SIEMENS energy

Extract from the Siemens Energy Sustainability Report 2020
Get the complete report here:
https://www.siemens-energy.com/global/en/company/sustainability.html

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For more information regarding our approach to decarbonization and sustainability, please have a look at our Sustainability Report 2020:

https://www.siemens-energy.com/global/en/company/sustainability.html

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The company

Foreword

energy and electricity are critical for societies throughout the world. However, climate change, growing populations and digitalization are changing the boundary conditions for us, for our customers and for the entire energy industry. We are operating in a rapidly changing market that is pushing for new solutions, new technologies, and new business models.

As the world population grows, access to electricity spreads and the industry is further electrified, we expect the global demand for electricity to increase by around 50 percent by 2040. How can the energy industry meet this growing demand while protecting the climate? The aspiration of our new company, Siemens Energy AG, is to energize society in a sustainable and efficient way, based on the right products, solutions and services.

This document, the first independent Sustainability Report prepared by Siemens Energy AG, shows that sustainability is an integral part of our "Energy of Tomorrow" transformation program that will enable us to make our vision reality: We want to create the most valued energy technology company in the world and be the sustainability leader in our industry. Sustainability is firmly anchored in all our actions and as President and CEO of Siemens Energy, I have taken over responsibility as Chief Sustainability Officer to underscore this commitment. The 17 Sustainable Development Goals (SDGs) set out in the United Nations' 2030 Agenda guide us in our plans and actions. While Siemens Energy contributes to achieving all 17 SDGs to ensure the highest impact, we are focusing on SDG 7 "Affordable and Clean Energy", SDG 13 "Climate Action", SDG 8 "Decent Work and Economic Growth", SDG 9 "Industry, Innovation and Infrastructure" and SDG 5 "Gender Equality". We are committed to meeting environmental, social and governance (ESG) standards and expectations. Siemens Energy actively endorses the Paris Agreement on climate change and supports ambitious political programs such as the European Green Deal and the EU hydrogen strategy.

Across our various businesses and along the entire energy value chain, we help our customers to adopt more sustainable energy technologies and solutions. Some examples: We build hybrid power plants that combine generation technologies with battery storage; we deliver gas turbines that can already operate on up to 60 percent hydrogen; we provide transmission equipment that avoids the use of SF_6, a very harmful greenhouse gas; we offer hydrogen electrolyzers, which are critical for developing a sustainable green hydrogen economy; and Siemens Gamesa Renewable Energy produces wind turbines that generate electricity from both onshore and offshore wind energy.

We believe that innovative technologies are the key to combating climate change – now and in the future. And these innovations require thinking and working in ecosystems with customers and partners. At the same time, we believe that interim solutions based on highly efficient conventional solutions can and should contribute to more sustainable energy systems than we have today. The balance of availability, sustainability and affordability of electrical energy will differ in every region of the world, and diverse approaches will be required to steer societies toward a sustainable energy world.

We invest around one billion euros per year in research and development and are increasing our focus on sustainable technologies and services. All these efforts naturally begin right at home, as we make our own operations more sustainable. We plan to switch our own power consumption to 100 percent green electricity by 2023, and are aiming at making our company operations climate-neutral by 2030.

At Siemens Energy we are also committed to the Ten Principles of the United Nations Global Compact and will provide annual information on our progress as part of our sustainability reporting.

In all these activities, the people who work for Siemens Energy are especially important. Ensuring their health and safety is our top priority. Likewise, we pay fair wages and support fair working conditions, equal opportunities for advancement, and attractive career prospects. Above all, we stand for inclusion and diversity in all its facets, and firmly believe that this not only benefits our own company, but society as a whole.

One other topic is particularly close to our hearts: Making a positive difference in the world would be impossible without high standards of integrity and compliance. We therefore pursue a zero-tolerance approach regarding violations of applicable laws and internal regulations. Only clean business is Siemens Energy business. Beyond the boundaries of our company, we actively drive the implementation of Collective Action and aim to develop projects with partners in industry, the public sector, non-governmental organizations, international organizations and civil society. While this includes the joint fight against corruption, it also goes far beyond that: Our ultimate goal is to create fair market conditions and establish a "level playing field" for all market participants, and promote integrity in business transactions.

2020 has been a year full of many daunting challenges – above all the COVID-19 pandemic. Under these extremely difficult conditions, we continued to support our customers and further strengthen our innovative power by tapping into the potential of digitalization. We were able to "keep the lights on" in close collaboration with our customers and partners.

Siemens Energy is a new company, yet one drawing on a long and rich tradition dating back to 1866, when Werner von Siemens discovered the dynamoelectric principle and laid the foundation for today's ubiquitous electrification. Our aim is to continue this tradition in order to make our world a better and more sustainable place.

Please enjoy reading the Sustainability Report!

With kind regards,

Christian Bruch
President and CEO
Siemens Energy AG

Chief Sustainability Officer
Siemens Energy AG

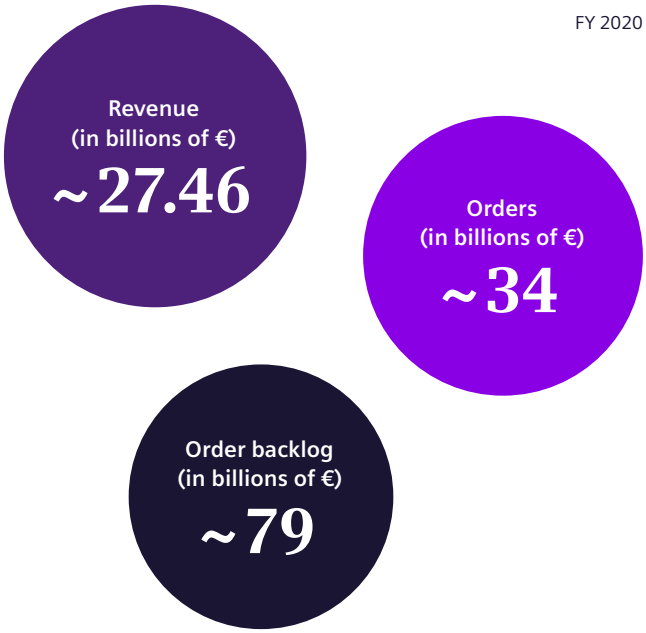
Siemens Energy at a glance

Siemens Energy is one of the world's leading energy technology companies. We energize society by supporting our customers in transitioning to a more sustainable world, based on our innovative technologies and our ability to turn ideas into reality.

With our portfolio of products, solutions and services, we cover almost the entire energy value chain – from power generation and transmission to storage. Our portfolio includes conventional and renewable energy technology, such as gas and steam turbines, hybrid power plants operated with hydrogen, and power generators and transformers as part of our high voltage products portfolio. A majority stake in the listed company Siemens Gamesa Renewable Energy (SGRE) makes Siemens Energy a global market leader in renewable energies with a market leading position in wind power.

Siemens Energy employs more than 90,000 people in more than 90 countries worldwide.

FY 2020

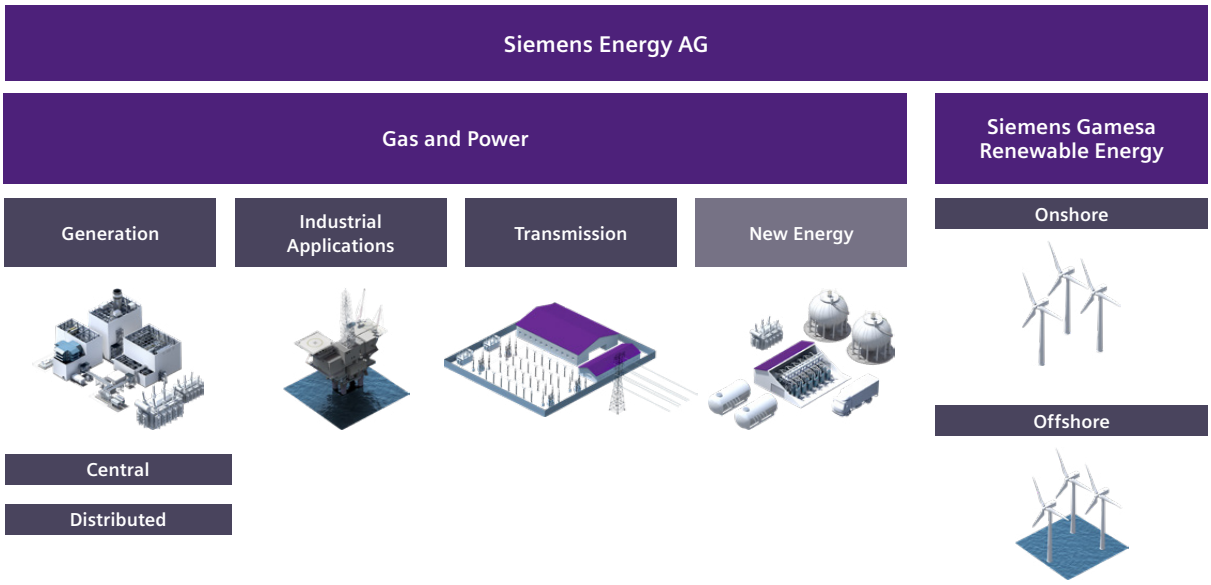


Our company structure

We have organized the company in two reporting segments, Gas and Power and SGRE:

- Our reporting segment Gas and Power includes the Generation, Transmission and Industrial Applications Divisions with the respective service business based on our customer groups and product lines. The Business Segment New Energy Business will focus on building up our business with Power to-X technologies, electrolyzer systems and solutions for the production of green hydrogen on the basis of renewable energy and water.
- Our reporting segment SGRE, in which Siemens Energy holds a 67% majority stake, is a leading provider of wind power solutions and complements the portfolio through which we support our customers worldwide in transitioning to a more sustainable energy system.

Our company structure



Our innovative products support customers in transitioning to a more sustainable world

Gas and Power

- **Generation:** We provide products, solutions and services for conventional power generation with high efficiencies. We reduce carbon emissions from existing assets and develop technologies that that will be critical in the future for the decarbonization of power generation applications.
  Portfolio: Large gas and steam turbines, industrial gas and steam turbines, generators, turn-key power plants, control systems, operation and maintenance of power plants, modernizations and upgrades, digital services
- **Industrial Applications:** We support our customers in oil and gas, as well as other industries, by providing safe, reliable and highly efficient rotating, electrical, automation and digital products, solutions and services.
  Portfolio: Industrial and aero-derivative gas turbines, industrial steam turbines, turbo compressors and reciprocating compressors and generators; integrated electrification, automation and digital solutions for onshore and offshore oil and gas, subsea, marine and fiber industries; and comprehensive service solutions incl. spare parts, repairs, field services, digital services, modernizations and upgrades and long-term programs
- **Transmission:** We partner with our customers to build and operate efficient grid infrastructures. We offer reliable products, solutions, and services improved with digital functions to meet the growing demand for sustainable electrification.
  Portfolio: Transmission systems, air- and gas-insulated switchgear, power and distribution transformers, solutions for substations, HVDC- and MVDC-solutions, modernization and upgrades
- **New Energy Business:** We shape the green hydrogen economy. We develop technologies to couple our economic sectors with renewable sources of power.
  Portfolio: Power-to-X-solutions, electrolyzer systems, solutions for producing green hydrogen from renewable energies and water

Siemens Gamesa Renewable Energy

We provide wind energy technologies and services for a sustainable future. We are one of the world's leading suppliers of on- and offshore solutions.
Portfolio: On- and offshore wind turbines, hybrid solutions to produce energy from renewables, including power storage systems

Strategic focus

We energize society by supporting our customers in transitioning to a more sustainable world, based on our innovative technologies and our ability to turn ideas into reality.

- **Siemens Energy aims to be the partner of choice for our customers to shape the energy transition**
- **We focus on five Sustainable Development Goals to ensure the highest impact on societal development**
- **We have developed a new Sustainability Program which will be implemented across the organization as part of our company program called the Energy of Tomorrow**

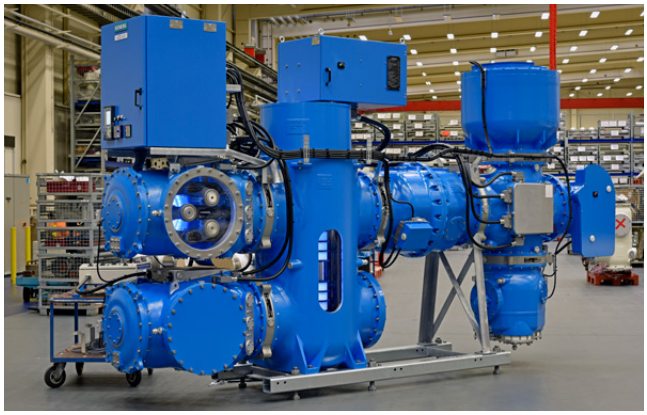
The world is facing huge challenges. Climate change, globalization, digitalization and the global COVID-19 pandemic have placed governments, companies and societies in challenging and complex circumstances. At the same time, energy systems around the world are changing, and the demand for energy is growing: It is expected that by 2040, the global electricity demand will rise by around 50%[1], whilst 770 million people still do not have access to energy[2]. The question is: How can we meet the growing demand for electricity while protecting our climate? This also guides our thinking on the future strategic direction of Siemens Energy and we have laid out concrete steps in order to address these challenges.

[1] Source: https://www.iea.org/reports/world-energy-outlook-2019 (Stated Policies Scenario)

[2] Source: https://www.iea.org/reports/sdg7-data-and-projections/access-to-electricity

By doing so, we are proudly continuing a tradition that goes back more than 150 years: in 1866, Werner von Siemens converted mechanical energy into electrical energy, making it available for the first time for many everyday applications. We still need the courage, drive and determination of Werner von Siemens today in order to make sustainable, reliable and affordable energy possible. In this sense, we at Siemens Energy are building on the strengths of Siemens – and are developing them further.

Thus, our purpose is “We energize society”, and our employees stand for and work hard at this every day.



8VN1 Blue GIS® switchgear with vacuum interrupting technology and clean air insulation

Partner of choice for the energy transition

Through our company program "Energy of Tomorrow", we intend to shape our existing business, by developing our portfolio with a focus on sustainability, by allocating the Research and Development (R&D) budget to achieve breakthrough innovations and by creating an ecosystem of partners. Aiming to be a data-driven company, we want to create value through digitalization, connectivity and automation.

The first phase of the program will be to accelerate the impact on the energy transformation by

- Focusing and delivering on the fundamentals – by developing our people, achieving zero harm, eliminating non-conformance cost in product design and project execution, and optimizing our portfolio with an eye toward the energy system transformation
- Co-creating innovations with customers and partners to speed up innovation and generate the best solutions
- Shifting R&D expenditures toward sustainable products and services

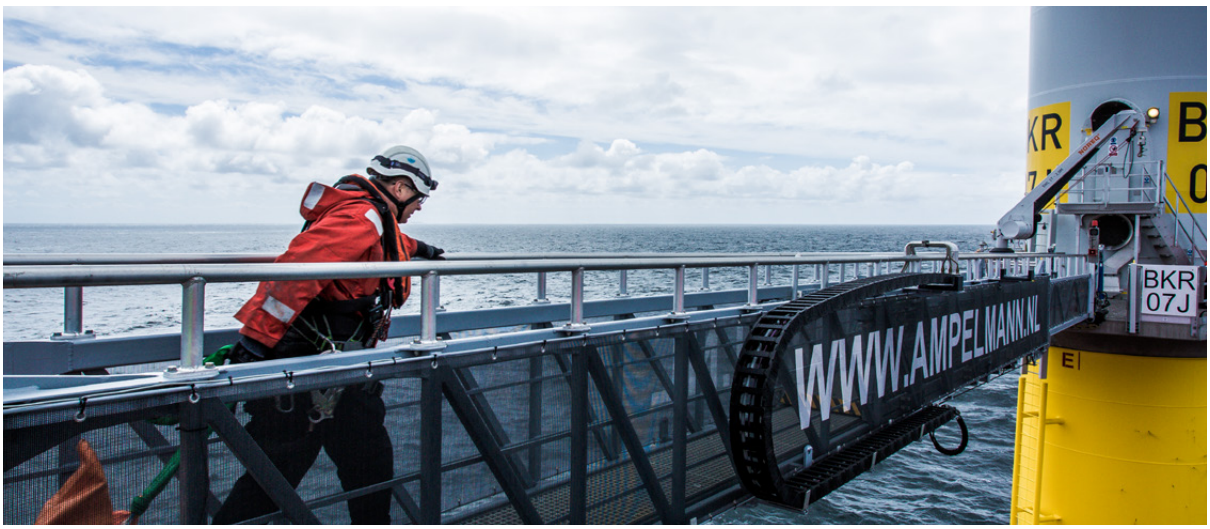
The second phase of the program will be to start leading the energy transformation and to become the most valued energy technology company.

- We want to be the sustainability leader in the industry and the partner of choice for all by delivering on our promises to our shareholders and stakeholders.
- We aim to electrify countries and communities in a sustainable, affordable and reliable manner by bringing in our unique capabilities and technologies.
- We aim to become a company that creates value for our different stakeholders through data-driven insights, automation and digitalization.

Transformation of our technology portfolio

As Siemens Energy, we aim to lead the market across each of our businesses, with a clear focus on research and development, on which roughly €1 billion has been spent each year over the past two years. This showcases our plan to transition our products and our customers toward a sustainable energy economy. Some selected examples of this portfolio transformation are provided below:

- **Generation:** We aim to provide generation technologies that are sustainable, reliable and affordable and that enable the "Coal-to-Gas" shift with state-of-the-art gas-fired power plants. Together with high-efficiency, ultra-low emissions, combined cycle power plants, they compensate for fluctuating renewable energy from wind and sun and serve as a bridging technology to stabilize the power supply. By 2030 we want to have 100% hydrogen combustion capability in our gas turbines. Our current generation of gas turbines are already able to burn mixed fuels containing 30 – 60% hydrogen.
- **Transmission:** The transmission and distribution network must be expanded and its stability must also be ensured, due in part to increased decentralization. We are increasing the efficiency of our transmission technologies to transport renewable energy to consumers faster, over longer distances, more reliably and with lower losses, and are investing in grid stabilization, grid intelligence, grid flexibility and digital applications. In addition, we are expanding our portfolio of SF_6-free transmission solutions.
- **Industrial Applications:** We facilitate the efficient and environmentally friendly use of natural resources. With our state-of-the-art portfolio, we offer our customers a broad range of products, services and solutions that support the electrification and decarbonization of oil and gas as well as process industries, thereby reducing CO_2 emissions.
- **Renewables:** Through our majority stake in Siemens Gamesa Renewable Energy (SGRE), we are one of the leading providers of wind power solutions. With our "New Energy Business" unit, we develop the technologies and applications urgently needed for decarbonization on an industrial scale. By focusing on the expansion of wind, solar and storage systems as well as hydrogen and power-to-x solutions, we aim to further strengthen our positioning in the renewables market.
- **Digitalization:** Siemens Energy aims to become a data-driven company that creates value through digitalization, automation and connectivity. By combining domain and digital expertise, we will increase the value of our offerings to the benefit of our customers. In addition, we automate our internal processes and build the digital infrastructure necessary to react to rapid changes in the digital world.
- **Coal exit:** With regard to our coal-fired business, we have decided that Siemens Energy will withdraw the support for the development of new purely coal-fired power plants. We cease to offer components like steam turbines, generators, and control technology for such projects. For a transition period, we will continue to offer equipment for highly efficient applications such as combined heat and power generation (CHP), biomass co-firing and waste heat recovery, after specific assessment and consultation



SGRE is an expert in operations and maintenance of wind turbines – both on- and offshore

of the Executive Board. In line with this decision, Siemens Energy will find acceptable solutions with its partners related to coal power plant technology agreements. This applies to product licenses, joint ventures and minority shareholdings. Siemens Energy remains a reliable partner and we will honor the existing commitments to customers in connection with coal-fired power plant projects. What is more, with our service and solutions business, we will continue to help them achieve substantial reductions in their plants' CO_2 emissions going forward.

Our commitment to sustainability

The adoption of the Agenda 2030 and its 17 Sustainable Development Goals (SDGs) has set the ambition to improve the prosperity and quality of life of all people, while also keeping our planet's limited resources in focus. The SDGs and their related targets are fostering a new understanding of how economic development can be reconciled with social and environmental challenges, stimulating transformational change. It is now necessary for governments, businesses, cities and civil societies to work together and contribute to realizing the SDGs.

As a global energy company, Siemens Energy has the potential and capabilities to shape the energy transition, by leveraging the extensive business opportunities that arise from private and public investments. This will allow us to drive forward the achievement of SDGs together with our customers and partners.

We focus on five SDGs to ensure the effectiveness of our efforts and the highest impact:

SDG 5 – Gender Equality

We focus on creating equal opportunities, inclusion and diversity in all its facets: We firmly believe that not just our company, but society as a whole benefits from diversity and inclusion.

SDG 7 – Affordable and Clean Energy

Along the energy value chain, our technologies support customers from various industries to provide reliable, affordable and sustainable energy and to permanently improve energy efficiency and thus reduce emissions. In addition, we are working to make our own business activities climate neutral by 2030 at the latest.

SDG 8 – Decent Work and Economic Growth

The innovative power of our global operations not only stimulates economic development in many countries, but also allows us to create and preserve decent jobs with a future. Our responsibility for the protection of human rights extends throughout our entire value chain.

SDG 9 – Industry, Innovation, and Infrastructure

Siemens Energy supports its business partners and customers across almost the entire energy value chain, for example with products, services and solutions for decarbonizing energy systems worldwide, and promotes sustainable energy supply in partnerships with innovative approaches.

SDG 13 – Climate Action

Siemens Energy is strongly committed to the Paris Agreement. We have set ourself the goal to become climate neutral in our own operations by 2030 at the latest. Our innovative technologies help customers to improve their energy efficiency in the long term, reducing CO_2 emissions in the process.

For Siemens Energy, sustainability means acting in the interest of societal development through our products, solutions and processes – true to our company purpose "We energize society". This also involves dealing responsibly with potentially adverse impacts of our business activities. Our objective is to be the sustainability leader in the energy industry.

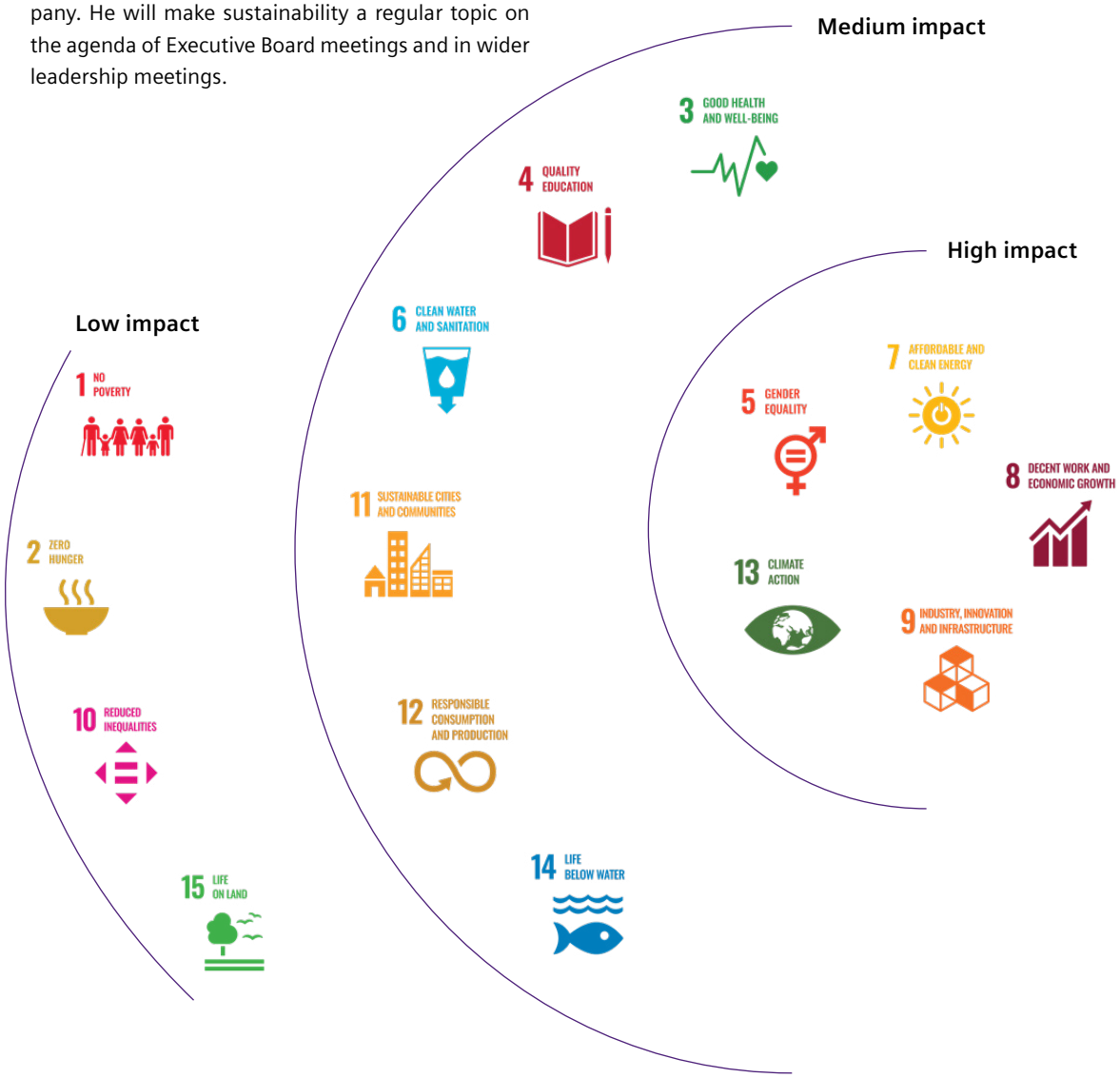
Implementing and managing a company-wide Sustainability Program

All sustainability activities are led by our Chief Sustainability Officer (CSO), who is also the CEO of our company. He will make sustainability a regular topic on the agenda of Executive Board meetings and in wider leadership meetings.

The Sustainability Director manages the Sustainability Department, which is responsible for driving sustainability within Siemens Energy and for coordinating the company-wide sustainability activities, programs and measures. The department is part of the Strategy Function.

Furthermore, we have set ourselves the goal of embedding sustainability in our organization to ensure that all measures and initiatives are also implemented in our business activities. This will be supported by the Divisions and Countries, which nominate Sustainability Business Partners to implement the company program in their areas of responsibility.

The importance of sustainability for Siemens Energy is also reflected by the fact that the long-term equity-based compensation, granted to the members of the Executive Board and selected senior executives in the



form of Stock Awards, contains non-financial targets that reflect strategic ESG (Environmental, Social and Governance) priorities for Siemens Energy. At the beginning of a Stock Awards tranche, the Supervisory Board selects the key performance indicators (KPIs) for the ESG component. These can be equally weighted, or the Supervisory Board can assign each a higher or lower weighting. The Supervisory Board sets targets for each KPI to be achieved by the end of the performance period, as well as values representing 0% and 200% target attainment. For more information, please see our ↗ Annual Report 2020, 1.10 Compensation Report.

Our Sustainability Program

Our Sustainability Program is fully integrated into our company strategy. It focusses on the most relevant topics that help us achieve our ambition to become a sustainability leader in the industry whilst contributing to the most relevant SDGs.

To establish the Sustainability Program, we conducted a materiality analysis, which consisted of analyzing topics of relevance for business and society and engaging in dialog with selected internal and external stakeholders. This enabled us to identify the key sustainability issues for our company, which serve, among other things, as a basis for reporting. We will repeat this analysis for future sustainability reporting and refine the process, incorporating all relevant stakeholder groups.

The resulting Sustainability Program is oriented along our company purpose "We energize society".

List of material topics

Systemic transition	Major social and environmental challenges require holistic systemic transformations. Siemens Energy is helping in this area in particular by designing sustainable energy systems.
Business model resilience	A robust, customized portfolio is fundamental to meet market demands in the long term. We aim to be a strong, reliable company that has the capacity to adapt to the requirements of state-of-the-art systems.
Physical impacts of climate change	Climate change is impacting all areas of business. This is why it is particularly important for Siemens Energy to adapt our business activities so as to be resilient in the face of constant change.
Decarbonization	With a comprehensive climate action program along the value chain we aim to reduce CO_2e emissions.
Emissions/Air Quality	We aim to reduce emissions and thus negative impacts on air quality which may be caused by our business activities.
Access to energy	Supporting our customers to provide access to sustainable, affordable and reliable energy for their customers is our goal. This allows us to contribute to raising the standard of living of societies.
Effects on human capital development	Development of our workforce and creation of new jobs are pivotal for achieving long-term success, because only with highly qualified staff can we respond appropriately in these times of constant change.
Employee health & safety	Our employees' health and safety in the workplace has priority for us. We are striving to protect our workforce to the best of our ability and to reduce the number of accidents.
Sustainability in the supply chain	For Siemens Energy, corporate sustainability means more than just examining our own business activities. It also entails acting responsibly in our dealings with suppliers to ensure sustainability in the supply chain.
Compliance	Compliance with applicable laws and regulations is our core principle. It increases credibility and avoids business risk for Siemens Energy.
Responsible decision making	At Siemens Energy, responsible decision making means considering all relevant effects on society, the environment, and the economy in our decisions. This will add value for all Siemens Energy stakeholders.
ESG Risks	Environmental, societal, and governance risks in all business activities can lead to negative societal impacts, as well as loss of reputation and trust and negative ratings. This is why it is essential for Siemens Energy to factor these risks into our decision making on projects and investments.

Sustainability Program

At the core of the program is the goal to decarbonize energy systems along the entire value chain. Different topics around responsible operations also contribute to Siemens Energy becoming a sustainability leader in the industry and to our societal impact.

Our businesses, regional entities and central functions will help to implement this program. We want to be measured against our goals and performance and have selected strategic KPIs, on which we report in the individual sections of this report.

Sustainability-related risks and opportunities

To provide a comprehensive view of our business activities, risks and opportunities are analyzed in a structured way, combining elements of a bottom-up and a top-down approach: Sustainability-related risk and opportunities are identified by the respective managements of our organizational units. Our Enterprise Risk Management (ERM) system takes a net risk approach and aims to ensure that the Executive Board and the Supervisory Board are fully informed about significant risks on time. For the fiscal year 2020, the following sustainability-related risks have been reported to the ERM:

- Strategic risks:
  - Disruptive decarbonization trends
  - Failure to meet ESG standards and expectations
  - Technology/portfolio gap against competitors
  - Political instability and conflicts
- Operational risks:
  - Pandemic diseases
  - Environment, Health and Safety adverse events
  - Critical supply chain
  - Key personnel
  - Cyber security failures including product security
- Compliance Risks:
  - Allegation of Compliance violations
  - Impact of legal proceedings

For more information related to the risks, please refer to the section "Report on material risks and opportunities" in the ↗ Annual Report. Find out more on our climate-related risks in the Task Force for Climate-Related Financial Disclosures (TCFD) section on the ↗ Annex. We are continually taking steps to reduce our sustainability-related risk exposure within the organization and across the supply chain by implementing risk management systems adapted to specific industries and responsibilities. On the other side, risk mitigation actions also represent opportunities for our business, for example innovations that support the energy transition and streamlining of internal processes.

Partnerships and collaborations

We firmly believe that the pursuit of sustainable development can only be meaningful and successful in cooperation with a diverse set of actors. This approach is in line with SDG 17, which calls for a global partnership that brings together governments, civil society, the private sector, the United Nations system and

In order to promote sustainable development globally, we exchange with various stakeholders

other actors. Close collaboration with different stakeholders is necessary to tackle the complex challenges we are facing.

For many years, Siemens AG has engaged in dialog with investors, customers, suppliers, employees, communities, policymakers, media, non-governmental organizations, business organizations and academia. These engagements create value on all sides of the equation through the exchange of knowledge and information and give rise to creative partnerships. They help us improve business conditions and reduce risk externally and internally. At Siemens Energy, we will conduct an analysis of the existing partnerships and memberships and continue our dialog with relevant organizations or establish new ones. As a first step, we are a signatory to the United Nations Global Compact, pledging our commitment to its Ten Principles. UN Global Compact

Effects of the COVID-19 pandemic on Siemens Energy

The world is challenged by the COVID-19 pandemic with an unprecedented force that has affected countries and businesses worldwide. Siemens reacted quickly and in January established a global Task Force, led by the Environmental Protection, Health Management and Safety, Quality Governance and Security Function and including representatives of other Functions, Countries, and Businesses, in order to ensure quick decisions and to suit local government requirements. Overall, we focused on the topics of employee health and safety, ensuring business operations, global coordination of regional aspects, financial stability, liquidity, securing our own infrastructure and supporting society. In this regard, it not only resolved short-term issues, but also laid the foundations for long-term, positive changes, for example adapting the working culture to the situation.

In fiscal year 2020, Gas and Power was affected by 674 known COVID-19 cases, four of them fatalities.

Overall, the pandemic did not only have negative consequences. It also resulted in a reduction in global greenhouse gas emissions due to decreased energy demand during the lockdown. Nevertheless, this was a short-term effect and came with high economic costs. With regard to long-term improvements, we see the opportunity in shaping the transformation to sustainable, intelligent energy systems for a changing, more adaptable grid. We believe that sustainability can only be achieved through design, not through disaster.

You will find details on the effects of COVID-19 and the measures taken in the relevant chapters of this report.

Thanking our employees who #KeepTheLightsOn

The impact of the COVID-19 pandemic has highlighted the importance of reliable electricity supply for our world. From grocery stores to hospitals to homes, the world is depending on stable electricity to manage this crisis. While a lot of us are able to work from home, the reality is that many of our colleagues can't. They are at customer sites, factory locations, warehouses and a host of other locations around the world, often away from their families and working in high-pressure environments to ensure the stable flow of electricity, water and other crucial infrastructure during this critical time. In April 2020, Siemens Energy launched the campaign #KeepTheLightsOn which showcases the stories of those employees, highlighting their sacrifice and excellence while giving Siemens Energy leaders and employees a chance to say "thank you" to them.

Decarbonizing our business

Customers and innovation

Our broad portfolio enables us to offer our customers tailored and innovative end-to-end solutions for optimizing their energy mix.

- **Close collaboration with customers for managing the energy transformation with innovative, sustainable solutions**
- **A new market-driven and customer-centric organization that focusses on technology and innovation fields**
- **Continued engagement with universities and research institutions towards a more sustainable system**

Global energy markets are changing, presenting our customers with a multitude of challenges throughout the energy value chain – whether due to increasing digitalization and the need for decarbonization or because of the resulting demands on their flexibility.

Many of our customers are confronted with long-term, disruptive changes in their business model. The trend away from regulated markets toward market-oriented structures is accompanied by growing public and regulatory pressure to reduce greenhouse gas emissions, which will lead to widespread decarbonization of the energy landscape in the coming decades.

This will bring about long-term changes in the weight applied to the different energy technologies, but will also create opportunities in new areas of business, such as increased electrification, renewables, hydrogen technologies and Power-to-X technologies. Our mission is to support our customers in transitioning to a more sustainable world, by providing a sustainable, affordable and reliable energy supply, based on our innovative technologies and our ability to turn ideas into reality.

Our innovative 9000HL-class gas turbine – efficient, reliable, flexible

Gas turbines are well suited to manage the intermittency of increasing renewable loads by providing reliable and on-demand power. They will remain an element in power generation as electrification trends toward full decarbonization and the hydrogen economy starts to unfold. Our next generation 9000HL gas turbine combines design robustness with operational reliability and flexibility with technology innovations. With its hydrogen capability package of up to 30%, the 9000HL is a technology carrier to the next level of gas turbine performance.

This is enabled by our unique portfolio along the energy value chain – from products, solutions and services in the oil and gas sector to conventional and renewable energy generation, energy transmission and decentralized energy solutions – and our increased customer orientation. We thus contribute mainly to the following Sustainable Development Goals: SDG 7 "Affordable and Clean Energy", SDG 8 "Decent Work and Economic Growth", SDG 9 "Industry, Innovation, and Infrastructure", SDG 12 "Responsible Consumption and Production" and SDG 13 "Climate Action".

New customer-oriented organization implemented

We provide products, solutions and services worldwide. Our customers are companies and organizations, some of which are internationally set up and some of which have a predominantly local presence. With our new market- and customer-oriented organization comprising of Regional Hubs, Divisions and Business Units we are adapting to customer needs. This mirrors the organization at SGRE, which also has its own service organization.

To meet our customers' needs, Siemens Energy relies on a global sales organization managed by seven regional hubs for Gas and Power and regions for SGRE. These regional teams can build on a global network within and outside the company that includes consultants, project developers, integrators, plant engineers and building contractors.

We also have a key account management system in place for a selected group of our biggest customers.

Competent customer service and maintaining close customer relationships is essential

Environmentally friendly power supply for cruise ships

The world's first SF_6-free gas-insulated 145 kV high-voltage switchgear with clean air insulation and vacuum switching technology was successfully commissioned in May 2020 by the Norwegian energy company BKK Nett and Siemens Energy. It is part of the Koengen transformer station, which supplies power to the cruise port in Bergen. The Siemens Energy clean air technology compliments the transformer station with a solution that avoids CO_2. Latest digital Sensgear® functionalities have been integrated to provide an asset status overview anywhere at any time. Shore power from hydropower can now be transmitted to cruise ships in an environmentally friendly manner. Ships in the harbor can be supplied with electricity and switch off their engines, which leads to a reduction in harmful emissions.

This allows us to provide our customers with a full range of products and solutions in a coordinated manner, thus ensuring smooth business operations. Our managers focus on developing and maintaining long-term relationships, especially within the framework of our Executive Relationship Program.

Focusing on our customers and their business challenges will allow us to seize business opportunities, expand existing business and develop new business. The latter applies in particular to the decarbonization of value chains in the energy industry, but also in other sectors such as industry and transportation. Drawing on our broad technology and solutions expertise, we aim to make a significant contribution to the energy transition together with our customers. This also leads to an increased focus on co-creation and partnering for innovation.

Green hydrogen – Pilot plant for H_2/CO_2-based methanol synthesis in Haßfurt

Since 2019, our New Energy Business, MAN Energy Solutions, Stadtwerk Haßfurt and Friedrich-Alexander-Universität Erlangen have been working together to develop an innovative, more dynamically operable, efficient methanol synthesis from carbon dioxide and e-hydrogen, which is generated by renewable energy-fed water electrolysis. Initial objectives include research into catalysts selection and the optimum reaction concept and parameters through the operation of a lab-scale pilot plant. The results will be transferred to a small, but nearly full power-to-methanol demonstration plant. That way, the basis for the design of future large-scale commercial plants should be elaborated.

Innovation is the basis for our future success

Our research and development (R&D) activities are aimed at developing innovative, sustainable solutions both for our customers and for our business. Therefore, we will continue to invest around €1 billion per year to maintain our innovative edge. In addition to renewable energy in SGRE, we have identified fields of action called "Energy of Tomorrow" (EoT) Fields for Gas and Power to form the basis of Siemens Energy transformation and to becoming a sustainability leader in the industry.

In addition, we have identified nine technology fields which will serve to help us improve the sustainability dimension of our product portfolio and to strengthen the core.

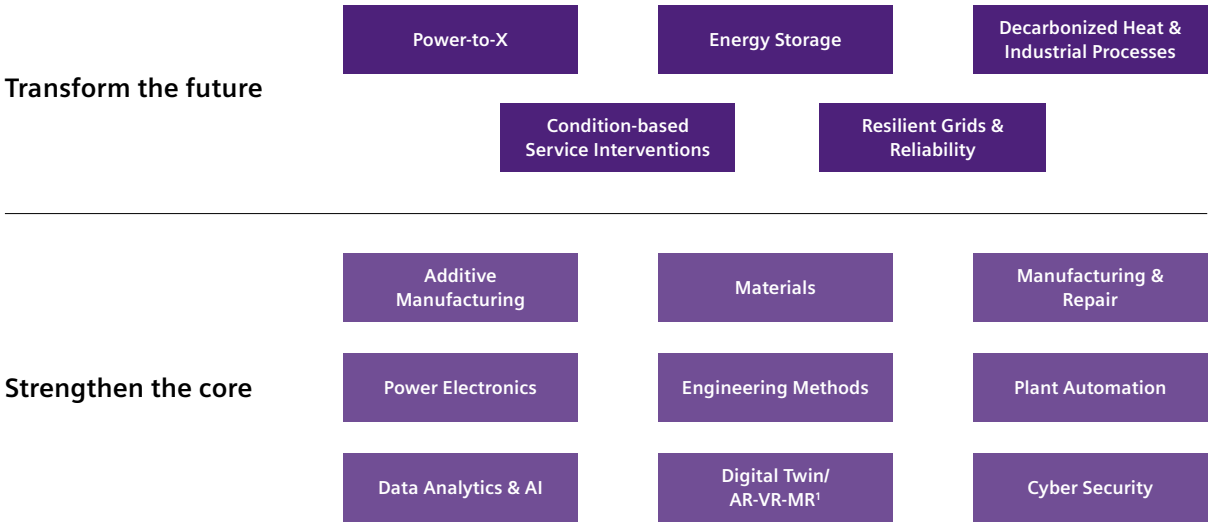
Across all businesses, digitalization facilitates new and promising approaches for new ways of working, data-based business models and technology-based services such as remote operations, remote services, etc. We work closely with our customers to make specific use of data-driven technologies to maximize performance throughout product and equipment life cycles. Also, digitalization helps us to create value for our customers, by improving our operations through optimized automation and our supply chains through additive manufacturing, and also to protect our customers' facilities through comprehensive cybersecurity.

In the demanding energy market for CO_2-free power generation, continuous investment in R&D allows SGRE to bolster its competitiveness . SGRE's R&D efforts focus on developing the next generation of technology that will lead to improved and more cost-effective products, solutions and services, including becoming a leading company in mastering the balance between power generation and power demand for the renewable sector. To accomplish that goal, SGRE is developing reliable and efficient operating wind turbines, cost-effective energy storage solutions, and solutions for hybridization that are designed to help utility customers optimize the use of renewable energy, thereby increasing profitability. Product improvements (upgrades) and product innovation (new design) in onshore and offshore wind turbines are launched to suit our customers situation and reduce Levelized Cost of Energy or increase annual energy production. Another focus area is digitalization: Advances in this field enable more intelligent monitoring and analysis of turbine conditions as well as smart diagnostic services. SGRE also explores profitable opportunities in adjacent business fields, including other renewable sources, hybrid parks and storage in order to supply solutions for the system integration of renewables.

Collaboration supports sustainable development

We leverage external partnering to enable future business needs, by co-creating new technologies and innovations and through joint market launches. One example is the Werner-von-Siemens Centre for Industry and Science e.V. (WvSC), of which Siemens Energy is a key partner. WvSC is a dynamic research and development collaboration involving more than 20 partners from industry and science, small and medium-sized enterprises, young companies and start-ups. It addresses important topics of the future such as the energy transformation, mobility and production technology. The WvSC allows co-located collaboration to speed up innovation in the focus areas addressed. ↗ Further information

Energy of Tomorrow (EoT) Fields of Action



[1] Augmented Reality, Virtual Reality, Mixed Reality

Additionally, we collaborate with scientists from top universities and research institutions on the advancement of technologies that contribute to sustainable energy systems of the future, both in bilateral research collaborations and in publicly funded collaborative research projects.

In fiscal year 2020, we reported R&D expenses of €985 million (FY 2019: ~€1 billion). The resulting research intensity, defined as the ratio of research and development expenses to revenue, was 3.6% (FY 2019: 3.5%). Additions to capitalized development costs amounted to €191 million (FY 2019: €163 million) in fiscal year 2020. Around 16,600 (FY 2019: 15,900) patents were held by Siemens Energy as of September 30, 2020. On average, we had 5,200 (FY 2019: 5,100) R&D employees in fiscal year 2020.

We will continue to work together intensively on innovative solutions for the future with a focus on sustainability and service.

Siemens Gamesa installed its offshore Direct Drive wind turbine number 1,000

By installing turbine number 51 at the 714 MW East Anglia ONE project in the UK in fiscal year 2020, SGRE reached the milestone of 1,000 installed units of its offshore direct drive wind turbine platform. Since the first unit was installed, the wind turbine fleet has produced an output of around 34.6 terawatt hours.

"You can't conduct a sustainable business against the climate and against the will of society." says Uniper CEO Andreas Schierenbeck.

Hydrogen – The most promising solution for decarbonization

Excerpt from an interview with Uniper CEO Andreas Schierenbeck on the collaboration with Siemens Energy

Uniper is the third largest listed energy supplier in Germany and a European leader in energy generation, trading, and storage. The company wants to take the step from coal to hydrogen economy in order to become carbon-neutral until 2035.

Mr. Schierenbeck, gas plays a central role in your decarbonization strategy. Why is that?

Natural gas, imported via pipelines or LNG terminals, will continue to play a role in the next 20 or 30 years. But if you want to decarbonize even further, you have to use hydrogen. Imagine you're producing green hydrogen through electrolysis without emitting CO_2, then in the future it can be burned in gas power plants in a climate-neutral way to produce electricity and heat.

In the transformation to the hydrogen economy, you are relying heavily on collaboration, for instance, with Siemens Energy. Why?

A large number of our gas turbines are from Siemens Energy. And as we are considering to gradually convert these gas turbines and power plants to hydrogen operation, it's best to work with the manufacturer. Siemens Energy produces gas turbines that can already process a certain amount of hydrogen today, they manufacture hydrogen generation plants, and are also deep into the whole issue of renewables. Creative ideas, such as adding an electrolysis plant to every wind farm to produce hydrogen and thus absorb the generation peaks – those would be the first steps toward an industrial concept. Let's put it this way: We have common business ideas and interests.

Siemens Energy is the partner of choice for the decarbonization journey

We are committed to accompanying our customers on their way to a more sustainable energy future. We are driving decarbonization along the entire value chain: from the supply chain to our own operations, and especially in our portfolio. In doing so, we aim to be the partner of choice for our customers and to support them in their transition to a sustainable energy world.

Our goals

Climate neutral in own operations until **2030**

100% green electricity consumption by 2023

Our status

292,000 t CO_2 emissions (Scope 1 and 2)

78% green electricity

Three questions to...

Christian Bruch
CEO and CSO
of Siemens Energy

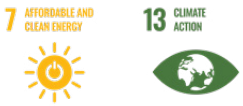
How does Siemens Energy support the EU's 2050 climate neutrality goal through its business strategy?
We walk the talk: Siemens Energy has committed to becoming climate neutral by 2030. And, moreover, we support our customers on their individual journeys toward decarbonization. With our products, solutions and services, we can push the transition to a more sustainable energy world. By covering almost the entire value chain with our innovative technologies, we are able to turn ideas into reality.

What are your top priority solutions when it comes to decarbonization?
It is critical that we drive future technologies and, at the same time, have the courage to choose interim solutions. The shift from coal to natural gas could be one such interim solution on the way to a climate-neutral economy. Combining conventional and renewable energy systems is key to meeting the world's need for sustainable, reliable and affordable energy. Green hydrogen will also play a major role in our future energy mix. We now need to scale up volumes of green hydrogen and bring down the costs. The policy task is to define and implement the right boundary conditions.

How do you envision Siemens Energy's future positioning with regard to decarbonization?
I am convinced that Siemens Energy is on the right track, and we have every reason to be confident. Siemens Energy should be the company that everyone immediately thinks of when it comes to decarbonization. We energize society – that's our purpose. Together with our customers and partners, we can make a real difference in shaping the energy world of tomorrow.

Decarbonization

We contribute to climate protection primarily through our portfolio, which enables our customers to reduce their emissions.



- **Reduction of emissions along the entire energy value chain**
- **Our portfolio as a crucial element in our customers' energy transition**
- **The goal for our own operations: to be climate neutral by 2030**

Companies all over the world are facing strong social and political discussions in the field of climate protection. Many initiatives across Europe and around the world have prompted widespread media attention, putting pressure on leaders to keep warming below 1.5°C.

67 countries have already committed to net-zero emissions and the pressure that governments are putting on companies to reduce carbon emissions is growing. In 2019, the European Union agreed on the Green Deal, aiming for a just but rapid shift away from high-polluting industries and technologies and striving to become a climate neutral economy by 2050. Many investors are increasingly funneling funds into green investments.

- Japan committed to become a decarbonized society, the Prime Minister announced the commitment to be full carbon neutral by 2050.
- China aims to peak Carbon Dioxide emissions by 2030 or earlier and to achieve carbon neutrality before 2060.
- The European Union proposed an increase of the EU 2030 climate target to 55% emissions cuts and committed to becoming Carbon Neutral by 2050.
- The Nigerian state of Lagos (most populous region on the African continent) committed to be Carbon Neutral by 2050.
- Canada's prime minister committed to establish a net zero emissions goal by 2050, with legally binding five-yearly carbon budgets.
- Chile aims for a phase-out of coal by 2040 and for carbon neutrality by 2050.

Interim solutions across the value chain are needed to transform the energy sector

Decarbonization is one of our most important market drivers. As a technology provider, partner and advisor, we offer our customers appropriate products and services and accompany them on their energy transformation journey. At the same time, we are working consistently on climate neutrality in our own operations and intend to be climate neutral by 2030. SGRE achieved carbon neutrality back in 2019, including offsetting of unavoidable emissions. It expanded its ambitions by incorporating the net-zero emissions target by 2050. In order to advance carbon neutrality across the entire value chain, we are also working on concepts to reduce CO_2 emissions in the supply chain. Our decarbonization activities along the entire value chain enable us to contribute to the SDGs, in particular SDG 7 "Affordable and Clean Energy" and SDG 13 "Climate Action."

Portfolio

Our biggest lever to reduce GHG emissions are our products, solutions and services. Activities and customer offerings that support decarbonization are clustered in three areas: Efficiency increase, Fuel shift/Hybridization and Deep decarbonization.

1. **Efficiency increase:** Products, solutions, technologies and services that improve the efficiency of conventional products and reduce greenhouse gas emissions

2. **Fuel shift/Hybridization:** Products, solutions, technologies and services that support the transition from fossil-based to alternative fuels or that combine conventional and renewable sources of generation to reduce greenhouse gas emissions

3. **Full decarbonization:** Products, solutions, technologies and services for energy generation in different industries and sectors, which substantially reduce greenhouse gas emissions to zero or negative emissions. The majority stake in SGRE is an important step toward a carbon neutral portfolio. SGRE offers one of the industry's broadest wind power product portfolios, with both offshore and onshore technology as well as industry-leading service solutions. The installed products and technology have a total capacity base of more than 100 GW.

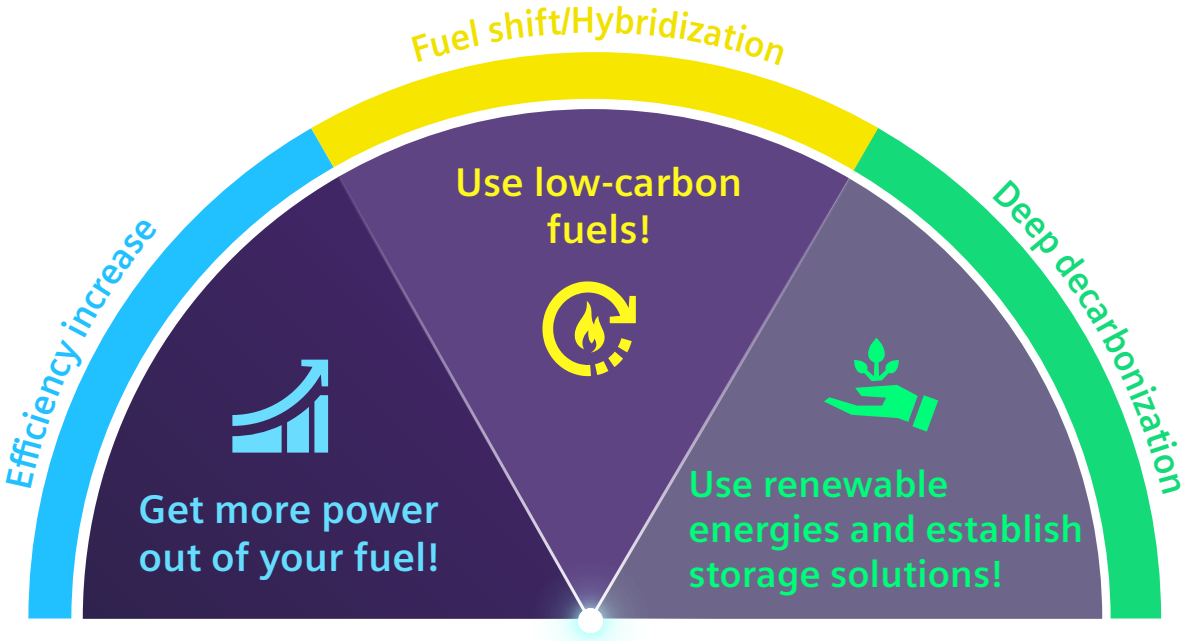
This is how Siemens Energy wants to lead the way to a sustained decarbonized world. This is how we support governments, utilities and industries in transitioning to a transformed energy system.

Environmental Portfolio offers solutions for energy efficiency and climate protection

In addition to our action areas, long before the public debate around decarbonization went mainstream, Siemens AG established the Environmental Portfolio (EP) in 2007. It includes portfolio elements that make a contribution to energy efficiency and CO_2 reduction. Products, systems, solutions and services (known as "Environmental Portfolio elements") must meet one of the following criteria to qualify for inclusion:

- an increase in energy efficiency of 20% or more; or
- a reduction in emissions of at least 100,000 metric tons of CO_2 or other greenhouse gases per reporting period in the use phase at our customers versus a reference solution (baseline); or
- technologies for use of renewables.

These Environmental Portfolio elements reduce the emission of CO_2 at our customers. The reduction is measured by carrying out comparisons with baselines and includes the option of a before/after comparison,



Our decarbonization radar

a direct comparison with a reference technology and a comparison with the installed base.

The Environmental Portfolio helps customers not only to cut their CO_2 emissions and reduce their energy costs, but also to increase their financial benefits thanks to higher productivity and asset performance. Please refer to the Annex for a detailed description of the qualification process for inclusion in the Environmental Portfolio as well as for determining reductions in greenhouse gas emissions and the revenue generated.

	Fiscal year	
Results of the Environmental Portfolio	**2020**	2019
Revenue generated from the Siemens Energy Environmental Portfolio (in € billion)	19.3	20.1
Reduction in annual greenhouse gas emissions at our customers due to new elements of the Siemens Energy Environmental Portfolio installed in the reporting period (in millions of metric tons)	35	40
Cumulative reduction in annual greenhouse gas emissions at our customers due to elements of the Siemens Energy Environmental Portfolio in the reporting period (in millions of metric tons)	522	493

The Environmental Portfolio elements that contribute the most to the total reduction of CO_2 emissions at our customers are combined-cycle power plants with particularly high efficiency coefficients, electricity generation from wind power, and power plant modernization and upgrade activities.

Decarbonization of our operating processes

We have launched our Climate Neutral Program and aim to be climate neutral by 2030. In the program, we push for the reduction of emissions by various measures, including division targets. The strongest levers to achieve climate neutrality by 2030 are:

1. **Reducing energy consumption**
   Energy efficiency projects at different locations, including installation of LED lighting (dimmers, motion sensors), installation of smart meters to increase transparency, building automation systems (e.g., heating, ventilation, air conditioning).
2. **Using renewable electricity**
   100% of Siemens Energy's global electricity consumption shall be met by power from renewable sources by 2023.
3. **New mobility concepts**
   We want to reduce our vehicle fleet's emissions and the related fuel costs. The details of an appropriate car policy are currently being worked out.

SGRE achieved carbon neutrality in its own operations back in fiscal year 2019. It did so by reducing and/or offsetting unavoidable emissions through offset projects. However, SGRE is continuing its efforts by setting even more ambitious energy efficiency targets such as net-zero emissions by 2050. The target includes the transition to renewable energy-based sources in even more countries. SGRE is also rolling out a new Mobility and Transportation Policy country by country, thereby ensuring that e-mobility is the preferred option for internal transportation and promoting the transition of service vehicles to electric drivers.

Hydrogen-based steelmaking at Salzgitter AG

Siemens Energy built a 2.5 MW PEM (Proton Exchange Membrane) electrolysis plant for Salzgitter Flachstahl GmbH, paving the way for a hydrogen-based steelmaking leading to reduction in CO_2 emissions. The plant is due to start operation in the 4th quarter of 2020 and will cover the company's entire current demand for hydrogen. The necessary electrical power will be generated by seven wind turbines with a capacity of 30 MW. The innovative PEM technology is ideally suited to exploiting the volatile generation of wind and solar power.

Energy consumption and greenhouse gas emissions

We monitor energy consumption at our office locations and manufacturing facilities. It is calculated by adding the primary and secondary consumption of fuels and electricity and enables us to track the success of our climate neutral program.

Siemens Energy's total energy consumption during the reporting period was 5.8 million gigajoules. Compared with fiscal year 2019, this is a reduction of 16.6%. This is mainly related to COVID-19 impacts on our global operations but also related to the implementation of some energy efficiency projects.

Primary Energy (1,000 gigajoules)	Fiscal year 2020	2019
Natural gas/liquid petroleum gas	1,920	2,377
Fuel oil, coal, gasoline/diesel	263	352
Other	5	5
Total	**2,188**	**2,734**

Secondary Energy (1,000 gigajoules)	Fiscal year 2020	2019
Electricity	2,902	3,383
Thereof electricity from renewable sources	2,256	2,007
District Heating	713	843
Total	**3,615**	**4,226**

Over the reporting period, Siemens Energy collected the following data regarding the level of scope 1 and 2 emissions related to its business activities.

Scope 1 (direct) emissions

Direct greenhouse gas emissions arise from sources in the company's ownership or under its control.

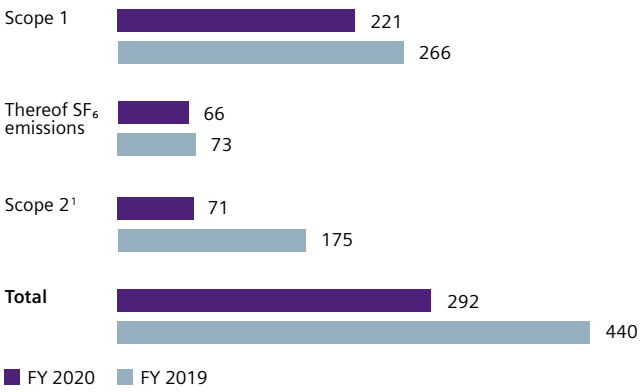
Scope 2 (indirect) emissions

Indirect greenhouse gas emissions refer to the consumption of purchased electrical energy and district heating.

In fiscal year 2020 we achieved to reduce our scope 1 and 2 emissions by around one third or 148,000 metric tons. The main levers were the increase of renewable electricity share, some energy efficiency projects as well as COVID-19 related impacts on our global operations.

Scope 1 and 2 emissions FY 2020

1000 metric tons of CO_2 equivalent



[1] We calculate our emissions resulting from electrical consumption based on carbon emission factors of our local sites according to the market-based approach.

Atmospheric Pollutant Emissions

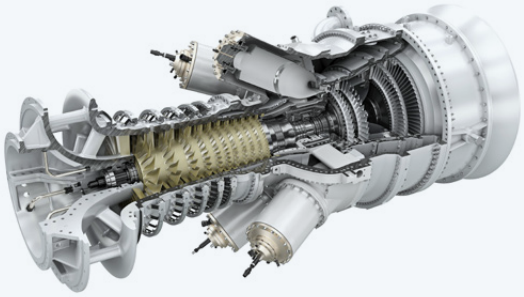
Other atmospheric pollutant emissions also have negative impacts on the environment. These include Volatile Organic Compounds (VOC) and Ozone Depleting Substances (ODS). VOC contribute to the formation of ozone close to the earth's surface. The types of substances and materials that are in use and contain organic compounds include: solvents, paints and adhesives. ODS are monitored to comply with the Montreal Protocol, the international convention on the protection of the ozone layer, as well as with country-specific regulation. The volume of emissions from the use of volatile organic compounds during the reporting period equates to 434 metric tons. The volume of emissions from the use of ozone depleting substances during the reporting period equates to 0.013 metric tons.

In calculating nitrogen oxides, we have assumed typical combustion conditions in the relevant thermal processes, resulting in a figure of 74 metric tons for environmentally relevant locations in the year under review. The figure includes nitrogen oxides released during the incineration of fuels reported in the section on primary energy.

Supply Chain

As an important part of the value chain, we encourage our suppliers to take action to protect the climate. Carbon reduction is already part of our suppliers' supply chain management and we therefore continue to encourage them to redouble their efforts.

In 2020, we initiated a Carbon Reduction@Suppliers pilot project, cooperating with an external service provider who had worked with Siemens AG to develop an economic model that identifies the CO_2 footprint of all suppliers. Based on this model, Siemens Energy encouraged 35 global focus suppliers to share their implemented and planned CO_2 reduction measures. 80% of the suppliers we surveyed responded to our Carbon Web Assessment. This confirms their awareness of and interest in the matter, as they outline CO_2 reduction measures already implemented and further plans for the upcoming years. After analyzing the data and methodology and evaluating the lessons learned, we plan to further develop our approach to reduce emissions in collaboration with our suppliers.



Power-to-X-to-power hydrogen gas turbine demonstrator

A consortium made up of Engie Solutions, Siemens Energy, Centrax, Arttic, German Aerospace Center (DLR) and four European universities are implementing the Hyflex Power project funded by the European Commission. This industrial-scale power-to-X-to-power demonstrator with an advanced hydrogen turbine will be launched at Smurfit Kappa PRF's site, France (manufacturing of recycled paper). The purpose of this project is to prove that hydrogen can be produced and stored from renewable electricity and then added with up to 100 percent to the natural gas currently used with combined heat and power plants. For this, an existing Siemens Energy SGT-400 industrial gas turbine will be upgraded to convert stored hydrogen into electricity and thermal energy.

Lighthouse project for responsible CO_2 offsetting

SGRE has invested in the development of offset projects focusing on renewable energy in order to balance its carbon footprint. The wind power project Bii Nee Stipa in Oaxaca, Mexico, was registered as a recognized example of a Clean Development Mechanism (CDM) under the United Nations Framework Convention for Climate Change (UNFCCC). In fiscal year 2020, SGRE voluntarily cancelled Certified Emission Reductions (CERs) on behalf of the Bii Nee Stipa project where energy could not be reduced or renewables could not be sourced.

SGRE plans to engage more with key suppliers to encourage them to reduce their Scope 1 and Scope 2 emissions related to products and services they supply to SGRE. It has sharpened its focus on sustainable business practices in supplier selection and performance management, for example urging logistics companies, in particular marine and terrestrial companies, to move away from fossil fuels in their activities.

Effects of COVID-19 on climate change

The COVID-19 pandemic and the resulting lockdown measures have significantly reduced electricity demand, which has in turn affected the power mix, causing a shift toward renewables across all major regions due to the low operating costs and priority access to the grid, according to the International Energy Agency (IEA).

The flip side, however, is the curbing of investment and the threat of a slowdown in the expansion of key clean energy technologies. According to the IEA, governments need to take the lead in pursuing structural reductions in emissions through smart, sustained and ambitious policies to accelerate the development and deployment of a full range of clean energy solutions. Job creation and modern, resilient and clean energy systems are to be placed at the heart of governments' stimulus plans. (Source: IEA)

In addition to our focus on Decarbonization, we have defined several focus topics under the area of "Responsible Operations" within our Sustainability Program. In the following chapters, we will elaborate further on each of those focus topics.

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