

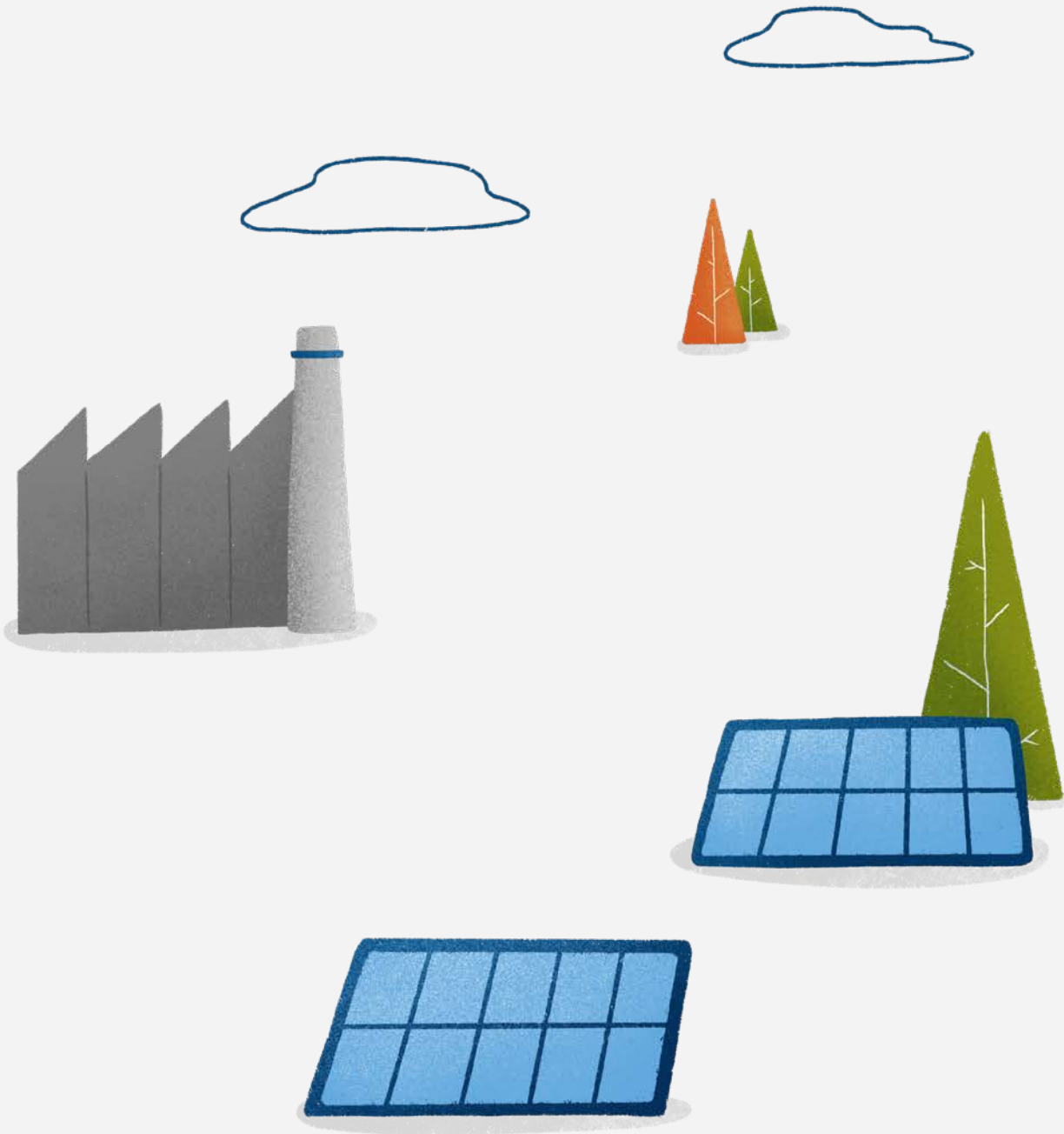
Carbon  
Footprint Report  
**2019**



This new Carbon Footprint Report aims to bring together in a single document all the relevant information on climate change corresponding to Naturgy's 2019 financial year.

The organisation of the contents revolves around the following blocks: governance, risk management, strategy and objectives and metrics, in accordance with the provisions of the Task Force on Climate-related Financial Disclosures (TCFD).

Carbon  
Footprint Report  
**2019**



Committed  
to the sustainable  
development of the  
society



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# Letter from the Chairman

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Dear reader,

I am pleased to present you with Naturgy's eleventh Carbon Footprint Report, corresponding to 2019, which contains the most relevant data on our company with regard to greenhouse gas emissions and climate change policies. This report was prepared following the recommendations of the *Task Force on Climate-related Financial Disclosures* (TCFD) and the *Non-binding Guidelines* (NBG) of the *Non-financial Reporting Directive* (NFRD) of the European Commission.

"Time to act", the motto of COP25 Chile held in Madrid could not be clearer. We are living in times in which environmental awareness is setting the international agenda and, in this context, companies must respond in an agile and forceful way to the signals coming from governments, civil society, shareholders and financial markets. The consensus on the climate emergency is broad; now we need a package of cross-cutting measures for all sectors committed to change which also includes the opportunities that the ecological transition brings, through public and private policies.

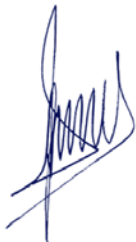
At Naturgy, we are deeply convinced that the energy transition is an opportunity, and this was one of the cornerstones of our 2018-2022 Strategic Plan, in which we established our new roadmap which strengthens our commitment to the sustainable development of society through the supply of competitive, safe energy and to maximum respect for the environment.

In 2019, our company achieved a new milestone in terms of sustainability. The new Global Policy and the Environmental Plan strengthened internal governance on climate change and set new emission reduction targets aligned with science. In 2019, Naturgy made progress in meeting these targets, with a 16% reduction in our CO<sub>2</sub> emissions compared to 2018 and a cumulative 25% reduction since our Strategic Plan was launched.

The Naturgy Group's commitment to climate change has once again been recognised by the main international sustainability indices, such as the *Dow Jones Sustainability Index* and the CDP, which place us in leadership positions. It is also important to note that non-governmental organisations dedicated to defending the environment place our company at the head of Spanish companies for transparency in climate change.

We are reaping good results in this area, although the challenge of the transition is very demanding and obliges us to constantly renew our commitment and to be ambitious in our future approaches.

True to our commitment to transparency in information on climate change, I invite you to consult in detail our inventory of greenhouse gas emissions, together with our vision of climate change and our performance in reducing emissions in the form of our carbon footprint, which we have been publishing annually for the past eleven years.

A handwritten signature in blue ink, consisting of several loops and a long horizontal stroke at the bottom.

**Francisco Reynés**  
Chairman of Naturgy

# Executive summary



## Main figures 2019

### Greenhouse gas emissions

#### Scope 1

**15,415,253**

(tCO<sub>2</sub>eq) in 2019

#### Scope 2

**1,098,662**

(tCO<sub>2</sub>eq) in 2019

#### Scope 3

**129,433,473**

(tCO<sub>2</sub>eq) in 2019

#### Emission intensity of CO<sub>2</sub> in electricity generation

**301** tCO<sub>2</sub>/GWh

in 2019

#### Intensity of methane leaks in the natural gas distribution network

**5,7** tCO<sub>2</sub>eq/km Network

in 2019



## Electricity Generation

Emission-free  
installed capacity

**30%**

in 2019

Emission-free  
net production

**27%**

in 2019

Total installed  
capacity in renewables

**4,482<sup>MW</sup>**

in 2019

Increase in installed  
capacity in renewables

↑ **22%**

in 2019 vs. 2018



## Main targets on climate change

Reduce  
absolute GEI emissions  
Scope 1 and 2

↓ **21%**

in 2022 vs. 2017

Reduce  
the emission intensity  
of CO<sub>2</sub> in electricity  
generation

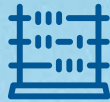
↓ **22%**

in 2022 vs. 2017  
up to 304 tCO<sub>2</sub>/GWh

Reach a percentage  
of installed renewable  
power in the generation mix  
higher than

**34%**

in 2022



70% of the investment dedicated mainly to **increasing renewable generation and to the expansion and improvement of the electricity networks**, in line with energy transition.



Start-up in Spain of new **800 MW renewable projects**, which have increased the overall installed wind and photovoltaic power by 41% and 162% respectively with respect to 2018.



# 2019

Significant events...



Announcement of the closure of all the group's coal-fired plants, which will mean a significant reduction in CO<sub>2</sub> emissions.



From the start of the Strategic Plan...

Reduction of direct GHG emissions

↓ **25%**

in 2019 vs. 2017

Reduction of CO<sub>2</sub> intensity in electricity generation

↓ **22%**

in 2019 vs. 2017

Reduction of the carbon footprint (scopes 1, 2 and 3)

↓ **11%**

in 2019 vs. 2017

■ We have **offseted all of our emissions** in buildings, travel and fleet for 61,597 tCO<sub>2</sub>eq and also 19,998 tCO<sub>2</sub>eq for the customers of the Neutral Gas product.



**Biomethane injection, for the first time in Spain, in the gas distribution network,** produced in the innovation project that Naturgy is undertaking in the WWTP of Butarque (Madrid).

This renewable gas is neutral in greenhouse gas emissions and will facilitate the transition to a low-carbon, circular economy model.



**Approval of new climate goals within the framework of the Strategic Plan 2018-2022,** integrated into the Environmental Policy and Plan, and aligned with a maximum global temperature increase of 1.5°C



**Climate balance** (emissions avoided/total emissions scope 1, 2 and 3) has stood at 104% in favour of emissions avoided, reflecting our progress and contribution towards a decarbonised economy.

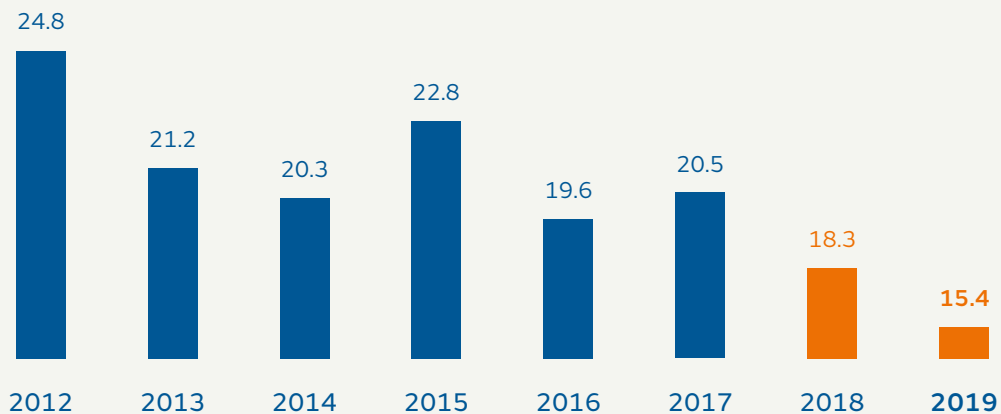
**Naturgy was included in the CDP A List in 2019,** in recognition of its climate management, being the only Spanish energy company and one of five utilities globally to achieve this maximum rating.

## Since 2012...

We have reduced our direct GHG emissions (scope 1) by 38%. The graph below shows the evolution over time, highlighting the decrease from 2017, with the implementation of the Strategic Plan 2018-2022.

### GHG emissions scope 1\_

(MtCO<sub>2</sub>eq)



■ Naturgy's Strategic Plan 2018-2022.

# The Company at a Glance



## Naturgy is...

A leading gas & power integrated  
energy group.



Present in **28 countries**  
around the world.

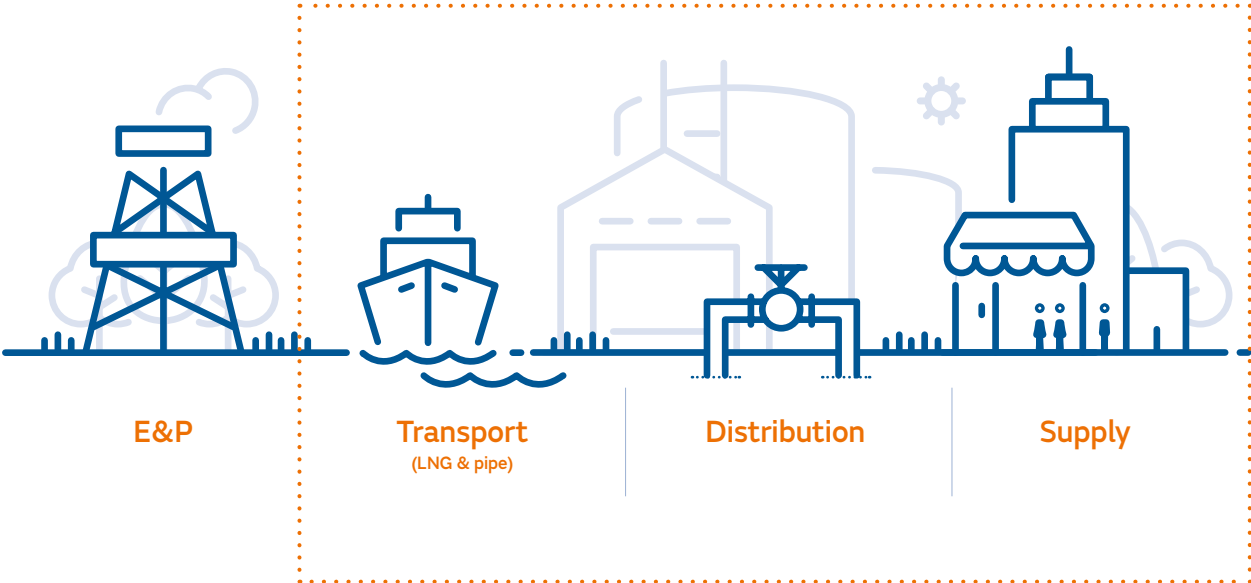
Supplying services to almost  
**18 million customers.**

- We are **committed to the sustainable development of society**, through the supply of competitive and safe energy with the utmost respect for the environment.

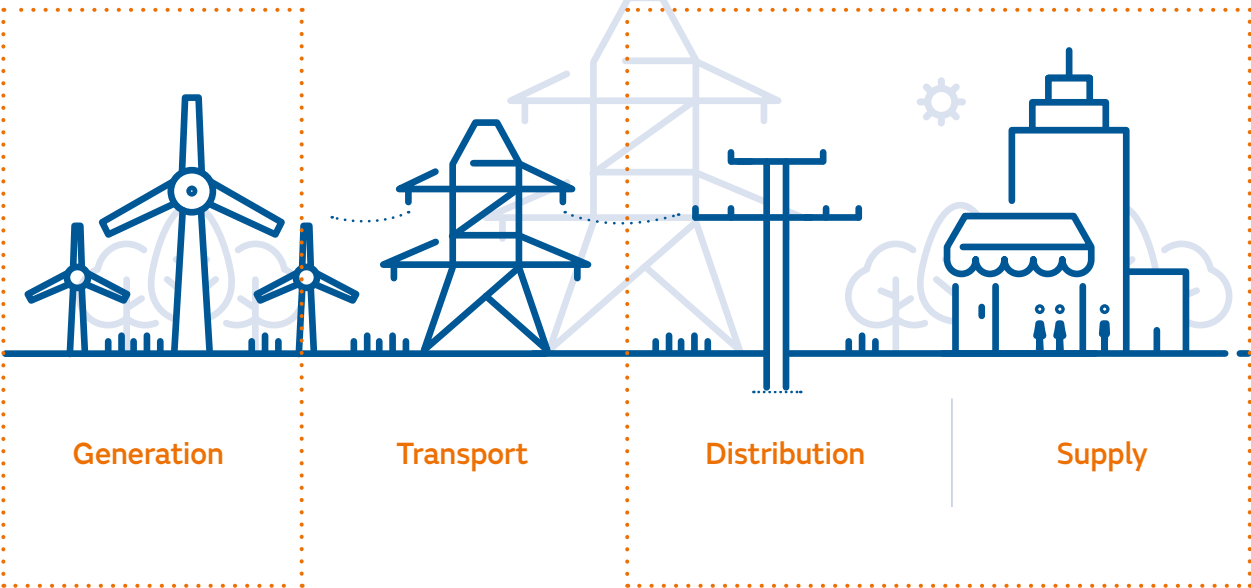
### Our business model

Our diversified and integrated model provides significant benefits and synergies across the value chain.

#### Gas\_



#### Power\_



Naturgy is a leading energy group with a global presence.

## Our industrial model



### Energy transition as an opportunity

We operate with natural gas as a low-carbon energy source, competitive renewable energies and energy efficiency in our processes.



### Competitive & agile

We give full responsibility to our business units and constantly review our business processes in order to optimize our costs base.



### Digitalization

We develop and apply technological innovation as a means to maintain an efficient, secure and sustainable value chain.

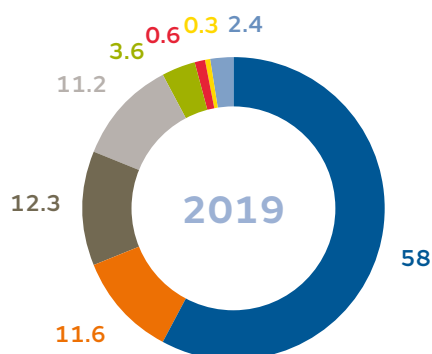


### Customer at the center

Our aim is to provide an excellent customer service, offering high-value added products, sustainable and based on the best technology available.



### Generation mix\_ (Installed capacity %)



■ Combined cycle. ■ Thermal. ■ Hydropower. ■ Wind. ■ Nuclear. ■ Small hydro power stations. ■ Cogeneration. ■ Solar.

### Naturgy's main figures\_

	2019
<b>Operations</b>	
Distribution Line and Electricity Transport Length <sup>(km)</sup>	218,831
Electricity Generation Power Installed <sup>(GW)</sup>	15.6
Electric Energy Produced <sup>(GWh)</sup>	44,704
Gas distribution network length <sup>(km)</sup>	133,917
<b>People</b>	
Number of Employees <sup>(1)</sup>	11,847
<b>Funding (millions of Euros)</b>	
Net Turnover	23,035
Gross Operating Profit	4,562
Total Investments	1,685
Net Profit	1,401
Dividend Paid	1,319
<b>Data per share (euros per share)</b>	
Share Price at 31 December	22.40
Profit <sup>(2)</sup>	1.43

<sup>(1)</sup> Does not include the number of employees in businesses classified as discontinued operations (78 people in 2019 and 786 people in 2018).

<sup>(2)</sup> Calculated taking into account the weighted average number of own shares during the year.

## Naturgy at a glance

Naturgy operates in 28 countries with more than 18 million customers, and nearly 50% of its employees work outside Spain. Its international presence puts it in an ideal position to capitalise on the growth of new regions which are in the process of economic growth, making it one of the world's most important operators.

### Algeria

NG/LNG supply and infrastructure, and Medgaz gas pipeline.

### Argentina

Gas distribution (5 provinces including Buenos Aires and 2.2 million customers) and electricity distribution (0.2 million customers).

### Australia

Wind generation (96 MW).

### Belgium

NG/LNG commercialisation.

### Brazil

Gas distribution (Rio de Janeiro state, São Paulo South and 1.1 million customers). NG/LNG commercialisation and generation (153 MW solar).

### Chile

Gas distribution (4 regions and 0.7 million customers), electricity distribution and transportation (13 regions and 3.0 million customers). Wind and solar generation projects.

### China

NG/LNG commercialisation.

### Costa Rica

Generation (101 MW, hydraulic).

### Dominican Republic

Generation (198 MW, fuel-oil).

### Egypt

NG/LNG supply and infrastructure (Damietta liquefaction plant).

### France

NG/LNG commercialisation. Montoir regasification.

### Germany

NG/LNG commercialisation.

### India

NG/LNG commercialisation.

### Ireland

NG/LNG and electricity commercialisation.







# Governance on climate change

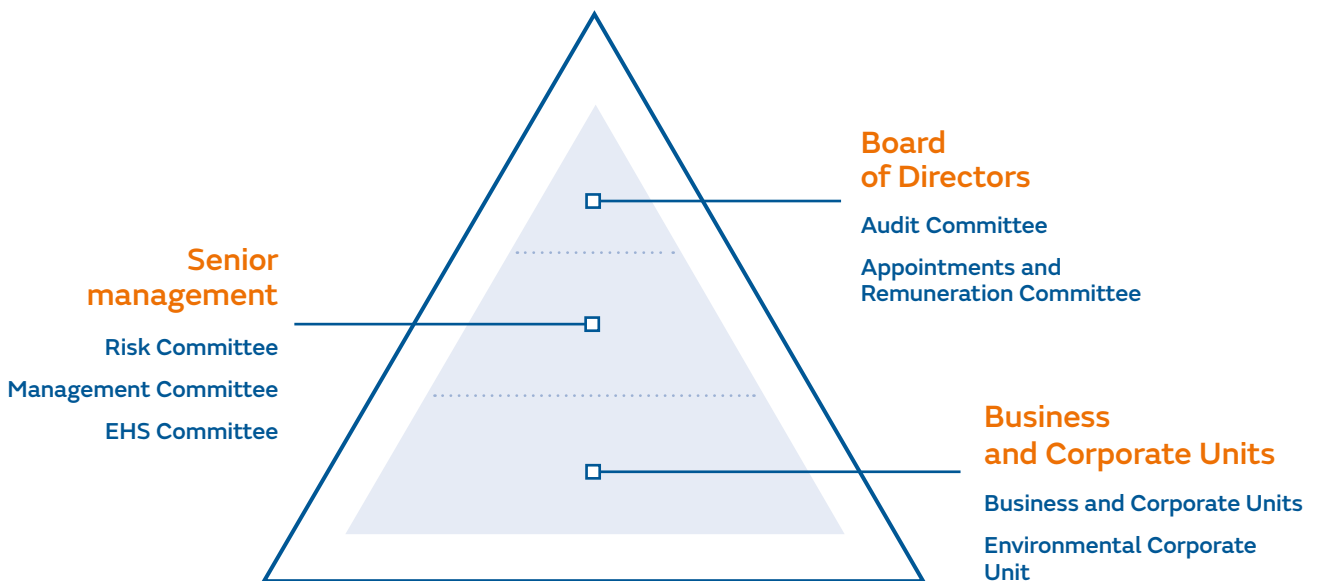


The highest authority for climate change governance in Naturgy is the Board of Directors, which oversees the management of environmental risks and opportunities and the evolution of performance by monitoring the main sustainability indicators and targets.

Climate governance involves all the Company's businesses, operating areas, geographies and projects through the Risk Control Committee and the Environment, Prevention and Health Committee (EHS Committee).

Environmental and climate change risks are integrated into the global risk management model. Ensuring predictability and sustainability in the company's operational and financial performance is one of the key aspects of risk management in Naturgy.

The figure below summarises the company's climate change governance bodies and responsibilities:



## Agencies and governance responsibilities in climate change

### Board of Directors

#### Audit Committee

Monitors the management and exposure to risk of the different businesses.

#### Appointments and Remuneration Committee

Monitors the strategic plans and policies of sustainability.

### Senior Management

#### Risk Committee

Determines and reviews the target risk profile and supervises risk management by the units.

#### Management Committee

Ensures the application and monitoring of business and sustainability policies, strategies, plans and objectives, proposing measures in the area of climate change.

#### EHS Committee

Ensures the performance, implementation and improvement of environmental and climate change policies, commitments, plans and objectives through monitoring and action proposals.

### Business and Corporate Units

#### Business and Corporate Units

Responsible for the application of general principles and strategies and the development of plans, projects and activities to meet climate change targets.

#### Corporate Environment Unit

Establishes the policy, indicators and objectives of environment and climate change in coordination with the businesses, monitors the evolution, consolidates the information and centralizes the report for the management committees and board of directors.

Monitoring the performance on climate change and energy transition is undertaken quarterly by the Board of Directors, using the high level indicator score card.

This commitment by senior management is transferred to all business and corporate units through the Global Environmental Policy, which establishes climate change and energy transition as one of its strategic environmental areas, defining the following basic principles of action:



### Basic principles of action

- To promote renewable energies, natural gas, and energy savings and efficiency as key elements towards a low carbon model.
- To offer solutions for cities and road and sea transport that reduce emissions and improve air quality.
- To innovate in technologies and business models that contribute to the reduction of greenhouse gas emissions.
- To support international climate change negotiations and market mechanisms that drive the development of the most appropriate technologies at each stage of the energy transition.

These guidelines, in turn, are translated into high-level climate targets for the framework set by the Strategic Plan 2018-2022 and reflected in the Environment Plan, which are summarised in the table below:

Strategic environmental area	Indicator	Units	2022 Target
Climate Change and Energy Transition	Absolute greenhouse gas (GEI) emissions scope 1 and scope 2. <sup>(*)</sup>	millions t CO <sub>2</sub> equivalent	Reduce absolute emissions by 21% by 2017.
	CO <sub>2</sub> intensity in electricity generation. <sup>(*)</sup>	t CO <sub>2</sub> /GWh	Reduce emissions specific to electricity generation by 22% compared to 2017.
	Percentage of the generation mix from renewable sources measured in installed power over the group's total.	(%)	To reach a percentage of renewable installed power in the generation mix that is greater than 34%.

**Note**

The absolute emissions and GHG intensity targets are in line with the overall objective of the Paris Agreement to keep the temperature increase below 1.5°C.

These commitments are transferred to the assessment of the management team's performance through objectives of transformation of the generation mix, development of renewable energies and energy efficiency, which result in the reduction of GHG emissions.

- The absolute emissions and GHG intensity targets are in line with the overall objective of the Paris Agreement to **keep the temperature increase below 1.5°C**.



# Management of risks, opportunities and strategy in climate change

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## Risk Management

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Naturgy identifies and assesses the impact of the main risk factors through the Risk Management Model, which seeks to ensure the predictability of the company's performance in all aspects relevant to its stakeholders.

The elements that allow for continuous improvement in the process of identifying, characterising and determining Naturgy's risk profile are: the Risk Control and Management Policy, the Corporate Risk Map and the Risk Measurement System.

The Corporate Risk Map identifies and quantifies the risks that may affect the company's performance, including those related to the environment, climate change and energy transition. The quantification of these risks allows their integration within the Corporate Strategy and the establishment of goals in order to minimise risks and maximise opportunities.

The identification of these risks is carried out following the recommendations of the *Task Force on Climate-related Financial Disclosures* (TCFD) and in accordance with the

nomenclature provided by said standard. The following classification is established: physical risks (acute and chronic) and transition risks (regulatory, technological, market and reputation).

The assessment analyses the probability of occurrence, the time horizon and the impact, taking into account two scenarios. The first scenario is the 2°C policy scenario, i.e., with the objective of reaching a maximum global warming of 2°C. The second, much more restrictive one, corresponds to a global warming objective of 1.5°C or less. The section "Scenarios considered" below shows the details of these scenarios.

The time horizons are approximate, although a reference could be: short term in reference to the Strategic Plan 2018-2022, medium term until 2030 and long term beyond 2030.

The management information develops the company's policies or actions aimed at minimising the risks identified.



- The first scenario is the 2°C policy scenario, i.e., with the objective of reaching a maximum global warming of 2°C. The second, much more restrictive one, corresponds to a **global warming objective of 1.5°C**.

Below is the information concerning the main risks linked to climate change in Naturgy:

### Identification

Type	Risk	Description
Acute physical risks	Damage from extreme weather events.	Damage to facilities, loss of production and/or interruption of energy supplies (gas or electricity).
	Increased frequency and severity of fires.	Damage to facilities and risk of increased fire frequency on electricity distribution lines with possible damage to third parties.
Chronic physical risks	Effects of increased temperature.	Drop in demand for natural gas for heating (residential and commercial). Decrease in the performance of combined cycle power plants.
	Impacts of changes in rainfall patterns and extreme variability of weather patterns.	Changes in the generation office. Wholesale electricity market price changes.
Transition: policies and regulation	Regulatory changes of energy and climate policies to mitigate climate change	Floods. Loss of production and/or interruption of supplies.
		More demanding GHG emission reduction pathways. Accelerated transition to decarbonisation. Variations in the carbon markets. Changes in environmental taxation. Electrification to the detriment of natural gas.
Transition: technological	Technological disruption in the energy transition	Technological improvements, cost reductions or innovations that support the transition to a more efficient and low-carbon economic system For example, implementation of large-scale electricity storage systems.
Transition: market	Changes from traditional energy business models.	Demand for new low carbon products and services. Financing difficulties for projects not aligned with the reduction of greenhouse gas emissions. Loss in asset valuation (stranded assets).
Transition: reputation	Increased demand for transparency and climate action from stakeholders	Loss of relevance in climate change and sustainability indexes due to not reaching the expected standard of climate management, or reputational damages derived from the impacts of climate change, which may negatively impact the valuation of the company's intangibles by stakeholders (shareholders, customers or employees).



Assessment				Management
Probability	Time horizon	2°C impact	1.5°C impact	Management
Possible	Medium	Low	Very low	Policies for: property damage/loss of profit, environmental liability and land liability. All our facilities are designed to operate under extreme weather conditions.
Possible	Short	Medium-high	Medium	Property damage/loss of profit, environmental liability and land liability policy. Innovation projects for the improvement of felling and maintenance pruning work for street security of power lines.
Possible	Medium	Low	Very low	Increase the contribution of electricity businesses vs. gas businesses. Operational efficiency plan that establishes objectives to improve specific consumption in thermal power plants, compensating for efficiency losses due to temperature increases.
Possible	Long	Low	Very low	Hydroelectric power plant repowering programme. Study of the impact of climate change on hydroelectric power plants. Dominant position in combined cycle power plants to support the production of electricity from renewable sources.
Possible	Long	Low	Very low	Plans for self-protection and periodic evaluation of emergency environmental issues.
Likely	Medium	Low-medium	Medium-high	Measures to reduce the company's carbon intensity: divestment of high carbon intensity assets (coal mine in South Africa, fuel oil power generation in Kenya), announcement of coal plant closure, development of new renewable power, increasing the weight of electricity in the company's portfolio and boosting renewable gases. Positioning of natural gas in the energy transition as a substitute for high emission fossil fuels (coal and/or oil derivatives).
Likely	Medium	Medium-high	High	Investment to triple the installed capacity of renewable generation by 2022. Boosting innovation in renewable gas, hydrogen, energy storage and other technologies for energy transition to a decarbonised economy.
Likely	Medium	Medium	Medium-high	Accounting adjustment of the carrying value of conventional electricity generation assets. Announcement of the closure of the coal-fired power plants. Development of new services (self-consumption, marketing of renewable electricity, PPAs) and low carbon products (Neutral Gas, GDO's in the gas sector). Increase the contribution of regulated vs. liberalised businesses and increased weight of electricity in the company's portfolio.
Remote	Short	Medium-high	High	Corporate positioning on climate change with new Global Policy and Environmental Plan that includes emission reduction targets aligned with 1.5 °C scenarios. Presence in the main sustainability indexes such as CDP or DJSi.



## Climate risk assessment methodology

The climate change risk model is based on a tool developed by Ms Excel and @Risk that allows the company's risk exposure to be estimated.

The tool uses a Monte Carlo simulation<sup>(1)</sup> which determines the optimal abatement cost<sup>(2)</sup> in the European Union to meet the CO<sub>2</sub> reduction targets for 2030 and allows CO<sub>2</sub> price scenarios to be obtained that reflect the evolution of the penetration of renewable energies, fuel prices, electricity demand, electricity prices, impact on ebitda, Value at Risk, etc.

The model allows the parameters related to energy markets (penetration of renewables, energy efficiency, CO<sub>2</sub> and energy prices) to be modified in order to carry out sensitivity and regulatory analyses and stress tests. In addition, impact assessment scenarios based on new products and services or R&D&I actions can be simulated.

The exposure to the risks of the different scenarios can be broken down into the following areas:

- **Time**

The impacts are analysed over various time horizons (2020–2050) and the risks are classified according to their relevance in the short, medium and long term.
- **Nature of the business**

The impacts that could be caused to the various businesses of the company are analysed (generation, marketing and distribution of electricity and gas and operations in CO<sub>2</sub> emissions-trading markets).
- **Geography**

The impacts are analysed in the various countries in which Naturgy operates.

<sup>(1)</sup> The Monte Carlo simulation is a computerised mathematical technique that allows risk to be taken into account in quantitative analysis and decision-making. When applied to the world of energy prices, it gives a measure of the maximum individual and/or joint variation that these prices can have, over a given time horizon and at a given level of confidence.

<sup>(2)</sup> For the purposes of the climate change risk model, work is done with the concept of abatement cost as the optimum CO<sub>2</sub> price for meeting the European Union's emission reduction targets to 2030.



## Scenarios considered

- **IPCC SRES A2** temperature increase scenario (2°C).
- **2DS ETP IEA (2°C)**  
50% probability of not exceeding 2°C in 2100 (central scenario).
- **B2DS ETP IEA (well below 2°C)**  
66% probability of limiting the peak warming between now and 2100.
- **SR1.5 IPCC (1.5°C)**  
Scenario defined by SBTi for 1.5°C.

### Note

IPCC: Intergovernmental Panel on Climate Change; ETP: Energy Technologies Perspectives; IEA: International Energy Agency; SBTi: Science Based Target Initiative.

In the last simulation carried out, we worked with 4 scenarios for covering demand in 2030. The result has been to obtain abatement costs for 2030 of around €40/tCO<sub>2</sub> for the intermediate scenarios.

The CO<sub>2</sub> price is used for:

- Strategic decision making.
- Investment analysis.
- Identification of opportunities according to the degree of maturity in low carbon technologies.

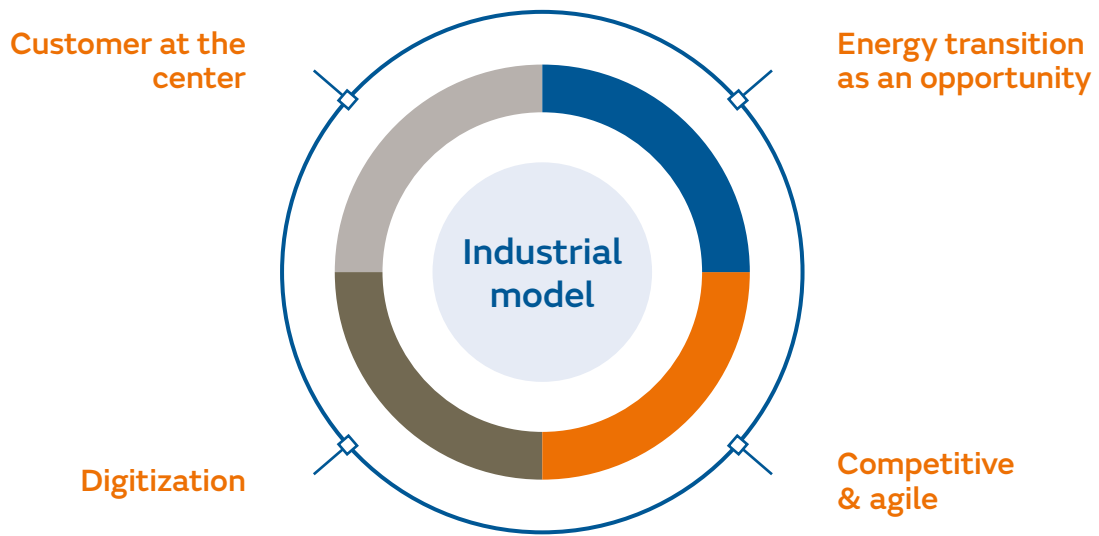
- Analysis of climate change and energy transition risks and stress testing.
- Analysis of climate change and GHG regulation.

One of the main conclusions that are drawn from this analysis is that the sensitivity of the business is greater to the transition parameters than to the physical ones, since the latter represent a much smaller impact on the company, in part because they are properly covered.

- One of the main conclusions drawn from this analysis is that the sensitivity of the business is greater to the **transitions parameters than physical ones**.

## Strategy and opportunities

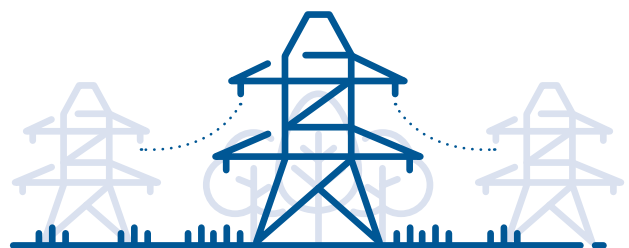
Risk analysis and development of opportunities linked to the transition energy is one of the pillars of Naturgy's Strategic Plan.



### Renewables and natural gas

**Low CO<sub>2</sub> and rise of renewables with Gas as a Key contributor**

- Deliverable 3x growth in renewables by 2022.
- Leadership in Gas Combined Cycles.
- Leadership in Liquefied Natural Gas.
- Natural gas for mobility.
- Renewable gas.



### Infraestructure

**Electrification and energy efficiency**

- Initiatives to increase electricity weight as part of the group towards ~50% by 2022.
- Leading positions in countries showing strong fundamentals for organic growth based on electrification and Natural gas penetration.

The opportunities linked to climate change considered in the Strategic Plan are detailed below:

Opportunity	Description
<b>Development of new renewable installed power (solar and wind)</b>	<p>Development of new renewable projects for the gradual decarbonisation of the generation mix. Reduction of investment and operating costs compared to other technologies and possibility of financing through instruments such as green bonds.</p> <p>Positioning in a growing market linked to renewable energies (Power Purchase Agreement, Guarantees of Origin...).</p> <p>In the medium term, combined cycle power plants represent a competitive advantage as the best support for renewable energy.</p>
<b>Promotion and development of renewable gases</b>	<p>The drive and innovation for the development of renewable gas (biomethane and hydrogen) will provide a new energy product, which can replace natural gas, but with neutral CO<sub>2</sub> emissions in a circular economy model. Renewable gas will maintain the value of the assets of the distribution network in the long term and will allow customers to decarbonise with minimal changes to their facilities, in an economically efficient manner thanks to the existing gas infrastructure.</p>
<b>Smart and integrated energy networks (gas and electricity)</b>	<p>The digitization and integration of electricity and gas networks will enable dynamic demand management, cost reduction, increased security of supply and the development of new services associated with big data.</p> <p>In addition, smart networks, coupled with renewable gas generation from surplus electricity generated on wind or solar farms, will enable energy storage by taking advantage of existing infrastructures, without the need for additional batteries, and on the scale required to meet seasonal variations in demand.</p>
<b>Natural gas as energy for the energy transition</b>	<p>Penetration of natural gas and LNG (liquefied natural gas) in carbon-intensive markets, to replace, in an efficient, rapid manner, high emission fossil fuels (coal, oil), in line with the pace of the international climate agenda. Development of new products, such as Neutral Gas, to offer customers a decarbonised alternative.</p>
<b>Energy efficiency</b>	<p>Promotion of energy efficiency both in internal processes and customer level, with a commitment to business models of energy service companies (ESCOs). Energy efficiency provides economic competitiveness and makes possible synergies with other sectors, as in the case of cogeneration.</p>
<b>Strengthen the position in the electricity business</b>	<p>Growth in the electricity distribution business associated with the growing trend towards electrification of the economy</p>
<b>Digitization to provide new customer services</b>	<p>The use of technologies such as the Internet of Things (IoT) and artificial intelligence makes it possible to develop the figure of the active customer, who has tools to monitor and control their facilities in order to consume energy more efficiently and integrate new services such as distributed renewable generation or electric mobility.</p>
<b>Sustainable mobility</b>	<p>Penetration in the road and maritime mobility sector through the development of electric and gas solutions, which allow the reduction of CO<sub>2</sub> emissions, the improvement of air quality and economic savings for users. In the case of maritime transport, LNG (liquefied natural gas) is the most eco-efficient alternative in terms of GHG emissions.</p>
<b>Positioning, governance and transparency</b>	<p>Strengthening governance and policies on sustainability and climate change to meet the expectations of customers, investors and society in general.</p> <p>Transparency and good performance make it possible to improve the position with ESG investors and access to improved conditions of funding.</p>



## Degree of compliance achieved in the first two years of the Strategic Plan

- 70% of the total investment has been devoted to new renewable projects (€836 million) and electricity networks (€494 million).
- Request the closure of all the group's coal-fired plants.
- Increase in installed renewable wind and solar power capacity by 1,014 MW, up 1.8 times on 2017.
- Increase in more than 4,400 km of electricity networks (up 2%).
- More than 80 bunkering operations (supplying and refuelling ships), displacing oil-based fuels with high LNG emissions.
- 30% increase in natural gas vehicle stations in Europe, serving more than 9,000 vehicles.
- Development of the innovative DirectLink LNG and LNG on Wheels projects that allow the arrival of liquefied natural gas (LNG) to areas where it was not viable until now, promoting the replacement of carbon-intensive fuels:
- Launch of low-carbon products and services, such as Neutral Gas, which offers customers natural gas offset by neutralizing their CO<sub>2</sub> emissions.
- Start-up of several innovation projects in renewable gas, injecting biomethane into the gas distribution network for the first time in Spain.

- 70% of the total investment has been devoted to **new renewable projects** (€836 million) **and electricity networks** (€494 million).



# Objectives and metrics



## Targets

Naturgy's climate change strategy is embodied in the following targets.

### 2022 Targets. Strategic Plan 2018-2022

Naturgy approved high level short term targets associated with meeting the Strategic Plan 2018-2022, which are included in the Environmental Plan:

- To reach, by 2022, a percentage of the generation mix from renewable sources, measured in installed power, greater than 34%.
- Reduce GHG Scope 1 and 2 emissions by 21% in 2022 compared to the base year 2017 and CO<sub>2</sub> emission intensity in electricity generation by 22% (tCO<sub>2</sub>/GWh).

Considerations:

- The targets are aligned with the overall average reduction required under SBTi for a 1.5°C scenario and with the 2025 and 2030 targets.

- Compliance with the targets in previous years does not ensure compliance in 2022, due to the influence of variability in hydropower and wind in the electricity generation mix.

### 2025 Targets. SBTi

In 2015 Naturgy established medium-term objectives to meet the requirements of the Science Based Target Initiative (SBTi) Tool v.8. The targets are defined as a 26% reduction in Scope 1 and 2 emissions in 2025 compared to the base year 2012 and a 33% reduction in the intensity of CO<sub>2</sub> emissions in electricity generation over the same time horizon. The setting of these objectives has the following considerations:

- The targets are aligned with the reduction required under SBTi for a 2°C scenario.
- Compliance with the objectives in previous years does not ensure compliance in 2025 due to the influence of the variability of hydropower and wind in the electricity generation mix.



- The targets have not yet been validated by SBTi as they are waiting for the preparation of a specific protocol for our sector by this institution since 2017.<sup>(3)</sup>
- Although it is a requirement of SBTi to set them in this way, meeting the targets in 2025 does not ensure an overall reduction in the period, so long-term targets were also set, as described below.

## 2030 Targets. Average values for the period 2013-2030

In 2015 Naturgy set a long-term target expressed as an 18% reduction in average Scope 1 and 2 GHG emissions in the period 2013-2030 compared to the base year 2012. This target was also transferred to

the intensity of CO<sub>2</sub> in electricity generation (tCO<sub>2</sub>/GWh), as this activity is responsible for over 90% of the group's direct emissions. The setting of this target in the form of average values responds to 2 reasons:

- If the average emissions target is met a minimum reduction in the period of 92.9 MtCO<sub>2</sub>eq is ensured (26.12-20.96 MtCO<sub>2</sub>eq/year × 18 years = 92.9 MtCO<sub>2</sub>eq). This would not occur with an annual target, as it could be achieved in the last year, but with a net increase in emissions in the intermediate years.
- To avoid the uncertainty that the variability of hydropower and wind and their influence on electricity generation has when a target is set in a given year.

<sup>(3)</sup> Although over 90% of direct GHG emissions correspond to electricity generation, SBTi includes Naturgy in the gas sector by the weight represented by gas in the net turnover.



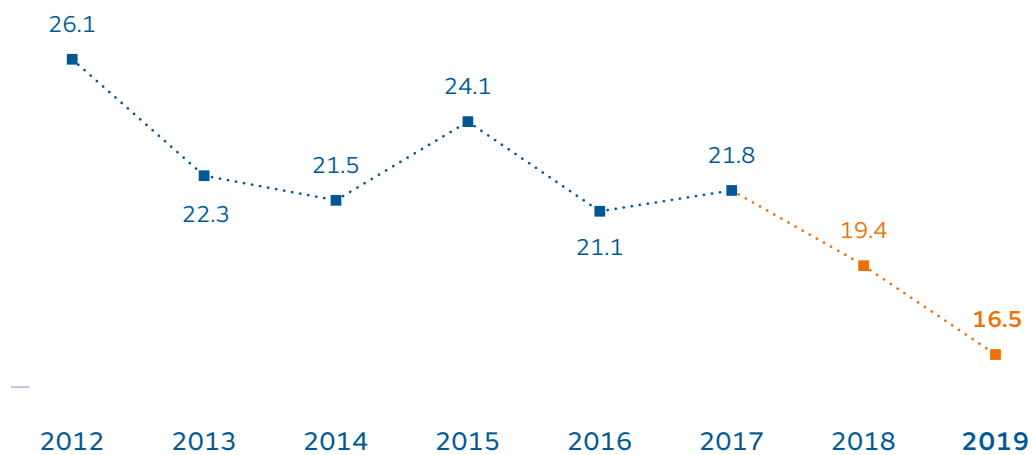
## Absolute emissions target

	Emissions	Type	Approval year	Base year	Target date	Objectives	Base year value MtCO <sub>2</sub> eq	Target value MtCO <sub>2</sub> eq	Value 2019 MtCO <sub>2</sub> eq	Tracking
<b>2022 Strategic Plan</b>	A1 + A2	Yearly	2019	2017	2022	↓ 21%	21.85	17.26	16,51	116% (*)
<b>2025 SBTi</b>	A1 + A2	Yearly	2016	2012	2025	↓ 26%	26.12	19.38	16.51	142% (*)
<b>2030 Average values</b>	A1 + A2	Average for the period	2015	2012	2013   2030	↓ 18%	26.12	21.48	20.96	111% (*)

\* In compliance path. The compliance percentage is above the set target and indicates the good evolution of the target, although it must be clarified that compliance with the targets in previous years does not ensure compliance on the target date.

### Absolute emission target\_

(MtCO<sub>2</sub> eq A1 + A2)



■ Naturgy's Strategic Plan 2018-2022.

## Relative emission target

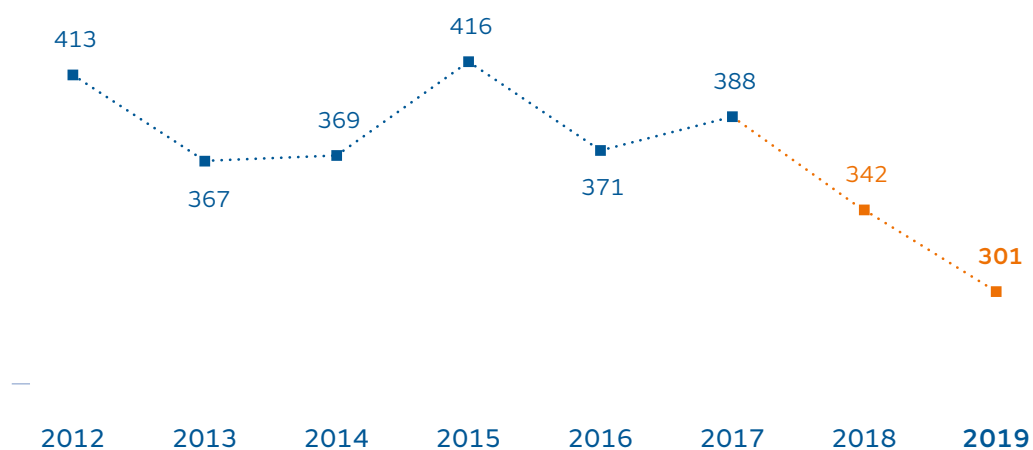
	Emissions	Type	Approval year	Base year	Target date	Objectives	Base year value MtCO <sub>2</sub> eq	Target value MtCO <sub>2</sub> eq	Value 2019 MtCO <sub>2</sub> eq	Tracking
<b>2022 Strategic Plan</b>	tCO <sub>2</sub> /GWhe	Yearly	2019	2017	2022	↓22%	388	304	301	104% (*)
<b>2025 SBTi</b>	tCO <sub>2</sub> /GWhe	Yearly	2016	2012	2025	↓33%	413	278	301	83% (**)
<b>2030 Average values</b>	tCO <sub>2</sub> /GWhe	Average for the period	2015	2012	2013   2030	↓18%	339	339	364	66% (**)

\* In compliance path. The compliance percentage is above the set target and indicates the good evolution of the target, although it must be clarified that compliance with the targets in previous years does not ensure compliance on the target date.

\*\* In compliance path.

### Relative emission target\_

(tCO<sub>2</sub>/GWh)



■ Naturgy's Strategic Plan 2018-2022.

## Climate balance sheet target

In 2015 Naturgy set a "Climate Impact Balance" goal for 2050. The climate balance sheet sets out the relationship between our emissions (direct and indirect) and the emissions avoided by our assets, products and services, for example by displacing high-emission fossils such as coal and oil derivatives (see table of emissions avoided).

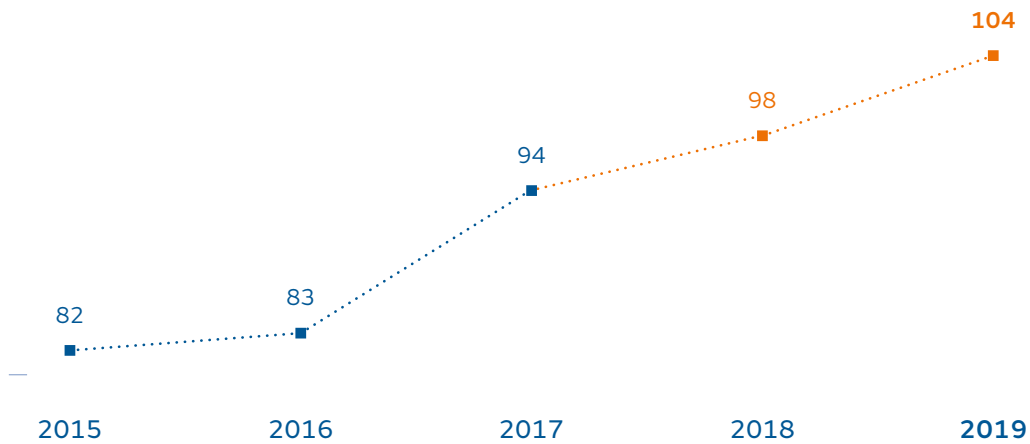
This balance, although subject to the variability inherent in the business and the environment in which we operate, in the long term marks a trend that indicates whether we are aligned with the global objective of climate neutrality introduced in the Paris Agreement

	Emissions avoided vs footprint emissions (A1+A2+A3)	Type	Approval year	Base year	Target date	Objective	Base year value MtCO <sub>2</sub> eq	Target value MtCO <sub>2</sub> eq	Value 2019 MtCO <sub>2</sub> eq	Tracking
<b>2050 Long term</b>	(%)	Yearly	2015	2015	2050	100%	68%	100%	104%	104% (*)

\* In compliance path. The compliance percentage is above the set target and indicates the good evolution of the target, although it must be clarified that compliance with the targets in previous years does not ensure compliance on the target date.

### Climate balance sheet target\_

(%)



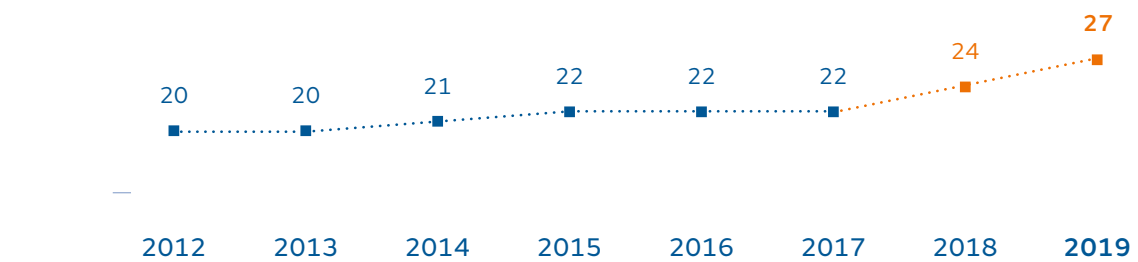
■ Naturgy's Strategic Plan 2018-2022.



## Renewable energy target

To reach a percentage of renewable installed capacity in the generation mix above 34% by 2022.

### Renewable energy target\_ (%)



■ Naturgy's Strategic Plan 2018-2022.

## Inventory

The data of the GHG emissions scope 1, 2 and 3 derived from all of Naturgy's activities and businesses are listed below,

### Inventory of GHG emissions by scope\_

	2019	2018	2017
<b>Scope 1</b>	<b>15,415,253</b>	<b>18,305,632</b>	<b>20,531,127</b>
<b>Scope 2</b>	<b>1,098,662</b>	<b>1,093,343</b>	<b>1,317,179</b>
Market	-	-	-
Location	1,098,662	1,093,343	1,317,179
<b>Scope 3</b>	<b>129,433,473</b>	<b>131,390,996</b>	<b>141,801,261</b>
Goods and Services purchased	-	-	-
Capital Goods	-	-	-
Activities associated with fuel and energy upstream	28,390,264	29,786,118	31,621,210
Coal	67,446	373,124	589,395
Natural Gas	16,583,367	17,488,011	17,569,486
Oil	392,403	435,839	582,655
Electricity	11,347,048	11,489,144	12,879,674
Transport and distribution of goods	-	-	-
Waste produced in the operation	-	-	-
Business trips	3,108	1,568	6,215
Employees commuting	9,314	9,985	16,236
Upstream leased assets	-	-	-
Downstream transport and distribution	-	-	-
Processing of sold products	-	-	-
Use of sold products	100,959,590	100,756,160	110,157,601
Natural Gas	100,959,590	100,756,160	105,643,954
Coal	-	-	3,705,294
End-of-life treatment of sold products	-	-	-
Downstream leased assets	-	-	-
Franchises	-	-	-
Investments	71,197	837,165	808,352
<b>Total</b>	<b>145,947,388</b>	<b>150,789,971</b>	<b>164,457,920</b>

#### Note

For Scope 3 emissions, within the categories defined by the GHG Protocol, those weighing less than 1% have been excluded, as long as the sum of all of them does not exceed 5%.

### Inventory of GHG emissions scope 1 by gas type and general mangement\_

	Gas and electricity	EMEA	North Latam	South Latam	Coporation and others	Total
CO <sub>2</sub>	14,184,262	144,573	0	250,683	13,494	<b>14,593,012</b>
CH <sub>4</sub>	8,160	74,745	185,332	502,947	94	<b>771,278</b>
N <sub>2</sub> O	14,401	77	0	171	176	<b>14,825</b>
SF <sub>6</sub>	3,554	19,768	4,788	640	0	<b>28,749</b>
HFC	720	0	0	0	6,669	<b>7,389</b>
PFC	0	0	0	0	0	<b>0</b>
<b>Group total</b>	<b>14,211,096</b>	<b>239,162</b>	<b>190,120.2</b>	<b>754,440.7</b>	<b>20,433.3</b>	<b>15,415,253</b>
Net turnover (Thousands of Euros)	13,980	2,051	1,521	5,476	7	<b>23,035</b>
Ratio <sup>(tCO<sub>2</sub>eq/thousands of euros)</sup> (Net turnover)	1,017	117	125	138	2,919	<b>669</b>

### Inventory of GHG emissions - Scope 1, 2 and 3 by country\_

Country	Scope 1	Scope 2	Scope 3
Spain	7,089,012	272,650	39,177,711
Mexico	6,661,965	1,381	4,832,496
Dominican Republic	748,743	-	307,962
Chile	343,329	595,038	16,399,136
Argentina	309,226	89,462	17,959,925
Morocco	145,198	1,339	1,045,262
Brazil	112,321	934	14,138,758
Panama	5,410	137,858	997,974
Costa Rica	20	-	9
Peru	19	-	58,605
Australia	9	-	4
The rest	-	-	34,432,013.25
<b>Total</b>	<b>15,415,253</b>	<b>1,098,662</b>	<b>129,349,854<sup>(*)</sup></b>

<sup>(\*)</sup> Scope 3 of the table above refers to energy emissions (excluding business trips, mobilization of workers and investments).

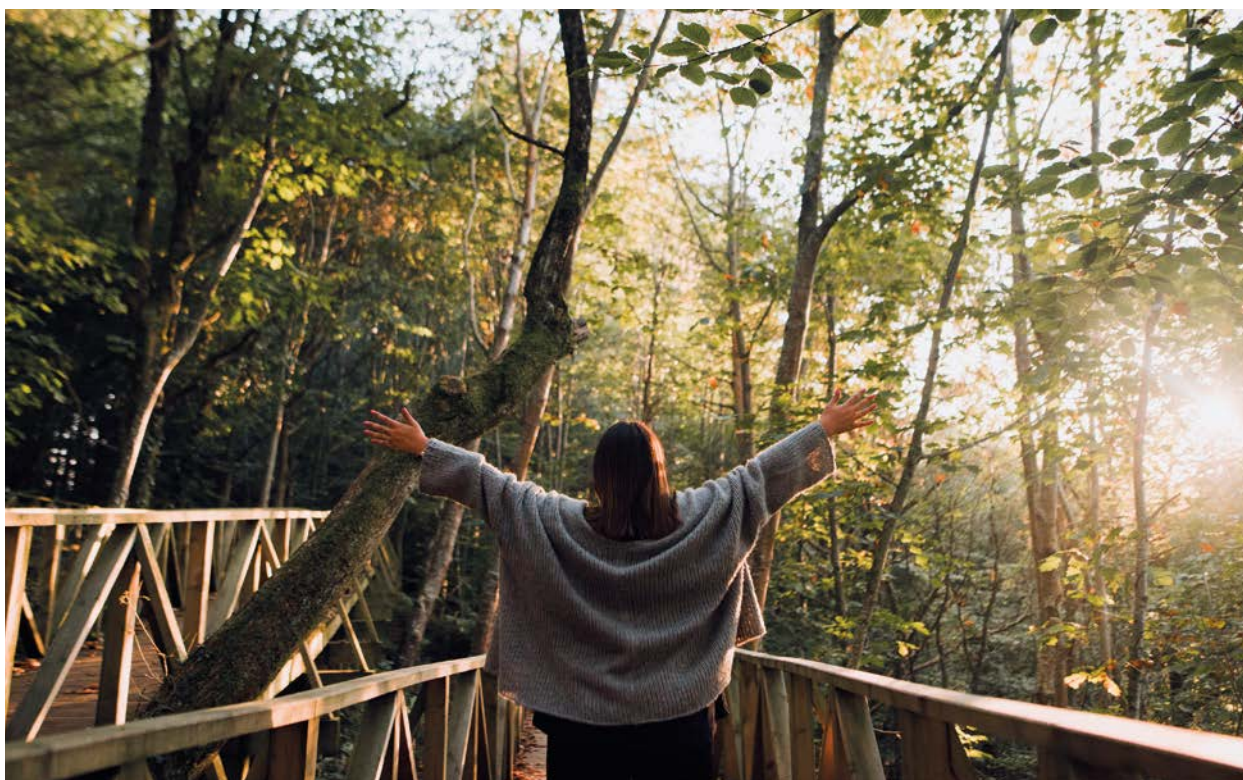
### Inventory of GHG emissions scope 1, 2 and 3 by business area\_

	Scope 1	Scope 2	Scope 3
<b>Gas &amp; Power</b>	<b>14,211,096</b>	-	<b>67,216,059</b>
Generation Spain	6,310,803	-	892,026
GPG	7,222,404	-	817,878
GNL International	660,790	-	34,552,147
Marketing	14,858	-	30,953,737
Up&Midstream	2,241	-	272
<b>EMEA Infrastructures</b>	<b>239,162</b>	<b>273,879</b>	<b>8,254,659</b>
Gas Distribution Spain	74,450	-	4,179,981
Electricity Distribution Spain	19,768	272,650	3,029,523
EMPL	144,944	1,230	1,045,155
<b>South Latam Infrastructures</b>	<b>754,441</b>	<b>684,297</b>	<b>48,555,325</b>
Argentina	308,162	88,736	17,959,634
Brazil	105,221	523	14,138,598
Chile	341,057	595,038	16,398,497
Peru	-	-	58,597
<b>North Latam Infrastructures</b>	<b>190,120</b>	<b>137,985</b>	<b>5,319,456</b>
Mexico	185,332	126	4,321,743
Panama	4,788	137,858	997,713
<b>Corporation</b>	<b>20,433</b>	<b>2,501</b>	<b>4,355</b>
Corporation	20,433	2,501	4,355
<b>Total</b>	<b>15,415,253</b>	<b>1,098,662</b>	<b>129,349,854<sup>(*)</sup></b>

<sup>(\*)</sup> Scope 3 of the table above refers to energy emissions (excluding business trips, mobilization of workers and investments).

- Since the start of the Strategic Plan, **the carbon footprint has been reduced (scope 1, 2 and 3) by 11%.**





## 2019 Climate balance sheet

The climate balance exposes the relationship between our emissions (direct and indirect) and emissions avoided for our assets, products and services.

This balance, although it is subject to its own variability of the business and the environment in which we operate, in the long term marks a trend that tells us if we are aligned with the global goal of neutrality climate introduced in the Paris Agreement.

The criteria for the quantification of emissions avoided are as follows:

- During the reporting period, projects and activities must produce quantifiable reductions in GHG emissions and energy with respect to a baseline, which is defined on a case-by-case basis.
- The emissions avoided are calculated as the difference between the emissions of the "with project" and "without project" scenarios. The emissions of the "with project" scenario represent the actual level of GHG emissions. Emissions from the "without-project" scenario represent the GHG emission levels that that would have been achieved with other sources with more emissions if the project had not been implemented.
- The emission factors used for the "with project" and "without project" scenarios have been obtained following the 2006 IPCC guidelines for the preparation of national GHG inventories.
- Calculations have been made in accordance with the UNFCCC methodologies and tools for the Clean Development Mechanism (CDM).

Emissions avoided	Emissions avoided in 2019 (tCO <sub>2</sub> eq)	Energy savings in 2019 (GWh)
<b>Natural Gas<sup>(1)</sup></b>	<b>139,922,516</b>	<b>195,207</b>
Electricity Production	95,991,693	166,697
Industry	22,414,029	10,198
Residential/Commercial	11,622,165	12,183
Transport	2,811,566	2,817
Cogeneration	7,083,063	3,312
<b>Natural resource management<sup>(2)</sup></b>	<b>6,252,903</b>	<b>16,917</b>
Wind farms	2,607,393	7,213
Hydropower production	3,280,482	8,594
Photovoltaic production	365,028	1,110
<b>Energy savings and efficiency<sup>(3)</sup></b>	<b>1,190,936</b>	<b>2,941</b>
<b>Own facilities: Energy Efficiency Operational Plan</b>		
Renewal of networks in Gas T&D	742,898	553
Electricity distribution actions	20,191	146
Electricity generation actions		
Combined cycle	85,352	428
Coal-fired power plants	11,790	35
Fuel-based power plants	26,894	105
<b>End customer</b>		
Energy services	303,811	1,675
<b>Others</b>	<b>4,047,879</b>	<b>-3,603</b>
Nuclear production	4,047,879	-3,603
<b>Total</b>	<b>151,414,234</b>	<b>211,462</b>

<sup>(1)</sup> Natural gas better fossil energy in displacing other fossil fuels.

<sup>(2)</sup> Renewable generation in displacing fossil fuels.

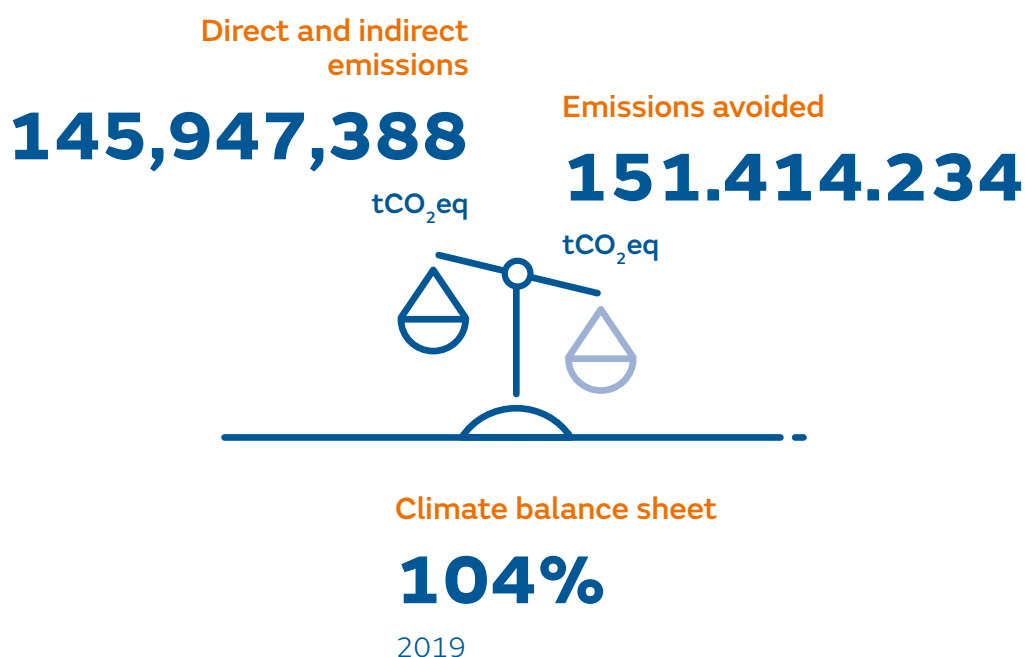
<sup>(3)</sup> Energy saving and efficiency actions at our facilities or those of the end customer.

#### Note

This year the methodology has been adjusted to include the reductions avoided in Spain and Mexico by the electricity generation in combined cycle plants. Previous years have been recalculated in the same way. This modification allows us to calculate the emissions avoided from our products and services in a more realistic manner.

Additionally, in 2019 Naturgy offset 26,034 tCO<sub>2</sub>eq corresponding to emissions from its buildings, travel and fleet and 10,827 tCO<sub>2</sub>eq for its customers with the Neutral Gas product.

## 2019 Climate balance sheet



- The climate balance in 2019 was 104% in favor of emissions avoided, reflecting our **progress and contribution towards a decarbonised economy.**

### Naturgy's Emissions Offsetting Plan: Offset2 Initiative\_ (tCO<sub>2</sub>eq)

#### Offset activities in 2019

Scope 1 emissions from fuel use in work centres (stationary sources and fleet)	20,433
Scope 2 emissions for electricity consumption in work centres	2,492
Scope 3 emissions for business trips ( Plane and train)	3,108
<b>Total Offset2</b>	<b>26,034</b>

The offset for 2019 has been carried out through the cancellation of 26,034 tCO<sub>2</sub> with CERs (Certified Emission Reductions) from the UNFCCC CL822 Loma Los Colorados Landfill Project in Chile.

# Appendices

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## Evaluation and reduction of uncertainty

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The uncertainty associated with the report on Scope 1 emissions for 2019 is 5.21%.

For facilities under the EU Emissions Trading Scheme, according to Decision 2007/589/EC of 18 July, uncertainties regarding GHG emission values will be lower than those corresponding to the approach levels approved by the competent authority. For all other emission sources, the uncertainty associated with the calculation of GHG emissions is a combination of the uncertainties associated with the activity data and emission factors, using the references established in 2.38. IPCC 2006 GHG, Vol.2, table 2.12.

To minimise the uncertainty associated with the activity data, all emission sources have environmental and quality management systems that conform to ISO 14001:2015 and ISO 9001:2015 standards. In order to minimise the uncertainty associated with the emission factors, official sources are always used, as are, by default, the core values recognised in the 2006 IPCC Guidelines for GHG Inventories.

- The **uncertainty associated** with the report on Scope 1 emissions for 2019 is **5.21%**.

## Methodology

To quantify Naturgy's greenhouse gas emissions, an application and calculation methodology has been developed based on the following standards and methodologies:

- It includes scope 1, 2 and 3 emissions according to "The Greenhouse Gas Protocol. A Corporate Accounting and Reporting Standard".
- Scope 3 report in accordance with Corporate Value Chain (Scope 3).
- It includes the emissions of the six GHGs set out in the 2006 IPCC Guidelines 2006 for national GHG inventories (hereinafter 2006 IPCC GHG).
- Standard UNE-ISO 14064-1. Greenhouse gases. Part 1: Specification with guidance, at organisation level, for the quantification and reporting of greenhouse gas emissions and removals.
- Standard UNE-ISO 14064-2. Greenhouse Gases. Part 2: Specification with guidance, at project level, for the quantification, monitoring and reporting of the reduction of emissions or increase in removal of greenhouse gases.
- Standard UNE-ISO 14064-3. Greenhouse Gases. Part 3: Specification with guidance for the validation of greenhouse gas statements.
- Definition of life cycles in accordance with the UNE-EN-ISO 14040 and ENE-EN-ISO 14044 standards for life cycle analysis.
- Use of specific emission factors in accordance with the 2006 IPCC guidelines for national GHG inventories (hereinafter GHG IPCC 2006) and use of other verifiable documentary and bibliographic sources.

## Operational limits

Naturgy's Carbon Footprint inventory includes GHG emissions from the following activities of the group:

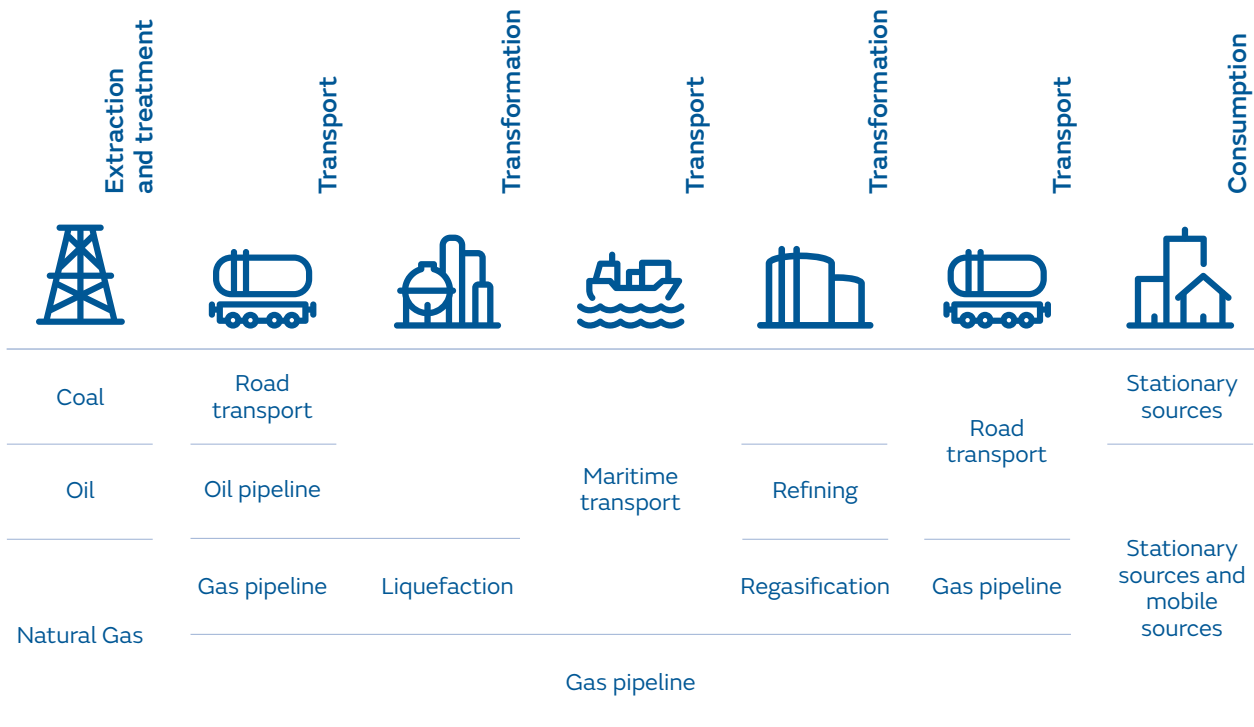
- Extraction, road transport, maritime transport, distribution and marketing of natural gas.
- Thermal power plants from coal and fuel oil, combined cycle power plants, cogeneration, generation at wind farms, photovoltaic power plants and hydropower plants.
- Electricity distribution.
- Offices, fleets and travel.

Within the aforementioned activities, different calculation units corresponding to each of the facilities comprising those activities have been included. These calculation units or facilities are treated according to the global consolidation criterion, in accordance with the shareholding percentages.

## Life cycles of fuels used

Energy (fuels, electricity) is consumed throughout the various processes, producing emissions throughout its life cycle. A diagram with the life cycles of the main fuels used is included below.

The fuels used both in stationary sources (fuels for thermal power plants, offices, gas transmission and distribution facilities...) and in mobile sources have been taken into account.



## Electrical energy

Emissions derived from electrical energy have only been considered when it is used in primary energy terms and is not generated by any of the group's calculation units:

- Electricity consumption purchased from external suppliers.
- Losses arising from the transport and distribution of energy distributed and not generated by the company in each country.
- Emissions from the life cycle of the fuels used in the generation mix of each country.

## Geographical limits

All the countries in which activities are carried out, as well as the countries from which the fuels originate, have been considered.

For the annual preparation of the inventory, a series of prior studies are carried out to update the initial data, such as the review of gas, coal and crude oil supply routes (there are more than 500 routes connecting 165 extraction points in 30 destination countries).

Annually, three types of data are updated:

- Characteristics of the extraction points (specific factors depending on the country, technology, type of well or mine...).
- Definition of the routes themselves (distances from each country of passage and specific factors).
- Fuel balances in destination countries.

## Types of emissions

### Scope 1

Direct GHG emissions, meaning those from sources controlled by the company itself.

### Scope 2

Indirect emissions due to the generation of electrical energy purchased by the company for its own consumption but not generated by the group.

### Scope 3

Indirect emissions, not included in scope 2, derived from the value chain of activities, including upstream and downstream emissions, over which the group has no direct influence or control. Within the categories defined by the GHG Protocol, those with a weight of less than 1% have been excluded, provided that the sum of all of them does not exceed 5%. The categories reported are:

#### Fuel life cycles

Emissions derived from the life cycles of fuels. This category includes the following subcategories:

- Emissions from coal extraction, treatment and transport.
- Emissions derived from the extraction, treatment (liquefaction and regasification) and transport (by gas pipeline and/or LNG carrier not owned by the company) of natural gas.
- Emissions derived from the extraction, treatment (refining) and transport (by oil pipeline and/or oil tanker) of petroleum products.
- Emissions produced in the life cycles of the fuels used for electricity generation of the energy mix of each country.

- Emissions due to electricity losses in the transmission and distribution of electricity consumed but not generated.
- Emissions produced in the life cycles of the fuels used for electricity generation of the energy mix of each country.

#### Business travel

These are the emissions derived from the movement of employees by plane, train or any other means of transport not belonging to the fleet of vehicles owned by the group. It is divided into two subcategories:

- Trips made by company employees by train.
- Trips made by company employees by plane.

#### Employees commutes

Emissions derived from employees commuting from their respective homes to the work centre.

#### End use of products sold

Emissions derived from the combustion of products, which are those corresponding to those derived from the combustion of natural gas sold by the group to the customer, discounting the gas consumed within the organisation.

#### Investments

Includes emissions derived from the investment in Unión Fenosa Gas.

## Organisational limits

The GHG emissions inventory in the Carbon Footprint Report 2018 includes all businesses and activities under financial consolidation criteria, according to the shareholding percentages.

## Emission factors used

Parameter	Units	Value	Source
LCV natural gas	MJ/kg	48,2	Naturgy internal data.
HCV natural gas	MJ/kg	53,496	Naturgy internal data.
LCV petrol	MJ/kg	44.3	OECC Carbon Footprint Calculation Guide 2018.
LCV Diesel/Gas oil A & C Spain	MJ/kg	43	OECC Carbon Footprint Calculation Guide 2018.
LCV ethanol	MJ/kg	27	Table 1.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
LCV biodiesel	MJ/kg	27	Table 1.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
LCV fuel oil	MJ/kg	40.4	OECC Carbon Footprint Calculation Guide 2018.
Density natural gas	kg/m <sup>3</sup>	0.8076	Naturgy internal data.
Density petrol	kg/l	0.7475	Royal Decree 61/2006.
Density diesel/gas oil A	kg/l	0.8325	Royal Decree 61/2006.
Density diesel/gas oil C	kg/l	0.9	Royal Decree 61/2006.
Density ethanol	kg/l	0.789	Naturgy internal data.
Density biodiesel	kg/l	0.845	Royal Decree 61/2006.
Density methane	kg/m <sup>3</sup>	0.7175	Naturgy internal data.
Density propane	kg/l	0.5185	CEPSA product sheet.
LCV propane	MJ/kg	46.2	OECC Carbon Footprint Calculation Guide.
HCV propane	MJ/kg	49.98	CEPSA product sheet.
EF CO <sub>2</sub> petrol	kg CO <sub>2</sub> /GJ	69.30	OECC Carbon Footprint Calculation Guide 2018.
EF CH <sub>4</sub> petrol	kg CH <sub>4</sub> /GJ	0.025	Table 3.2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF N <sub>2</sub> O petrol	kg N <sub>2</sub> O/GJ	0.008	Table 3.2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF CO <sub>2</sub> diesel/gas oil A	kg CO <sub>2</sub> /GJ	74.10	OECC Carbon Footprint Calculation Guide 2018.
EF CO <sub>2</sub> diesel/gas oil C	kg CO <sub>2</sub> /GJ	73.00	OECC Carbon Footprint Calculation Guide.
EF CH <sub>4</sub> diesel/gas oil stationary sources (hereinafter ss)	kg CH <sub>4</sub> /GJ	0.01	Table 2.4. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
FE N <sub>2</sub> O diesel/gas oil ss	kg N <sub>2</sub> O/GJ	0.0006	Table 2.4. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF CO <sub>2</sub> MDO carriers	tCO <sub>2</sub> /tMDO	3.206	International Maritime Organisation.
EF CH <sub>4</sub> diesel/gas oil mobile sources (hereinafter ms)	kg CH <sub>4</sub> /GJ	0.007	Table 3.5.3. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF N <sub>2</sub> O diesel/gas oil ms	kg N <sub>2</sub> O/GJ	0.002	Table 3.5.3. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF CH <sub>4</sub> diesel/gas oil electricity generation	kg CH <sub>4</sub> /GJ	0.003	Table 2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF N <sub>2</sub> O diesel/gas oil electricity generation	kg N <sub>2</sub> O/GJ	0.0006	Table 2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF CO <sub>2</sub> HFO carriers	tCO <sub>2</sub> /tHFO	3.1144	International Maritime Organisation.
EF CH <sub>4</sub> fuel oil ms	kg CH <sub>4</sub> /GJ	0.007	Table 3.5.3. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

Continues &gt;



Parameter	Units	Value	Source
EF N <sub>2</sub> O fuel oil ms fm	kg N <sub>2</sub> O/GJ	0.002	Table 3.5.3. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF CH <sub>4</sub> fuel oil electricity generation	kg CH <sub>4</sub> /GJ	0.003	Table 2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF N <sub>2</sub> O fuel oil electricity generation	kg N <sub>2</sub> O/GJ	0.0006	Table 2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF CH <sub>4</sub> domestic coal	kg CH <sub>4</sub> /GJ	0.0006	Table. 1.4.2. (01.01.01) National Atmospheric Emission Inventories 1990-2012. Volume 2: Analysis by SNAP Activities.
EF N <sub>2</sub> O domestic coal	kg N <sub>2</sub> O/GJ	0.0008	Table. 1.4.2. (01.01.01) National Atmospheric Emission Inventories 1990-2012. Volume 2: Analysis by SNAP Activities.
EF CH <sub>4</sub> imported coal	kg CH <sub>4</sub> /GJ	0.0006	Table. 1.4.2. (01.01.01) National Atmospheric Emission Inventories 1990-2012. Volume 2: Analysis by SNAP Activities.
EF N <sub>2</sub> O imported coal	kg N <sub>2</sub> O/GJ	0.0008	Table. 1.4.2. (01.01.01) National Atmospheric Emission Inventories 1990-2012. Volume 2: Analysis by SNAP Activities.
EF CH <sub>4</sub> coke	kg CH <sub>4</sub> /GJ	0.0003	Table. 1.4.2. (01.01.01) National Atmospheric Emission Inventories 1990-2012. Volume 2: Analysis by SNAP Activities.
EF N <sub>2</sub> O coke	kg N <sub>2</sub> O/GJ	0.0025	Table. 1.4.2. (01.01.01) National Atmospheric Emission Inventories 1990-2012. Volume 2: Analysis by SNAP Activities.
EF CO <sub>2</sub> natural gas	kg CO <sub>2</sub> /GJ	55.98	Naturgy internal data.
EF CH <sub>4</sub> natural gas ss	kg CH <sub>4</sub> /GJ	0.005	Table 2.4. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF N <sub>2</sub> O natural gas ss and electricity generation	kg N <sub>2</sub> O/GJ	0.0001	Table 2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF CH <sub>4</sub> gas natural ms	kg CH <sub>4</sub> /GJ	0.092	Table 3.2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF N <sub>2</sub> O natural gas ms	kg N <sub>2</sub> O/GJ	0.003	Table 3.2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF CH <sub>4</sub> natural gas electricity generation	kg CH <sub>4</sub> /GJ	0.001	Table 2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF CO <sub>2</sub> LNG carriers	tCO <sub>2</sub> /tLNG	2.75	International Maritime Organization.
EF CH <sub>4</sub> natural gas carriers	kg CH <sub>4</sub> /GJ	0.004	Table 2.7. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. By analogy with the type of turbine. Gas turbines >3MW.
EF N <sub>2</sub> O natural gas carriers	kg N <sub>2</sub> O/GJ	0.001	Table 2.7. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. By analogy with the type of turbine. Gas turbines >3MW.
EF CO <sub>2</sub> propane	kgCO <sub>2</sub> /GJ	63.6	OECC Carbon Footprint Calculation Guide.
EF CH <sub>4</sub> propane ms	kgCH <sub>4</sub> /GJ	0.062	Table 3.2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories LPG.
EF N <sub>2</sub> O propane ms	kgCO <sub>2</sub> /GJ	0.0002	Table 3.2.2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories LPG.
EF CH <sub>4</sub> propane ss	kgCO <sub>2</sub> /GJ	0.005	Table 2.4. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
EF NO <sub>2</sub> propane ss	kgCO <sub>2</sub> /GJ	0.0001	Table 2.4. 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
GWP Methane	kgCO <sub>2</sub> /kgCH <sub>4</sub>	25	IPCC 4th Assessment Report.
GWP SF <sub>6</sub>	kgCO <sub>2</sub> /tSF <sub>6</sub>	22,800,000	IPCC 4th Assessment Report.
GWP N <sub>2</sub> O	kgCO <sub>2</sub> /tN <sub>2</sub> O	298,000	IPCC 4th Assessment Report.
GWP HFC	kgCO <sub>2</sub> /tHFC	14,800,000	IPCC 4th Assessment Report.
GWP PFC	kgCO <sub>2</sub> /kg PFC	12,200,000	IPCC 4th Assessment Report.

## Independent statement



### INDEPENDENT VERIFICATION STATEMENT

This Independent Verification Statement is an extract from the Verification Report of Verico SCE, number LK-2020-01-HC-NATURGY, prepared as a consequence of the verification process of Naturgy's 2019 Greenhouse Gas Emissions Inventory.

**Naturgy** has commissioned **verico SCE** to carry out the verification of the 2019 Greenhouse Gas Emissions Inventory, contained in the document "Carbon Footprint Report 2019", corresponding to the corporate carbon footprint for the period 2019.

During the verification process of the 2019 Greenhouse Gas Emissions Inventory, the following elements were reviewed:

- The consistency of the report with previous reports and the procedure for allocating emissions.
- Implementation of monitoring processes.
- Compliance of the measures to ensure the accuracy of required measurements and their quality.
- Information on fuels and raw materials
- Data management
- Integrity and correctness of manual and electronic data flow
- Internal quality control

The verification process checks and confirms the correctness, by an independent third party, of the information given in the annual emissions report, and also examines the annual emissions and the implementation of internal control and management procedures.



### Scope:

Naturgy is present in 18 countries serving more than 18 million customers. Naturgy operates in the regulated and liberalized gas and electricity markets, mainly in the following areas:

- Gas and electricity distribution
- Generation and commercialization of electricity
- Infrastructure, supply and marketing of gas

The organization has decided to include in its Greenhouse Gas Emissions Inventory scopes 1, 2 and 3.

- Scope 1:
  - Direct GHG emissions, understood as those coming from sources controlled by the company itself.
  - They are mainly due to CO<sub>2</sub> emissions from thermal electricity generation and CH<sub>4</sub> emissions as diffuse emissions from natural gas distribution networks.
- Scope 2:
  - Indirect emissions due to the generation of electricity that is acquired by the company for its own consumption but is not generated by the group.
  - Are mainly due to CO<sub>2</sub> emissions associated with electricity distribution losses
- Scope 3:
  - Indirect emissions, not included in Scope 2, derived from the value chain of activities, including upstream and downstream emissions, over which the group has no direct control or influence. Within the categories defined by the GHG Protocol, those with a weight of less than 1% have been excluded, provided that the sum of all of them does not exceed 5%.
  - Are mainly due to CO<sub>2</sub> emissions in the combustion of natural gas by the final use of natural gas distributed and marketed.

Inventory coverage includes the entire corporate activity, differentiating the following Business segments

- Generation
- Electricity Distribution
- Gas Distribution
- Gas (infrastructure, supply and marketing of natural gas)
- Office

The Greenhouse Gases included in this carbon footprint calculation are:

- CO<sub>2</sub>
- CH<sub>4</sub>
- N<sub>2</sub>O
- SF<sub>6</sub>
- HFC



### Inventory Result 2019:

The aggregate result of the 2019 Greenhouse Gas Emissions Inventory is as follows:

Naturgy's 2018 GHG Emissions Inventory	
	tCO <sub>2</sub> e
<b>Scope 1</b>	<b>15.415.253</b>
<b>Scope 2</b>	<b>1.098.662</b>
<b>Scope 3</b>	<b>129.433.473</b>
1. Purchased and good services	-
2. Capital goods	-
3. Fuel and energy related activities	28.390.264
4. Upstream transportation and distribution	-
5. Waste generated in operations	-
6. Business travel	3.108
7. Employees commuting	9.314
8. Upstream leased assets	-
9. Downstream transportation and distribution	-
10. Processing of sold products	-
11. Use of sold products	100.959.590
12. End-of-life treatment of sold products	-
13. Downstream leased assets	-
14. Franchises	-
15. Investments	71.197



### Verification Statement

verico SCE has carried out the verification of the 2019 Greenhouse Gas Emissions Inventory, contained in the document "Carbon Footprint Report 2019", corresponding to Naturgy's corporate carbon footprint for that monitoring period, in accordance with the requirements established in standards UNE-ISO 14064 and GHG Protocol (for the definition of sectoral scopes), and other rules applicable to Naturgy's Greenhouse Gas Emissions Inventory.

The verico SCE verification team has reached the opinion that Naturgy's 2019 Greenhouse Gas Emissions Inventory is prepared in accordance with the requirements defined in the Standard, complies with the greenhouse gas quantification methodology, and the monitored data and emissions calculation are evaluated and confirmed as substantially correct. Therefore, verico SCE hereby confirms that the reported emissions during the 2019 monitoring period amount to **145.947.388 tCO<sub>2</sub>e**.

Madrid, 18/05/2020

A handwritten signature in blue ink, consisting of a large loop and a horizontal line.

LUIS ROBLES OLMOS  
Lead Verifier

VERICO SCE is a European Cooperative Society accredited by the German Accreditation Entity, DAkkS (D-VS-19003-01-00), for the verification of greenhouse gas emissions, according to ISO 14065 (translated as UNE EN ISO 14065 in Spain and DIN EN ISO 14065 in Germany) and EU Regulation No. 600/2012. Likewise, VERICO SCE is accredited for the verification of non-regulated schemes, such as EN ISO 14064-1; EN ISO 14064-2; and EN ISO 14064-3..

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