



Fagron Carbon Footprint 2021

18 March 2022

As a global company with the purpose to create the future of personalizing medicine, Fagron aims to produce all products ethically and responsibly.

About Fagron

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Fagron is global leading player in pharmaceutical compounding and supplies products and services to hospitals, pharmacies, clinics, and patients in over 35 countries worldwide.

Purpose

Fagron's purpose is: "Together we create the future of personalizing medicine". Together we enable pharmacists, prescribers, hospitals, and industry to provide quality, safety and service for their patients. We create value in healthcare by offering the entire range of products and services for compounding personalized medicine. Personalization of treatment makes it easier to meet individual patient's need and increases effectiveness, quality, safety and reduces healthcare cost.

Our areas of work

Fagron is a vertically integrated player that is active throughout the value chain of pharmaceutical compounding and sterile outsourcing services. The company delivers, among other things, Essentials, Brands, Compounding Services, and Premium Pharmaceuticals to its customers.

Our strategy

Fagron strives to be the global leader in Essentials and Brands and the leading global platform for sterile outsourcing services and realize sustainable and profitable growth.

Our drivers

Our drivers are demographics, personalization, accessibility, and sustainability.

Our ESG commitment

Our commitment

Fagron aims to produce all products ethically and responsibly.

We strive to protect our stakeholders by delivering products that meet all relevant quality and safety standards, lowering our environmental impact, providing benefits to our people, taking responsibility in our supply chain, and giving back to the communities in which we operate.

ESG strategy

We see our Environmental, Social, and Governance Strategy as a living document because Fagron, our stakeholders, and the world are continuously changing.

Fagron conducts an annual materiality assessment to determine the environmental, social, and governance topics to include in our ESG strategy.

We divide the ESG topics into five categories:

- Low impact on the Environment
- Benefits to Our People
- Responsibility in our Supply Chain
- Giving back
- Good Governance

Sustainable Development Goals

Fagron endorses all 17 Sustainable Development Goals (SDGs) defined by the United Nations in 2015. We have selected five SDGs to focus our efforts on.

Progress on ESG targets

Progress on all ESG targets can be found at www.fagron.com/ESG.

Our ESG Categories



**Low impact on
the Environment**



**Benefits to
Our People**



**Responsibility
in Supply Chain**



Giving back



**Good
Governance**



Fagron Carbon Footprint 2021

At Fagron, we continuously try to reduce the impact of our operations on the environment. We actively reduce our impact by setting ambitious targets on the environmental topics that are material for Fagron. We actively work on reducing greenhouse gas emissions and energy use.

Introduction

Environmental, Social, and Governance topics are becoming increasingly important for Fagron. This includes topics such as carbon footprint, human rights, and waste management. Fagron has strong ambitions regarding climate change impact reduction (carbon footprint reduction). The aim is to reduce the carbon intensity by approximately 30% between 2019 and 2025 (a 5% reduction per year). In August 2019, Fagron concluded a new credit facility where the interest level is linked to Fagron's sustainability objective to reduce greenhouse gas emissions.

Annual global KPIs (compared to 2019), effective from 1 January 2020, are:

- Energy consumption: 3% reduction in carbon intensity (18% in 2025);
- Business travel:
 - Car emissions: 10% reduction in carbon intensity (60% in 2025);
 - Flight emissions: 4% reduction in carbon intensity (24% in 2025);
- Installation of solar panels that reduce the carbon intensity by 0.4 tons of CO₂-eq per million € turnover (same in 2025).

This document describes the carbon footprint calculations (greenhouse gas emissions inventory) carried out by Fagron for the year 2021.

The carbon footprint of 2019 is the reference year for all carbon footprint reports until 2026.

Organizational boundaries and scope

Organizational boundaries

Fagron reports, over the carbon footprint of the Fagron Group companies, in accordance with operational control. We only include companies in the carbon footprint if they have been part of the Fagron Group the entire year. For example, we acquired our facility in Mexico in 2019, so we include the carbon footprint and the turnover for the first time in the 2020 carbon footprint.

Appendix A gives an overview of the companies in the Restricted Group per year.

Scope

We include all greenhouse gas emissions in Scope 1 and Scope 2 and the greenhouse gas emissions in Scope 3 related to business travel. For Scope 3 Business Travel, we consider only air travel and car travel. Other types of business travel such as the use of a rental car during business trips and use of public transportation (e.g. train, bus) are not included in the calculation since they are not material compared to Air and Car travel.

The table below gives an overview of the topics included in the Fagron Carbon Footprint. For all topics, we include all greenhouse gas emissions.

Scope			
	Scope 1	Scope 2	Scope 3
Energy use	Fuel use in owned/leased facilities	Purchased electricity and heating used in owned/leased facilities ¹	-
Refrigerants	Fugitive emissions from refrigerants in owned/leased facilities	-	-
Business travel – car	Fuel use in owned/leased cars	Electricity use in owned/leased cars	Business travel by employee-owned cars ^{2 3}
Business travel – air	-	-	Business travel by plane

¹ Purchased electricity minus electricity used on-site for charging of electric/hybrid-cars.

² Car use paid for by Fagron through reimbursement of fuel use or reimbursement per kilometer/mile.

³ Excluding business travel paid for via a mobility budget.

Business travel – air

Business travel by Air includes all greenhouse gas emissions due to business travel by plane. This topic falls under scope 3. We determine the activity data based on reported flights. Flights have been reported by the Fagron group's companies as individual flights by one person on a specific date (e.g., Employee 1 flew on 12 February 2020 from Amsterdam/AMS to New York/JFK). We have determined all flight distances by calculating the distance between the location of the two airports.

We book all single intercontinental flights in business class. All other flights conventionally occur in economy class unless an unexpected upgrade has occurred. We do not monitor the latter.

Business travel – car

Business travel by Car includes all greenhouse gas emissions due to travel by car for business purposes. Business travel by Car includes:

- Scope 1: Fuel use for cars owned and leased by Fagron. If available, we use the exact fuel use. Otherwise, we estimate the amount of fuel use based on the known distance traveled and the vehicles' fuel efficiency as indicated by the lease company. In a few rare cases, the exact distance traveled is unknown, then an estimate is made based on the difference between the mileage reported for two services of the car by servicing company.
- Scope 2: Electricity use for cars owned and leased by Fagron. If available, we use the exact electricity use. Otherwise, we estimate the amount of electricity use based on the known distance traveled and the vehicles' electric efficiency as indicated by the lease company.
- Scope 3: Business travel in cars owned by employees, compensated for by Fagron. This can be either when Fagron pays for the distance traveled (e.g.,

kilometer or mile compensation) or the exact fuel use, if this is declared via a receipt or a fuel card, is used by the employee paid for by Fagron.

Fagron employees use lease cars both for business travel and for commuting to/from work. We do not distinguish between these two and include all lease car use under scope 1 (fuel use) or scope 2 (electricity use). In some cases, employees may use a fuel card when they are in between lease cars. We do not monitor this, and we assume that all fuel use via a fuel card given to an employee for use with a lease car is used for that purpose.

Some employees receive a budget for mobility⁴, including business travel and commuting to/from work. The employee is free to determine the preferred mobility option, which means neither the mode of transport nor the distance traveled is known. Therefore, the scope 3 business travel by car or business travel by public transportation does not include the budget for mobility. Also excluded from this category is car travel from (long-term) consultants that Fagron indirectly pays for via the consultancy fee.

Most car travel occurs within the country in which the car is leased. In the case of electricity use (for an electric or hybrid car), we assume that all charging occurs in the country where the car is leased or owned (for location-based reporting) and at the facility where the employee is employed (for market-based reporting). Not all electricity use for our plug-in hybrid/full-electric cars that occurred in 2021 has been billed yet. In some cases, the electricity use is only billed per quarter. In this case an estimate has been made.

⁴ This includes approximately 30 people in Belgium and the Netherlands.

Energy use

Energy use includes all greenhouse gas emissions due to energy use in the facilities we own or lease. Energy use includes:

- Scope 1: Fuel used in facilities owned and leased by Fagron. This includes fuel used for heating purposes and to generate electricity in case of a power failure. Fuel use per facility is based on invoices of billed energy.
- Scope 2: Purchased electricity and heat used in facilities owned and leased by Fagron. Electricity and heat purchases are based on received invoices.

We do not include facilities that we lease but sub-lease in the carbon footprint. That means that any fuel or electricity used in such a facility is not included.

Not all energy use that occurred in 2021 has been billed yet. In this case, an estimate has been made of the energy use for these months.

Refrigerants

Refrigerants include all greenhouse gas emissions due to leakage of refrigerants in the facilities that we lease or own. Facilities that we lease but sub-lease to another tenant are not included in the carbon footprint. That means that any refrigerant used in such a facility is not included.

We determine leakage of refrigerants by the addition of refrigerants during maintenance of refrigerators, cooling, and air conditioning installations.

Methodology and emission factors

Greenhouse gas emissions

We calculate our greenhouse gas emissions in accordance with the Greenhouse Gas Protocol.⁵ In addition to the location-based methodology results, we have added for the first time the market-based methodology for Scope 2.

We calculate greenhouse gas emissions by multiplying activity data such as liters of diesel use with their respective emission factor. Different sources have been used to determine the emission factors (in kg CO₂-eq) of the various energy carriers, electricity sources, refrigerants, and business travel modalities. All emission factors used can be found in Appendix B.

GHG emission intensity

Part of Fagron's strategy is to acquire new companies to integrate into the Fagron Group. We, therefore, calculate greenhouse gas emission intensity by dividing the total greenhouse gas emissions (location-based) in metric tons CO₂-eq by the Group turnover in million €. For the greenhouse gas emission intensity calculation after 2019, we normalize the turnover with the average 2019 exchange rate to counteract any positive or negative impact of fluctuating exchange rates of, e.g., Brazilian Real to Euro.

$$\text{GHG emission intensity} = \frac{\text{GHG emissions in metric ton CO}_2 - \text{eq}}{\text{million € turnover (2019 exchange rate)}}$$

Energy use

To determine the total energy use for the Fagron Group, we consider the energy consumption within the facilities in scope (electricity and fuel used for heating, cooling, steam) as well as energy consumption in the cars owned and leased (electricity use, diesel, and petrol use). We use conversion factors from Rijksdienst van Ondernemend Nederland and DEFRA (UK). An overview can be found in Appendix C.

Energy use intensity

We calculate the annual energy intensity by dividing the total energy use by the Group turnover in million €. For the energy use intensity after 2019, we normalize the turnover with the average 2019 exchange rate.

$$\text{Energy use intensity} = \frac{\text{Energy use in GJ}}{\text{million € turnover (2019 exchange rate)}}$$

⁵ Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard. World Business Council for Sustainable Development.

Reporting and control processes

Reporting process

All companies within scope with a carbon footprint of 50 metric ton CO₂-eq or more per year report their data every month via the bookkeeping system that Fagron uses. They also submit a background excel file. All integrated companies with a carbon footprint below 50 metric ton CO₂-eq per year report quarterly.

Control process

All data submitted is checked for consistency at least quarterly by the Global ESG officer by:

- Comparing data over the years for any significant changes.
- Regular meetings with each company (at least twice a year) to discuss results and data.
- Requesting of invoices. Invoices for electricity use and natural gas use have been requested and all submitted data checked with these invoices.

Recalculation of carbon footprint and energy use

Fagron is a company with a Buy & Build strategy. This means that significant acquisitions are conducted each year. Last year we had defined that we would recalculate the carbon footprint and energy use when a threshold of 10% carbon footprint increase due to acquisitions has been surpassed. We estimate that if we recalculate our 2019 base year emissions now by correcting for acquisitions in 2019 and 2020, the absolute increase would be approximately 10%.

After careful consideration, we have concluded that recalculating leads to a large monitoring burden especially the closer we get to 2025. Not recalculating leads to underestimating emissions in the base year and therefore makes achieving our carbon footprint targets more challenging. Our new recalculation policy is only to recalculate if the total emissions of divestments surpass the emissions of acquired companies.

In addition, we recalculate the carbon footprint when changes in emission factors or significant changes in activity data occur. This 2021 carbon footprint is largely based on location-based emissions factors for electricity use from 2020, because 2021 emission factors have not been published yet. Recalculation occurs once for publication in the annual report one year after the first publication. This means that the 2021 carbon footprint will be restated for the 2022 annual report, the first half of 2023.

2021 Carbon Footprint and Energy use

Greenhouse gas emissions

All greenhouse gas emissions are given in CO₂-eq. There were no biogenic emissions in Scope 1 and 3.

The location-based emissions are lower than the market-based emissions for electricity use (Scope 2). This is due to the fact that for a large number of locations, there is no emission factor available from the electricity supplier. In line with the Greenhouse Protocol, residual market-mix emission factors have been selected. These factors are generally higher than location-based emission factors for electricity.

Greenhouse gas emission intensity – location-based

The total turnover in 2021 was 640.6 million € with the average 2019 exchange rate for all currencies other than Euro. The greenhouse gas emission intensity is shown in the table below.

Greenhouse gas emissions 2021 (in metric ton CO₂-eq)

	2021 - location-based	2021 - market-based
Scope 1: Direct emissions	3 358	3 358
Emissions from fuel use in operations	1 904	1 904
Emissions from fuel use in owned/leased cars	990	990
Fugitive emissions from refrigerants	463	463
Scope 2: Energy indirect emissions	9 072	9 199
Emissions from purchased electricity	9 004	9 155
Emissions from purchased heat	33	33
Emissions from purchased electricity – car	35	11
Scope 3: Other indirect emissions	665	665
Employee business travel (excluding owned/leased cars) – car	120	120
Employee business travel – air	545	545
Total emissions (Scope 1/2/3)	13 095	13 222

Note: Due to rounding, not all numbers might add up.

Greenhouse gas emissions intensity 2021 (in metric ton CO₂-eq per million € turnover)

	2021 - location-based
Scope 1: Direct emissions	5.24
Scope 2: Energy indirect emissions	14.16
Scope 3: Other indirect emissions	1.04
Total emissions (Scope 1/2/3) – location-based	20.44

Note: Due to rounding, not all numbers might add up.

Energy use

Total energy use is shown in the table below. There was no fuel consumption from renewable sources in 2021.

Total electricity use in our facilities in 2021 was 26 696 854 kWh. Of this 8.9% was from renewable electricity, either purchased or produced with solar panels on our facilities.

Energy use intensity

The total turnover in 2021 was 640.6 million € with the average 2019 exchange rate for all currencies other than Euro. That makes for a total energy intensity of 231.1 GJ per million € turnover.

Energy use 2021 (in GJ)

	Quantity	Unit	Conversion factor to MJ ⁶	GJ energy use
Used in facilities				
Electricity purchased	26 535 848	kWh	3.60	95 529
<i>Of which renewable electricity</i>	2 212 174	kWh	3.60	7 964
<i>Of which non-renewable electricity</i>	24 323 674	kWh	3.60	87 565
Electricity generated and used	161 006	kWh	3.60	580
Natural gas – low caloric	413 685	Nm ³	35.17	14 549
Natural gas – high caloric	555 805	Nm ³	39.68	22 054
Diesel use in facilities	5 460	L	36.21	198
LPG use in facilities	16 398	L	23.92	392
Heat purchased	939 681	MJ	1.00	940
Use for leased/owned cars				
Petrol	169 830	L	31.57	5 362
Diesel	220 652	L	39.68	7 990
Electricity	125 999	kWh	3.60	454
Total	-	-	-	148 047

Note: Due to rounding, not all numbers might add up.

⁶ See Appendix C.

Change in Carbon Footprint 2021 in comparison with 2019

Change in carbon footprint – location-based

The change in carbon footprint is shown in the table below. The increase in emissions from fuel use and electricity use is largely due to the acquisition of additional companies. A total of 16 additional facilities were included in the 2021 carbon footprint that were acquired in 2019 or 2020. The increase in emissions from purchased electricity for use in our lease cars is a testament to the effort that we are putting into electrifying our car fleet.

Reduction in business travel emissions from car use (Scope 1 and Scope 3) and air travel (Scope 3) is largely due to COVID-19 travel restrictions, but also the electrification of our car fleet is starting to pay off.

Change in greenhouse gas emissions between 2019 and 2021 (in metric ton CO₂-eq)

	2019 ⁷	2021	Change	% Change
Scope 1: Direct emissions	2 818	3 358	+ 540	+ 19%
Emissions from fuel use in operations	1 522	1 904	+ 382	+ 25%
Emissions from fuel use in owned/leased cars	1 136	990	- 146	- 13%
Fugitive emissions from refrigerants	159	463	+ 304	+ 190%
Scope 2: Energy indirect emissions	7 714	9 072	+ 1 358	+ 18%
Emissions from purchased electricity	7 676	9 004	+ 1328	+ 17%
Emissions from purchased heat	34	33	- 1	- 2%
Emissions from purchased electricity – car	4	35	+ 31	+ 787%
Scope 3: Other indirect emissions	2 477	665	- 1 812	- 73%
Employee business travel (excluding owned/leased cars) – car	244	120	- 124	- 51%
Employee business travel – air	2 233	545	- 1 688	- 18%
Total emissions (Scope 1/2/3) – location-based	13 009	13 095	+ 86	+ 1%

Note: Due to rounding, not all numbers might add up.

⁷ Emissions for 2019 have been amended based on a few changes in activity data and changes in emission factors for US electricity (2019 data instead of 2018 data), as well

as the emission factors for “air travel” and “car travel compensated” as shown in Appendix B.

Change in greenhouse gas emission intensity – location - based

The change in greenhouse gas emission intensity is shown per Scope in the table below.

Change in greenhouse gas intensity between 2019 and 2021 (in metric ton CO₂-eq per million € turnover)

	2019 ⁸	2021	Change	% Change
Scope 1: Direct emissions	5.56	5.24	- 0.32	- 5.8%
Scope 2: Energy indirect emissions	15.22	14.16	- 1.06	- 7.0%
Scope 3: Other indirect emissions	4.89	1.04	- 3.85	- 78.8%
Total emissions (Scope 1/2/3) – location-based	25.67	20.44	- 5.23	- 20.4%

Note: Due to rounding, not all numbers might add up.

⁸ Emission intensity for 2019 has been amended due to changes in the carbon footprint for 2019. See for more

information the footnote below the Table “Change in greenhouse gas emissions between 2019 and 2021”.

Change in energy use 2021 in comparison with 2019

Change in energy use

The change in energy use is shown in the table below.

Change in energy use between 2019 and 2021 (in GJ)				
	2019 ⁹	2021	Change	% Change
Used in facilities				
Electricity purchased	75 184	95 529	+ 20 345	+ 27%
Electricity generated and used	230	580	+ 350	+ 152%
Natural gas – low caloric	12 027	14 549	+ 2 522	+ 21%
Natural gas – high caloric	17 306	22 054	+ 4 748	+ 27%
Diesel use in facilities	276	198	- 79	- 28%
LPG use in facilities	54	392	+ 339	+ 632%
Heat purchased	805	940	+ 135	+ 17%
Use for leased/owned cars				
Petrol	4 332	5 362	+ 1030	+ 24%
Diesel	10 906	7 990	- 2 916	- 27%
Electricity	38	454	+ 415	+ 1081%
Total	121 159	148 047	+ 26 888	+ 22%

Note: Due to rounding, not all numbers might add up.

⁹ Energy use for 2019 has been amended based on a few changes in activity data.

Change in energy intensity

The change in energy use intensity is shown in the table below.

Change in energy use intensity between 2019 and 2021 (in GJ per million € turnover)

	2019 ¹⁰	2021	Change	% Change
Used in facilities				
Electricity purchased	148.4	149.1	+ 0.7	+ 1%
Electricity generated and used	0.5	0.9	+ 0.5	+ 100%
Natural gas – low caloric	23.7	22.7	- 1.0	- 4%
Natural gas – high caloric	34.2	34.4	+ 0.3	+ 1%
Diesel use in facilities	0.5	0.3	- 0.2	- 43%
LPG use in facilities	0.1	0.6	+ 0.5	+ 479%
Heat purchased	1.6	1.5	- 0.1	- 8%
Electricity purchased	148.4	149.1	+ 0.7	+ 1%
Use for leased/owned cars				
Petrol	8.5	8.4	- 0.2	- 2%
Diesel	21.5	12.5	- 9.0	- 42%
Electricity	0.1	0.7	+ 0.6	+ 834%
Total	239.1	231.1	+ 8.0	- 3%

Note: Due to rounding, not all numbers might add up.

¹⁰ Energy intensity for 2019 has been amended due to changes in the energy use for 2019.

Carbon footprint per emission category

Greenhouse gas emissions and greenhouse gas emission intensity – location-based

All greenhouse gas emissions are given in CO₂-eq. There were no biogenic emissions in Scope 1 and 3. The total turnover in 2021 was 640.6 million € with the average 2019 exchange rate for all currencies other than Euro. The greenhouse gas emissions and greenhouse gas emission intensity are shown in the table below.

Greenhouse gas emissions and greenhouse gas emission intensity 2021

	Emission	Emission intensity
Energy use	10 942 ¹¹ metric ton CO ₂ -eq	17.08 ¹² metric ton CO ₂ -eq per million € turnover
Refrigerants	463 metric ton CO ₂ -eq	0.72 metric ton CO ₂ -eq per million € turnover
Business travel – air	545 metric ton CO ₂ -eq	0.85 metric ton CO ₂ -eq per million € turnover
Business travel – car	1 145 metric ton CO ₂ -eq	1.79 metric ton CO ₂ -eq per million € turnover
Total	13 095 metric ton CO₂-eq	20.44 metric ton CO₂-eq per million € turnover
<i>Solar panels (if electricity were purchased)</i>	65 metric ton CO ₂ -eq	0.10 metric ton CO ₂ -eq per million € turnover

Note: Due to rounding, not all numbers might add up.

¹¹ Total emissions of energy use, if no solar panels would have been installed, would have been 11 007 metric ton CO₂-eq.

¹² Total emissions of energy use, if no solar panels would have been installed, is 17.18 ton CO₂-eq per million € turnover.

**Change in greenhouse gas emission intensity
– location-based**

**Change in greenhouse gas intensity between 2019 and 2021
(in metric ton CO₂-eq per million € turnover)**

	2019 ¹³	2021	Change	% Change
Energy use ¹⁴	18.27	17.18	- 1.09	- 6.0%
Solar panels (if electricity were purchased)	- 0.05	- 0.10	- 0.05	
Refrigerants	0.31	0.72	+ 0.41	
Business travel – air	4.41	0.85	- 3.56	- 80.7%
Business travel – car	2.73	1.79	- 0.94	- 34.5%
Total	25.67	20.44	- 5.23	- 20.4%

Note: Due to rounding, not all numbers might add up.

¹³ Emissions for 2019 have been amended based on a few changes in activity data and changes in emission factors for US electricity (2019 data instead of 2018 data), as well

as the emission factors for “air travel” and “car travel compensated” as shown in Appendix B.

¹⁴ Total emissions if no solar panels would have been installed.

Results compared to targets

Fagron had five carbon footprint targets in 2021. Four of these are shown in the table below. In addition, Fagron aims to reduce the carbon intensity by 0.4 ton of CO₂-eq per million € turnover by installing solar panels. In 2021 this reduction was 0.1 ton of CO₂-eq per million € turnover. This means that Fagron has achieved 4 out of 5 carbon footprint targets for 2021.

Results 2021 compared to targets

	% Change compared to 2019	Target for 2021 compared to 2019	Target achieved?
Energy use ¹⁵	- 6.0%	-6%	Yes
Business travel – air	- 80.7%	-8%	Yes
Business travel – car	- 34.5%	-20%	Yes
Total	- 20.4%	-10%	Yes

¹⁵ Total emissions if no solar panels would have been installed.

Appendix A – Integrated companies

Appendix A is available at request.

Appendix B – Emission factors

Emission factors – location-based and market-based

Air travel	EF	Source	Unit
Long distance (business class)	0.419	UK Government 2021 ¹	kg CO ₂ -eq / km
Medium distance	0.151	UK Government 2021	kg CO ₂ -eq / km
Short distance	0.246	UK Government 2021	kg CO ₂ -eq / km

Car travel	EF	Source	Unit
Diesel ²	2.657	CO2emissiefactoren.nl 2022 (data 2020) ³	kg CO ₂ -eq / liter
Petrol	2.377	CO2emissiefactoren.nl 2022 (data 2020)	kg CO ₂ -eq / liter
Electricity	See electricity use per location		

Energy use	EF	Source	Unit
Natural gas – low caloric	1.788	CO2emissiefactoren.nl 2022 (data 2020)	kg CO ₂ -eq / Nm ³
Natural gas – high caloric	2.021	UK Government 2021	kg CO ₂ -eq / Nm ³
LPG	1.631	CO2emissiefactoren.nl 2022 (data 2020)	kg CO ₂ -eq / liter
Diesel ⁴	2.657	CO2emissiefactoren.nl 2022 (data 2020)	kg CO ₂ -eq / liter
Heat Czech Republic	0.174	Czech Republic District Heating (data 2020) ⁵	kg CO ₂ -eq / MJ
Heat Denmark	0.020	Danish Energy Agency, 2021 (data 2020) ⁶	kg CO ₂ -eq / MJ
Heat Netherlands	0.023	CO2emissiefactoren.nl 2022 (data 2020)	kg CO ₂ -eq / MJ

¹ UK Government 2021. Department for Business, Energy & Industrial Strategy. 2021 Government greenhouse gas conversion factors for company reporting.

² Assumed to be 100% fossil diesel, because the exact percentage of bio-diesel per country is difficult to determine.

³ 2022 Lijst CO₂-emissiefactoren. CO2emissiefactoren.nl

⁴ Assumed to be 100% fossil diesel, because the exact percentage of bio-diesel per country is difficult to determine.

⁵ Sustainability report 2020. EP Infrastructure. 2021.

⁶ Energy Statistics 2020. Danish Energy Agency. 2021.

Refrigerants	EF	Source	Unit
R22	1810	California Air Resources Board ⁷	kg CO ₂ -eq / kg
R407c	1774	California Air Resources Board	kg CO ₂ -eq / kg
R410a	2088	California Air Resources Board	kg CO ₂ -eq / kg

Emission factors – location-based

Energy use	EF	Source	Unit
Electricity Belgium	0.161	EEA, 2021 (data 2020) ⁸	kg CO ₂ -eq / kWh
Electricity Brazil	0.126	MCTIC, 2022 (data 2021) ⁹	kg CO ₂ -eq / kWh
Electricity Colombia	0.203	UPME, 2021 (data 2020) ¹⁰	kg CO ₂ -eq / kWh
Electricity Croatia	0.134	EEA, 2021 (data 2020)	kg CO ₂ -eq / kWh
Electricity Czech Republic	0.437	EEA, 2021 (data 2020)	kg CO ₂ -eq / kWh
Electricity Denmark	0.109	EEA, 2021 (data 2020)	kg CO ₂ -eq / kWh
Electricity France	0.051	EEA, 2021 (data 2020)	kg CO ₂ -eq / kWh
Electricity Germany	0.311	EEA, 2021 (data 2020)	kg CO ₂ -eq / kWh
Electricity Greece	0.479	EEA, 2021 (data 2020)	kg CO ₂ -eq / kWh
Electricity Israel	0.617	IEC, 2021 (data 2020) ¹¹	kg CO ₂ -eq / kWh
Electricity Italy	0.213	EEA, 2021 (data 2020)	kg CO ₂ -eq / kWh
Electricity Mexico	0.494	Mexican Government, 2021 (data 2020) ¹²	kg CO ₂ -eq / kWh
Electricity Netherlands	0.328	EEA, 2021 (data 2020)	kg CO ₂ -eq / kWh
Electricity Poland	0.710	EEA, 2021 (data 2020)	kg CO ₂ -eq / kWh

⁷ High-GWP Refrigerants. California Air Resources Board. 2020.

⁸ Greenhouse gas emission intensity of electricity generation. European Energy Agency. 2021.

⁹ Inventários Corporativos. Ministério da Ciência, Tecnologia e Inovações. 2022.

¹⁰ Cálculo del factor de emisiones de la red Energía Eléctrica en Colombia para 2020. UPME. 2021.

¹¹ IEC, Environmental report for 2020. 2021.

¹² Factor de Emisión del Sistema Eléctrico Nacional 2020. Gobierno de México. 2021.

Electricity South-Africa	1.040	ESKOM, 2021 (data 2020) ¹³	kg CO ₂ -eq / kWh
Electricity Spain	0.156	EEA, 2021 (data 2020)	kg CO ₂ -eq / kWh
Electricity UK	0.212	UK Government, 2021 (data 2021) ¹⁴	kg CO ₂ -eq / kWh
Electricity USA ERCT	0.373	EPA, EGrid 2022 (data 2020) ¹⁵	kg CO ₂ -eq / kWh
Electricity USA FRCC	0.380	EPA, EGrid 2022 (data 2020)	kg CO ₂ -eq / kWh
Electricity USA MROW	0.448	EPA, EGrid 2022 (data 2020)	kg CO ₂ -eq / kWh
Electricity USA NWPP	0.274	EPA, EGrid 2022 (data 2020)	kg CO ₂ -eq / kWh
Electricity USA RMPA	0.522	EPA, EGrid 2022 (data 2020)	kg CO ₂ -eq / kWh

Emission factors – market-based

Energy use	EF	Source	Unit
Electricity AnazaoHealth – Las Vegas	0.333	Green-E, Residual Mix Emission Rates, 2021 (2019 data) - NWPP	kg CO ₂ -eq / kWh
Electricity AnazaoHealth – Tampa (Hoover)	0.393	Green-E, Residual Mix Emission Rates, 2021 (2019 data) - FRCC	kg CO ₂ -eq / kWh
Electricity AnazaoHealth – Tampa (Hangar)			
Electricity Apodan/Fagron Nordic	0.000	Green electricity contract with Mødstrom.	kg CO ₂ -eq / kWh
Electricity B&B Pharmaceuticals	0.578	Green-E Residual Mix Emission Rates, 2021 (2019 data) - RMPA	kg CO ₂ -eq / kWh
Electricity Belgium – Bornem	0.205	AIB, European residual mixes, 2021 (2020 data)	kg CO ₂ -eq / kWh
Electricity Belgium – Deux-Acren	0.000	Green electricity contract with Lampiris, delivered by Total	kg CO ₂ -eq / kWh
Electricity Belgium – Nazareth	0.000	Green electricity contract with Lampiris, delivered by Total	kg CO ₂ -eq / kWh
Electricity Colombia – Bogota (Calle 163)		Assumed to be the same as location-based, no residual grid mix available.	
Electricity Colombia – Bogota (Calle 95)			
Electricity Colombia – Medellín			
Electricity Colombia – Chia			
Electricity Croatia – Donja Zelina	0.469	AIB, European residual mixes, 2021 (2020 data)	kg CO ₂ -eq / kWh

¹³ ESKOM, 2020 Carbon Footprint Report. 2021.

¹⁴ UK Government, Greenhouse gas reporting: conversion factors 2021. 2021.

¹⁵ EGrid. EPA 2020. 2022.

Electricity Croatia – Soblinec

Electricity Croatia – Zagreb

Electricity Czech Republic – Olomouc (Czech) Electricity Czech Republic – Olomouc (FSCE) Electricity Czech Republic – Prague	0.532	AIB, European residual mixes, 2021 (2020 data)	kg CO ₂ -eq / kWh
Electricity DCB	0.000	Covered by green electricity certificates.	kg CO ₂ -eq / kWh
Electricity Dr. Kulich Pharma – Hradec Kralove Electricity Dr. Kulich Pharma – Otrokovice Electricity Dr. Kulich Pharma – Ricany (Pharmacy) Electricity Dr. Kulich Pharma – Ricany (Warehouse)	0.532	AIB, European residual mixes, 2021 (2020 data)	kg CO ₂ -eq / kWh
Electricity Excipiente (Office) Electricity Excipiente (Warehouse) Electricity Fagron Brazil (Office) Electricity Fagron Brazil (Warehouse) Electricity Fagron Distribution Brazil Electricity Fagron Labs - Ortofarma	0.075	Totum, Cálculo do Mix Residual do Brasil para ano calendário 2019. 2021 (2019 data)	kg CO ₂ -eq / kWh
Electricity Fagron Netherlands - Capelle aan de IJssel	0.182	Sourced from Eneco Zakelijk B.V. which had an emission factor of 182 g CO ₂ -eq / kWh in 2020.	kg CO ₂ -eq / kWh
Electricity Fagron Netherlands - Oude Beijerland	0.000	Owner from which we lease the building has indicated that they purchase renewable electricity.	kg CO ₂ -eq / kWh
Electricity Fagron Services Brazil (FSBR 1) Electricity Fagron Services Brazil (FSBR 2)	0.075	Totum, Cálculo do Mix Residual do Brasil para ano calendário 2019. 2021 (2019 data)	kg CO ₂ -eq / kWh
Electricity Fagron Services Netherlands	0.000	Covered by green electricity certificates.	kg CO ₂ -eq / kWh
Electricity Fagron Services Northern Europe – Cracow Electricity Fagron Services Northern Europe – Trzebinia	0.799	AIB, European residual mixes, 2021 (2020 data)	kg CO ₂ -eq / kWh
Electricity Fagron Steriele Bereidingsapotheek	0.000	Covered by green electricity certificates.	kg CO ₂ -eq / kWh
Electricity Fagron Technologies Brazil	0.075	Totum, Cálculo do Mix Residual do Brasil para ano calendário 2019. 2021 (2019 data)	kg CO ₂ -eq / kWh
Electricity Fagron USA	0.521	Green-E Residual Mix Emission Rates, 2021 (2019 data) - MROW	kg CO ₂ -eq / kWh
Electricity Florian	0.075	Totum, Cálculo do Mix Residual do Brasil para ano calendário 2019. 2021 (2019 data)	kg CO ₂ -eq / kWh
Electricity France	0.043	EEX, EEX publie le mix résiduel francais pour 2020, 2021 (2020 data) Bills from EDF do indicate the mix, but don't give a carbon footprint per kWh.	kg CO ₂ -eq / kWh
Electricity FSS - Wichita East Electricity FSS - Wichita West Electricity FSS - Wichita Warehouse	0.521	Green-E Residual Mix Emission Rates, 2021 (2019 data) - SPNO	kg CO ₂ -eq / kWh

Electricity Gako	0.597	Eins Energie in Sachsen, 2021.	kg CO ₂ -eq / kWh
Electricity Germany	0.000	Green electricity contract with KEHAG Unternehmensgruppe.	kg CO ₂ -eq / kWh
Electricity Greece	0.490	AIB, European residual mixes, 2021 (2020 data)	kg CO ₂ -eq / kWh
Electricity GSC - Belgium	Situated at Nazareth facility, see "Electricity – Belgium – Nazareth"		
Electricity GSC (New)	Covered by green electricity certificates.		kg CO ₂ -eq / kWh
Electricity GSC (Old)	0.000		
Electricity GX Sciences Electricity Humco – Austin Electricity Humco - Texarkana	0.421	Green-E Residual Mix Emission Rates, 2021 (2019 data) - ERCT	kg CO ₂ -eq / kWh
Electricity Infinity Pharma	0.000	Covered by green electricity certificates.	kg CO ₂ -eq / kWh
Electricity Infinity Pharma – Campinas (Anhanguera) Electricity Infinity Pharma – Campinas (Pierre) Electricity Infinity Pharma - Rio (Jose) Electricity Infinity Pharma - Rio (Aquidaba)	0.075	Totum, Cálculo do Mix Residual do Brasil para ano calendário 2019. 2021 (2019 data)	kg CO ₂ -eq / kWh
Electricity Italy	0.459	AIB, European residual mixes, 2021 (2020 data)	kg CO ₂ -eq / kWh
Electricity Mexico (Production) Electricity Mexico (Warehouse)	Assumed to be the same as location-based, no residual grid mix available.		
Electricity Mypack Electricity Organic Compounding (Office) Electricity Organic Compounding (Warehouse)	0.075	Totum, Cálculo do Mix Residual do Brasil para ano calendário 2019. 2021 (2019 data)	kg CO ₂ -eq / kWh
Electricity Pharma Assist	0.130	28,64% is covered by green electricity certificates. The rest is sourced from Eneco Zakelijk B.V. which had a carbon footprint of 182 g CO ₂ -eq / kWh in 2020.	kg CO ₂ -eq / kWh
Electricity Pharma Tamar (Eitan 30) Electricity Pharma Tamar (Eitan 32) Electricity Pharma Tamar (Trumpeldor)	Assumed to be the same as location-based, no residual grid mix available.		
Electricity Pharmaline Electricity Pharmaline – Lab	0.452	AIB, European residual mixes, 2021 (2020 data)	kg CO ₂ -eq / kWh
Electricity Poland (1) Electricity Poland (4) (FSNE) Electricity Poland (4) Poland	0.799	AIB, European residual mixes, 2021 (2020 data)	kg CO ₂ -eq / kWh
Electricity Service Center LA	0.075	Totum, Cálculo do Mix Residual do Brasil para ano calendário 2019. 2021 (2019 data)	kg CO ₂ -eq / kWh
Electricity South-Africa - Cape Town Electricity South-Africa - Johannesburg	Assumed to be the same as location-based, no residual grid mix available.		

Electricity Spain/Fagron Genomics (Fagron Genomics)			
Electricity Spain/Fagron Genomics (Spain)	0.000	Green electricity contract with NovaLuz.	kg CO ₂ -eq / kWh
Electricity Spruyt Hillen	0.000	Covered by green electricity certificates.	kg CO ₂ -eq / kWh
Electricity UK	0.316	AIB, European residual mixes, 2021 (2020 data)	kg CO ₂ -eq / kWh
Electricity Via Farma (Office)			kg CO ₂ -eq / kWh
Electricity Via Farma (Warehouse)	0.075	Totum, Cálculo do Mix Residual do Brasil para ano calendário 2019. 2021 (2019 data)	

Appendix C – Conversion factors energy use

	Conversion factor	Source	Unit
Electricity	3.6	-	MJ / kWh
Natural gas – low caloric	35.17	Kingdom of the Netherlands 2016 ¹⁶	MJ / Nm ³
Natural gas – high caloric	39.68	UK Government 2020	MJ / Nm ³
Diesel	36.21	UK Government 2020	MJ / L
LPG	23.92	UK Government 2020	MJ / L
Heat	1.0	-	MJ / MJ
Petrol	31.57	UK Government 2020	MJ / L

¹⁶ Koninkrijk der Nederlanden. Staatscourant. Nr 21501. 11 May 2016.

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