

Greenhouse Gas Emissions Report F Y 2021



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Introduction

1.1. Objectives and principles

The voluntary Greenhouse Gas (GHG) Emissions Report describes the emissions and details the verification of the inventory of greenhouse gas (GHG) for Siemens Gamesa Renewable Energy S.A., hereinafter referred to as “SGRE”, “Siemens Gamesa” or “the Company”.

The company publishes this report annually in order to transparently disclose to its stakeholders its GHG emissions in accordance with the commitments made in the Company’s environmental policy and strategy. Further, the report supports in measuring, monitoring and managing the environmental performance of SGRE.

The information contained in this report discloses the inventory of GHGs and associated emissions during fiscal year 2021, October 1, 2020 to September 30, 2021. The report covers all countries where commercial activities are performed under the scope of SGRE.

The GHG emissions report has been restructured in accordance to the requirements described in ISO 14064-1:2018 “Greenhouse gases - Part 1: “Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals”. It includes all required information, except those details that the standard does not consider mandatory and has not been considered relevant following the principle of relevance.

This report is carried out in accordance with the GHG Accounting and Reporting Principles found within the GHG Protocol Corporate Accounting and Reporting Standard.

As a result of the verification process in accordance with procedure 6-PS2 .670.00 TÜV Rheinland states that:

This is the third consecutive year that Siemens Gamesa publishes a GHG report that includes the three scopes, and the first year that includes the six categories described in the ISO 14064-1:2018. The report presents the targets certified by the Science Based Targets initiative (SBTi) to reduce Scope 1 and 2 emissions by 2025 that are aligned on the path to a complete decarbonization by 2040. This report also includes an overview of the direct actions performed based on internal targets and strategies to manage and reduce GHG emissions. As Corporate Head of Quality Management, Health, Safety and Environment, Mr, Gregorio Francisco Acero Alvarez is the person responsible for Siemens Gamesa’s GHG report.

This report is subject to external review by the accredited verifier, TÜV Rheinland.

It is considered that the SIEMENS GAMESA RENEWABLE ENERGY GREENHOUSE GAS EMISSIONS REPORT FISCAL YEAR 2021, as of 29 October 2021 and ratified by the Management of the organization, is substantially correct and corresponds to a faithful representation of the emissions of the activities for the scope defined by the company; in conformity requirements of standard ISO 14064-1:2018 for a reasonable level of assurance.

Gregorio Francisco Acero Alvarez
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Siemens Gamesa Renewable
Energy

Andoni Mur Herrero
Senior auditor
TÜV Rheinland

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TÜV Rheinland

1. Organizational description

Siemens Gamesa Renewable Energy S. A. was created in April 2017, with the merger of Gamesa Corporación Tecnológica S. A. and Siemens Wind Power A/S. The company designs and manufactures wind turbines and provides onshore and offshore wind services.

Siemens Gamesa is a leading supplier of wind power solutions to customers all over the globe. It is committed to providing innovative and effective solutions for the energy challenges of tomorrow. Siemens Gamesa is thus leading the way forward in the renewable energy sector by providing cleaner, more reliable and affordable as well as integrated renewable technologies and services.

The company’s scale, global reach and proven track record ensures that it will continue to play a central role in shaping the energy landscape of the future. As key player and innovative pioneer in the renewable energy sector, the Company has installed products and technology in more than 90 countries, with a total capacity base of over 117 GW and 26,182 employees.

Most recently, Siemens Gamesa and Siemens Energy are joining forces to kickstart a new era of offshore green hydrogen production that will power a cleaner future. Together, they are developing an innovative solution that fully integrates an electrolyzer into an offshore wind turbine as a single synchronized system to directly produce green hydrogen¹.

Onshore wind power
99 GW installed since 1979

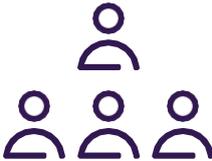
Offshore wind power
19 GW installed since 1991. The most experienced offshore wind company

Service
79 GW maintained in more than 65 countries worldwide

Key facts as of September 30, 2020



+117 GW
Globally installed



+26,182
Employees



329 MTCO₂
Annual GHG savings to customers



99 GW installed
Onshore



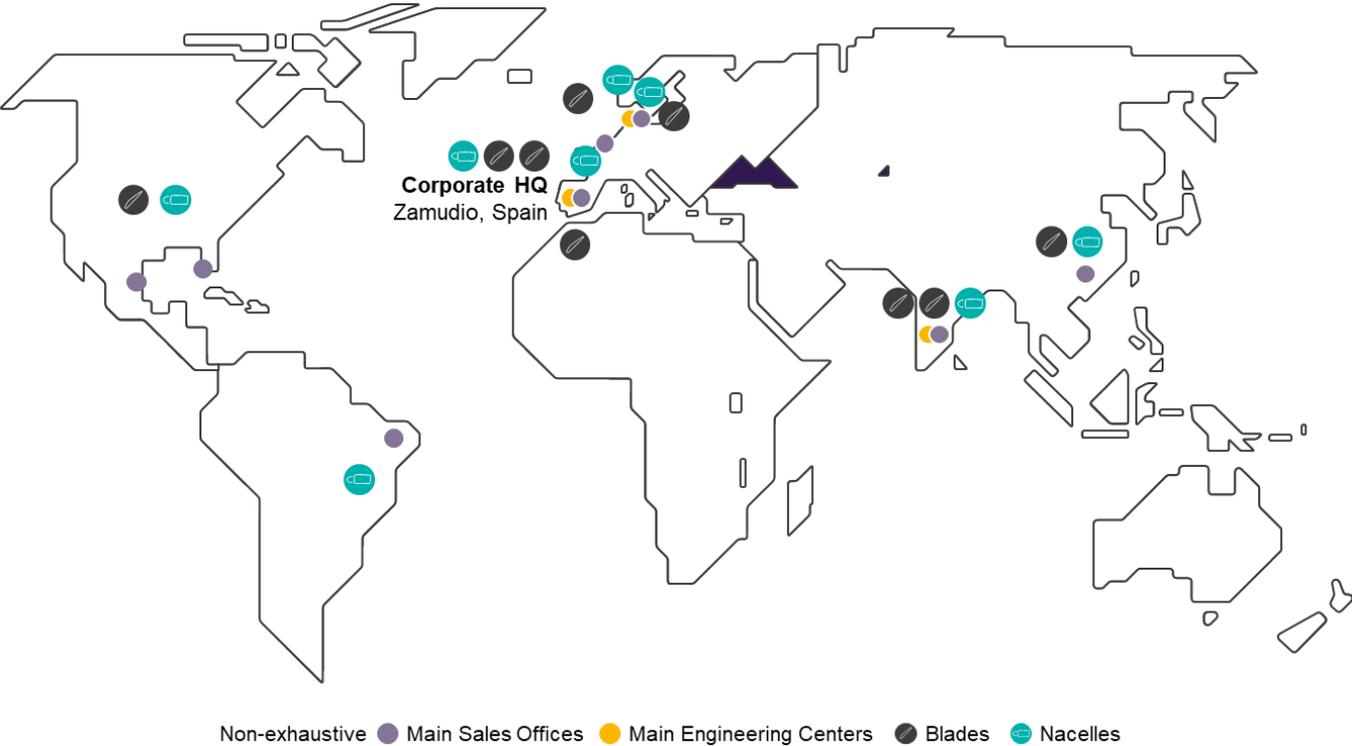
19 GW installed
Offshore



79 GW maintained
Services

¹ See; Siemens Gamesa and Siemens Energy to unlock a new era of offshore green hydrogen production. [Link](#)

Siemens Gamesa global footprint



1.1 Policies, strategies and goals

Siemens Gamesa strives to create as much value as possible for customers and investors that have tied their interests with those of the Company.

The company's commitment to its shareholders and the financial community is to provide transparent, accurate and comprehensive information that adequately reflects its current situation. The main tools used to engage with this stakeholder group include direct contact via the Investor Relations and Shareholders Office, as well as the Annual General Meeting.

Siemens Gamesa's sustainability performance is monitored constantly and is widely recognized by the most renowned and relevant sustainability indexes and ratings, including the Dow Jones Sustainability Index, Carbon Disclosure Project (CDP), EcoVadis, Financial Times Stock Exchange (FTSE4Good), and Ethibel Excellence Europe Index, amongst others.

The Company is also featured in rankings that are more specialized in the renewable energy, climate change fields, and decarbonizations such as the Cleantech Index (CTIUS), The Global Compact, the Clean200 list, the Paris Pledge for Action, Caring for Climate, The Science Based Targets Initiative, and the S&P Global Clean Energy Index which all showcase the Company's commitments to sustainability.

Environmental Policy

The Siemens Gamesa Policy provides clear direction and specific objectives with regards to **Health, Safety and Environment**. It combines six strategic HSE elements and applies globally to all Siemens Gamesa activities, regions and locations and is mandatory for all employees working for Siemens Gamesa, on its behalf or under its authority. The policy is the underlying framework for how we aim to achieve our Company DNA. The following quote, taken from our policy, clearly articulates our core philosophy:

"United we will shape the renewables sector and its entire value chain, leveraging our industrial, technological and innovative capabilities to contribute to a cleaner and more sustainable environment for generations to come".



CREATE VALUE FOR
Customers and Investors



MISSION
We make real what matters -
Clean energy for generations
to come



VISION
Be the global leader in the
renewable energy industry
driving the transition towards a
sustainable world



SUSTAINABILITY INDICES
DJSI, CDP, SBTi, EcoVadis,
FTSE4Good, Ethibel
Sustainability Index, FTSE
Russell, Sustainability
Yearbook, Sustainalytics,
Cleantech Index (CTIUS)

Climate Strategy

Siemens Gamesa recognizes that climate change is a global issue requiring urgent and collective action by governments, businesses and citizens alike. As a provider of clean affordable energy, we contribute to the global economy's decarbonization in terms of the products and services we develop, the ways in which we operate and the partnerships we engage in with policymakers, industry associations and business partners to address climate change collectively. We are shaping the future's energy landscape. Siemens Gamesa climate change strategy covers the full scope of Siemens Gamesa's operations e.g. design and manufacture, pre-assembly and commissioning, operation and maintenance.

We are a member of multiple global communities who share our commitment to climate protection and decarbonization. For example, the Paris Pledge for Action, Caring for Climate and The Science Based Targets Initiative.

In addition, Siemens Gamesa is adapting the recommendations of the Task force on Climate-related Financial Disclosures (TCFD) for the voluntary reporting of the financial impact of climate risks in order to publicly disclose this information in a transparent manner. The Taskforce on Climate-related Financial Disclosures (TCFD) recommendations are voluntary principles that allows for a better understanding of business risks and opportunities that are derived from climate change impacts and greater transparency in companies' climate governance, strategy and performance in mainstream financial reporting.



Climate Change Policy

Our Climate Change Policy was updated on November 2020, it applies company wide and covers the full scope of Siemens Gamesa's operations e.g. design and manufacture, pre-assembly and commissioning, operation and maintenance.

Principles of Siemens Gamesa's Climate Change Policy:

- i. Taking urgent action to combat climate change and its impacts (SDG 13) while providing affordable and clean energy for generations to come (SDG 7)
- ii. Subscribe to the global greenhouse gas emission reduction goals established in the Paris Climate Agreement
- iii. Pursue innovative advances in our product that help to mitigate climate change impacts and reduce greenhouse gas emission
- iv. Advocate for a global emissions market and ESG oriented finance sector to finance clean energy projects.
- v. Responsible use of energy and natural resources
- vi. Develop training and awareness-raising activities concerning pro-environmental behavior and climate action
- vii. Report transparently and in a timely manner with respect to our fight against climate change
- viii. Promote industry alliances and partnerships to jointly address climate change

Net-Zero carbon strategy

In 2019, 5 years ahead of schedule, Siemens Gamesa became carbon neutral - a major milestone towards the company's long-term ambition of net-zero CO2 emissions by 2040.



Commitment to become
Net-Zero Carbon by 2040

The global roadmap towards Net-Zero emissions by 2040 involves six emission reduction levers:

- Energy reductions and efficiency measures in our operations.
- Electricity supply from renewable energy-based sources
Green mobility plan to reduce fleet emissions Offset of
- Offset of non-avoided emissions through compensation projects
- Employee awareness campaigns and idea management
- Engagement of suppliers across the value chain

Siemens Gamesa will engage more with our key suppliers to encourage them to reduce their emissions affecting the products and services they supply to Siemens Gamesa.

Science Based Targets

The Science Based Targets Initiative (SBTi) is an initiative between the Carbon Disclosure Project, the United Nations Global Compact, World Resources Institute, the World Wildlife Fund for Nature and the We Mean Business Coalition. The SBTi encourages companies to set carbon emissions reduction targets at a level necessary to meet the 1.5/2°C compared with preindustrial temperatures set in the Paris Climate Agreement.

Siemens Gamesa committed to the SBTi as the first renewable energy manufacturer in September 2018 and by 2020 the SBT verified that Siemens Gamesa's emission reduction strategy is aligned with what climate science estimates necessary to meet the 1.5°C trajectory.



Target verified
By the SBTi in August 2020

Siemens Gamesa has set the following targets for the next five years until 2025 to meet its net-zero goal by 2040:

- Reduce scope 1 and scope 2 greenhouse gas emissions by 70% per MW installed (compared to 2017)
- Increase the annual sourcing of renewable electricity to 100% (up from 58% in 2017)
- 30% of Siemens Gamesa’s suppliers by spend covering purchased goods and services and transportation and distribution will have science-based targets by 2025

The first two targets have been achieved and the company is working closely with its supply chain to deliver the third target.

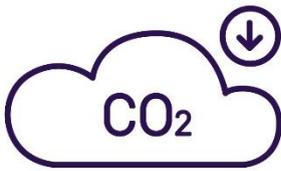
Strategic focus for our Scope 3 emissions

The management of sustainability risks, such as the scope 3 emission reduction, is a key point in the supply chain strategy of Siemens Gamesa.

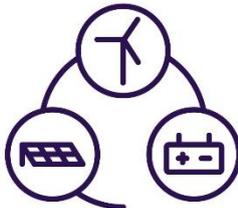
In line with the verified Siemens Gamesa targets of the Science Based Targets initiative (SBTi), as mentioned in chapter 8.3 Supply Chain Principles and section Climate Change, 30% of Siemens Gamesa’s purchasing volume (PVO) shall have science-based targets until 2025, covering the categories of purchased goods and services as well as transportation and distribution.

Therefore, in order to achieve this target, Siemens Gamesa is preparing collaborative measures with selected tier 1 suppliers in order to develop a global downstream supply chain strategy and goal setting. The global end-to-end strategy with the selected tier 1 suppliers, will derive following measure plan that will be developed in detail:

- Understand focus areas and increase the awareness and transparency in the supply chain.
- Specific target settings for tier 1 suppliers as well as reward suppliers with clear commitments to SBTi emission reduction.
- Develop suppliers to increase the overall maturity downstream supply chain and in the industry.



70%
reduction of scope 1 and scope 2 greenhouse gas emissions per MW installed by 2025 (compared to 2017)



100%
of annual electricity sourcing to be renewable by 2025 (up from 58% in 2017)



30%
(minimum) of Siemens Gamesa’s suppliers to have science-based targets by 2025

Figure 1: Siemens Gamesa verified Science Based Targets

1.2 Inventory objectives

The business goals of the GHG report are to:

- Understand and track GHG emissions produced by Siemens Gamesa in an accurate, consistent and transparent way to understand the Company’s environmental impacts. This report has been performed in accordance with the GHG Protocol Corporate Accounting and Reporting Standard and the ISO 14064-1:2018.
- Identify cost effective reduction opportunities and early voluntary actions.
- Report progress against the already established GHG targets, that are certified by the Science Based Targets initiative (SBTi) in order to achieve measurable reductions in Siemens Gamesa’s environmental impact.
- Publicly disclose this information in a transparent and verified manner and voluntarily participate in GHG reduction programs and certifications.



Analyse GHG impacts



Set measurable targets



Identify reduction opportunities



Public disclosure & voluntary participation



2. Organizational boundaries

2.1. Organizational boundaries

In order to define the boundaries of the organization the operational control approach is selected, since it best represents the organization's activities with respect to the work centres performing operational control of the activity and it is the approach that allows greater potential for reducing GHG emissions.

A total of 68 Siemens Gamesa locations are considered for this GHG emissions report. These locations were selected following our internal Environmental Monitoring procedure that ensures a total amount of energy consumption (Scope 1+2) monitored shall cover 95 % of the total energy consumption of SGRE. The table shows number of locations and type per region included².

Business Type	Region/Number of Sites							Total
	APAC	BRAZIL	INDIA	LATAM	NAM	NEME	SE&A	
Construction site	2	1	1	1	2	2	1	10
Distribution center					2	1		3
Office	1	1	1		1	4	2	10
Pre-assembly						2		2
Production Blades	1		1		1	3	2	8
Production Electrical/Gearbox							10	10
Production Nacelle/Hub/Generator	1	1	1		1	2	1	7
Service Wind Farms	1		1	1	1	1	1	6
Substations			1					1
Training location					1	1		2
Warehouse			1		2	2	3	8
Work Shop							1	1
								68

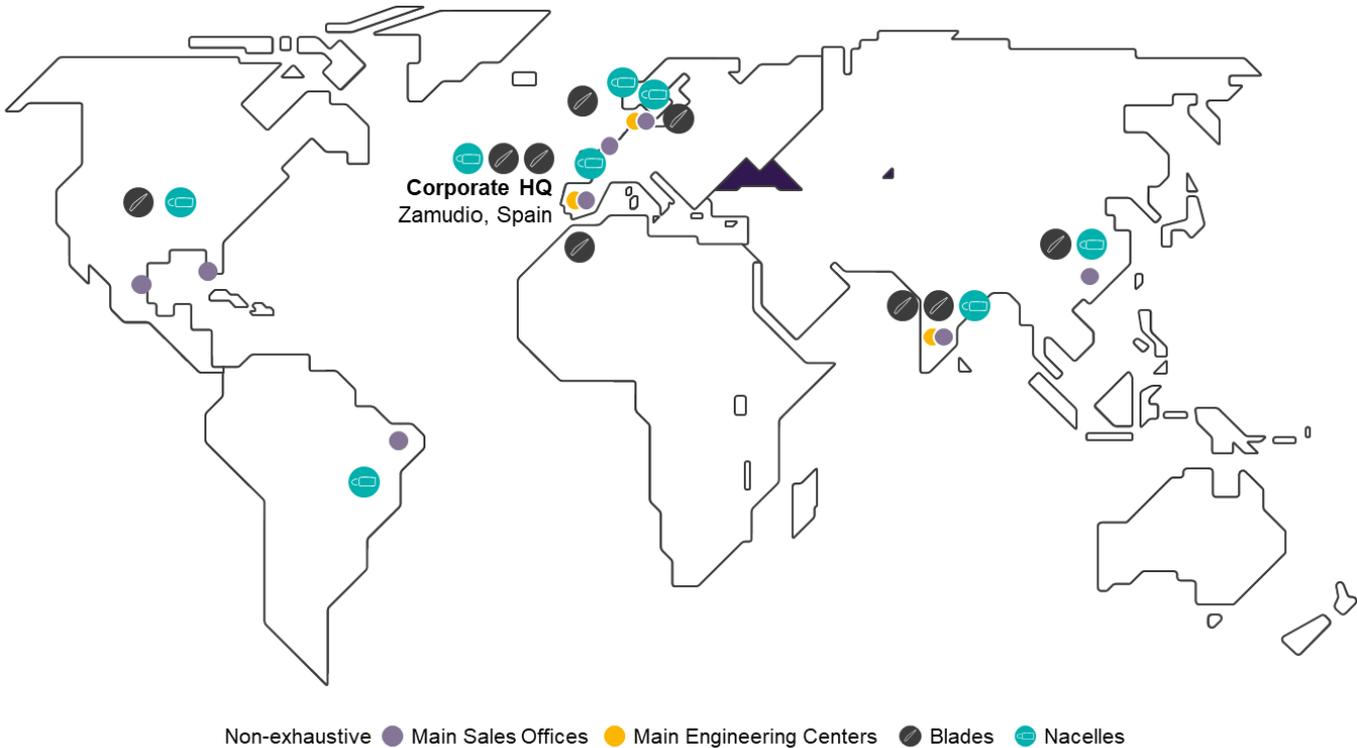
² The reduction in the number of locations from FY20 to FY21 is due to the following change: Previously Service sites were mentioned individually, now they have been consolidated and presented as one for each region.

2.2. Emission sources by locations

Siemens Gamesa has a range of sites already listed in section 3.1. The figure below illustrates the geographic location and associated emissions types per business type.

>50 Sales offices
in 39 countries

7 Service core competence centers
covering all regions



○ Main Sales Offices

- Electric Consumption
- Diesel Consumption
- Nat. Gas
- Refrig. Consumption

○ Main Engineering Centers

- Electric
- Vehicle Fuel
- Refrig. Consumption

▭ Nacelles

- Electric
- Propane Consumption
- Nat. Gas
- Diesel Consumption
- Refrig. Consumption

└ Blades

Figure 2: Overview of main SGRE locations and associated emissions at the main categories.

2.3. Emission sources by component

Siemens Gamesa produces a variety of components such as blades, gearboxes, electronic components and nacelles that shape the final wind turbine product. The figure below illustrates the fuel input in each production process

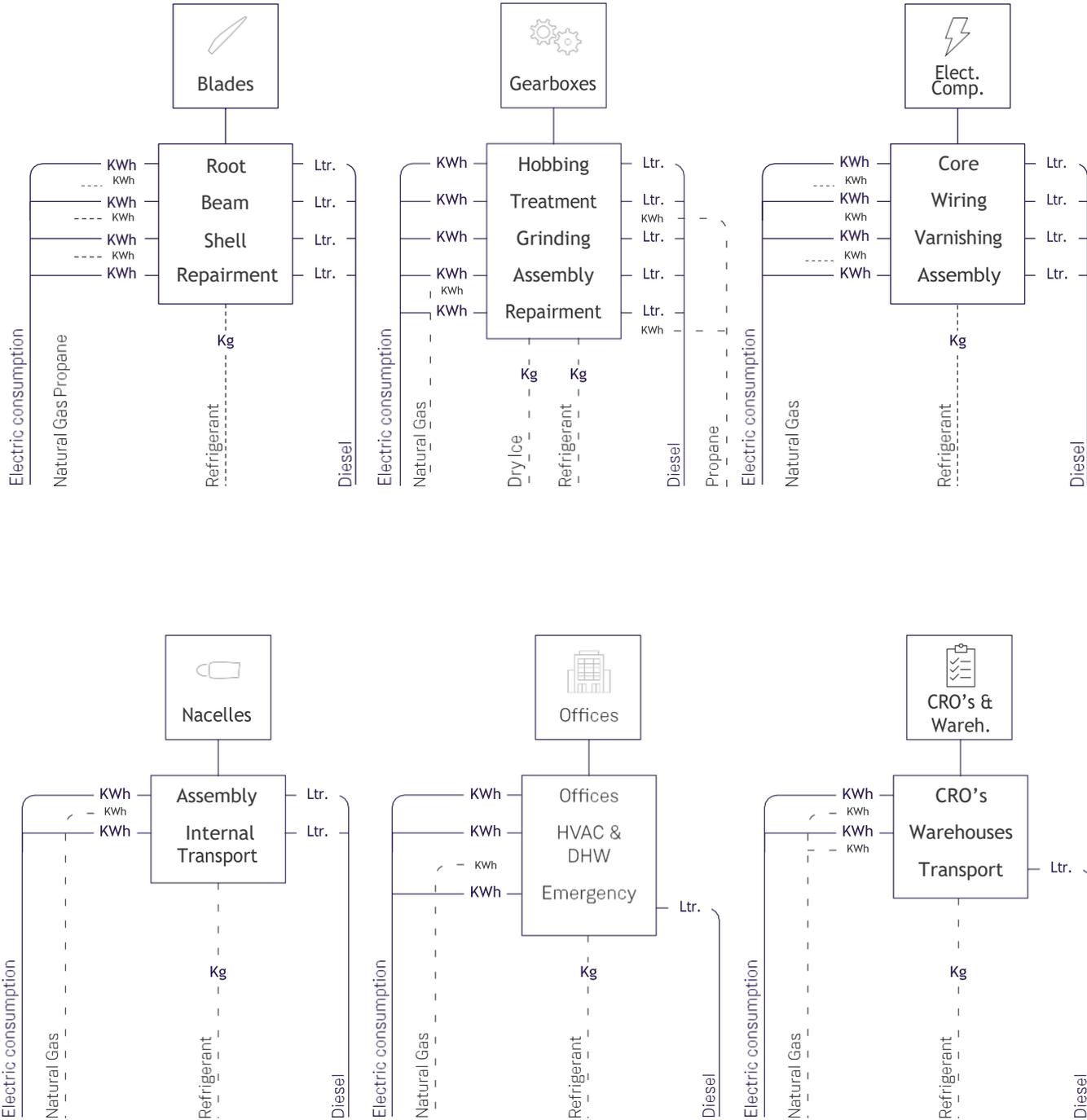


Figure 3: Overview of the emissions associated with the processes undertaken by Siemens Gamesa.

3. Reporting boundaries

Siemens Gamesa has since fiscal year 2017 reported its direct emissions (Scope 1) from sources it owns or controls and indirect emissions (Scope 2) resulting from the generation of purchased electricity, heat, or steam in its annual non-financial report well as to those ESG indices requiring such information.

This report will account and report the six greenhouse gases covered by the Kyoto Protocol and in accordance to ISO 14064-1:2019.

Business Type	
Carbon Dioxide	CO ₂
Methane	CH ₄
Nitrous Oxide	N ₂ O
Sulphur Hexafluoride	SF ₆
Perfluorocarbons	PFCs
Hydrofluorocarbons	HFCs

In addition, this report will account and report the six categories in accordance with the ISO 14064-1:2018 and the three scopes of GHG emissions separately in accordance with the requirements of GHG Protocol.

ISO Categories	Inclusion
Category 1: Direct GHG emissions and removals	✓
Category 2: Indirect GHG emissions from imported energy	✓
Category 3: Indirect GHG emissions from transportation	✓
Category 4: Indirect GHG emissions from products used by an organization	✓
Category 5: Indirect GHG emissions associated with the use of products from the organization	✓
Category 6: Indirect GHG emissions from other sources	✗

If a direct emission source is excluded, it may be justified in accordance with the principles expressed in the total coverage of ISO 14064-1:2018.

Scope 3 categories upstream & downstream	Inclusion
Transportation and distribution (upstream and downstream) Offshore Marine fuel Service Marine fuel [new] Service jet fuel [new] Onshore Marine fuel	✓
Waste generated in operations	✓
Business travel Air Travel Rail Travel	✓
Employee commuting	✓
Use of Sold Products	✓

GHG Scopes:

- GHG direct emissions (Scope 1) - Direct emissions that occur from sources that are owned or controlled by the Company.
- GHG indirect emissions (Scope 2) - Indirect emissions from the generation of purchased electricity consumed by the Company as well as district heating.
- Other GHG indirect emissions (Scope 3) -

Indirect emissions that are a consequence of the activities of the Company but occur from sources not owned or controlled by the Company.

The GHG Protocol splits scope 3 emissions in 15 distinct categories that occur in the company's value chain. It is the intention of SGRE to report scope 3 emission categories as reliable and transparent data becomes available and in future reports in accordance with the verified science-based target. The following Scope 3 emissions from both upstream and downstream sources were accounted for and included in this report:

Scope 3 emissions categories such as “business travel”, “waste generated in operations” and “upstream and downstream transportation and distribution” were quantified with a higher level of accuracy due to:

- Data availability and reliability from suppliers and Siemens Gamesa facilities.
- Potential emissions reductions that could be undertaken or influenced by the Company.

CO2 emissions from biomass combustion and other sources of carbon emissions from short-cycle are not used by Siemens Gamesa.

Together the three emissions scopes provide a comprehensive accounting framework for managing and reducing direct and indirect emissions. The following picture provides an overview of the direct and indirect emissions, the relationship between the scopes and the upstream and downstream sections.

Scope 1
Company facilities and vehicles

Scope 2
Purchased electricity, steam, heating and cooling for own use

Scope 3
Transport and distribution (upstream & downstream), waste generated in operations, business travel, employee commuting and use of sold products

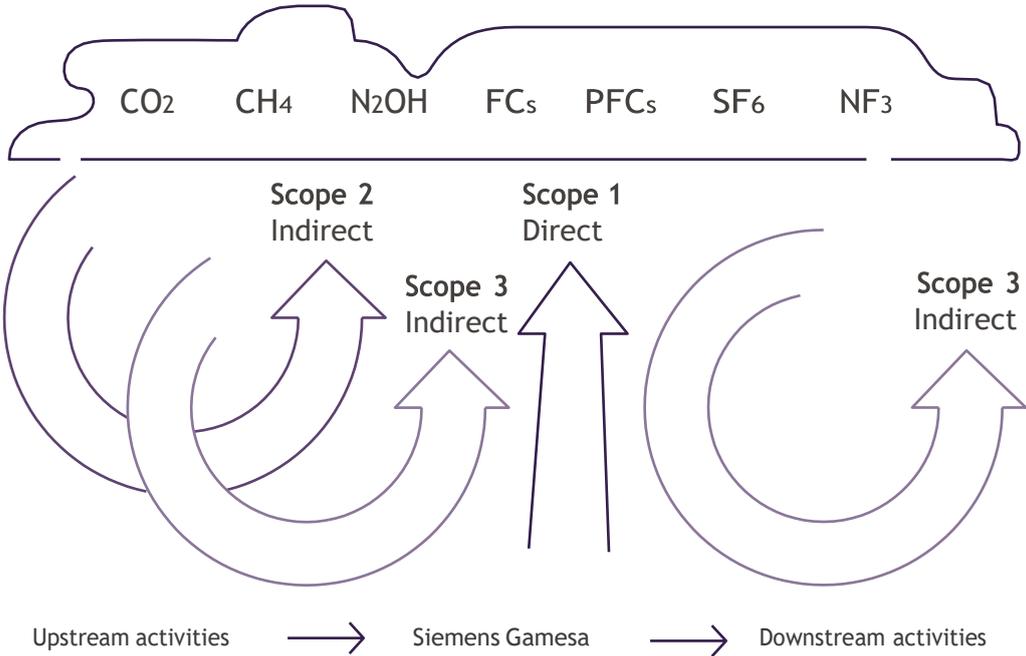


Figure 4: Overview of scope 1, 2 and 3 emissions

3.5 Direct and indirect emissions sources reported

GHG direct emissions sources (Scope 1)

Energy direct emissions			
Point	Activity / Category	Generated GHG	Details
1.1	Natural gas combustion	CO ₂ , CH ₄ , N ₂ O	Boilers
1.2	Diesel combustion	CO ₂ , CH ₄ , N ₂ O	Power generator units and boilers
1.3	Propane combustion	CO ₂ , CH ₄ , N ₂ O	Production lines, forklifts
1.4	Combustion of diesel and gasoline for automotive	CO ₂ , CH ₄ , N ₂ O	Vehicles (pickups)
1.5	Refrigerants	PFCs, HFCs	Air conditioning
1.6	Dry ice	CO ₂	Dry ice

GHG indirect emissions sources (Scope 2)

Energy indirect emissions			
Point	Activity / Category	Generated GHG	Details
2.1	Electricity consumption	CO ₂ , CH ₄ , N ₂ O	Power and lighting
2.2	District heating	CO ₂ , CH ₄ , N ₂ O	Heating

Other GHG indirect emissions (Scope 3)

Other Indirect Emissions			
Point	Activity / Category	Generated GHG	Details
3.1	Transportation and distribution	CO ₂ , CH ₄ , N ₂ O	Marine and jet fuel
3.2	Waste generated in operations	CO ₂ , CH ₄ , N ₂ O	All facilities listed in section 2.1
3.3	Business travel	CO ₂ , CH ₄ , N ₂ O	Air and rail travel
3.4	Employee Commuting	CO ₂ , CH ₄ , N ₂ O	All SGRE employees
3.5	Use of sold products	No GHG generation	SGRE sold products are powered with wind renewable energy

3.6 Exclusions

Reporting locations

The SGRE procedure PRO-15083 “Environmental Monitoring” describes the internal assessment and energy consumption threshold for locations that need to be included in the environmental monitoring in which SGRE has operational control.

A total of 68 facilities have being considered for the report following our internal Environmental Monitoring procedure that ensures a total amount of energy consumption (scope 1+2) monitored shall cover 95 % of the total energy consumption of SGRE. This corresponds approximately to an annual energy consumption above 2.000 GJ per location/site. For more details about these sites, please refer to section 2.1. Locations excluded from the inventory therefore do not exceed 5% of total issuance due to our internal cut off criteria. The exclusions have been estimated according to the following:

- Employees assigned to locations without data information is 547 employees.
- Ratio of t CO₂e per employee: 1,10 t CO₂e.
- Maximum GHG emissions not counted: 602 t CO₂e.
- % Total GHG emissions not counted: 2,09%

Other indirect emissions (Scope 3)

The following table express the upstream and downstream categories that are included and exclude of the report.

Scope 3 categories upstream & downstream	Inclusion
Purchased goods, services and capital goods	—
Fuel- and energy-related activities not included in Scope 1 or Scope 2	n.a
Transportation and distribution (upstream and downstream) <ul style="list-style-type: none"> ▪ Offshore marine fuel ▪ Service marine fuel [new] ▪ Service jet fuel [new] ▪ Onshore marine fuel 	✓
Waste generated in operations	✓
Business travel <ul style="list-style-type: none"> ▪ Air ▪ Rail 	✓
Employee commuting	✓
Upstream leased assets	—
Processing of Sold Products	n.a
Use of Sold Products	✓
End-of-Life Treatment of Sold Products	—
Downstream Leased Assets	—
Franchises	n.a
Investments	—

Emissions excluded from upstream and downstream value chain are not accounted in this report due to lack of completeness and accuracy principles.

4. Inventory of emission and offsets

4.1 Reporting period and general methodology

Base year

The base year is Siemens Gamesa's fiscal year 2019, or the period between October 1, 2018 and September 30, 2019.

Reporting period

This GHG emissions report reflects the situation of Siemens Gamesa's fiscal year 2021, or the period between October 1, 2020 and September 30, 2021.

Methodology

Quantifying GHG emissions includes the data collection process and the application of documented emission factors. The quantification is based on two calculation-based methodologies, depending on the type of emission source:

- Emission sources in which there is a chemical transformation process (combustion, fixed or mobile) and indirect emissions from electricity consumption:
Emissions of CO₂ (t CO₂e) = Activity data x Emission factor
- Emission sources where there is no chemical transformation process (fugitive emissions), or in case the results in GHG are different than CO₂ are converted to tones of CO₂e using the Global Warming Potential (GWP) values provided by the IPCC (e.g. tones of CH₄):
Emissions of CO₂ (t CO₂e) = Activity data x Global warming potential



4.2. Activity data, emissions factors and methodology per emission type

Siemens Gamesa collects environmental information through a software tool that tracks energy and fuel consumption, and waste generation of all locations. In this way the Company minimizes the uncertainty, enables to standardize the information and allows to compile the data in order to obtain accurate activity data to calculate global emissions. The activity data that is not tracked by the software is requested to suppliers and different internal areas such as spend reports.

Emission Type	Activity Data	Emission Factors	Methodology	Methodology Details
Direct emissions (Scope 1)	Energy consumption and Fuel volume	GHG Protocol Link	Fuel volume and energy consumption converted to GJ x Emission Factors	Purchased volumes of commercial fuels such as natural gas, LPG, diesel, gasoline, heating oil and jet fuel were converted into Gigajoules (GJ) and multiplied by the published emission factors in the GHG Protocol.
Indirect emissions (Scope 2)	Electricity consumption	IEA Link	Purchased electricity x Emission Factor District heating x emission factor	Purchased electricity in kWh multiplied by the published emission factors in the IEA 2016 report. When Energy Attribute Certificates are bought, zero emission is applied. Purchased m3 district heating multiplied by the emissions factors published by the district heating provider.
Other indirect emissions (Scope 3)				
Transportation and distribution (upstream and downstream) Marine fuel (OF-ON-SE) Jet fuel (SE)	Fuel volume and Distance travelled	IMO-Link p.58 GHG Protocol- Link	Fuel-based method Distance-based method	Purchased volumes of marine, jet and road transport or distance travelled were multiplied by the published emission factor.
Waste generated in operations	Amount of waste generated in operations (t)	DEFRA Link	Waste-type-specific method in accordance with GHG Protocol	“Waste generated in operations” emissions were calculated using waste volumes at facility-level and emission factors from DEFRA.
Business travel Air Travel Rail Travel	Supplier data -Distance Travelled (miles) Supplier data - Emissions Factors	DEFRA Link	Supplier calculations - Distance-based method	Travel emissions for air and rail were calculated using activity data and emission factors provided by the supplier. The emission factors source is DEFRA.
Employee commuting	SGRE workforce Modal split per representing countries Distances travelled per country (km)	DEFRA Link	Distance-based method in accordance with GHG Protocol	Employee commuting emissions were calculated using SGRE workforce number per country, multiplied by the average transport commute distance by country (Sönnichsen, 2019) and the modal split (Rodrigue, 2017) multiplied by the emissions factor DEFRA.
Use of Sold Products	Energy consumption in sold products (kWh)	IEA Link	Energy consumption	Energy consumption multiplied by the published emission factors from the IEA.

4.3. GHG emissions inventory quantification by scope

The following table shows the quantification of GHG emissions related to scope 1, scope 2 and scope 3 where data has been found available.

Indicator	Fiscal Year 2019 (Base year) t CO ₂ e	Fiscal Year 2020 t CO ₂ e	Fiscal Year 2021 t CO ₂ e
Total Direct GHG emissions (Scope 1)	26.437	26.052	26.788
Carbon dioxide (CO ₂)	26.389	26.009	23.834
Methane (CH ₄)	0,41	0,43	0,43
Nitrous oxide (N ₂ O)	0,14	0,12	0,14
Total Indirect GHG emissions (Scope 2)	44.262	1.857 ¹	2.017
Total Other indirect emissions (Scope 3)	71.825	516.853	856.082
Business travel total	9.739	5.101	2.777
Disposal of waste generated in operations	3.061	10.666 ²	6.376
Employee commuting	4.841	3.041	3.077
Transport and Distribution	54.183	498.045 ³	843.852 ³
Use of sold products	0	0	0
TOTAL GHG EMISSIONS (Scope 1, 2 and 3)	142.523	544.762	884.887

¹Decrease in Scope 2 emissions is due to the purchase of Energy Attribute Certificates (EACs) which ensure that the origin of the electricity is from renewable sources.

²Increase in the amount of waste emissions is due to the increase of waste tones reported compared with FY19.

³Increased in transport and distribution category between FY19-21 is due to the addition of jet and marine fuel data for construction and service activities.

4.4. Consolidated statement of GHG emissions FY21

In the table below, GHG emissions quantification breakdown by business unit and category in conformity requirements of standard ISO 14064-1:2018.

Direct GHG Emissions		Fiscal Year 2021 t CO2e
Category 1: Direct GHG emissions and removals		26.788
Onshore		15.609
Gasoline		628
Diesel		10.357
Natural Gas		3.270
LPG		1.125
Heating fuel oil		0
Refrigerants		230
Offshore		6.112
Gasoline		20
Diesel		1.710
Natural Gas		4.066
LPG		176
Heating fuel oil		101
Refrigerants		39
Service		2.118
Gasoline		147
Diesel		1.594
Natural Gas		288
LPG		39
Heating fuel oil		37
Refrigerants		13
Corporate		2.949
Gasoline		0
Diesel		104
Natural Gas		914
LPG		434
Heating fuel oil		187
Refrigerants		1.310
Indirect GHG Emissions		Fiscal Year 2021 t CO2e
Category 2: Indirect GHG emissions from imported energy		2017
Onshore		241,27
Electricity from non-renewable sources		0

District heating	241,27
Offshore	1775,45
Electricity from non-renewable sources	0
District heating	1775,45
Service	0
Electricity from non-renewable sources	0
District heating	0
Category 3: Indirect GHG emissions from transportation	849.706
Transportation and distribution (Upstream and Downstream)	843.852
Onshore (deep sea component transport)	726.785,15
Offshore (installation vessels)	19.804,25
Service (service vessels and helicopters)	97.262,37
Business Travel (air and rail)	2.777
Air	2.739
Rail	37,64
Employee Commuting	3.077
Category 4: Indirect GHG emissions from products used by an organization	6.376
Waste generation in operations	6.376
Category 5: Indirect GHG emissions associated with the use of products from the organization	0
Use of sold products	0
Removals	0

4.5 Offsetting

Siemens Gamesa has been investing in Clean Development Mechanism (CDM) projects and sink projects involving reforestation actions that aim to reduce future emissions to balance its carbon footprint.

The wind power project Bii Nee Stipa in Oaxaca, Mexico, was registered as a Clean Development Mechanism (CDM) under the United Nations Framework Convention for Climate Change (UNFCCC). This project generates Certified Emission Reductions (CER) for Siemens Gamesa that are used to offset the non- avoided emissions. Siemens Gamesa has again this year chosen to cancel CERs equivalent to its scope 1 and 2 emissions.

Siemens Gamesa is continuously working to decrease the need for offsetting towards the achievement of the net-zero emissions target by 2040.



28.805 CERs
cancelled in FY21

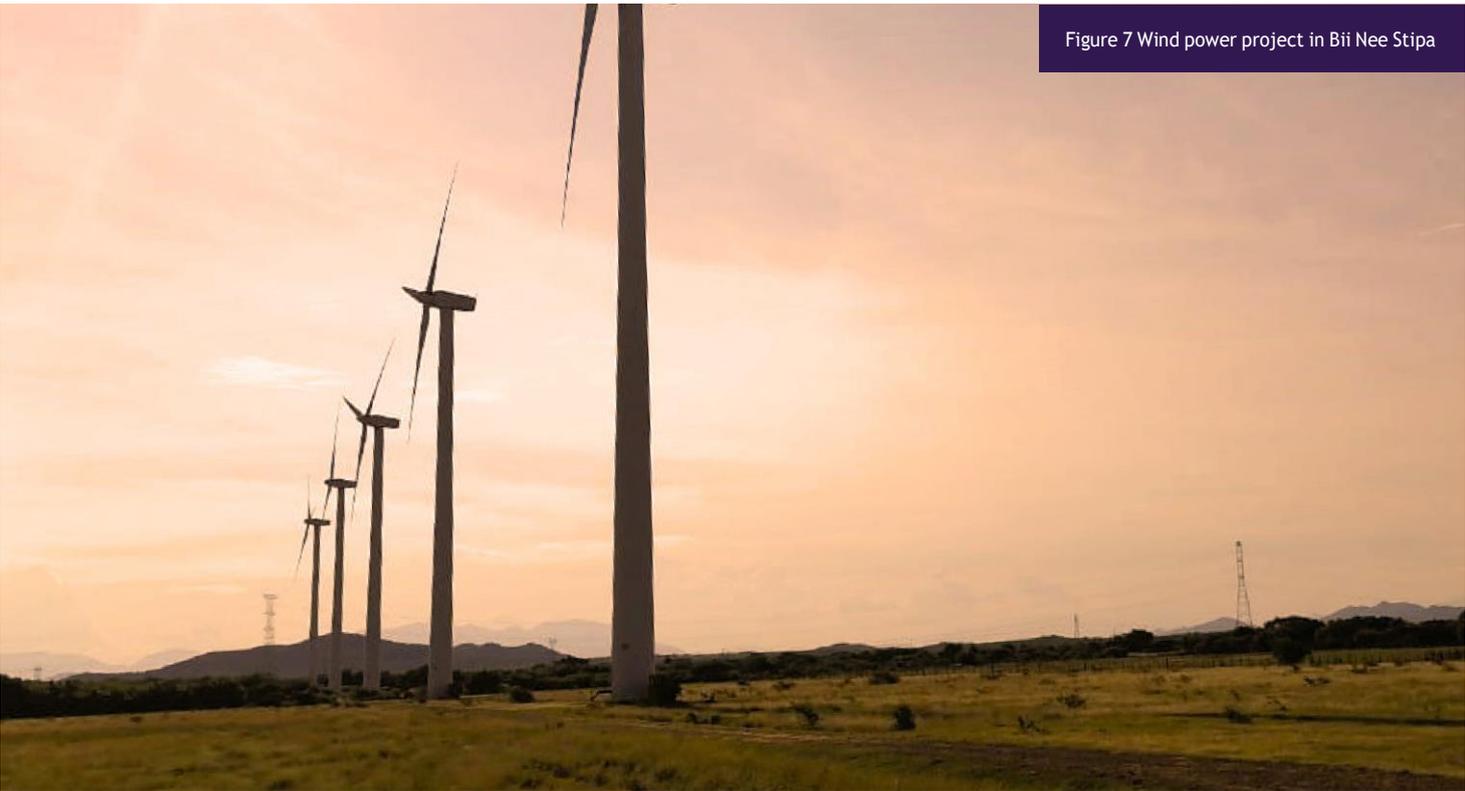


Figure 7 Wind power project in Bii Nee Stipa

4.6 Uncertainty in GHG emissions inventory

Uncertainty in the emissions inventory is a combination of the uncertainties in the emission factors and in the corresponding activity data.

Emission Factors

The emission factors, caloric data value and oxidation factors used are considered null uncertain as they come from official sources and they are beyond the control of the organization.

Activity Data

■ Direct emissions (Scope 1) and Indirect emissions (Scope 2):

Data for Scope 1 and 2 is obtained from commercial invoices. As activity data from commercial operation is governed by legal procedure is not necessary to calculate the uncertainty.

■ Other indirect emissions (Scope 3):

Uncertainties in the accounting of the Scope 3 emissions are related to generic assumptions made.

Emission Type	Uncertainty description
Transport and Distribution	Emission subcategories such as marine fuel in Onshore, Offshore and Service for either component transport or construction services, as well as jet fuel in Service are included as data becomes available following the ISO and GHG Accounting and Reporting Principles.
Waste generated in operations	Lack of emissions factors for some waste types and waste treatment methods in the DEFRA source. Allocation of emissions factors for waste types and waste treatment methods that do not have value in DEFRA emissions source.
Business travel	Some estimates due to gaps in the availability of air and rail travel from supplier.
Employee commuting	Employee commuting uses average distances travelled by country and generic modal split (public transport and private vehicle) in big cities which are then multiplied by DEFRA emissions factors. As a result of a COVID-19 home office protocol, the same methodology was used from the previous reporting year where a conservative estimate of 53 working days for white collar employees was assumed.

4.7 Reducing uncertainty

Uncertainties in this GHG inventory arise mainly from Scope 3 emissions. As a result, Siemens Gamesa is engaging its supply chain towards a complete decarbonization in line with its Scope 3 science-based target. The company is on the way to implement a procurement approach, that will give to suppliers an opportunity to present their environmental efforts translated in CO2 reductions. The intention of Siemens Gamesa is to improve the future inventory quality and increase the level of confidence users have in the inventory results. For more details see section 1.1 Strategic focus for our Scope 3 emissions.

As a matter of fact, COVID-19 has been impacting our business travel and employees commuting categories from Scope 3 since last fiscal year. Employees were required to work from home when the work was suitable for it, and business travel activity was carried out only in critical situations and in accordance with national and international regulations. Consequently, emissions in both categories were significantly reduced without affecting business operations.

In addition to the already mentioned, Siemens Gamesa will follow concrete steps to reduce the uncertainty in the Scope 3 categories reported in this inventory:

Other indirect emissions (Scope 3):

Emission Type	Reduce Uncertainty Actions
Transport and Distribution	Keep tracking additional sources of GHG emissions within the Transport and Distribution (upstream and downstream) category, and report emissions based on the ISO and GHG Accounting and Reporting Principles.
Waste generated in operations	Siemens Gamesa has been improving the reporting of waste generation in the facilities. Siemens Gamesa will continue to encourage facilities to improve the reporting and the classification of waste destination; recovery, recycling and reuse.
Business travel Air Travel Rail Travel	Continue to inform travel suppliers about the efforts SGRE is making towards the development of a GHG inventory and bring awareness of the net-zero emissions target. Continue with the awareness campaign to communicate to employees the efforts that SGRE is making towards the net-zero emissions target. Encourage suppliers to improve the GHG data delivered to include not only air travel but also rail, automotive and bus emissions.
Employee commuting	Siemens Gamesa will consider applying an internal survey to calculate SGRE employees commuting data. Communicate to employees the efforts that SGRE is making towards the development of a GHG inventory and the net-zero emissions target. The survey will be applied once the return-to-the-office protocol has been activated in most of the countries as a result of the recovery of the pandemic, in order to get the updated commuting patterns of the employees.

5. Performance tracking & reductions project

5.1 Performance tracking

Since fiscal year 2019, Siemens Gamesa committed to report its companywide GHG emissions. The GHG emissions report of FY19 represents the baseline year for GHG emissions reporting.

The next section will present trends and a comparative analysis between FY19 baseline and current fiscal year data.

Relevant trends to monitor are:

- Emissions per MW installed capacity:**
 In Fiscal Year 2021, 10.164MW of capacity was installed on the market. This means that the emissions per MW installed equals:
 $28.805 \text{ t CO}_2\text{e} / 10.164 \text{ MW installed} = 2,83 \text{ t CO}_2\text{e per MW installed}$
- Emissions per employee:**
 End of Fiscal Year 2021, 26.182 persons were directly employed by SGRE. This means that the emissions per employee equals:
 $28.805 \text{ t CO}_2\text{e} / 26.182 \text{ employees} = 1,10 \text{ t CO}_2\text{e per employee}$

Going forward, Siemens Gamesa will monitor and compare its CO₂e. trends with this baseline year to follow the progress towards the achievement of its SBT in 2025 and net-zero carbon in 2040.

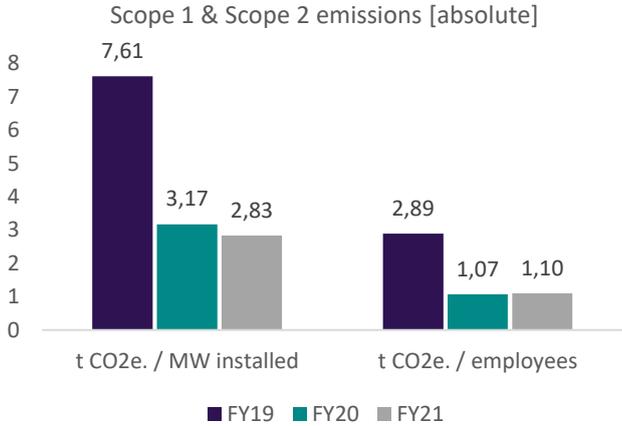


Figure 5 Scope 1 & Scope 2 intensity emissions FY19-FY21

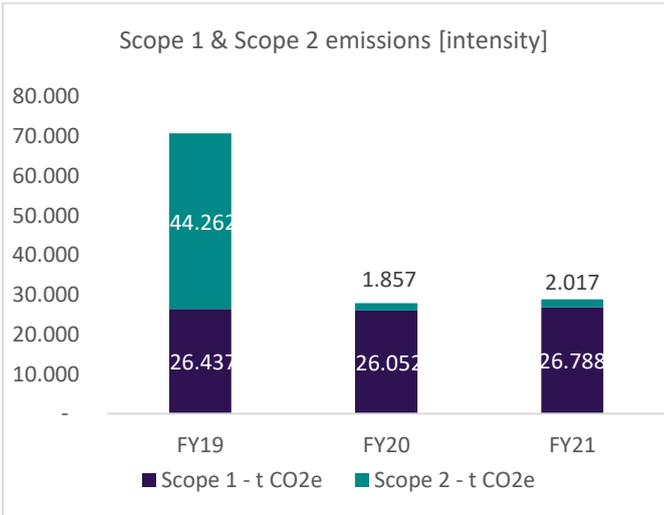


Figure 6 Scope 1 & Scope 2 absolute emissions FY19-FY21

5.2 Reduction projects

Siemens Gamesa continues to make reductions and implement energy efficiency measures related to their operations across production facilities and project sites to fulfill its emissions targets. Energy improvement projects are being monitored through energy improvement actions plans.

In FY21, several improvement actions were proposed and for those implemented the following energy savings were achieved: 27.359 GJ

The following actions are examples of initiatives that have been implemented at different plants and offices during the reporting period. The below actions aimed at reducing consumption and increase energy efficiency cover 64% of the total reductions projects in FY21:

Country	Location	Initiative	Savings (GJ)	t CO ₂ e Saved
US	Fort Madison	Change of building use resulting in reductions in electricity and heating	19.066	1.840
DK	Aalborg	Lighting exchange to LED	2.033	252
DE	Cuxhaven	Energy efficiency through reduced illumination	1.556	193
IN	Nellore	Reduced energy use with chiller pump automation	1.109	224
DK	Brande	Exchange of Uninterruptible Power Supply (UPS) Systems to more energy efficient units	748	43
CN	Lingang	Replacement of electrical dehumidifier with fresh air dehumidification system	347	60

Conclusion

Siemens Gamesa recognizes that climate change is a global issue requiring urgent and collective action and is committed to contributing to the global economy's decarbonization. We believe that companies can play a pioneering role in the fight against climate change

The Company has pledged its commitment to the Paris Pledge for Action, the Science Based Target Initiative and expanded its ambitions by incorporating a long term target of achieving net-zero emissions by 2040. These commitments demonstrate Siemens Gamesa's agreement to contribute to the accomplishment of the objectives established by the United Nations Sustainable Development Goals.

Total scope 1 and 2 emissions of the Company in FY21:

28.805 t CO₂e

Total scope 3 emissions of the Company in FY21:

856.082 t CO₂e

Total energy savings achieved in FY21:

27.359 GJ

Total CERs cancelled in FY21

28.805

The company will work continuously to reduce its emissions towards the achievement of the net-zero emissions target through the following emission reduction levers:

- Energy reductions and energy efficiency measures
 - Electricity supply from renewable energy-based sources
- Green mobility plan to reduce fleet emissions
- Employee awareness campaigns and idea management as a way to capture and implement employee ideas related to sustainability
- Supplier engagement across the value chain
- Offset of non-avoided emissions through compensation projects

Siemens Gamesa is working on strengthening the accuracy and reliability of the data through the HSE reporting software by improving the methods to collect and track data such as energy consumption, fuel consumption and waste generation for all locations of the Company. This software minimizes the uncertainty, standardizes the information flow and compiles analytics from the data to calculate global emissions related to the organization.

In this report, Siemens Gamesa reports the six categories described in the ISO 14064-1:2018. In addition, the company continues reporting the three scopes in accordance with the GHG Protocol Corporate Accounting and Reporting Standard, and five GHG inventory categories of the Scope 3 upstream and downstream value chain. Siemens Gamesa is currently establishing a new strategic program in light of its SBT for Scope 3 to engage more with key suppliers to encourage them to reduce their Scope 1 and Scope 2 emissions affecting the products and services they supply us. This program is the basis for the development of company-wide program to reduce emission in the company's value chain.

Overall, the GHG emissions report supports in:

- Obtaining an improved overview of Siemens Gamesa's direct and indirect GHG emissions and supporting the decision-making process towards the reduction of GHG impacts.
- Identify cost effective reduction opportunities and early voluntary actions.
- Setting ambitious GHG reduction targets as well as effectively measuring and reporting progress towards these targets.
- Publicly disclose this information in a transparent and verified manner and voluntarily participate in GHG reduction programs and certifications.

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