

# Siemens Gamesa Renewable Energy

## Greenhouse Gas Emissions Report Fiscal Year 2019



# CONTENT

- 1. INTRODUCTION**
- 2. ORGANIZATION DESCRIPTION**
- 3. INVENTORY BOUNDARIES**
- 4. EMISSIONS CALCULATIONS**
- 5. MANAGING UNCERTAINTY**
- 6. TRENDS & COMPARATIVE ANALYSIS**
- 7. REDUCTION PROJECTS**
- 8. CONCLUSION**

# 1. 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 in order to transparently disclose to its stakeholders its environmental aspects 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 2019, or the **period between October 1, 2018 and September 30, 2019**. Further, the report covers all countries where commercial activities are performed under the scope of SGRE.

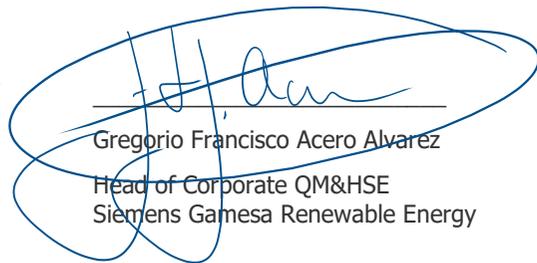
The GHG emissions report has been performed in accordance to the requirements described in **ISO 14064-1:2018** *“Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals”*. It includes all required information,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

This report is aligned to the **GHG Accounting and Reporting Principles** found within the GHG Protocol Corporate Accounting and Reporting Standard.

The 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. This was done in accordance to **ISO 14064-3:2019** *“Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse statements”*. This inventory verification of greenhouse gases was performed with a limited (third party) assurance engagement and the level of assurance achieved is 2.5 %.



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## 2. ORGANIZATIONAL DESCRIPTION

Siemens Gamesa Renewable Energy S. A. was born in April 2017, with the merger of Gamesa Corporación Tecnológica S. A. and Siemens Wind Power A/S.

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. 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 98 GW and 24,453 employees.

### Onshore wind power

With 83 GW installed since 1980, SGRE covers all wind classes and site conditions and is the technological partner of choice for onshore wind power projects.

### Offshore wind power

With 15 GW installed since 1991, SGRE is the most experienced offshore wind company with the most reliable product portfolio in the market.

### Service

With 60 GW maintained, Siemens Gamesa offers one of the most comprehensive and flexible portfolios for the maintenance and optimization of both Siemens Gamesa wind turbines and also third-party assets.

### Key facts as of September 30, 2019



+98 GW

Globally installed



+24,400

Employees



259 MTCO<sub>2</sub>

Annual GHG savings to customers



ONSHORE

83 GW INSTALLED



OFFSHORE

15 GW INSTALLED



SERVICES

60 GW MAINTAINED

**GHG EMISSIONS REPORT 2019**

**2.1. Policies, strategies and collaborations**

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 commitment to sustainability is widely recognized in several significant ratings and rankings, including the Dow Jones Sustainability Index, FTSE4Good, Ethibel Excellence Europe, Carbon Disclosure Project (CDP) and EcoVadis, amongst others.

The Company is also featured in rankings that are more specialized in the renewable energy and climate change fields, such as the Cleantech Index, the Global Challenge Index (GCX), the Clean200 list and the S&P Global Clean Energy Index which all showcase the Company's commitments to sustainability.

The SGRE Policy provides clear direction and specific objectives with regards to Quality, Health, Safety and Environment (HSE). 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.



**CREATE VALUE FOR**  
Customers and Investors

**VISION**

**TO BE THE GLOBAL LEADER IN THE RENEWABLE ENERGY  
INDUSTRY DRIVING THE TRANSITION TOWARDS A  
SUSTAINABLE WORLD**



**SUSTAINABILITY INDICES**  
DJSI, FTSE4Good,  
Global Challenges Index,  
Ethibel Excellence Europe Index

## GHG EMISSIONS REPORT 2019

### 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, our scale and global reach reinforces the central role we have in shaping the future's energy landscape. We are committed to action and will continue making important contributions 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.



### Climate Change Policy

Aware that climate change is a fundamental threat to markets and sustainable development, SGRE has adopted a Climate Change Policy, which applies company-wide.

The policy enforces SGRE's intent to continue developing renewable energy technologies and promoting their uptake to achieve a global low-carbon energy generation model that not only reduces environmental impacts but also ensures a sustainable future for generations to come.

This policy was drawn up to contribute to Principle 4 of the Corporate Social Responsibility Policy:

***“Contribute to sustainable development by reducing the environmental impact of Siemens Gamesa’s activities and generating new solutions through innovation”.***

This policy was revised and endorsed by the Board of Directors on September 25, 2019.

The Company has committed to several business initiatives aimed at reducing GHG emissions, such as the Paris Pledge for Action and Science Based Target Initiative. Further, the Company has announced that it will aim for Carbon Neutrality by 2025.

## GHG EMISSIONS REPORT 2019

### Carbon Neutral Strategy

Siemens Gamesa has taken up the challenge of reaching carbon neutrality by 2025.

Carbon neutrality in SGRE includes measuring, reducing and/or offsetting the CO<sub>2</sub> generated directly or indirectly by the Company. The global roadmap for meeting this commitment includes a combination of adaptation and mitigation actions, such as:

- Energy reductions and efficiency measures in our operations.
- Measures to purchase electricity from renewable energy-based sources.
- Green mobility measures to reduce fleet emissions.
- Offset non-avoided emissions through compensation projects, which will take the form of an exchange of emission rights depending on different scenarios.
- Inform and engage employees of the Company through sustainability challenges and find ways to capture and implement employee ideas related to sustainability



Commitment to become  
**Carbon Neutral by 2025**

### 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 Wild Life Fund for Nature, and the We Mean Business Coalition. The initiative encourages companies to commit to making measurable reductions in carbon emissions at a level necessary to meet the 2-degree Celsius warming target set in the Paris Climate Accord.



**Commitment to the SBTi**  
in September 2018

Siemens Gamesa announced its formal commitment to the SBTi at the Global Climate Action Summit in September 2018. The company commits to developing a measurable, science-based emissions reduction target within the next two years from the announcement that will be independently validated by SBTi's team of technical experts.

To date, 672 companies have already made the commitment and 276 companies have approved science-based targets.

**GHG EMISSIONS REPORT 2019**

**2.2. Business goals**

The business goals of the GHG report are to:

- Understand and track emissions in an accurate, consistent and transparent way to understand the Company’s environmental impacts.
- Identify cost effective reduction opportunities and early voluntary actions.
- Establish GHG targets, that are science based in order to achieve measurable reductions in Siemens Gamesa’s environmental impacts.
- Publicly disclose this information in a transparent and verified manner and voluntarily participate in GHG reduction programs and certifications.



**Analyse  
GHG impacts**



**Identify reduction  
opportunities**



**Set measurable  
targets**



**Public disclosure  
& voluntary  
participation**

### 3.INVENTORY BOUNDARIES

#### 3.1. 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 184 Siemens Gamesa locations are considered for this GHG emissions report. These were selected using an internal threshold analysis that considers consumption of energy, where locations with a consumption of more than 2000 GJ per year is included. The table shows location type and number per region included

Business Type	Region/Number of Sites							Sum
	APAC	BRAZIL	INDIA	LATAM	NAM	NEIME	SE&A	
Construction sites	1	1	1	1	1	2	1	8
Distribution centers					1	1		2
Offices	1	1	2	2	3	2	2	13
Others			2					2
Pre-assembly sites						2		2
Production blades	1		2		1	3	5	12
Production electrical/gearbox							9	9
Production nacelle/hub/generator	1	1	3		1	2	1	9
Service wind farms			97					97
Substations			11					11
Training locations					1			1
Warehouses			7	2	2	2	3	16
Workshops						1	1	2
								184

## GHG EMISSIONS REPORT 2019

### 3.2. Operational 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 14064-1:2018.

Greenhouse gases reported	
<b>Carbon Dioxide</b>	CO <sub>2</sub>
<b>Methane</b>	CH <sub>4</sub>
<b>Nitrous Oxide</b>	N <sub>2</sub> O
<b>Sulphur Hexafluoride</b>	SF <sub>6</sub>
<b>Perfluorocarbons</b>	PFCs
<b>Hydrofluorocarbons</b>	HFCs

In accordance with the requirements of ISO 14064-1:2018 and the GHG Protocol the GHG emissions are separately accounted. 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.

- **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 categorizes scope 3 emissions in 15 distinct categories in the upstream and downstream value chain. In fiscal year 2019 the following Scope 3 emissions from both upstream and downstream sources were accounted for and included in this report. It is the intention of SGRE to gradually expand our inclusion of scope 3 emissions as reliable and transparent data becomes available.

Scope 3 categories upstream & downstream	Inclusion
Transportation and distribution (upstream and downstream) -Marine Diesel Oil	✓
Waste generated in operations	✓
Business travel -Air Travel -Rail Travel	✓
Employee commuting	✓
Use of Sold Products	✓

## GHG EMISSIONS REPORT 2019

Emissions for “business travel”, “waste generated in operations” and “upstream and downstream transportation and distribution” categories 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.

CO<sub>2</sub> 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 categories included in this report.

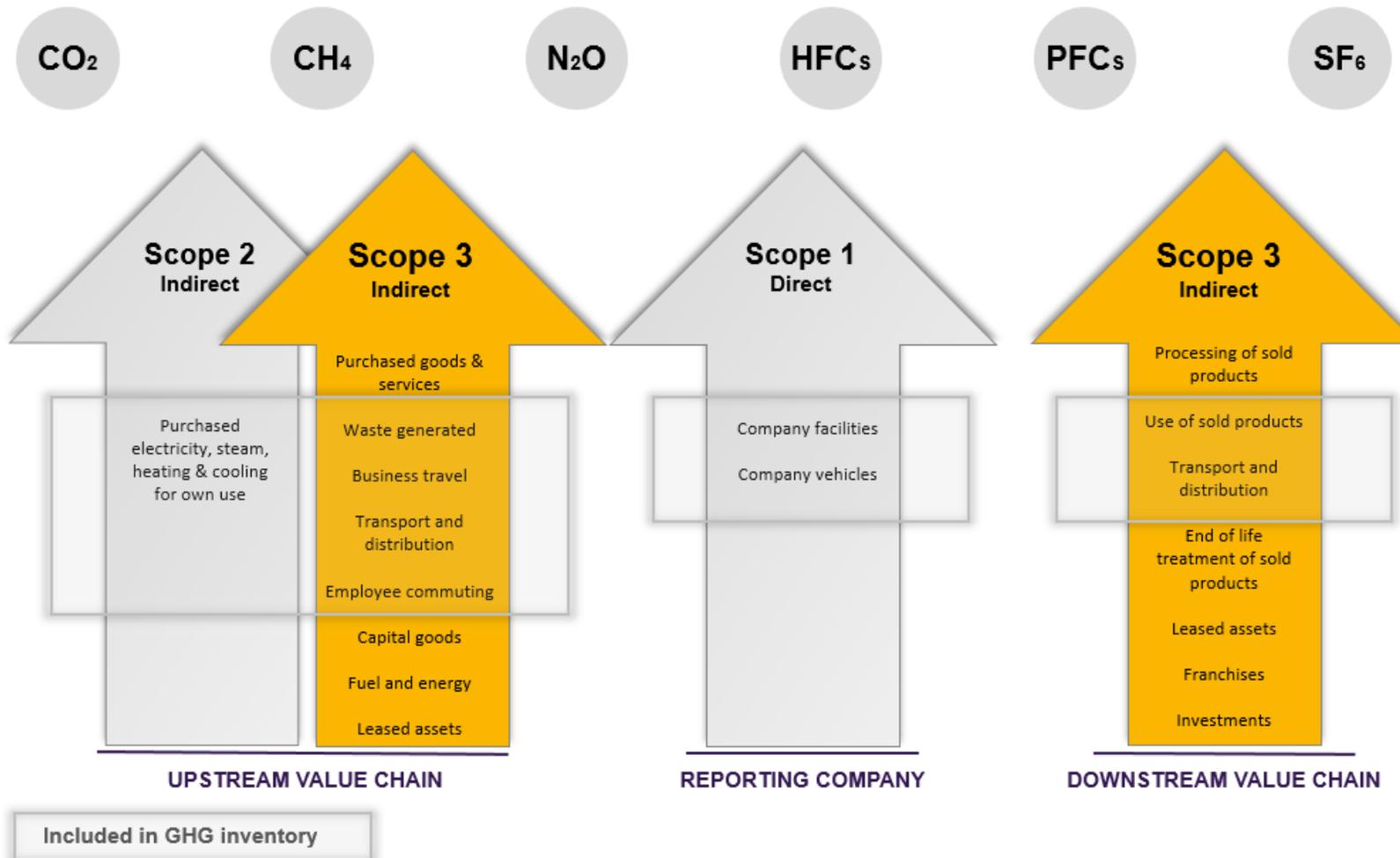


Figure 1: Overview of scope 1, 2 and 3 emissions. Included in SGRE's GHG emissions report is visualized within the boxes.

## 4. EMISSION CALCULATIONS

### 4.1. 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.

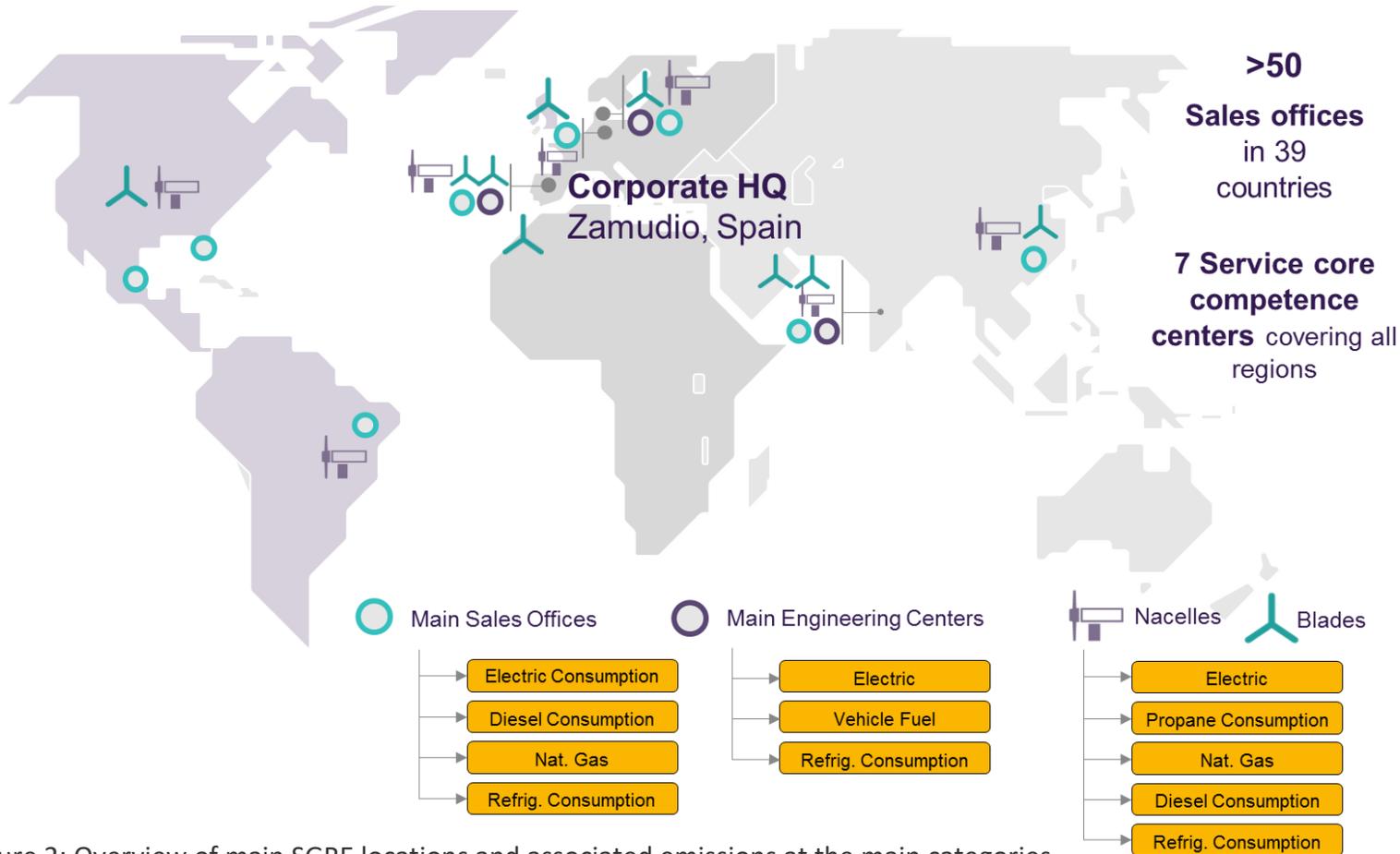


Figure 2: Overview of main SGRE locations and associated emissions at the main categories.

**GHG EMISSIONS REPORT 2019**

**4.2. 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.

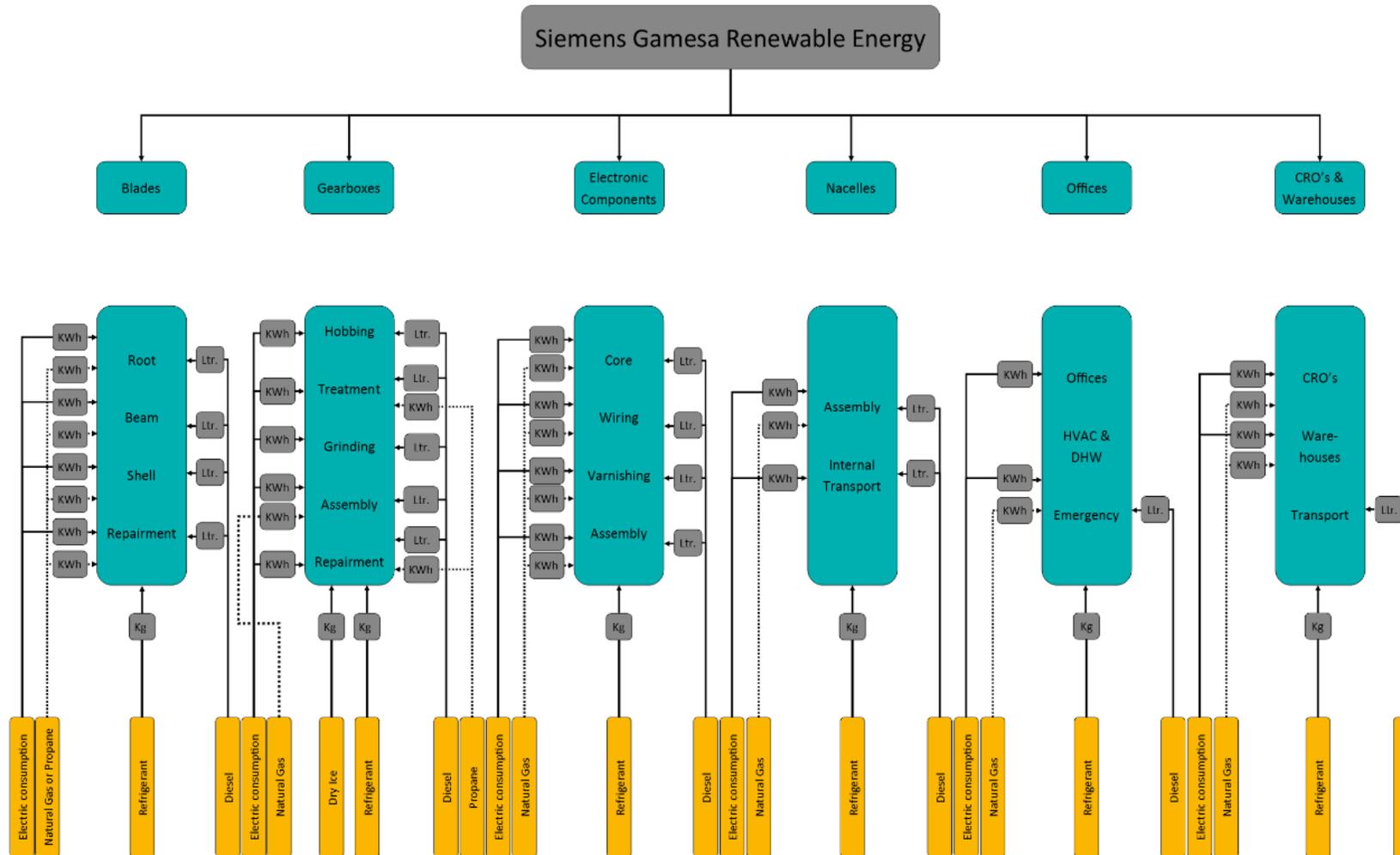


Figure 3: Overview of the emissions associated with the processes undertaken by SGRE.

## GHG EMISSIONS REPORT 2019

### 4.3. Direct and indirect emissions sources identified

#### GHG direct emissions sources (Scope 1)

Energy direct emissions			
Point	Process / Activity	Generated GHG	Installation
1.1	Natural gas combustion	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O	Boilers
1.2	Diesel combustion	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O	Power generator units and boilers
1.3	Propane combustion	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O	Production lines, forklifts
1.4	Combustion of diesel and gasoline for automotive	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O	Vehicles (pickups)
1.5	Refrigerants	PFC's, HFC's	Air conditioning
1.6	Dry ice	CO <sub>2</sub>	Dry ice

#### GHG indirect emissions sources (Scope 2)

Energy indirect emissions			
Point	Process / Activity	Generated GHG	Installation
2.1	Electricity consumption	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O	Power and lighting
2.2	District heating	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O	Heating

#### Other GHG indirect emissions (Scope 3)

Other Indirect Emissions			
Point	Activity / Category	Generated GHG	Details
3.1	Transportation and distribution	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O	Marine Diesel Oil for vessels
3.2	Waste generated in operations	CO <sub>2</sub> , CH <sub>4</sub> , HFCs	All facilities listed in section 3.1
3.3	Business travel	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O	Airplane travel Rail travel
3.4	Employee Commuting	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O	All SGRE employees
3.5	Use of sold products	No GHG generation	SGRE sold products are powered with wind renewable energy

## GHG EMISSIONS REPORT 2019

### 4.4. Exclusions

#### Reporting locations

A total of 184 facilities exceeded the energy consumption threshold and are included in this report. For more details about these sites, please refer to section 3.1. Locations that do not exceed the internal energy threshold are not considered in this report.

Those emissions sources or locations that represent less than 1% of total GHG emissions are excluded from the inventory if the total of exclusions does not exceed 5% of total issuance.

The exclusions made in accounting GHG emissions for those centers that individually represent less than 1% of total emissions have been estimated according to the following:

- Employees assigned to offices without data information is <500 employees.
- Ratio of t CO<sub>2</sub> -e for office staff: 2,89 t CO<sub>2</sub>e. per employee (Maximum)
- Maximum GHG emissions not counted: 1445 t CO<sub>2</sub>e.
- % Total GHG emissions not counted: 2,05%

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

#### Other indirect emissions (Scope 3)

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

Scope 3 categories upstream & downstream	Inclusion
Purchased goods, services and capital goods	X
Fuel- and energy-related activities not included in Scope 1 or Scope 2	n.a.
Transportation and distribution (upstream and downstream) -Marine Diesel Oil for vessels	✓
Waste generated in operations	✓
Business travel -Air Travel -Rail Travel	✓
Employee commuting	✓
Upstream leased assets	X
Processing of Sold Products	n.a.
Use of Sold Products	✓
End-of-Life Treatment of Sold Products	X
Downstream Leased Assets	X
Franchises	n.a.
Investments	X

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

## GHG EMISSIONS REPORT 2019

### 4.5. Reporting period and 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 2019, or the **period between October 1, 2018 and September 30, 2019**.

#### Methodology

Quantifying GHG emissions includes the data collection process and the application of documented emission factors. The quantification is based on 2 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 CO<sub>2</sub> (t CO<sub>2</sub>e) = 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 CO<sub>2</sub> are converted to tonnes of CO<sub>2</sub>e using the Global Warming Potential (GWP) values provided by the IPCC (e.g. tonnes of CH<sub>4</sub>):

**Emissions of CO<sub>2</sub> (t CO<sub>2</sub>e) = Activity data x Global warming potential**

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.

## GHG EMISSIONS REPORT 2019

### 4.6. Activity data and emissions factors

Emission Type	Activity Data	Emission Factors	Methodology	Methodology Details
Direct emissions (Scope 1)	Fuel volume converted to GJ x Emission Factors	GHG Protocol <a href="#">Link</a>	Fuel volume 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 <a href="#">Link</a>	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.  Purchased m <sup>3</sup> 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 Diesel Oil for vessels	Fuel volume converted to GJ x Emission Factors	IMO <a href="#">Link</a>	Fuel volume converted to GJ x Emission Factors	Purchased volumes of marine diesel oil were converted into Gigajoules (GJ) and multiplied by the published emission factors in the IMO 2014 report.
Waste generated in operations	Amount of waste generated in operations (t)	DEFRA <a href="#">Link</a>	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 2019.
Business travel -Air Travel -Rail Travel	Supplier data -Distance Travelled (miles) Supplier data – Emissions Factors	DEFRA <a href="#">Link</a>	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 2019.
Employee commuting	-SGRE workforce - Modal split per representing countries - Distances travelled per country (km)	DEFRA <a href="#">Link</a>	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 2019).
Use of Sold Products	Energy consumption in sold products (kWh)	IEA <a href="#">Link</a>	Energy consumption x Emissions Factors	Energy consumption multiplied by the published emission factors from the IEA 2016.

## GHG EMISSIONS REPORT 2019

### 4.7. GHG emissions inventory quantification

In the table below, the quantification of GHG emissions related to scope 1, scope 2 and scope 3 categories, where data has been found available, is shown.

GHG emissions quantification by greenhouse gas and category:

Indicator	Unit	Fiscal Year 2019 (Base year)
<b>Direct emissions (Scope 1)</b>		
Carbon dioxide (CO <sub>2</sub> )	t CO <sub>2</sub>	26.389,42
Methane (CH <sub>4</sub> )	t CH <sub>4</sub>	0,41
Nitrous oxide (N <sub>2</sub> O)	t N <sub>2</sub> O	0,14
<b>TOTAL DIRECT GHG EMISSIONS (SCOPE 1)</b>	<b>t CO<sub>2</sub>e.</b>	<b>26.436,56</b>
<b>Indirect emissions (Scope 2)</b>		
<b>TOTAL INDIRECT GHG EMISSIONS (SCOPE 2)</b>	<b>t CO<sub>2</sub>e.</b>	<b>44.262,40</b>
<b>Other indirect emissions (Scope 3)</b>		
Business travel total		9.739
- Air	t CO <sub>2</sub> e.	9.552
- Rail	t CO <sub>2</sub> e.	187
Disposal of waste generated in operations	t CO <sub>2</sub> e.	3.061
Employee commuting	t CO <sub>2</sub> e.	4.841
Marine operations	t CO <sub>2</sub> e.	54.183
Use of sold products	t CO <sub>2</sub> e.	0
<b>TOTAL INDIRECT GHG EMISSIONS (SCOPE 3)</b>	<b>t CO<sub>2</sub>e.</b>	<b>71.824</b>
<b>TOTAL GHG EMISSIONS</b>	<b>t CO<sub>2</sub>e.</b>	<b>142.522,96</b>

## GHG EMISSIONS REPORT 2019

# 5. MANAGING UNCERTAINTY

## 5.1. Uncertainty in GHG emissions inventory

### Emission Factors

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

### Activity Data

- **Direct emissions (Scope 1) and Indirect emissions (Scope 2):**

As data is obtained from commercial invoices, it is not necessary to calculate the uncertainty because as a commercial operation, the uncertainty of activity data is governed by legal procedures.

- **Other indirect emissions (Scope 3):**

Uncertainties in the accounting of the Scope 3 emissions are likely because activities do not fall under the reporting company's ownership or control. Different challenges were faced related to collecting data and ensuring data quality.

Emission Type	Uncertainty description
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 -Air Travel -Rail Travel	Lack of certainty in air and rail travel emissions calculations for the months July, August and September of the reporting period due to estimations for compensating for missing supplier data.  Lack of supplier data for car rentals and third-party bus travel distances.
Employee commuting	Lack of certainty in emissions calculations due to lack of data from employees. The calculations were based on average distances travelled by country and generic modal split (public transport and private vehicle) in big cities multiplied by DEFRA emissions factors.

## 5.2. Reducing uncertainty

Siemens Gamesa will follow the next steps to improve the inventory quality and increase the level of confidence users have in the inventory results.

- **Other indirect emissions (Scope 3):**

Emission Type	Reduce Uncertainty Actions
Waste generated in operations	<ul style="list-style-type: none"> <li>• Encourage facilities to specify more details about the recycling and reuse destination processes of waste.</li> <li>• Identify relevant suppliers from which to seek GHG data.</li> <li>• Encourage selected suppliers to deliver their GHG inventory in the future based on SGRE’s requirements and timeframe.</li> </ul>
Business travel -Air Travel -Rail Travel	<ul style="list-style-type: none"> <li>• Inform travel suppliers about the efforts SGRE is making towards the develop of a GHG inventory and bring awareness to the CO2 neutral strategy.</li> <li>• Encourage suppliers to deliver their GHG inventory data based on SGRE’s requirements and timeframe for the four categories; air, rail, automotive and bus.</li> </ul>
Employee commuting	<ul style="list-style-type: none"> <li>• Determine an improved way to obtain SGRE employees commute data.</li> <li>• Involve and communicate to SGRE employees the efforts that the Company is making towards the development of a GHG inventory.</li> </ul>

## GHG EMISSIONS REPORT 2019

# 6. TRENDS & COMPARATIVE ANALYSIS

This GHG emissions report represents the baseline year for GHG emissions reporting for Siemens Gamesa and therefore no comparison will be done with previous years.

Relevant trends to monitor are:

### **Emissions per MW installed capacity:**

In Fiscal Year 2019, 9.280MW of capacity was installed on the market. This means that the emissions per MW installed equals:

$70.699 \text{ t CO}_2\text{e.} / 9.280 \text{ MW installed} = 7,61 \text{ t CO}_2\text{e. per MW installed}$

### **Emissions per employee:**

End of Fiscal Year 2019, 24.453 persons were directly employed by SGRE. This means that the emissions per employee equals:

$70.699\text{t CO}_2\text{e.} / 24.453 \text{ employees} = 2,89 \text{ t CO}_2\text{e. per employee}$

Going forward, Siemens Gamesa will monitor and compare its CO<sub>2</sub>e. trends with this baseline year to follow the progress towards carbon neutrality in 2025.

## 7. REDUCTION PROJECTS

### 7.1 Direct actions

To fulfill the SGRE target of increased energy efficiency, energy improvement projects are being monitored through energy improvement actions plans. The following actions are examples of initiatives that have been implemented at different plants and offices during the reporting period. The targeted actions aimed at reducing consumption and energy efficiency are:

Location	Country	Initiative	Savings (GJ)	t CO <sub>2</sub> e Saved
Lingang	CN	Substitute lamps with LED	2.941	513
Aalborg	DK	Reduction of running time in weekends on process ventilation	943	54
Aalborg	DK	Change from oil to district heating	1.153	85
Aalborg	DK	Energy reduction for high vacuum in Hall 1	1.151	66
Hull	UK	Reduction in curing time	52	4
<b>TOTAL</b>			<b>6.240</b>	<b>722</b>

### 7.2 Offsetting

Siemens Gamesa is the developer and current focal point of two GHG reduction projects. These two wind power projects, registered as Clean Development Mechanism (CDM) under the United Nations standards (UNFCCC), has generated Certified Emission Reductions (CERs) that can be used to offset GHG emissions, if cancelled.

The projects have until now generated 636.197 CERs.

As part the Company's commitment towards Carbon Neutrality, it is expected that not all emissions can be reduced or avoided. It is therefore the strategy of Siemens Gamesa to compensate for its scope 1 and 2 emissions by offsetting via carbon credits e.g. through the cancellation of the CERs obtained under the CDM.

## 8. 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.

The Company has pledged its commitment to the Paris Pledge for Action, has signed up for the Science Based Target Initiative and announced a corporate target of reaching carbon neutrality (Scope 1 and 2 emissions) by 2025, which demonstrates its firm belief that companies can play a pioneering role in the fight against climate change. These targets also demonstrate Siemens Gamesa's agreement to contribute to the accomplishment of the objectives established by the United Nations Sustainable Development Goals.

The scope 1 and 2 emissions of the Company are currently:

**70.699t CO<sub>2</sub>e.**

The company will work continuously to reduce and offset these through the five pillars of its carbon neutrality strategy:

- Increase energy reductions and energy efficiency in our operations.
- Purchase renewable electricity for our operations.
- Adopt policies and measures favoring greener modes of transportation for our operations.
- Offset non-avoided emissions through carbon credits and/or compensation projects.
- Inform and engage employees of the Company through sustainability challenges and find ways to capture and implement employee ideas related to sustainability

During the reporting period, several actions were performed to improve the GHG inventory, which led to an avoidance of 722 t CO<sub>2</sub>e.

Further, strengthening the accuracy and reliability of the data was a focus area, as through the launch of the new HSE reporting software, there are improved methods to collect and track data such as energy consumption, fuel consumption and waste generation for all locations of the Company. This system minimizes the uncertainty, standardizes the information flow and compiles analytics from the data to calculate global emissions related to the organization.

Siemens Gamesa also included five GHG inventory categories for the Scope 3 upstream and downstream value chain in this report (details in the 4.4. section). The central reason for including these categories was to identify possible collaboration potentials throughout the value chain in order to reduce the overall GHG emission levels.

Going forward, Scope 3 emissions are still to be improved, both in terms of collecting and analysing emissions data, but also to further assess the possibility for emission reduction possibilities in the value chain. Overall, the GHG emissions report supports in:

- Obtaining an improved overview of SGRE's other indirect GHG impacts and supporting the decision-making process towards the reduction of GHG impacts.
- Identifying cost effective reduction opportunities and early voluntary actions.
- Setting ambitious GHG reduction targets as well as effectively measuring and reporting progress towards these targets.
- Accurately and transparently reporting Publically while also actively participating in voluntary GHG programs and certifications.