee engagement
- Product stewardship
- Conservation of resources
- Compliance & integrity
- Human rights
- Societal engagement



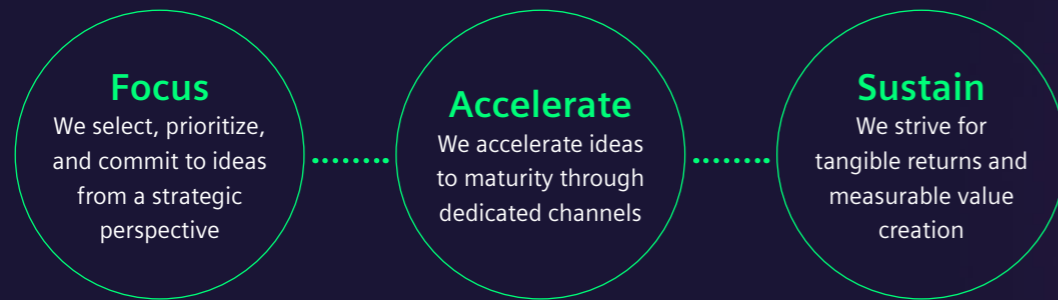
Sustainability performance highlights

Customers and innovation

Innovation is key to creating the future. We value co-creation and partner with our customers to decarbonize energy systems.

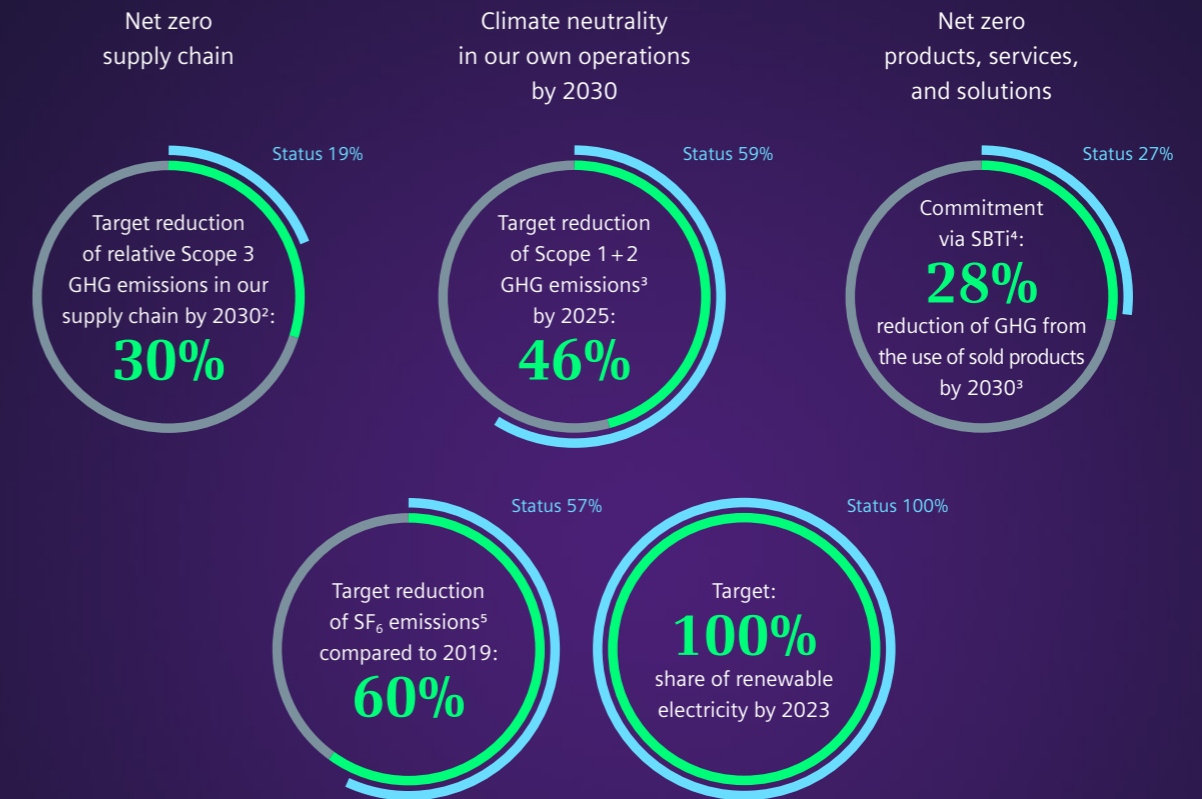


Innovation is the core of our business. Our simple, fast, and unified approach to R&D has three elements:



Decarbonization

Our strategy to decarbonize global energy systems is based on our aspiration to reach net zero across the entire value chain, in line with the 1.5°C target.



¹ Index measuring willingness of customers to recommend a company's products or services to others, Siemens Energy (excluding Siemens Gamesa).

² kg CO₂e/€ PVO spent, base year 2018. ³ base year 2019. ⁴ SBTi = Science Based Targets initiative, Siemens Energy (excluding Siemens Gamesa). ⁵ Target year 2030.

Selected examples for innovation and decarbonization



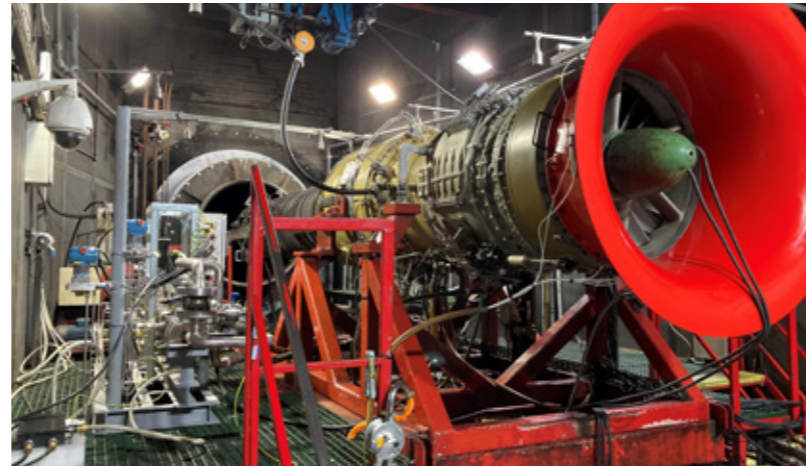
Siemens Energy transformer factory in Nuremberg.

Green steel production

Producing steel is an energy-intensive and climate-impacting process. Pioneering steel producers in Europe are investing in Green Steel, using an electric arc furnace instead of a coal-fired furnace and hydrogen as a reducing agent. Siemens Energy is supplying substations with transformers and switchgear to Salcos and Feralpi Stahl to power their electric arc furnaces in the steel rolling mills. Feralpi Stahl has chosen our F-gas-free switchgear, eliminating the use of SF₆. Siemens Gamesa is also looking to utilize more sustainable steel in its GreenerTower, which consists of approximately 80% steel plates. The new GreenerTower will lead to a CO₂ reduction of at least 63% in the tower steel plates compared to conventional steel, while maintaining the same steel properties and quality.

Transforming the oil & gas sector with bio-methanol

Siemens Energy and The Net Zero Technology Centre (NZTC) have showcased an SGT-A20 gas turbine running on 100% bio-methanol. The world's first test of its kind, conducted in February at the RWG test facility in Aberdeen, demonstrated that methanol is a viable alternative fuel. The demonstration test showed a reduction in NO_x emissions of 80% as well as a reduction in CO, SO_x and the elimination of smoke in the exhaust. There are various forms of methanol where bio-methanol reduces CO₂ emissions by up to 75% (compared to a diesel baseline) and e-methanol is carbon neutral. The SGT-A20 test demonstrated a retrofittable solution to enable the use of methanol as a low-carbon alternative fuel in the offshore oil and gas industry. By modifying existing assets and testing innovative technologies and fuels, we believe there is potential to transform the existing oil and gas sector, protect and create jobs, and show that immediate changes can reduce emissions.



Gas turbine powered by a hundred percent methanol.



Gas turbine maintenance at the Donaustadt power plant.

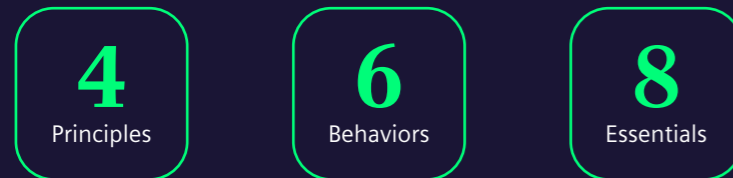
Enabling the co-firing of hydrogen in gas-run power stations

The German utility company EnBW and Siemens Energy are jointly developing the use of green hydrogen as a climate-friendly fuel in future power plants. One pilot project we regard as important is the EnBW district heating power plant in Stuttgart-Münster, where natural gas is expected to initially replace coal in approximately three years. All systems are constructed from the very beginning to allow natural gas to be replaced with hydrogen as quickly and completely as possible. Two SGT-800 gas turbines from Siemens Energy are at the heart of the installation. We estimate that green hydrogen will be available in sufficient quantities within ten to twelve years. Similarly, one of Austria's largest gas turbines was in the process of being rebuilt on the site of the Donaustadt power plant in the reporting year. Before the end of fiscal year 2023, the consortium of Wien Energie, RheinEnergie, Siemens Energy, and Verbund plans to add hydrogen for power generation for the first time as part of an operational trial. The trial will be the first of its kind in the world at a commercial combined-cycle gas turbine plant in this power class.

Sustainability performance highlights

Zero Harm Framework

We promote a strong Zero Harm culture that aims to prevent injuries and adverse effects on people and the environment.



Occupational health and safety

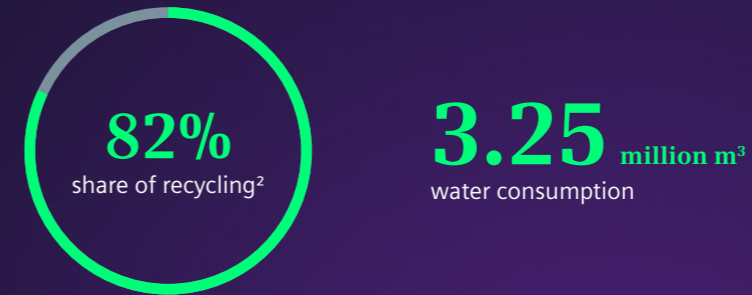
Providing a safe and healthy working environment for all employees, partners, contractors, and suppliers is our utmost priority.



¹ Number of recordable injuries (TRI) x 1,000,000/work hours performed.

Conservation of resources

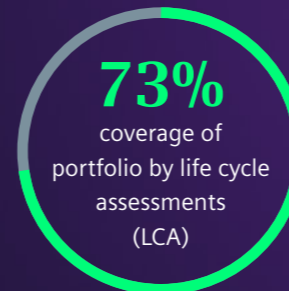
We aim to minimize our impact on the environment. Our environmental management systems are founded on the principles and elements of the international ISO 14001 and ISO 50001 standards or energy audits.



² Excluding construction and other waste.

Product stewardship

Our approach to product stewardship includes all environmental aspects, with a strong focus on climate change adaptation and resource efficiency.



Selected examples of responsible operations



Setting an example for health and safety in the workplace.

Zero Harm Champions League

The Zero Harm Champions League was announced on Zero Harm Day and is designed to recognize teams that demonstrate outstanding performance in one or more of the Zero Harm Behaviors or Essentials. A total of 300 teams applied, and this fiscal year, 14 teams were selected to join the champions league based on their deep commitment to health, safety, and environmental practices in their daily actions. The winners were personally congratulated by Siemens Energy's board members and shared their best practices and lessons learned with other teams across the organization.

Sustainable balsa wood as a core material for wind turbine blades

To reduce the environmental impact of wind turbine blades, Siemens Gamesa is exploring the use of balsa wood in the structural core of their blades. Balsa wood is classified as hardwood, and it is light and adaptable. These properties make it ideal for many applications including wind turbine blades, marine, and other mobility applications. Balsa wood is fast-growing and does not require the use of fertilizers or other added resources, so, like bamboo, it can be grown more sustainably. In Central America, where it is native, balsa wood is self-sowing in sometimes inconvenient spots. Balsa can therefore be grown and harvested with little environmental impact. Siemens Gamesa's goal is to purchase balsa wood that has been responsibly sourced to fight illegal logging. The suppliers used are required to be certified by the Forest Stewardship Council, DNV-GL, or similar schemes, have signed our Code of Conduct, and are monitored regularly.



Reducing the environmental impact of wind turbine blades.



Installation of flexible photovoltaic film modules on Nuremberg power transformer factory.

Green factory in Nuremberg

The Nuremberg power transformer factory has installed a highly innovative solar system on its exterior façade. The flexible photovoltaic modules are made from 2 mm thin hydrocarbon-based materials that are ultra-lightweight. The flexible film has the world's lowest carbon footprint and can be thermally recycled at the end of its life cycle. The use of the photovoltaic film opens up new possibilities for utilizing additional areas on the factory's premises to generate solar power. The site has also established a 12-acre green area for native plants, insects, and small animals on a former sports compound. Smaller and previously unused open spaces have also been converted into flowering meadows, creating a habitat for insects and six bee colonies. The transformer factory bees' blossom honey is a popular gift for our customers.

Sustainability performance highlights

Sustainable supply chain management

We apply stringent environmental and social standards to contribute to a sustainable supply chain.



Human rights

We are committed to ensuring respect for human rights along the value chain within our sphere of influence.



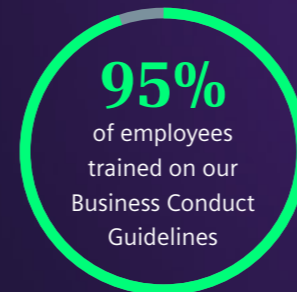
We conduct human rights due diligence for our customer projects.

Compliance & integrity

Our company-wide zero-tolerance approach aims to ensure a strong culture of business ethics and compliance.



Our Business Conduct Guidelines are binding for all executives and employees worldwide.



Working at Siemens Energy

Our People Agenda promotes a thriving environment, game-changing leaders, and a vibrant workforce.

Share of females

in top leadership positions¹
in fiscal year 2023

28%

¹ SE (excluding Siemens Gamesa).

Our target in top leadership positions
by 2025 by 2030

25%

30%

Training hours

12

Total average training hours per employee

Societal engagement

Our global engagement addresses needs in the countries in which we operate.

€ **2.59** million
total donations

Selected examples of responsible operations



Celebrating differences and diversity at Siemens Energy.

Recognition for promoting LGBTQIA+ rights in Mexico

To strengthen the rights of the LGBTQIA+ community in Mexico, the Human Rights Campaign (HRC) Foundation launched the sixth annual "HRC Equidad MX: Programa Global de Equidad Laboral" in December 2022. The program is modeled after HRC's Corporate Equality Index, the premier LGBTQIA+ workplace equality benchmarking survey in the U.S., and aims to evaluate LGBTQIA+ workplace inclusion at major Mexican businesses and multinationals. Siemens Energy received certification and earned top ratings in the 2023 report. This recognition was based on our Proud2bMe strategy to deploy actions specifically to promote inclusion and visibility for the LGBTQIA+ community in our local organization. This includes training, campaigns, safe helplines, and surveys to understand the key challenges the community is facing.

Human rights program in Brazil

Large enterprises contribute to and support local and national development, but they also impact the surrounding population, with children and adolescents being even more vulnerable to these impacts. In Brazil, Siemens Energy (excluding Siemens Gamesa) developed a human rights program in partnership with the Childhood Foundation. The program aims to tackle sexual abuse and the exploitation of children and adolescents living in the communities surrounding major construction sites of Siemens Energy. Siemens Energy Brazil has committed itself to adopting principles and procedures that contribute to promoting and guaranteeing the rights of children and adolescents in Brazil. This includes raising awareness among and providing guidance to employees and third parties on the protection of children and adolescents, performing human rights impact assessments for projects involving construction sites, defining an action plan to prevent and address the sexual exploitation of children and adolescents, and finally, promoting decent working conditions for employees and third parties (guidelines on quality of life, housing, food, leisure, and commuting for workers).



Siemens Energy donates engineering laboratory to the University of Lagos.



Tackling the decarbonization challenge head on.

Decarbonization efforts in the Chinese supply chain

Siemens Energy China is working toward building a sustainable and connected supplier network as part of the global supplier decarbonization program. The procurement teams engaged with and encouraged more than 300 suppliers to implement decarbonization measures, and requested suppliers to increase their green electricity coverage to at least 70%. Proactive measures were taken to communicate with internal and external stakeholders, and a competitive price for green electricity certificates (I-REC) was successfully negotiated for the suppliers' network. In fiscal year 2023, about 52% of the suppliers had implemented decarbonization measures, with the other suppliers continuing to be further monitored. To provide additional support, the team also conducted decarbonization knowledge training, attended by around 130 suppliers.

Digital engineering laboratory for the University of Lagos

Siemens Energy established a state-of-the-art engineering laboratory for students at the University of Lagos, Nigeria, to support their learning in programmable logic controller (PLC) programming. With this investment, we are providing appropriate tools to support future generations in developing the skills necessary to tackle the challenges of energy security and energy transition. To further improve learning and develop better social interaction among students, Siemens Energy also added a calming room environment designed to help students and faculty decompress, destress, and get ready to learn.

Our sustainability performance

Decarbonizing our business

Performance indicator	Unit	2023	2022
Greenhouse gas emissions			
Scope 1+2 emissions			
absolute	1,000 metric tons CO ₂ e	182	215
thereof SF ₆	1,000 metric tons CO ₂ e	32	35
thereof fleet	1,000 metric tons CO ₂ e	25	32
Scope 3 downstream emissions¹			
absolute	1,000 metric tons CO ₂ e	1,098,370	1,252,319 ²
intensity	metric tons CO ₂ e/ € order intake	0.022	0.033
Scope 3 upstream emissions³			
absolute	1,000 metric tons CO ₂ e	9,230	9,182
intensity	kg CO ₂ e/€ PVO spent	0.414	0.451
Energy			
Energy consumption	million gigajoule	5.19	5.80
Share of green electricity	%	100	90

¹ Includes category "use of sold products" only (well-to-tank emissions are included, biogenic emissions have been excluded). Siemens Gamesa's emissions equal zero.

² Fiscal year 2022 emissions were recalculated to reflect the reduction of the expected lifetime for gas and steam turbines in power generation from 30 years to 28 years and an H₂ co-firing project in fiscal year 2022.

³ Includes categories "purchased goods and services" and "transportation and distribution" only. 2022 data was adjusted to include Siemens Gamesa. Due to the partially undefined material codes of the purchasing volume at Siemens Gamesa, approximately 10% of the CO₂e emissions were extrapolated. In fiscal year 2023, 325 kilotons of the 9,230 kilotons CO₂e emissions were calculated using a consumption-based method.

⁴ Excluding Siemens Gamesa.

⁵ Total Recordable Injury Rate: Number of recordable injuries (TRI) x 1,000,000/work hours performed. Recordable injuries are accidents that result in lost time, restricted work, or medical treatment.

Responsible operations

Performance indicator	Unit	2023	2022
Research & development			
Research & development expenses	million €	1,123	1,078
Sustainable supply chain management			
External sustainability audits at suppliers	no.	194	167
Waste			
Waste recycling and recovery rate	%	82	81
Water			
Water consumption	million cubic meters	3.25	3.45
Product stewardship			
Portfolio coverage by Life Cycle Assessments (LCAs)	%	73	72
Employees			
Share of women in overall workforce	%	20	20
Share of women in top leadership positions ⁴	%	28	22
Training hours per employee	no.	12.0	10.3
Occupational health and safety			
Total Recordable Injury Rate (TRIR) of employees and contractors ⁵	no.	2.67	2.27
Societal engagement			
Donations	million €	2.59	3.62



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For the full sustainability report see:

➤ www.siemens-energy.com/sustainability-report-23

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Siemens Energy AG
Otto-Hahn-Ring 6
81739 Munich
Germany

Sustainability: sustainability@siemens-energy.com
Media Relations: press@siemens-energy.com
Investor Relations: investorrelations@siemens-energy.com

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

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