Inventory of Greenhouse Gas Emissions 2022

Executive Inventory Results

Contents

Introduction

About Aegea

Aegea is the leading private provider of basic sanitation services in Brazil, with 56% market share, and manages basic sanitation assets under full or partial concession contracts and public-private partnerships (PPPs) as well as public concessions in the entire water cycle, i.e., supply, collection and sewage treatment. Founded in 2010, Aegea, through its subsidiaries and associated companies, has more than 17,000 employees and operates over 350 concession agreements and 6 PPPs. The Company serves more than 30 million people and is present in more than 480 cities in 13 states across Brazil: Mato Grosso do Sul, Rio de Janeiro, Mato Grosso, São Paulo, Pará, Santa Catarina, Rondônia, Maranhão, Espírito Santo, Piauí, Amazonas, Rio Grande do Sul and Ceará.

For the third consecutive year, Aegea has prepared its inventory of greenhouse gas (GHG) emissions, which is a strategic environmental management tool. The inventory enables the company to know its sources of emissions, identify and assess opportunities to mitigate them, set emission targets and commitments in line with the needs of climate balance, seek opportunities in the carbon market, identify risks and opportunities for innovation and efficiency, and prepare itself for future legal and regulatory requirements. The inventory of GHG emissions provides valuable data to be considered while making investment decisions.

Through the inventory, Aegea makes its carbon footprint transparent and shares its information with its customers, investors, commercial partners and society.

Inventory Limits

The GHG Protocol offers two approaches: operational control or equity share.

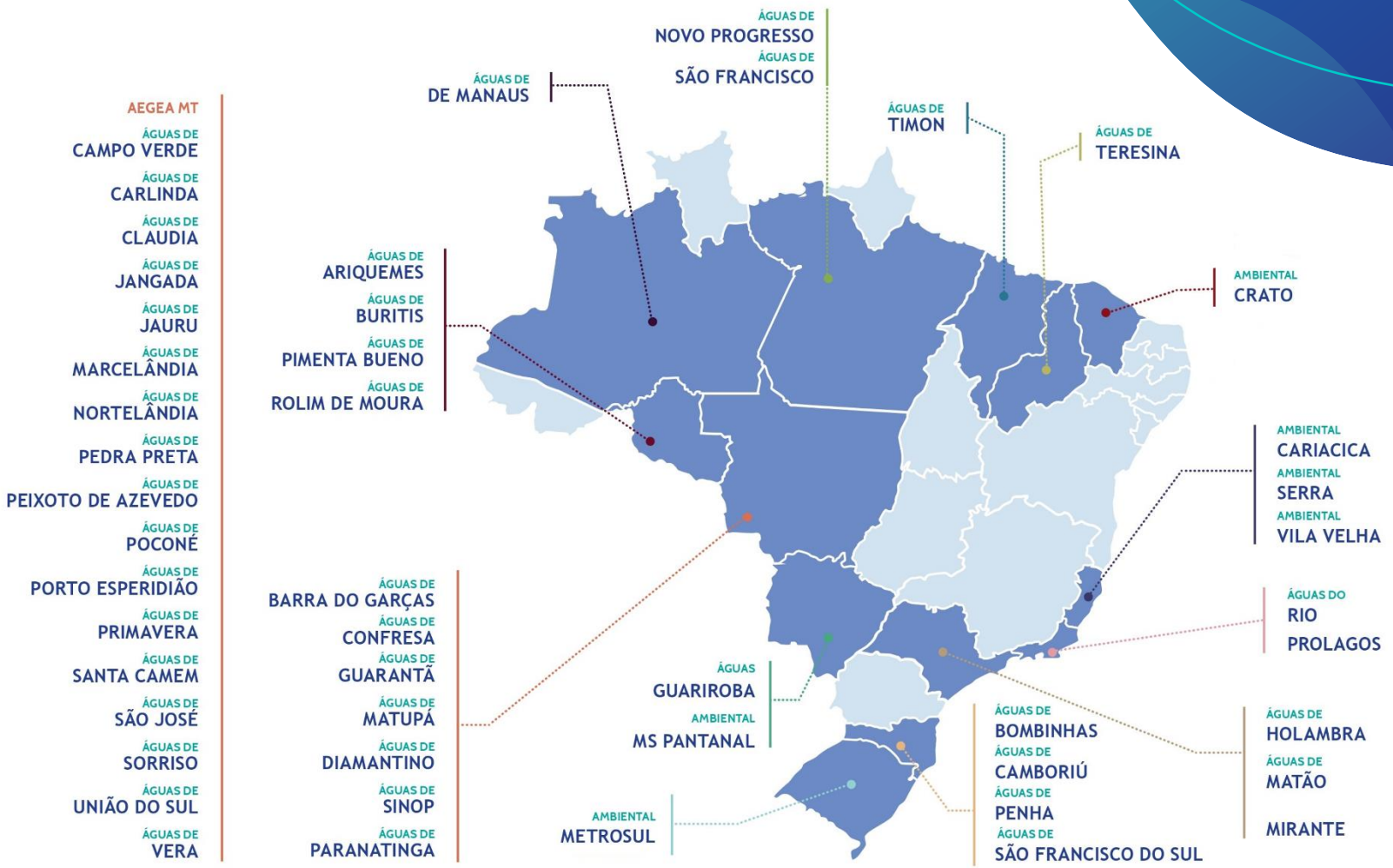
Aegea chose the operational control approach, reporting emissions from sources and operations under its control, where it has the authority to introduce and implement operating policies and practices.

The GHG Protocol uses the concept of scope to establish operational limits, organizing the accounting of emissions as follows:

- Scope 1 – direct GHG emissions – under the responsibility and controlled by the company
- Scope 2 – indirect GHG emissions – resulting from the generation of electricity or steam purchased by the company

For Scope 1, Aegea submitted the calculation for the following categories: Mobile Combustion, Stationary Combustion, Fugitive Emissions, Land Use Change and Solid Waste[1] and Wastewater.

In Scope 2, the Location-based and Market-based categories were addressed.



[1]Emissions related to sludge treatment at Aegea stations: Águas Guariroba and Águas de Mirante

Methodologies Used

Estimates of greenhouse gas emissions through Aegea Group operations were made in accordance with the Brazilian GHG Protocol Program. The key references are:

- Specifications of the Brazilian GHG Protocol Program. Quantificação e Publicação de Inventários Corporativos de Emissões de Gases de Efeito Estufa – (Sustainability Study Center - FGVces, 2008) and white papers;
- Atualizações da Ferramenta de Cálculo do Ciclo 2023 - Programa Brasileiro GHG Protocol (FGVces, 2023);
- 2006 IPCC Guidelines for National Greenhouse Gas Inventories;
- 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories;
- Fifth Assessment Report (AR5) - IPCC

Material Facts

- As part of Aegea's commitment to acknowledging its emissions, the white paper “Greenhouse gas inventory reporting period – version 1.0” of 06/28/2017 of the GHG Protocol was used to calculate emissions of companies acquired during the inventory year. As such, the Ambiental Crato unit in the state of Ceará, acquired in August 2022, had its emissions calculated and included in this inventory for the whole of 2022;

- The adoption of IPCC 2019 guidelines, which are a refinement of the IPCC 2006 methodology, improved the estimates for 2022 and resulted in the need to review the historical emission estimates of the treatment of effluents from the 2020 and 2021 inventories to ensure consistent analysis of the evolution of the company's emissions.

- The factors of emission by the generation of electricity in the National Interconnected System (SIN), as well as the percentages of mandatory mixture of anhydrous ethanol with gasoline and biodiesel with diesel, influence the Company's emissions. In 2021, emissions associated with the SIN were 105% higher than in 2020 and 197% higher than in 2022 due to higher activation of thermoelectric plants. The biofuel mixture percentages remained practically constant, with only the share of biodiesel decreasing slightly in 2022. However, considering the magnitude of Aegea's emission sources, these changes have a marginal impact;

- The global warming potential (GWP[2]) of greenhouse gases used in the 2020 inventory was updated in line with IPCC's fifth assessment report (AR5), which was already adopted in the 2021 inventory of greenhouse gases. GWP is a metric used to compare the ability of different greenhouse gases to retain heat in the atmosphere compared to carbon dioxide (CO_2). It enables different greenhouse gases to be combined into a single unit of measurement called "carbon dioxide equivalent."(CO_2e). The main changes in Aegea's 2020 emissions due to the changes in GWP were in methane (CH_4) and nitrous oxide (N2O).

Value equivalent to CO_2 over a hundred-year horizon			
Gases	IPCC Fourth Assessment Report - AR4	IPCC Fifth Assessment Report - AR5	Variation AR4 vs. AR5 (%)
Carbon dioxide – CO_2	1	1	0%
Methane - CH_4	25	28	12%
Nitrous oxide - N_2O	298	265	-11%

[2] GWP – Global Warming Potential

GHG Emissions:

Global and Brazilian Scenarios

GHG Emissions

Global Scenario

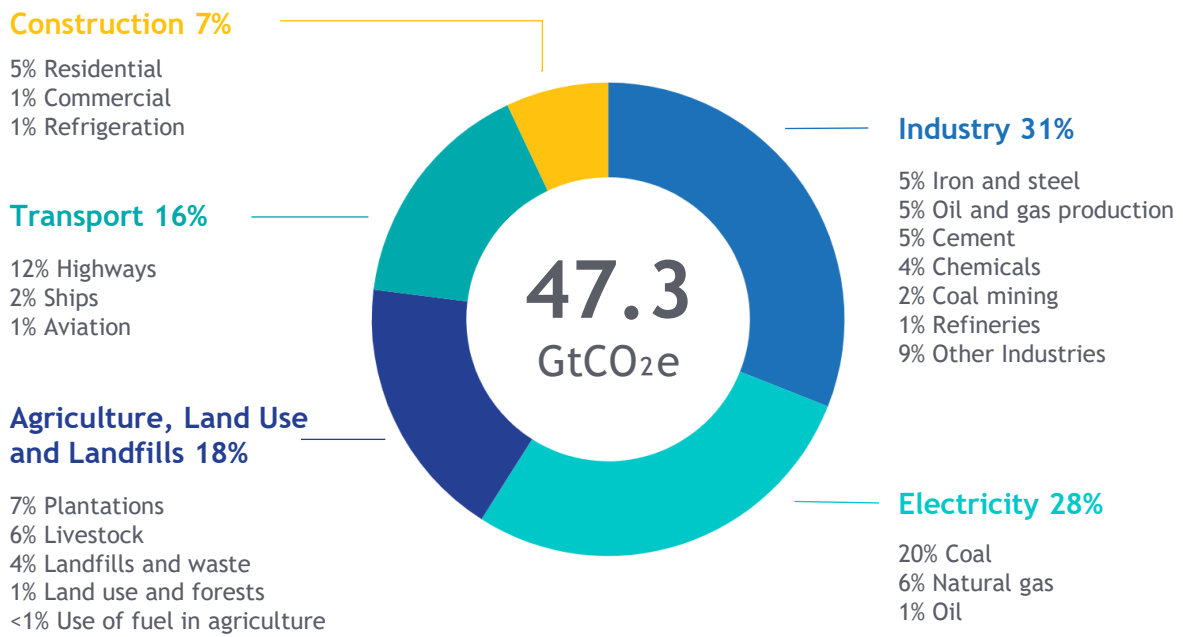
The global task of maintaining global average temperature below 2 degrees Celsius above pre-industrial levels and, preferably, restricting the increase to 1.5 degrees Celsius, in accordance with the Paris Agreement, is formidable. Besides setting more ambitious targets, it is important to fulfill the emission mitigation commitments already made, which requires not just incremental changes in a specific sector, but a broader, quicker and systemic transformation. Climate-related action is vital in all countries, and must be taken in accordance with the UN Sustainable Development Goals (UNEP, 2022).

As for the share of emissions, industry is the largest global emitter of GHG, mainly due to the production of iron and steel, cement, and oil and gas. Electricity generation is the second biggest emitter, followed by the transport sector, and then agriculture, with agricultural practices coming first and livestock second. The construction (buildings) sector rounds off the list.

Regarding subsectors, the biggest source of emissions is power generation from coal, followed by road transport, which jointly account for 32% of global emissions.

According to WRI (2022), 1.3% of global emissions in 2016 came from the wastewater treatment subsector. Though expanding sanitation services, especially in developing countries, is essential to improve the quality of life and health of people, it is important to carefully consider and manage the potential increase in GHG emissions through adequate and sustainable treatment practices.

Global GHG emissions by sector - 2020[3]

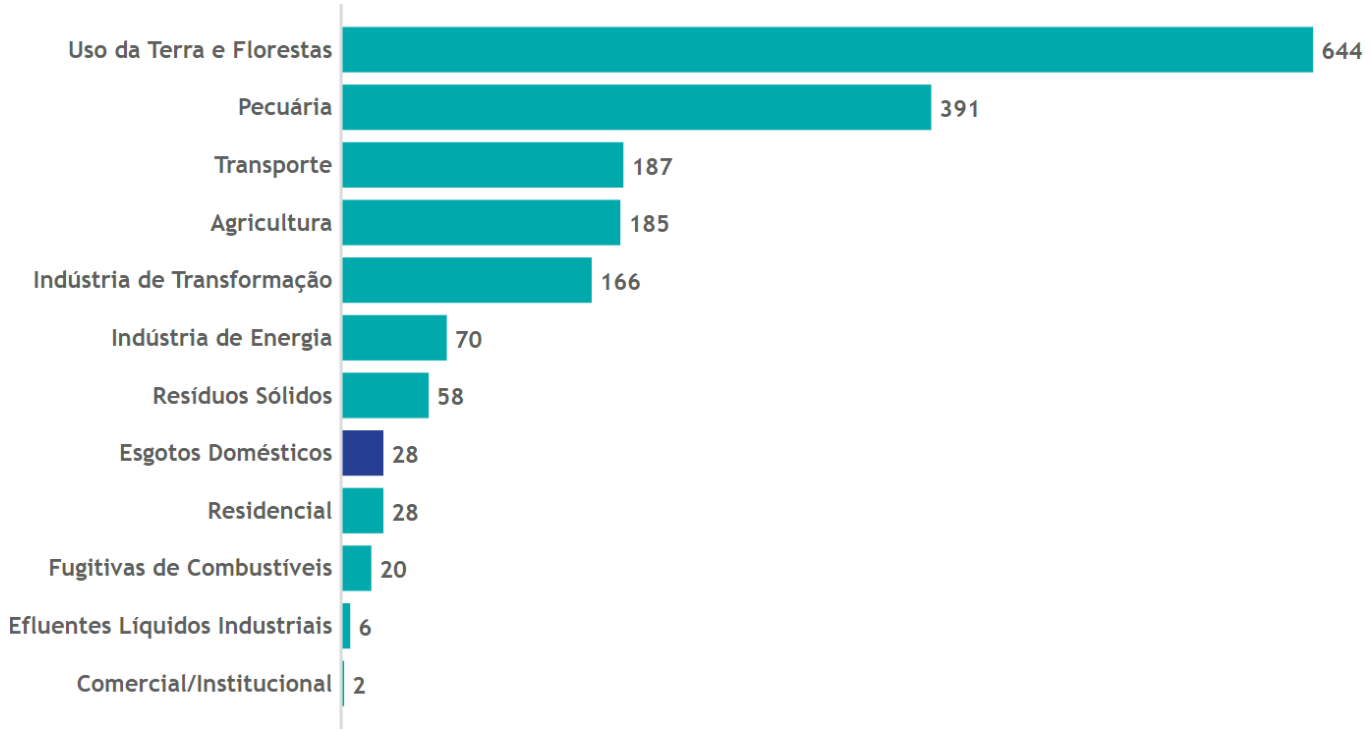


[3] Source: Rhoudim Group, 2022.

GHG Emissions

Brazilian Scenario

Total national emissions in 2020 - 1785 MtCO2 equivalent[4]



Sewage treatment was responsible for 28 million tons of GHG, corresponding to 1.6% of Brazil's total emissions in 2020. Between 2005 and 2020, the share of total emissions increased 67%. However, if we exclude emissions from land use and forests (mostly from deforestation) from Brazil's total emissions, the sector's share in the period comes to 2.5%.

In the period from 2005 to 2020, emissions from the sector grew 16%. Per capita emissions from sewage are around 140 kg/year, increasing 4% between 2005 and 2020.

With the recent impetus for the sector from the Legal Framework on Sanitation, the sector could register an increase in per capita emissions, considering that sewage treatment is a GHG-emitting process, thus requiring additional efforts by companies.

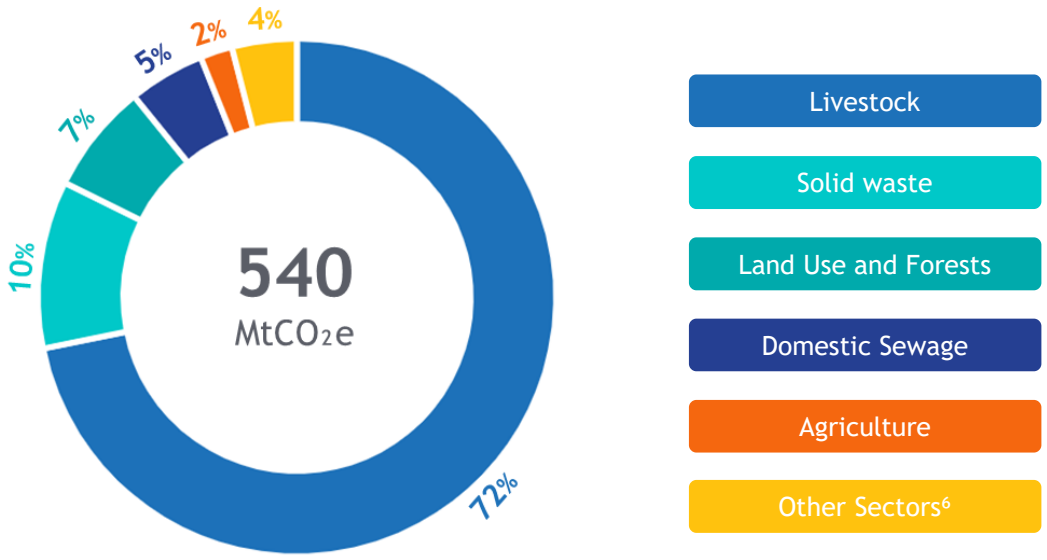
In any case, even if the sector expands significantly, its impacts on the country's emissions should not be significant, given the magnitude of responsibility of other sectors with much higher emissions.

[4]Source: Ministry of Science and Technology, 2022.
Note: Emissions from the burning of fuel in the agricultural sector considered in agriculture, emissions from the generation of electricity in the energy industry, emissions from the final disposal of sludge resulting from domestic sewage treatment into solid waste.

The Global Methane Pledge

Brazilian Scenario - Sanitation

Total national methane emissions in 2020 - 540 $MtCO_2$ equivalent[5]



The Global Methane Pledge was launched during COP26 held in November 2021 to catalyze actions aimed at reducing methane emissions. Brazil is a signatory with 110 other countries, which jointly account for 45% of global methane emissions of anthropogenic origin. The pledge is to collectively reduce methane emissions by at least 30% below 2020 levels, by 2030.

The share of household sewage in Brazil's methane emissions has been around 5%. Since 92% of the sector's nationwide emissions are methane, the percentage growth in methane emissions has practically remained the same as the sector's total emissions between 2005 and 2020: 16%.

The sector has the potential to reduce emissions through diverse initiatives, including the implementation of sewage treatment practices that capture and reduce the release of methane generated. It can also promote the use of biogas as an alternative to fossil fuels, while offering biosolids in place of nitrogen fertilizers, which are heavy sources of emissions.

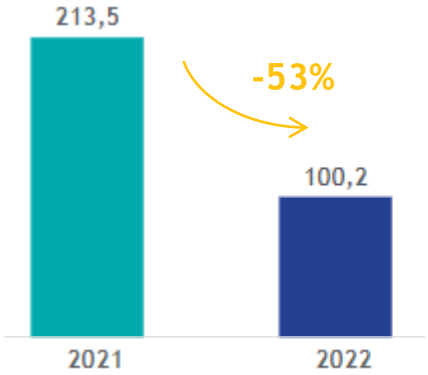
[5]Source: Ministry of Science and Technology, 2022.
[6]Residential: 1.5%, Industrial Wastewater: 1.1%, Fuel runaways: 0.9%, Manufacturing: 0.19%, Energy: 0.19%, Transport: 0.17% and Commercial/Institutional: 0.02%.
Note: Emissions from the burning of fuel in the agricultural sector considered in agriculture, emissions from the generation of electricity in the energy industry, emissions from the final disposal of sludge resulting from domestic sewage treatment into solid waste.

Results

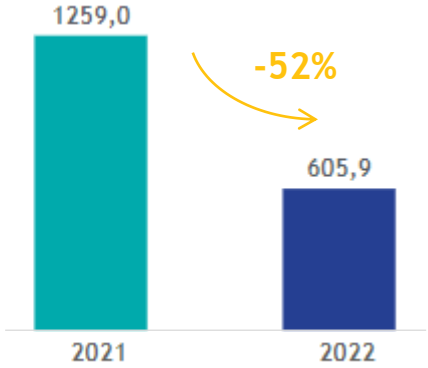
The 2022 results shown below were calculated based on internal information from Aegea. The calculation base, methodology used and data collected were verified by ABNT. Aegea's report of emissions is published in the Brazilian GHG Protocol Program, receiving the gold seal.

Results -
Intensity of Emissions

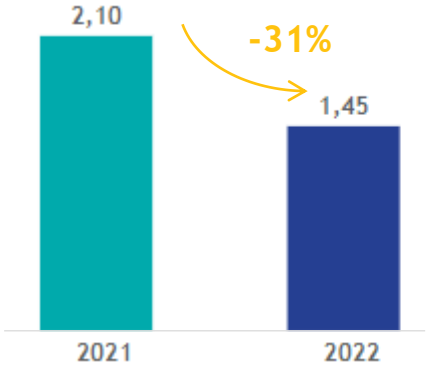
(1) Total emissions[7]/Net operating revenue



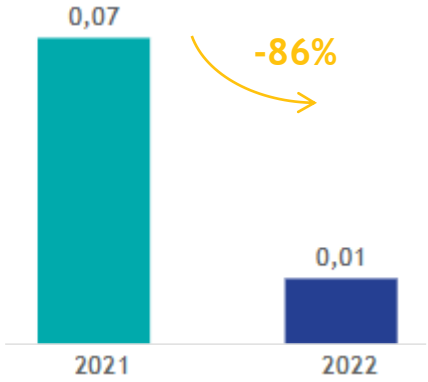
(2) Total emissions[7]/Billed Water and Sewage Volume



(3) Emissions of Solid Waste and Wastewater/Sewage treated vol.



(4) Scope 2 Emissions from Purchased Energy/Energy consumption



[7] Scope 1 + Scope 2 (*Location based*)

Emission Intensity Indicators are metrics that relate the amount of GHG emitted by the company, expressed in CO_2e, with some measure of its activities. Monitoring these and other indicators in the sanitation sector enables an assessment of the Aegea Group's GHG emissions in relation to its operational growth. These are valuable tools to guide decision-making, conduct *benchmarking* studies and launch actions for transition towards a low-carbon company.

(1) Total emissions[7]/Net operating revenue (tCO_2e/R$ million) and (2) Total emissions[7]/Billed Water and Sewage Volume (tCO_2e/million m^3):

Both indicators show that the increase in Aegea Group's total emissions did not match its operational growth rate These cases encompass all administrative and operational activities related to Water and Sewage at the Business Units. The first indicator shows the company's environmental efficiency (in terms of GHG emissions) in relation to its financial performance and the second in relation to the services offered.

(3) Emissions of Solid Waste and Wastewater / Vol. Sewage treated ($kgCO_2e/m^3$):

The performance of this indicator shows that specific emissions from the Aegea Group's sewage treatment did not increase in the same proportion as volume treated. This reflects the influence of different types of processes used in sewage and waste treatment, with some types emitting more than others (page 15).

(4) Scope 2 Emissions from Purchased Energy/Electricity consumption (tCO_2e/MW):

This indicator reflects GHG emissions from the generation of electricity consumed by Aegea considering the portion derived from renewable sources (Free Market and Distributed Generation contracts) and SIN consumption (page 22).

Results -

Total Absolute Emissions in tCO2e

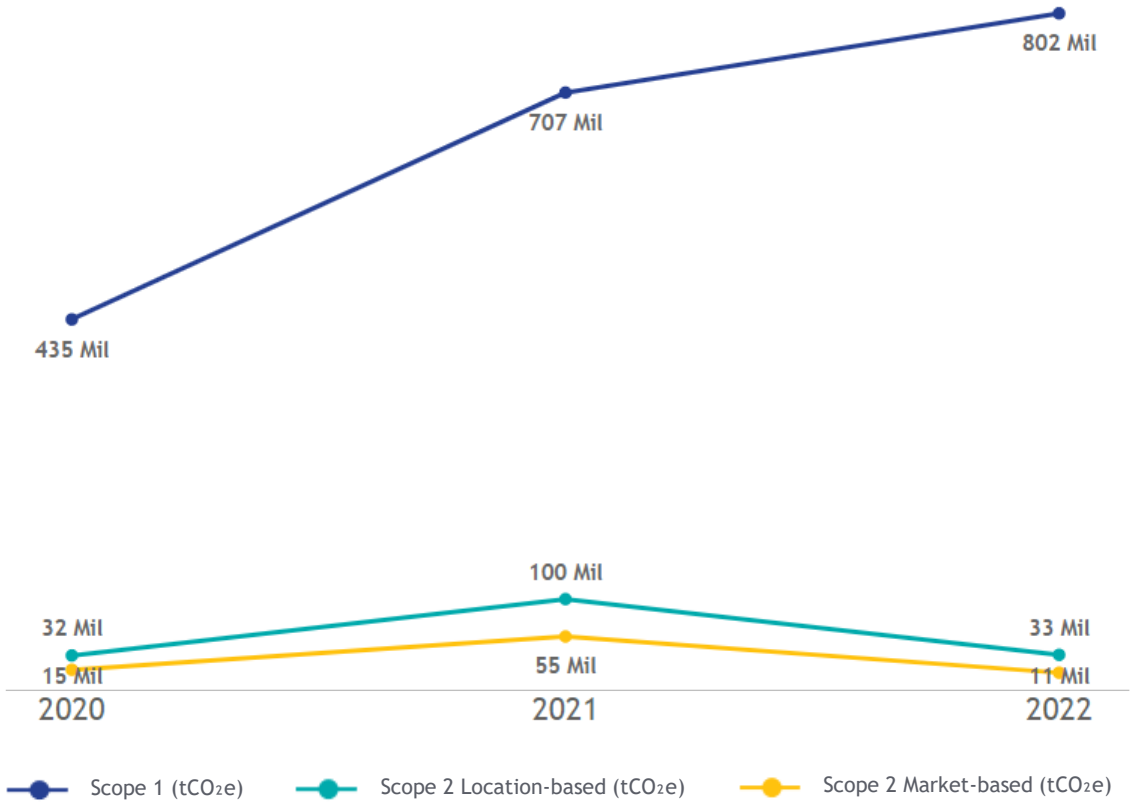
Aegea's operations are largely characterized by water and sewage treatment services, with the latter being mainly responsible for the group's emissions - direct emissions. Gases emitted in this operation are produced from the natural biological activity that occurs during the sewage treatment process and hence, any operational expansion with the acquisition of new concessions and the expansion of sewage collection and treatment services should result in an increase in absolute GHG emissions. As such, absolute emissions provide a comprehensive picture of Aegea's operations, besides reflecting the Company's growth in absolute terms.

Due to the growth in the company's service offering, total emissions increased 73% in 2021 compared to 2020 and 3.5% in 2022 compared to 2021. Between 2020 and 2022, the increase was 79%.

Direct emissions (Scope 1) represented 93% in 2020, 88% in 2021 and 96% in 2022, considering the total, indirect emissions (Scope 2) from the acquisition of electricity using only the CO { ut2}2 emission factor of the National Interconnected System - SIN (location-based)

When booked under Scope 2, purchases of renewable electricity on the free market and distributed generation (market-based), total emissions decrease. However, direct emissions stood at 97%, 93% and 99% in these years, due to lower carbon content in the electricity purchased.

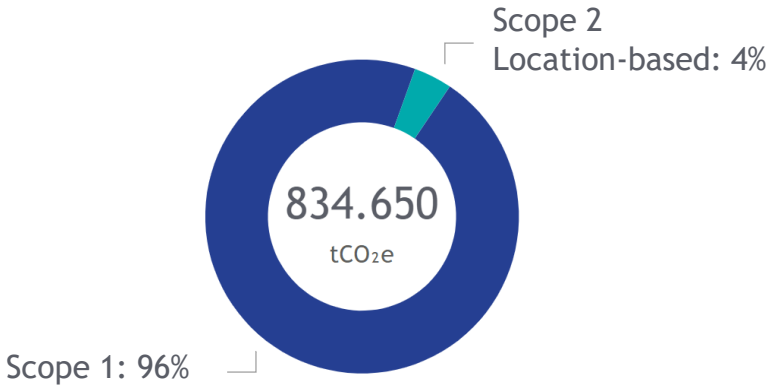
Absolute CO_2e emissions by Scope

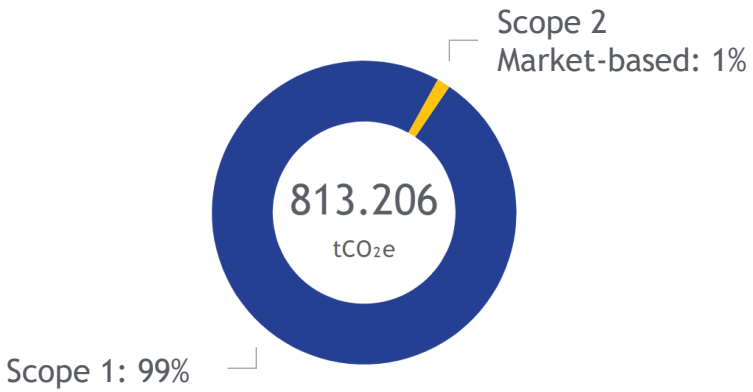


Total absolute emissions per year and by Scope 2 approach:
2020 – 467,000 tCO_2e (*Location-based method*) | 450,000 tCO_2e (Market-based method)
2021 – 807,000 tCO_2e (*Location-based method*) | 762,000 tCO_2e (Market-based method)
2022 – 835,000 tCO_2e (*Location-based method*) | 813,000 tCO_2e (Market-based method)

Resultados -
Absolute Emissions by Category - 2022

Aegea's absolute emissions in 2022 totaled 834,650 tCO_2e as per the location-based approach and 813,206 tCO_2e as per the *market-based* approach, in Scope 2.





Share of emissions by Scope and Source

	Categories	Emissions (tCO_2e) Year: 2022	% of total Location-based	% of total Market-based
SCOPE 1	Solid Waste and Wastewater	771.615	92%	95%
	Mobile Combustion	27.531	3%	3%
	Stationary Combustion	2.364	0.3%	0.3%
	Fugitive Emissions	225	0.03%	0.03%
	Change in land use	0	0%	0%
	Total emissions Scope 1	801.734		
SCOPE 2	Electricity purchase Location-based	32.916	4%	-
	Electricity purchase Market-based	11.472	-	1%

Results Scope 1 -
Solid Waste and Wastewater

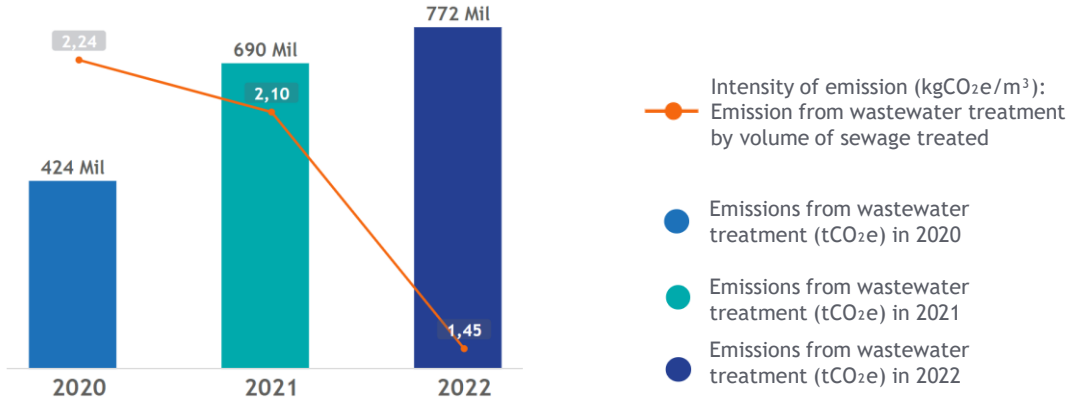
Between 2020 and 2022, Aegea increased its treated sewage volume by 180%. This increase was mainly driven by the operational startup in 2021 of the Águas do Rio, Ambiental MS Pantanal and Ambiental Cariacica Units, as well as works to expand the Company's sewage coverage.

The Águas do Rio Unit alone contributed to an 88% increase in total volume of sewage treated during the period. In 2022, 33% of the Unit's volume was treated aerobically and 66% underwent preliminary treatment with subsequent ocean dispersal through submarine outfall. According to the IPCC, these processes result in less emissions per unit of volume treated compared to mixed and anaerobic systems. As a result, this unit had a direct impact on reducing the intensity of the Group's emissions (GHG emissions per treated volume of sewage, measured in kg CO2e/m^3).

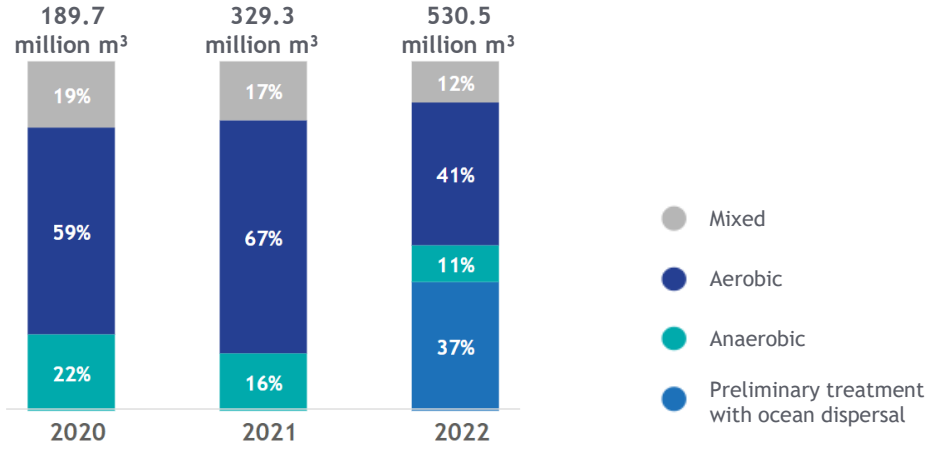
The intensities decreased significantly in 2022, as the graph shows. Considering the three years analyzed, emission intensities on average were preliminary treatment with ocean dispersal through submarine outfall, 0.45 kg CO_2e/m^3; aerobic treatment, 1.30 kg CO_2e/m^3; mixed, 3.40 kg CO_2e/m^3; and anaerobic, 3.69 kg CO_2e/m^3, with slight variations among the years.

Note that, in 2022, 37% of the volume collected and sent for preliminary treatment with ocean dispersal came under Aegea's operational controls, which helped reduce this indicator since the sewage purified in a marine environment away from the coast generates less emissions. If this fraction released into the outfall were deducted, intensity in 2022 would have been 2.04 kg CO_2e/m^3.

Absolute Emissions vs. Emission Intensity



Annual Sewage Treated Volume vs. Portion by Type of Treatment Technology



Note: Intensity of emissions expressed in kgCO_2e/m^3 declined 35% from 2020 to 2022.

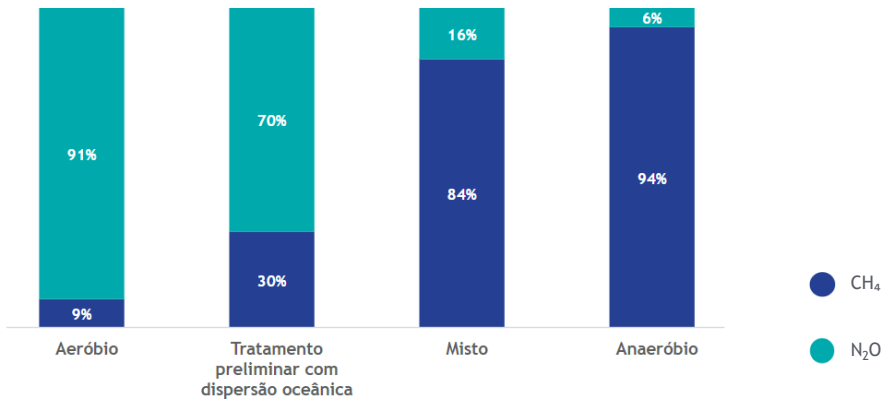
Results Scope 1 -
Solid Waste and Wastewater - CH_4 and N_2O

Emissions from waste and wastewater treatment include emissions of methane (CH_4) and nitrous oxide (N_2O). Sewage and sludge produce CH_4 when they degrade anaerobically. The volume of CH_4 generated mainly depends on the quantity of degradable organic material (BOD) in wastewater, the temperature and degree of anaerobiosis of the treatment system, as well as the water body where the treated waste is released. N_2O is associated with the degradation of the components of nitrogen in wastewater, such as urea, nitrate and protein.[8]

As for the global warming potential of these gases (GWP), one ton of CH_4 corresponds to 28 tons of CO_2 and one ton of N_2O to 265 tons of CO_2. Adding one ton of CH_4 and one ton of N_2O results in the emission of 293 tCO_2equivalent.

Of the total emissions by type of treatment, the mixed and anaerobic treatments emit more CH_4 than N_2O, while pre-treatment with ocean dispersal by submarine outfall and aerobic treatment emit more N_2O than CH_4.

Share of emission by type of GHG and Treatment Technology



CO_2 is also emitted during the sewage treatment process but results in emissions considered neutral in terms of climate impact, since CO_2 is generated through a short biological cycle (and not a geological cycle, as in the case of CO_2 from fossil origin or deforestation).

In the GHG Protocol, biogenic CO_2 (page 23) is accounted for separately and is not added to the company's total emissions.

[8]Source: IPCC, 2006. Volume 5, chapter 6, page 6.7.

Results Scope 1 -

Mobile Combustion

Emissions from fuels used in vehicles accounted for a small share of the company's total emissions. Together, these corresponded to 1.9%, 1.7% and 3.4%, respectively, in 2020, 2021 and 2022.

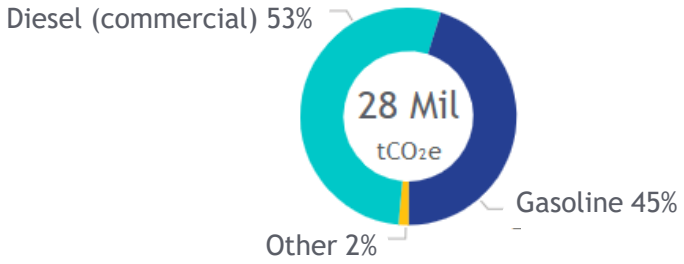
Emissions mainly came from the consumption of diesel (commercial) and gasoline (commercial) in all the years. Between 2020 and 2022, diesel consumption in the mobile combustion category grew 224% and gasoline consumption by 264%. Consumption of hydrous ethanol, however, grew 8%.

Of the total consumption in this category in 2022, 53% was diesel, 45% gasoline, 1.8% ethanol, 1.2% aviation kerosene and 0.1% vehicle natural gas plus liquefied petroleum gas and pure biodiesel (B100).

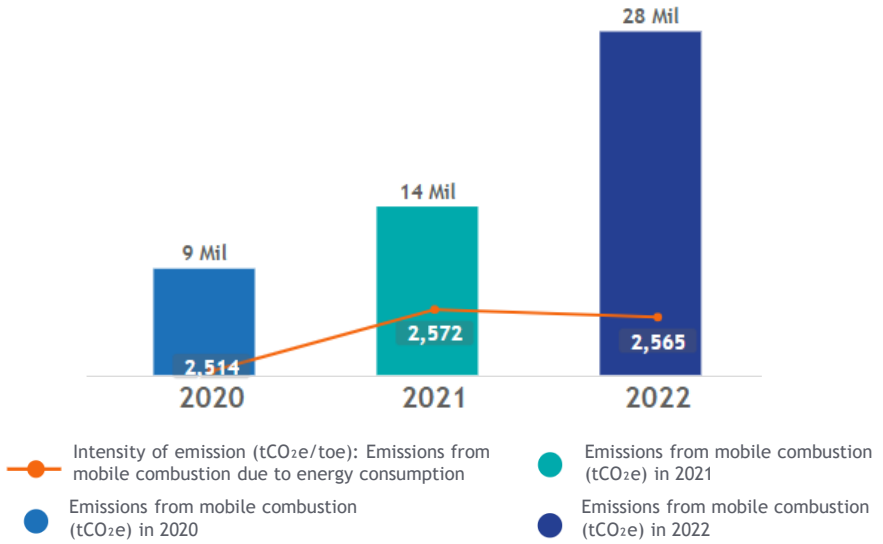
The mandatory mixing percentages of biofuels remained constant during the period: around 11% in case of biodiesel in diesel and 27% anhydrous ethanol in gasoline.

The intensity of emissions from total fuel consumption expressed in tCO_2e/toe also did not change significantly during the years inventoried.

Absolute CO2e emissions from Mobile Combustion and fuel type in 2022



Absolute CO2e emissions from Mobile Combustion per year



Note 1: The calculations consider the values in ton of oil equivalent (toe) of fuels, a unit used to compare different energy sources such as oil, coal, natural gas and renewable energy based on their energy content. It represents the amount of energy released by each source in relation to one metric ton of crude oil.

Note 2: CO_2 from biofuels is accounted for separately and is not added to the company's total emissions, as is the case with ethanol and biodiesel.

Stationary Combustion

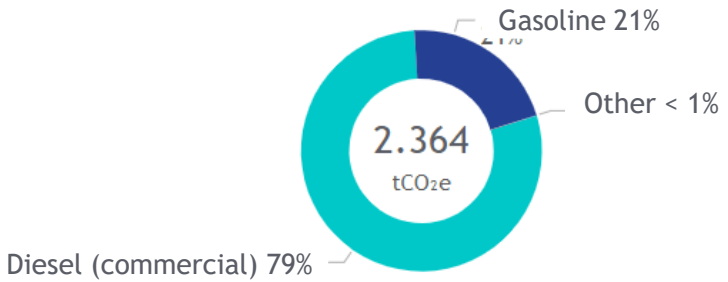
Emissions of CO_2, CH_4 and N_2O from fuel consumption by machinery and equipment corresponded to 0.43%, 0.24% and 0.28% of the company's total emissions in 2020, 2021 and 2022, respectively.

Emissions come mainly from the consumption of diesel (commercial). Between 2020 and 2022, diesel consumption in the stationary combustion category remained constant while gasoline (commercial) consumption grew 213%.

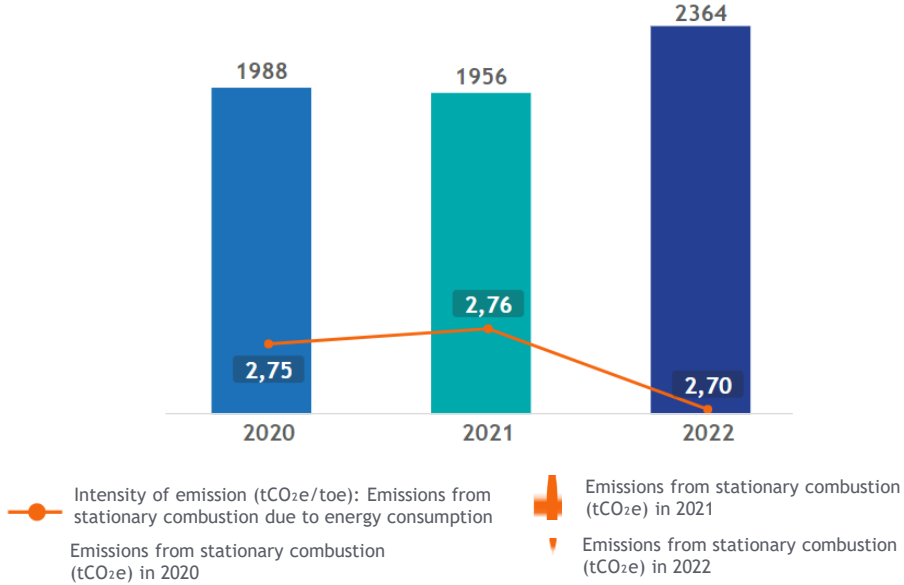
In 2022, of the total consumption in this category, 75% was diesel, 24% gasoline and the remainder was ethanol plus acetylene, lubricants and wet natural gas.

The intensity of emissions from total fuel consumption expressed in tCO_2e/toe changed slightly during the years inventoried, declining 2.2% between 2021 and 2022. This reduction was practically due to an increase in the share of gasoline (from 8% to 24% of total consumption, in toe, from 2021 to 2022), given that gasoline has a lower emission factor than diesel, and other fuels account for a marginal share.

Absolute CO2e emissions from Stationary Combustion and fuel type in 2022



Absolute CO2e emissions from Stationary Combustion per year



Results Scope 1 -

Fugitive Emissions

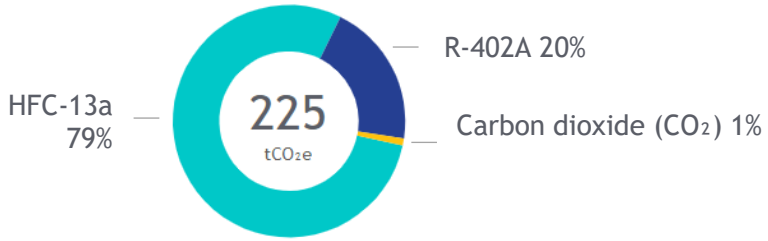
Emissions of gases used in products such as air conditioners, refrigeration equipment, fire extinguishers and other products were responsible for 0.001%, 0.14% and 0.003%, respectively, of Aegea's total emissions in 2020, 2021 and 2022.

In 2021, these emissions, called fugitive emissions, increased sharply due to refrigerant gases with high global warming potential (GWP), but decreased in 2022, as the graph shows. Nevertheless, between 2020 and 2022, emissions increased 7,400%, even though they remain insignificant. Despite the higher volume of CO_2 expressed in kg of gas, other gases have a higher global warming potential (GWP), which making their emissions higher when converted into CO{ ut5}2equivalent.

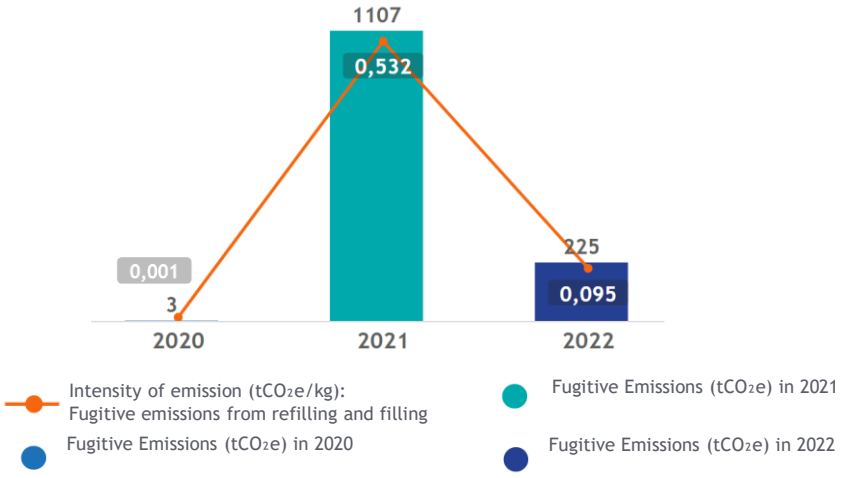
Fugitive Emissions: Refilling and filling made (kg)				
Type of gas or compound	GWP	2020	2021	2022
CO_2	1	3.268	1.443	2.206
HFC-134a	1.300	-	174	137
R-401A	18	-	39	-
R-402A	1.902	-	-	24
R-410A	1.924	-	353	-
R-422A	2.847	-	70	-
Total		3.268	2.079	2.366

Note: Use of gases or compounds in 2022:
R-402A: Office air conditioning and refrigeration equipment
HFC-134a: Air conditioning for cars and trucks, refrigeration equipment and drinking fountains
CO_2: Fire extinguishers and miscellaneous maintenance.

Absolute emissions from the Fugitive Emissions category by type of gas for 2022



Absolute CO_2e emissions from the Fugitive Emissions category by year



Results Scope 1 -

Land Use Change: Biogenic Removals

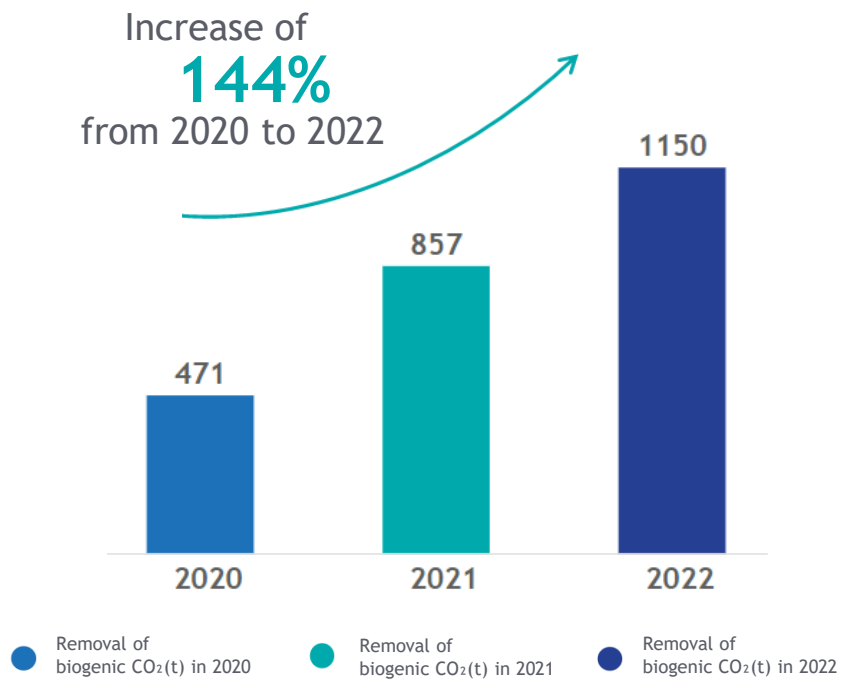
CO_2 removals are due to the growth of vegetation on the company's premises, in case of Scope 1, that is, these come from Aegea's reforestation projects. These removals originate from the monitoring of the growth of vegetation in places where the company has control of the area. These plantations would result from the Degraded Areas Recovery Plan (PRAD) and the Statement of Commitment to Environmental Recovery (TCRA)

Until 2022, Aegea had reforested 430,000 m² of Cerrado and 50,000 m² of the Atlantic Forest. During the entire growth phase of vegetation, there will be removal of biogenic CO_2.

Removals increased 82% between 2020 and 2021, 34% between 2021 and 2022, and 144% between 2020 and 2022.

These removals offset, albeit mildly, Aegea's total emissions by 0.10%, 0.11% and 0.16% in 2020, 2021 and 2022, respectively.

Absolute biogenic removals of CO_2e per year



Results Scope 2 -

Electricity (Location-based)

Aegea acquired 516 GWh in 2020, 789 GWh in 2021 and 773 GWh in 2022. Calculating emissions from generation as if 100% of the electricity had come from the SIN (Location-based option), its share of total emissions was 6.9% in 2020, 12% in 2021 and 3.9% in 2022.

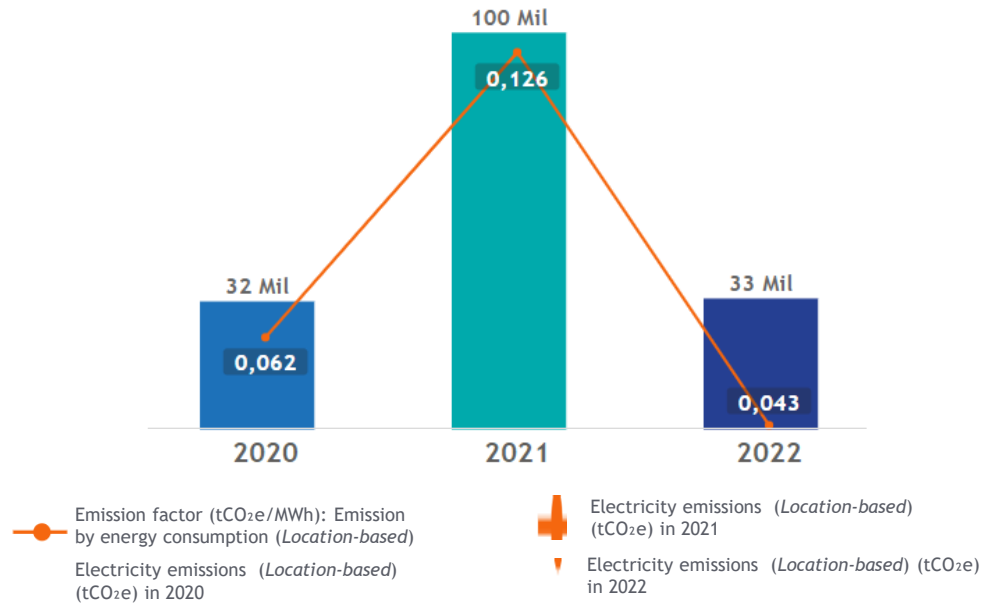
Emissions increased 213% between 2020 and 2021, well above the 53% growth in the quantity of electricity purchased.

Emissions were much higher in 2021 due to the high emission factor (tCO_2/MWh) from SIN generation resulting from increased activation of thermoelectric plants based on fossil fuel. In 2022, generation from coal and natural gas each fell by more than 50%, as against an increase of over 16% in the supply of energy from hydroelectric plants, 78% from solar power and 12% from wind power. (MME, 2023).

Year	Energy consumed (GWh)	Emission factor - SIN (tCO_2e/MWh)
2020	516	0,062
2021	789	0,126
2022	773	0,043

Note that, despite the expansion in business activity, electricity consumption declined 2.0%. This fact is linked to Business Units a part of whose energy consumption data in 2021 was estimated because they were partially operated by Aegea.

Absolute CO2e Emissions from Electricity
Location-based method



Note: The emission factors used in Aegea's estimates are provided by the Ministry of Science, Technology and Innovation (MCTI, 2023) and reflect the mix of generation sources during the respective years.

Results Scope 2 -

Electricity (Market-based)

In the market-based option, the estimate uses the emission factor specific to each source of electricity generation that Aegea chose to acquire through contracts. In this approach, the emission factor is directly associated with the origin of electricity generation. Hence, to estimate the indirect emissions from the use of electricity in this option, the portion acquired from the SIN must use the respective emission factor, while the balance that was acquired from 100% renewable sources (solar, wind or water), has zero emissions. As such, it is a weighted emission factor that considers the origin of the purchased portions of electricity and their respective carbon content.

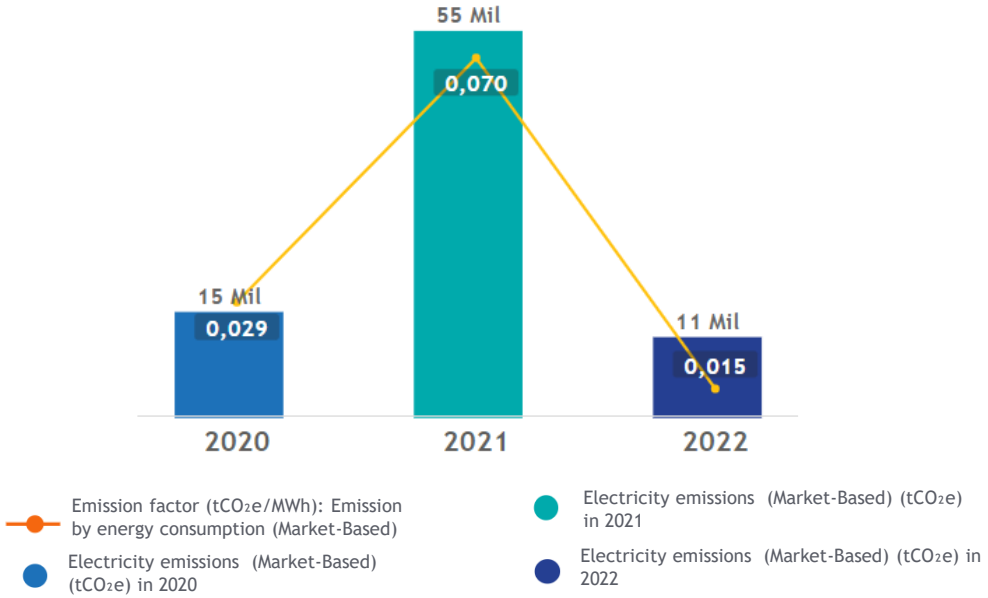
The electricity portions purchased were:

Method	2020	2021	2022
Location-based (GRID)	48%	55%	35%
Market-based (renewable energy)	52%	45%	65%

Emissions from the marked-based method compared to the location-based option decreased in the same proportion as electricity was purchased by Aegea in the free market and from distributed generation.

The practice of investing in the acquisition of electricity from 100% renewable sources in place of electricity offered in the SIN, which includes a portion of fossil sources in its generation, is aligned with Aegea's vision of the future and contributes to its decarbonization process[9]. The positive impact of this practice, besides reducing the emission factor from the SIN in 2022, was a 79% reduction in the intensity of Scope 2 emissions.

Absolute CO_2e emissions from electricity
Market-based method



[9]To publish this process in the Public Registry of Emissions in order to comply with the technical standards of the PBGHG Protocol, I-REC certificates must be obtained.

Other Emissions -

Biogenic CO_2 Emissions

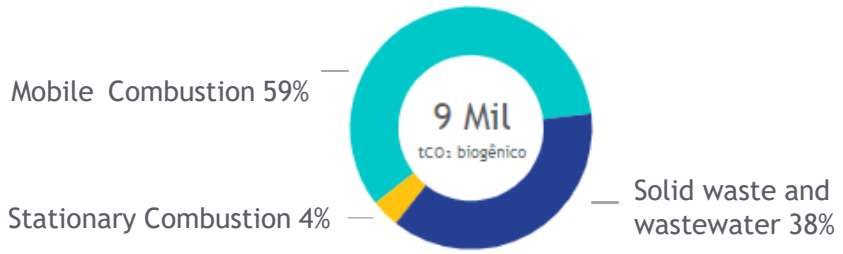
CO_2 emissions from biogenic sources come from biomass and, therefore, are part of the carbon cycle, that is, they were previously removed from the atmosphere before being released through the use of biofuels or the burning of biogas.

In the context of sewage and sludge treatment, biogas is a biofuel composed mainly of CH_4 and CO_2 and is produced by the anaerobic digestion of organic matter derived from biomass. When biogas is burned in the presence of oxygen, as happens in the *flares* of Aegea's anaerobic sewage treatment stations (mostly of the UASB type), the CH_4 is converted into CO_2 and water. These emissions are not added to Aegea's total emissions. The same happens with the consumption of biofuels such as ethanol and biodiesel whose CO_2 emissions are recorded as biogenic CO_2.

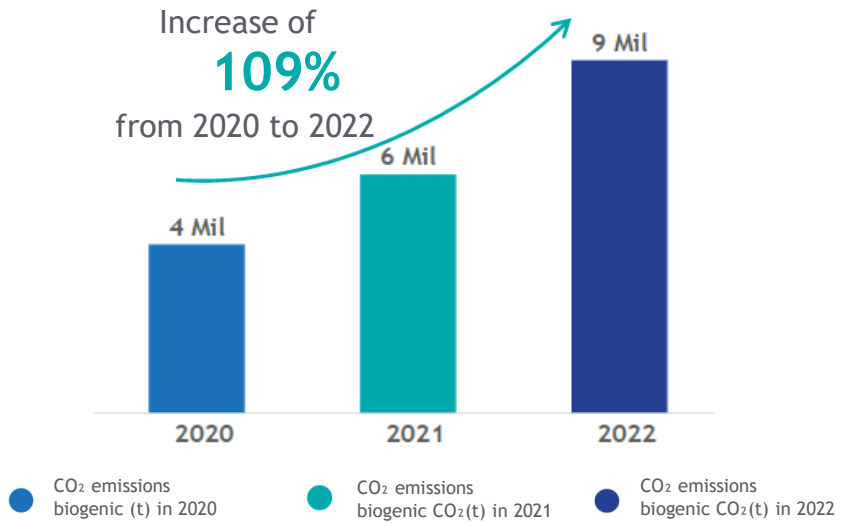
An increase in the share of biogenic CO_2 emissions in total emissions over time indicates an increasingly positive environmental performance by the Company It indicates that less methane, a GHG with higher global warming potential no matter its origin, and less carbon dioxide of fossil origin are being emitted. In short, it shows more burning of biogas in *flare* and less consumption of fossil fuels.

Even if incipient, in 2020, CO_2 emissions from biogenic sources corresponded to 0.9% of the total, declining to 0.7% in 2021 and 1.2% in 2022.

Biogenic emissions in tCO_2e by type of emission source for 2022



Biogenic emissions in tCO_2e per year



Other Emissions -
Gases Not Regulated by the Kyoto Protocol

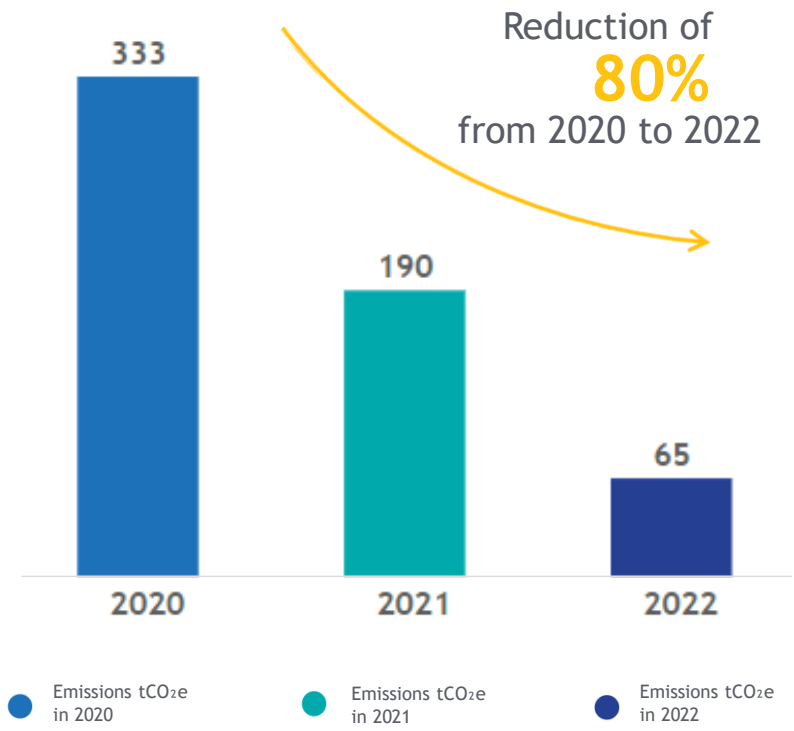
Gases included in this category are controlled by the Montreal Protocol, which came into effect in 1989 and has been ratified by all countries. This international accord is part of the Vienna Convention adopted in 1985, and is aimed at protecting the ozone layer by eliminating certain harmful gases. Within this group, Aegea uses HCFCs in refrigeration and air conditioning equipment.

Though the HCFCs are not regulated by the Kyoto Protocol and, hence, not added to the company's total emissions, these too contribute to the increase in global warming and are, therefore, reported.

In 2021, the consumption of these gases and corresponding emissions declined 43% in relation to 2020. In 2022, the reduction was 66% in relation to 2021. Between 2020 and 2022, the reduction was 80%.

Year	Gases or compounds used
2020	HCFC-22 (R22)
2021	HCFC-22 (R22)
2022	HCFC-22 (R22) and HCFC-225cb

Absolute emissions of gases controlled by the Montreal Protocol



Note: Aegea does not use calcium carbonate ($CaCO_3$), whose production emits GHG, in its water treatment processes.

Summary and Conclusions

Aegea's inventory of GHG emissions demonstrates that a part of its core business, especially the treatment of sewage and sludge, is responsible for a substantial portion of the Company's emissions.

The inventory reveals valuable information about the performance of our operations at each of its stages. Monitoring our emissions by identifying the main sources of GHG emissions enables us to enhance our practices and adopt more sustainable and efficient processes, which reveal opportunities to streamline our operations and adopt mitigation measures.

We thus seek to reduce our environmental impact, while also creating opportunities for innovation, employee engagement and the satisfaction of our stakeholders.

Our inventory also provides a solid foundation for fresh studies aimed at making informed decisions and implementing internal policies to continuously reduce GHG emissions.

With the inventory of emissions, we reiterate our commitment to sustainability, taking responsibility for facing climate challenges and contributing to a more sustainable and resilient future.

	Categories	'000 tCO_2e			2021 vs. 2022 (tCO_2e)
		2020	2021	2022	
SCOPE 1	Solid Waste and Wastewater	424	690	772	12%
	Mobile Combustion	9	14	28	100%
	Stationary Combustion	2,0	2,0	2,4	20%
	Fugitive Emissions	0,003	1,1	0,23	-79%
	Change in land use	0	0	0	0%
SCOPE 2	Electricity purchase *Location-based*	32	100	33	-67%
	Electricity purchase *Market-based*	15	55	11	-80%
TOTAL	Location-based	467	807	835	3%
	Market-based	450	762	813	7%

Aegea's Contribution to SDGs

The inventory is another step on our path to help achieve the UN Sustainable Development Goals of “ending poverty, protecting the environment and climate and ensuring that people can enjoy peace and prosperity.” By expanding the reach of quality basic sanitation services in consonance with the planet's environmental needs, we are seeking to strengthen our alignment with the following SDGs:

Gender equality

Achieving gender equality and empowering all women and girls.

Affordable and clean and energy

Seeking ways to increase the share of renewable energy in the global energy matrix through the use of biogas.

Responsible consumption and production

Contributing to the reuse of byproducts, such as sludge.

Life below water

Contributing to the conservation and sustainable use of oceans, seas and their marine resources to ensure sustainable development.

Clean water and sanitation

Contributing to providing access to adequate and equitable sanitation and hygiene for all and reducing the proportion of untreated wastewater.

Reduced inequalities

Helping to reduce inequalities within countries and between countries.

Climate action

Identifying actions to combat climate change and its impacts through mitigation measures.

Life on land

Contributing to the protection, restoration and promotion of the sustainable use of land ecosystems through sustainable management of forests, combating desertification and reversing soil degradation.

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