



M R C O<sub>2</sub>  
MIDO, REDUZCO Y COMPENSO

CARBON  
FOOTPRINT  
REPORT  
2023

HOTELES CITY®



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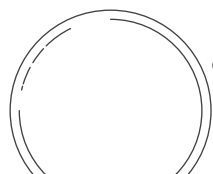
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## HOTELES CITY®

Hoteles City offers a modern and functional option for business travelers looking for quality at affordable prices. With a nationwide presence, its hotels are strategically located near airports and shopping malls in the country’s major cities.

All of them follow a contemporary design and offer high-quality services for a comfortable and convenient lodging experience.





# METHODOLOGY

## GHG Protocol

The carbon footprint is defined as the total amount of Greenhouse Gases (GHG) caused directly or indirectly by an organization, product or service. Emissions are measured in carbon dioxide equivalent (CO<sub>2</sub>e) mass units (GHG Protocol, 2022).

To calculate the carbon footprint of Hoteles City, Scopes 1 and 2 were defined based on operational control using the methodology outlined in the international standard GHG Protocol. The aim is to determine emissions and identify areas requiring attention and reductions.

Accordingly, the following general procedure was followed:

1. Defining emission scopes and sources.
2. Collecting information from area managers.
3. Compiling emission source inventory.
4. Calculating total emissions, intensities and distributions.
5. Analyzing information and making recommendations.

## Scope considered

Interviews were conducted with the Sustainability and Engineering and Maintenance areas to identify company activities that generate direct or indirect emissions, as well as emission sources.

The following emission sources were identified:

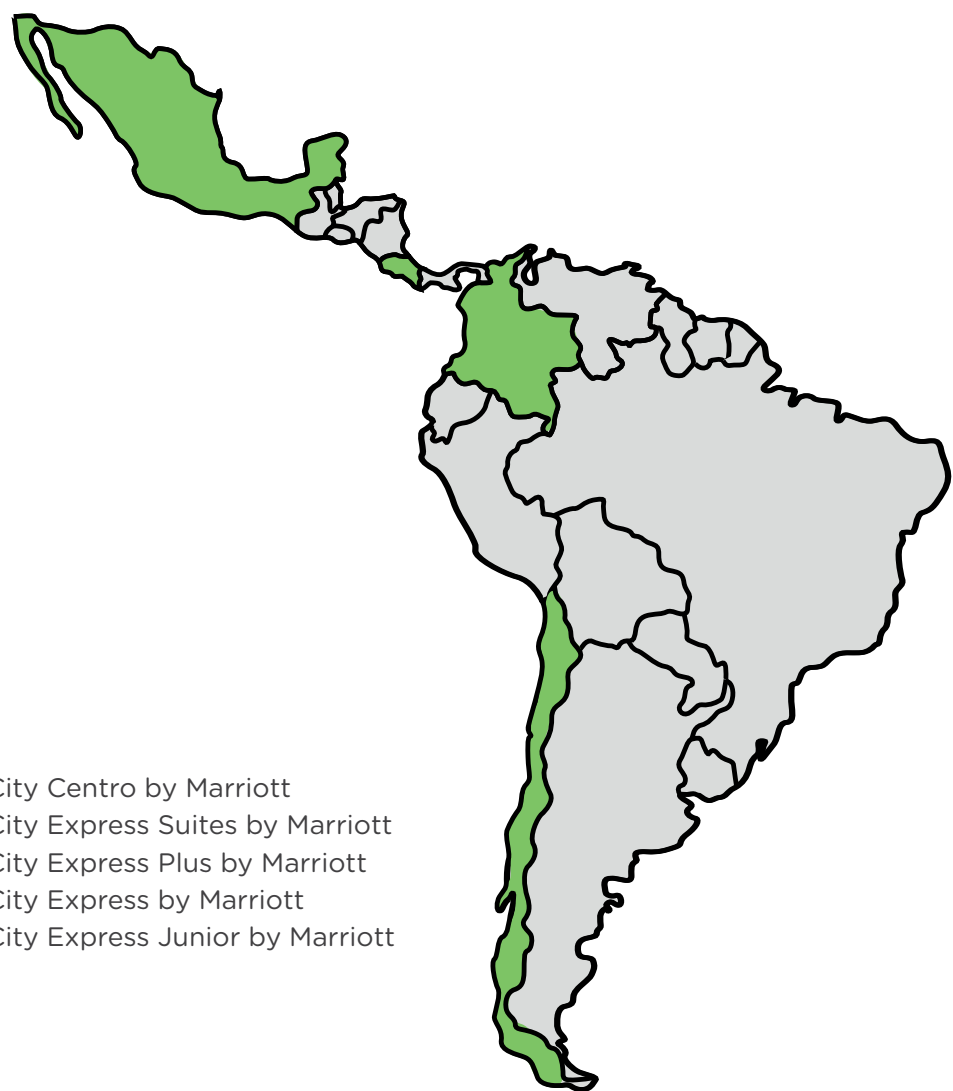
SCOPE 1	SCOPE 2
<p><b>DIRECT EMISSIONS RESULTING FROM THE EMITTER'S OPERATION</b></p>	<p><b>INDIRECT EMISSIONS DIRECTLY RELATED TO THE COMPANY'S OPERATION.</b></p>
<p>Gasoline, Diesel, LP Gas and Natural Gas consumption. Refrigerant leaks from refrigeration units (included for the first time this fiscal year).</p>	<p>Electricity consumption</p>



## Organizational limits

Hoteles City's Carbon Footprint was calculated with an operational control approach, accounting for emissions under its control. We assessed consumption data from 151 hotels in four countries (Mexico, Costa Rica, Colombia and Chile) where the company operates.

We collected data for 2023 for the following Hoteles City brands



- City Centro by Marriott
- City Express Suites by Marriott
- City Express Plus by Marriott
- City Express by Marriott
- City Express Junior by Marriott

# CARBON FOOTPRINT 2023



TOTAL EMISSIONS FOR 2023 FOR  
HOTELES CITY ARE

33,819.65  
ton CO<sub>2</sub>e

## EQUIVALENCES

### GHG Protocol

Hoteles City 2023 emissions were  
**33,819.65** tonCO<sub>2</sub>e which is equivalent to:



**54,548** People traveling alone from Tijuana to Mérida in a car with an average fuel consumption<sup>1</sup>.



Reforesting **563,661** adult tree specimens each year<sup>2</sup>.



Supplying **75,791** 4-person households in Mexico City<sup>3</sup> with electricity for a year.

<sup>1</sup> <http://mx.lasdistancias.net/calcular?from=Baja+California%2C+M%C3%A9xico&to=merida>

<sup>2</sup> [https://www.miteco.gob.es/content/dam/miteco/es/cambio-climatico/temas/mitigacion-politicas-y-medidas/guiapa\\_tcm30-479094.pdf](https://www.miteco.gob.es/content/dam/miteco/es/cambio-climatico/temas/mitigacion-politicas-y-medidas/guiapa_tcm30-479094.pdf)

<sup>3</sup> [http://dgeiawf.semarnat.gob.mx:8080/ibi\\_apps/WFServlet?IBIF\\_ex=D2\\_ENERGIA06\\_20&IBIC\\_user=dgeia\\_mce&IBIC\\_pass=dgeia\\_mce&NOMBREENTIDAD=\\*%&NOMBREANIO=\\*](http://dgeiawf.semarnat.gob.mx:8080/ibi_apps/WFServlet?IBIF_ex=D2_ENERGIA06_20&IBIC_user=dgeia_mce&IBIC_pass=dgeia_mce&NOMBREENTIDAD=*%&NOMBREANIO=*), taking into account an average household consumption in 2016 and the number of dwellings in 2020



# HIGHLIGHTS

## General



In 2023, Hoteles City's carbon footprint increased by **11.69% over 2022**, with a **5.86% increase in occupancy**. The reporting process was improved, **including fugitive emissions from refrigerants**.

In terms of historical emissions, we managed **to reduce them by 25.78% compared to our baseline (2019)**. This is equivalent to a **reduction of 2.80 kg of CO<sub>2</sub>e per occupied room night**.

**Electricity consumption** accounted for **74.32%** of total emissions (25,134.97 tons CO<sub>2</sub>e), led by **City Express by Marriott with 21,883.02 tons CO<sub>2</sub>e**. **Mexico** was the largest contributor with **33,210.21 tons CO<sub>2</sub>e**.

**City Express Junior by Marriott was the most eco-efficient brand**, emitting 7.21 kg of CO<sub>2</sub>e per occupied room night (ORN). Operations in **Colombia were the most eco-efficient**, emitting 2.90 kg CO<sub>2</sub>e per ORN.

Carbon intensity was **0.0096 ton CO<sub>2</sub>e per ORN**, a **5.49% rise from the previous year**. **Considering only previous years' emission sources, there was a 2.58% reduction**.

# TOTAL EMISSION INVENTORY

## General

The report is conglomerated by emission source. Detailed information on emissions by country and by chain is included in the document's appendices.

Scope	Source	Consumption	Unit	Energy (GJ)	Emisiones (ton CO <sub>2</sub> e)	22/23 Emissions Comparison	
						Variation in quantity (ton CO <sub>2</sub> e)	Percentage
SCOPE 1	Diesel	15,783.21	liter	602.09	45.32	15.18	↑ 50.36%
SCOPE 1	Gasoline	416,673.61	liter	12,530.04	904.43	164.14	↑ 22.17%
SCOPE 1	Natural Gas	3,313,270.00	liter	129.49	7.71	3.54	↑ 84.89% <sup>3</sup>
SCOPE 1	LP Gas	3,124,501.12	liter	81,616.92	5,295.66	-1,166.86	↓ -18.06%
SCOPE 1	R410A <sup>1</sup>	1,077,820.00	g	NA	2,431.56	2,431.56	NA
SCOPE 2	Electricity <sup>2</sup>	59,205,600.00	kWh	213,139.89	25,134.97	2,092.20	↑ 9.08%

<sup>1</sup> It was not reported last year.

<sup>2</sup> It was reported last year in TJ.

<sup>3</sup> An increase of 84.72% is seen with respect to emissions from Natural Gas consumption; however, this is due to the transition from LP Gas to Natural Gas, therefore, this increase is expected to be recorded from the this year until the end of the transition.



# TOTAL EMISSION INVENTORY

## General

The inclusion of fugitive emissions from refrigeration equipment, as well as an increase in Natural Gas, Gasoline, and Diesel use, fully explain **the 11.69% increase in overall total emissions in 2023 vs 2022.**

# TOTAL EMISSION INVENTORY

## General

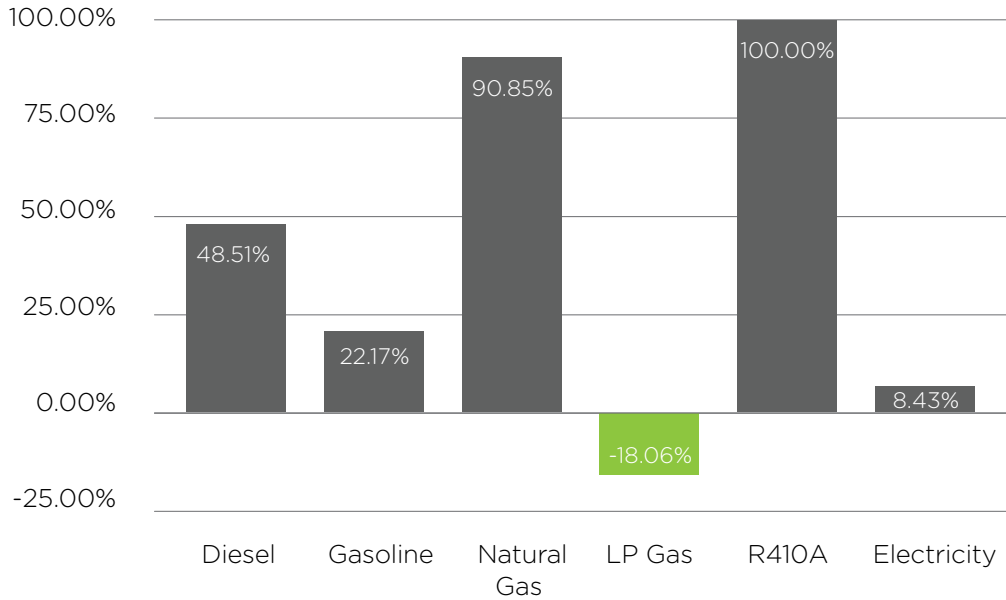
As part of Hoteles City's continuous improvement process and in line with best practices in GHG reporting, **we have included the refrigeration units evaluation for the 2023 fiscal year**, which had not been previously considered in past years.

This decision is based on the hotel industry's emissions reporting requirements, which **emphasize the need to incorporate fugitive emissions from refrigeration system leaks to guarantee complete emission reporting.**

During 2023, there was an **increase in the consumption of Diesel (48.51%), Natural Gas (90.85%), Gasoline (22.17%), and Electricity (8.43%)**. This increase, along with **the 5.86% increase in productivity** (measured by Occupied Room Night, ORN), was reflected in an increase in total emissions compared to the previous year. **The most significant changes in consumption were recorded in Natural Gas and the inclusion of fugitive emissions produced by refrigeration units (R410A).**

Source	2022 Consumption	2023 Consumption	Unit	Change
Diesel	10,628.00	15,783.21	liter	48.51%
Gasoline	341,049.00	416,673.61	liter	22.17%
Natural Gas	1,736,098.88	3,313,270.00	liter	90.85%
LP Gas	3,812,955.99	3,124,501.12	liter	-18.06%
R410A	0.00	1,077,820.00	g	100.00%
Electricity	54,602,034.00	59,206,000.00	kWh	8.43%

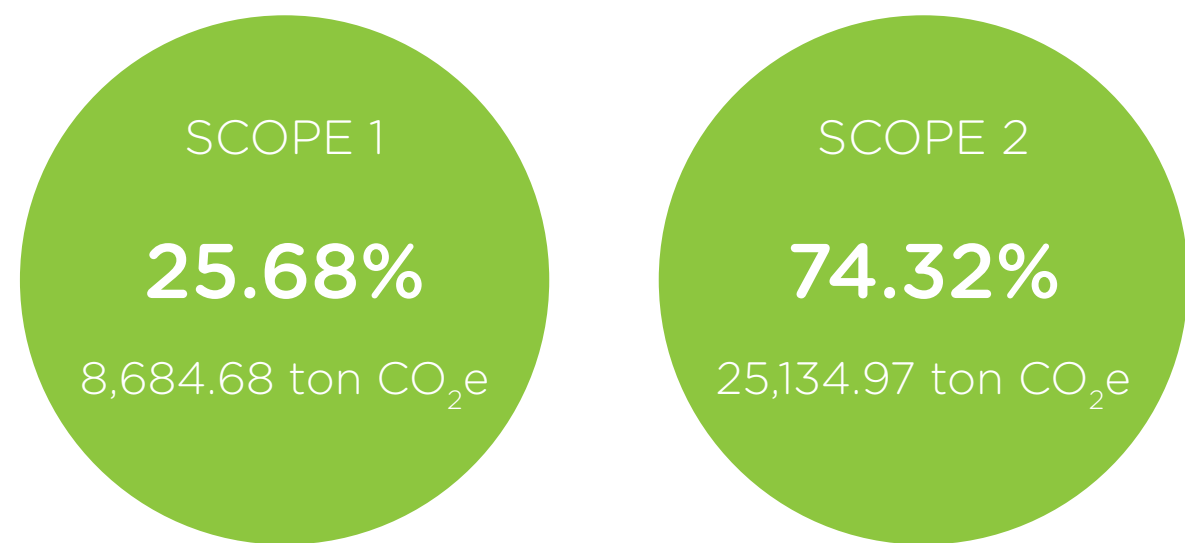
CHANGE IN CONSUMPTION (%)





# TOTAL EMISSION DISTRIBUTION

## ANÁLISIS POR ALCANCE



# TOTAL EMISSION DISTRIBUTION

## ANALYSIS BY BRAND

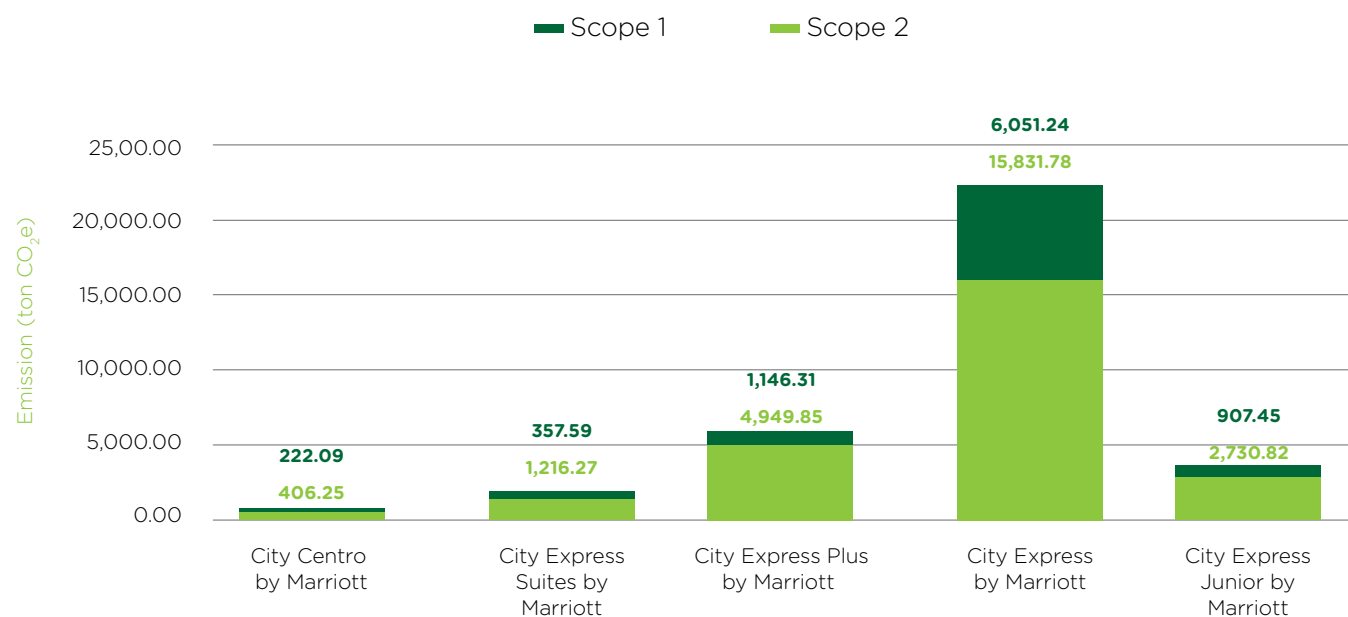
**City Express by Marriott had the largest amount of emissions in 2023**, with a total of **21,883.02 tons CO<sub>2</sub>e** (64.71% of total emissions), **with Scope 2** accounting for **72.35%** and **Scope 1** accounting for only **27.65%**.

In contrast, **City Centro by Marriott had the lowest emissions**, accounting for only **1.86% of total emissions** (628.35 tons of CO<sub>2</sub>e). **35.35%** of these emissions are classified as **Scope 1**, and **64.65%** as **Scope 2**.





### DISTRIBUTION OF SCOPE 1 AND SCOPE 2



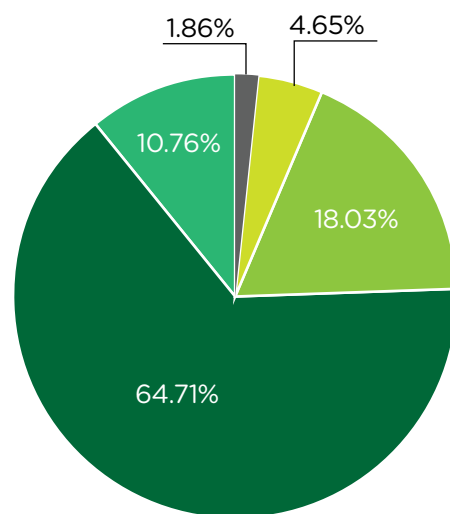
## TOTAL EMISSION DISTRIBUTION

### Analysis by Brand and ORN

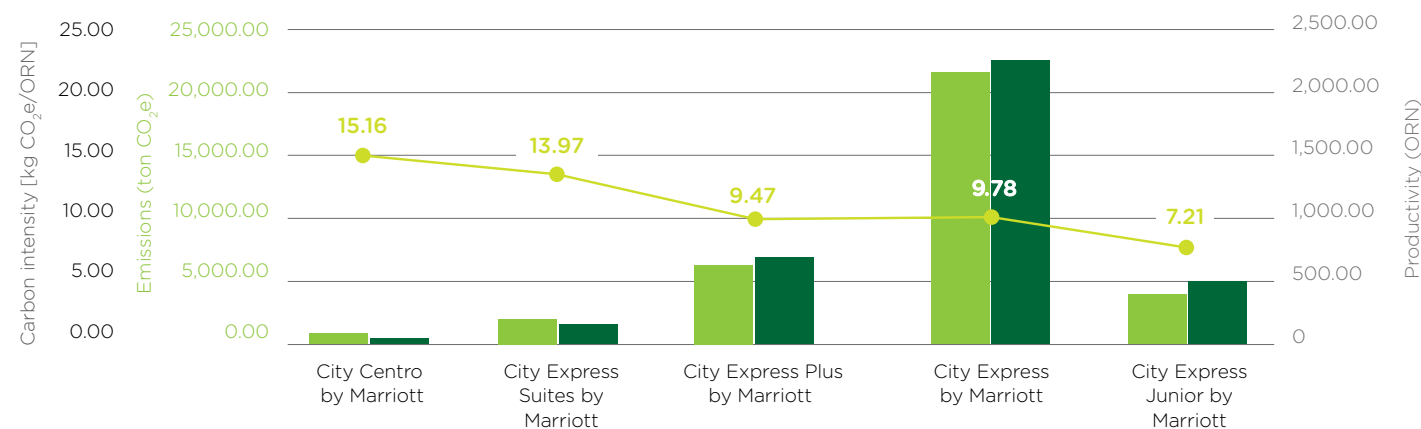
In 2023, **City Express Junior by Marriott** stood out as the **most eco-efficient brand, emitting 7.21 kg of CO<sub>2</sub>e per occupied room night (ORN)**. **City Express Plus by Marriott** emits **9.47 kg of CO<sub>2</sub>e per ORN**. Despite producing the largest amount of emissions, this brand is one of the most efficient among all brands.

In contrast, **City Centro by Marriott has the lowest eco-efficiency, emitting 15.16 kg of CO<sub>2</sub>e per ORN**. Although it has the lowest emissions, it is the least efficient in terms of eco-efficiency.

### EMISIONES BY BRAND



- City Centro by Marriott
- City Express Suites by Marriott
- City Express Plus by Marriott
- City Express Junior by Marriott
- City Express by Marriott



ton CO <sub>2</sub> e	628.34	1,573.86	6,096.16	21,883.02	3,638.27
CNO	41,434	112,663	643,956	2,237,882	504,809
kg CO <sub>2</sub> e/CNO	15.16	13.97	9.47	9.78	7.21



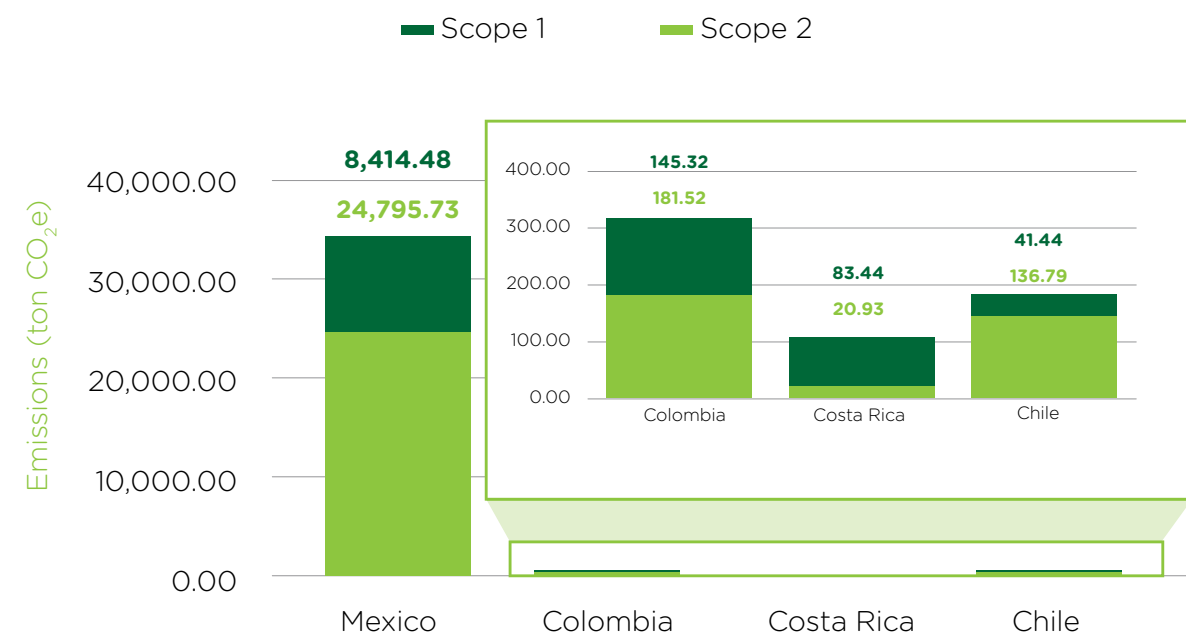
# TOTAL EMISSION DISTRIBUTION

## ANALYSIS BY COUNTRY

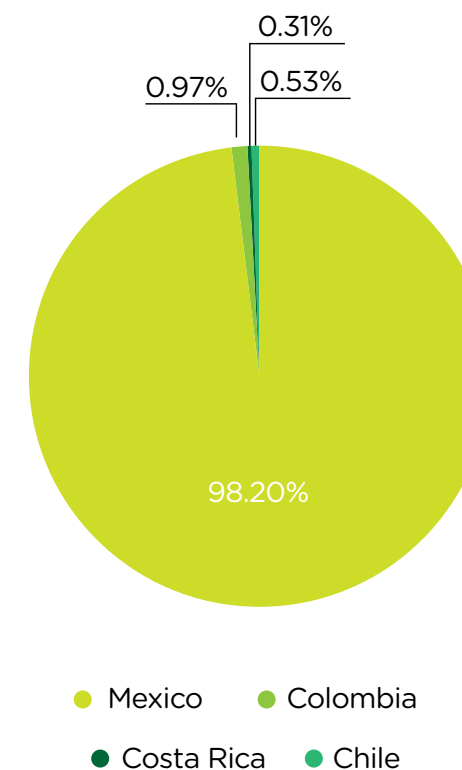
**Mexico had the largest emissions in 2023**, with a total of **33,210.21 tons CO<sub>2</sub>e** (98.20% of total emissions), of which **74.66%** accounted for **Scope 2** emissions and only **25.34%** for **Scope 1** emissions.

**Costa Rica had the lowest emissions**, accounting for **0.31%** of total emissions (104.37 tons CO<sub>2</sub>e), of which **79.94%** accounted for **Scope 1** emissions and **20.06%** for **Scope 2** emissions.

Distribution of Scope 1 and Scope 2



Emissions by Country

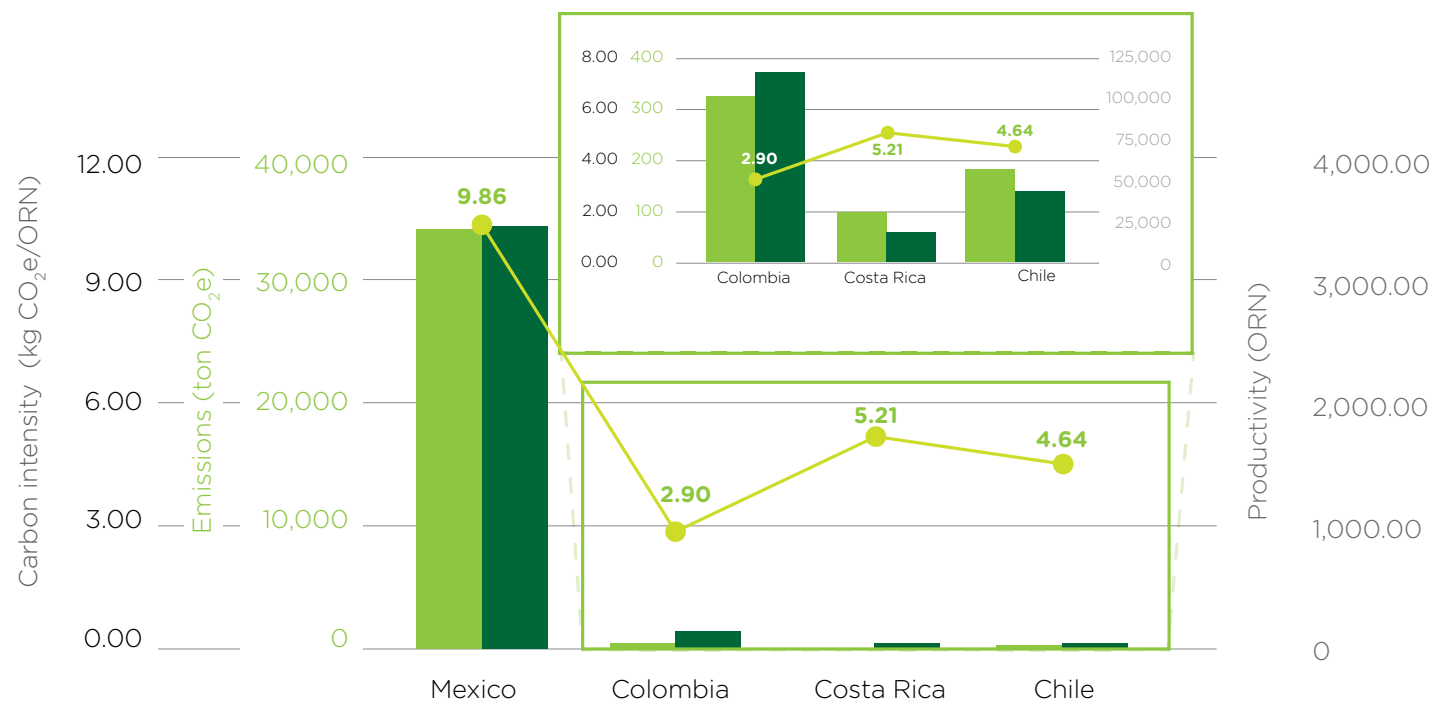


# TOTAL EMISSION DISTRIBUTION

## ANALYSIS BY COUNTRY AND ORN

Mexico's operations were the **least eco-efficient this year, emitting 9.86 kg CO<sub>2</sub>e per ORN**, accounting for the highest productivity and emissions among the four countries where we operate.

**Colombia was the most eco-efficient country, emitting 2.90 kg CO<sub>2</sub>e per ORN**; however, Colombian operations were the second most productive.



ton CO <sub>2</sub> e	33,210.21	326.85	104.37	178.23
CNO	3,369,662	112,649	20,022	38,411
kg CO <sub>2</sub> e/ORN	9.86	2.90	5.21	4.64



# TOTAL EMISSION DISTRIBUTION

## ANALYSIS BY SOURCE

**Electricity consumption was the main source of emissions (74.32% of total emissions), increasing by 8.43% over the previous year. LP Gas consumption was the second largest source of emissions (15.66% of total emissions), which is consistent with the main activities within Hoteles City.**

Natural Gas was the **lowest source of emissions (0.02% of total emissions)**, despite an **increase in consumption (90.85%)**.

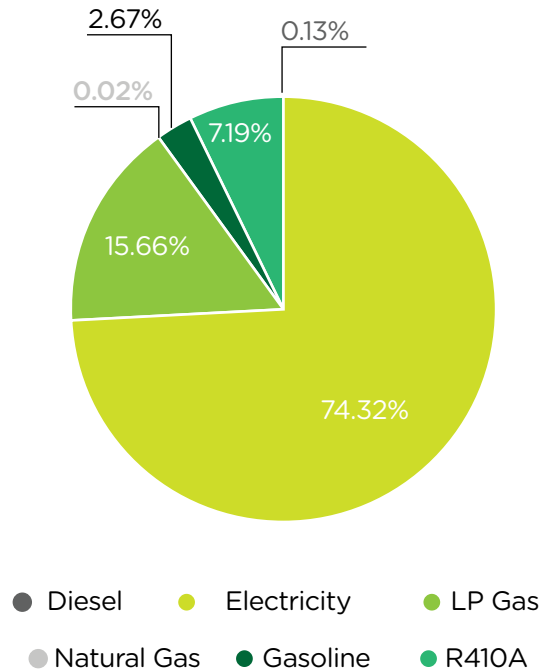


Source	Emissions (ton CO <sub>2</sub> e)
Diesel	45.32
Electricity	25,134.97
LP Gas	5,295.66
Natural Gas	7.71
Gasoline	904.43
R410A	2,431.56

# CARBON INTENSITY



EMISSIONS BY SOURCE





# CARBON INTENSITY

## ANALYSIS BY ORN

To calculate Hoteles City's carbon intensity, the total emissions associated with Scope 1 (Gasoline, Diesel, Natural Gas, LP Gas, and Refrigerants) and Scope 2 (Electricity) were compared to the company's productivity, as measured by occupied room nights (ORN).

Carbon intensity grew by 5.49% over the previous year, since fugitive refrigerant emissions were not taken into account in past years.

**However, when analyzing the same emission sources (Gasoline, Diesel, Natural Gas, LP Gas and Electricity), there is a 2.20% reduction in carbon intensity compared to 2022<sup>1</sup>.**

# CARBON INTENSITY

## GASEOUS FUELS AND ELECTRICITY

To perform a historical comparison, we analyzed the carbon intensity associated with the consumption of gaseous fuels (LP Gas and Natural Gas) and electricity since 2019.

**For 2023**, the carbon intensity related to these sources was **0.0086 ton CO<sub>2</sub>e/ORN**, a **reduction of 2.27% over last year**. This amounts to a **0.20 kg CO<sub>2</sub>e reduction per ORN**.

Compared to **the lowest efficiency year** (2020), carbon intensity was **reduced** by 48.85%. Meanwhile, compared to **the baseline year** (2019), it was **reduced by 36.89%**.

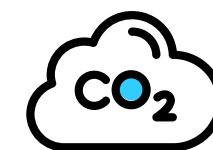
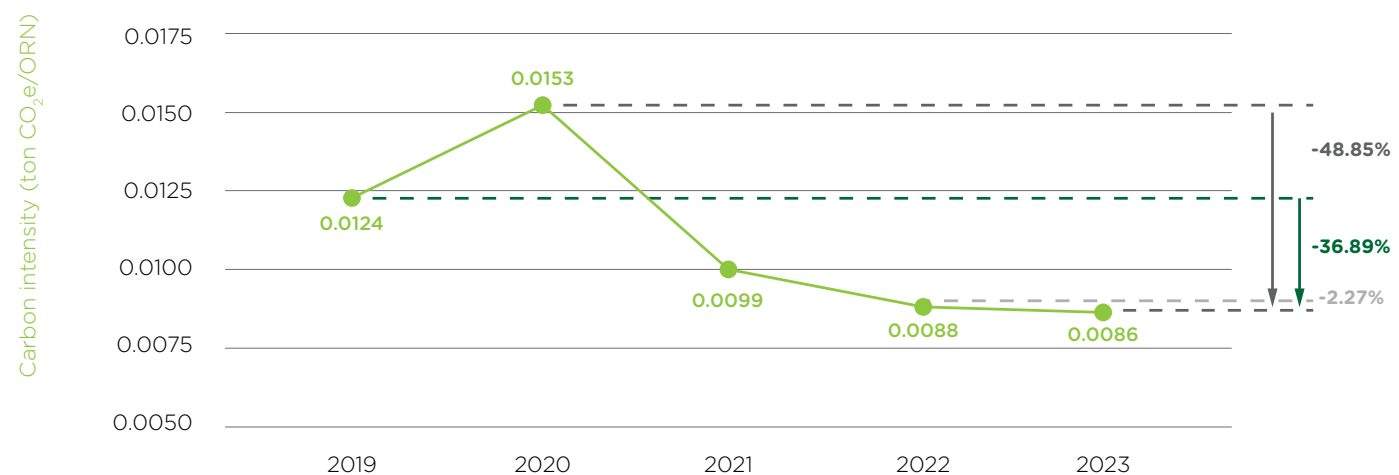
<b>Total emissions</b>	<b>33,819.65</b> ton CO <sub>2</sub> e	<b>=</b>	<b>0.0096</b> ton CO <sub>2</sub> e per Occupied Room Night
<b>Productivity</b>	<b>3,540,744</b> ORN		

<sup>1</sup>When assessing the same emission sources as in previous years, a 31,388.10 tons CO<sub>2</sub>e emission is documented for a 3,540,774 ORN productivity, which translates to a 0.0089 tons CO<sub>2</sub>e per ORN carbon intensity.



Year	Carbon intensity (ton CO <sub>2</sub> e/ORN)
2019	0.0124
2020	0.0153
2021	0.0099
2022	0.0088
2023	0.0086

# HISTORICAL EMISSIONS



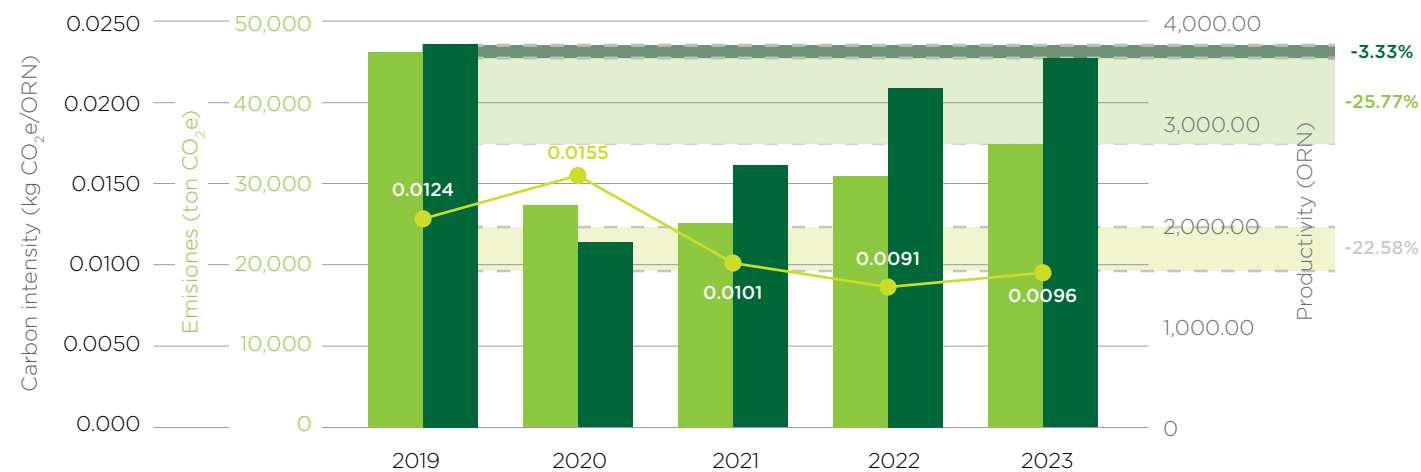


# HISTORICAL EMISSIONS

## COMPARISON BY EMISSIONS AND PRODUCTIVITY

Hoteles City's emissions were reduced by **25.77%** compared to the baseline (2019), which in previous years had been partially correlated with the decrease in productivity caused by the COVID-19 pandemic; however, this year's productivity was comparable to the baseline year, with a **change of only 3.33%**.

Considering the above, **carbon intensity maintains its improvement projection, reducing its impact by 22.58%**.



ton CO <sub>2</sub> e	45,565.50	27,236.30	25,449.75	30,279.88	33,819.65
ORN	3,662,822	1,761,277	2,517,450	3,344,603	3,540,744
kg CO <sub>2</sub> e/ORN	0.0124	0.0155	0.0101	0.0091	0.0096

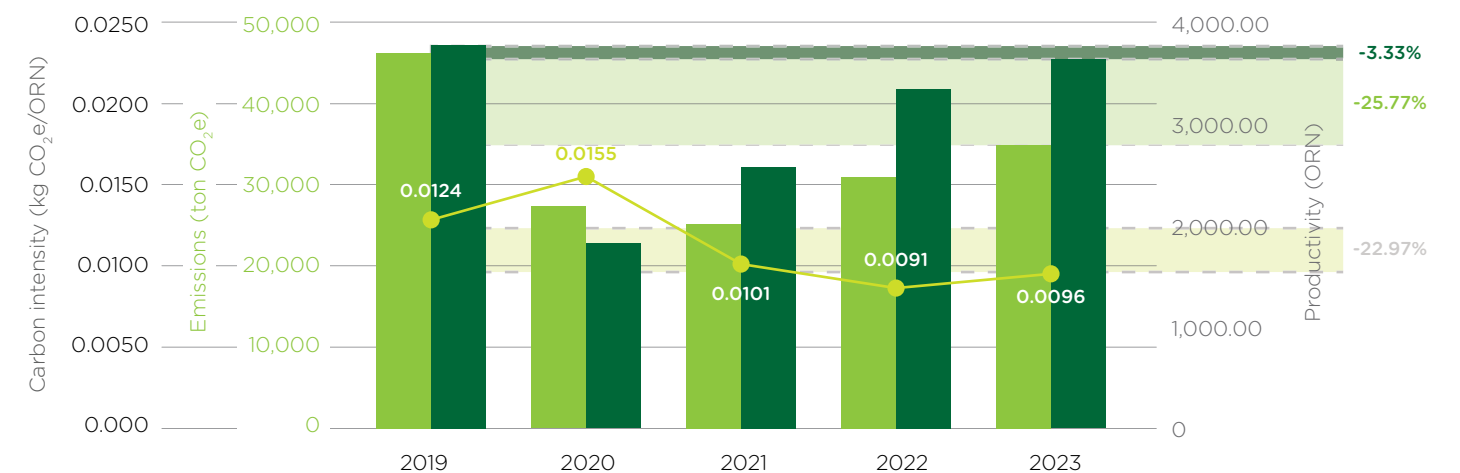
# HISTORICAL EMISSIONS

## COMPARISON BY EMISSIONS AND PRODUCTIVITY

Compared to 2019, emissions per **occupied room night were reduced by 2.80 kg CO<sub>2</sub>e**.

These efficiency improvements are associated with three main factors:

1. Infrastructure transformation to less polluting fuels, in particular the transition of buildings to Natural Gas.
2. Increased productivity using the same resources as in previous years.
3. Reduced electricity emission factors in the countries where we operate.



ton CO <sub>2</sub> e	45,565.50	27,236.30	25,449.75	30,279.88	33,819.65
CNO	3,662,822	1,761,277	2,517,450	3,344,603	3,540,744
kg CO <sub>2</sub> e/ORN	0.0124	0.0155	0.0101	0.0091	0.0096



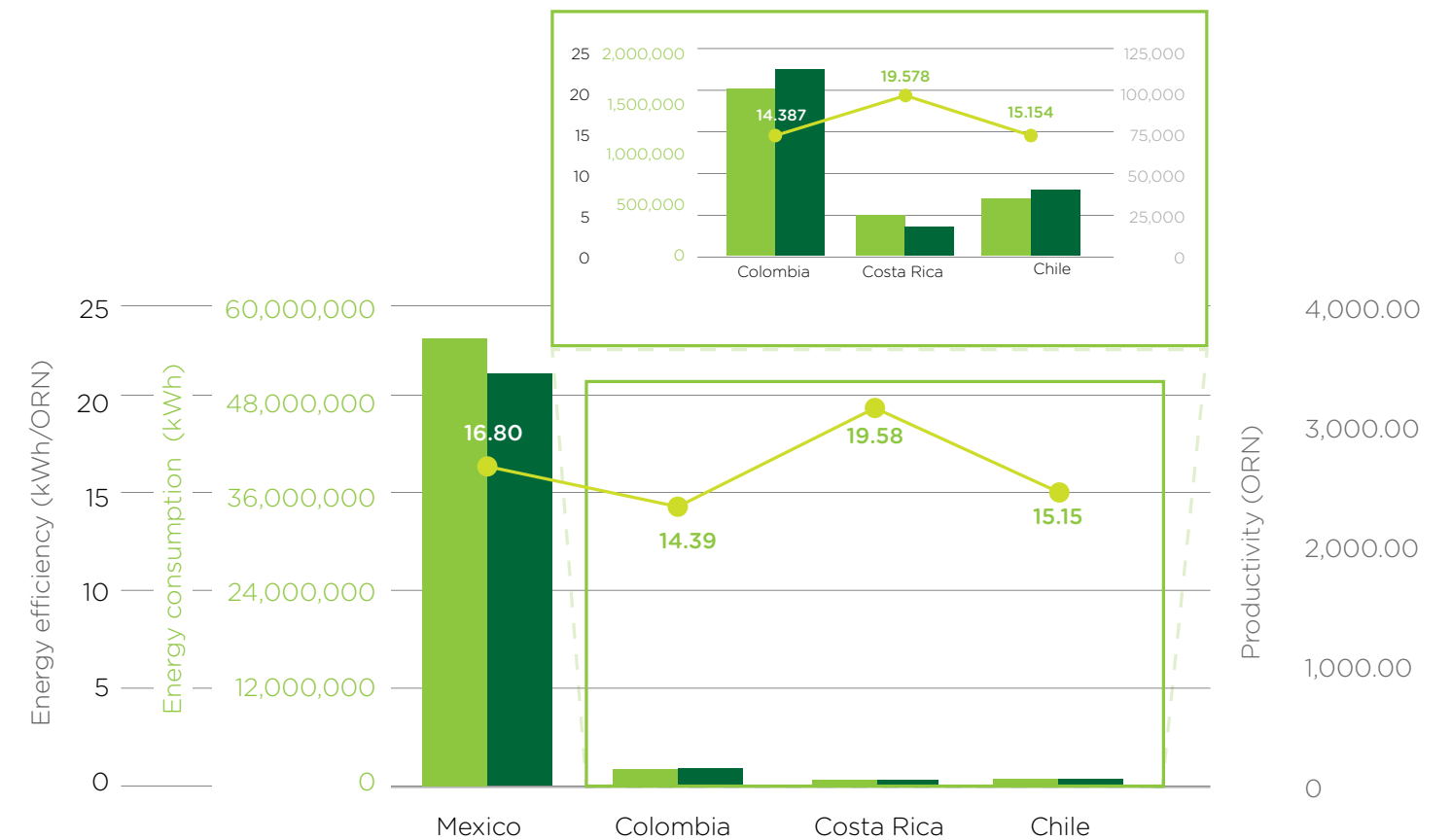
# ENERGY CONSUMPTION ANALYSIS

# ENERGY CONSUMPTION ANALYSIS



In 2023, **the largest source of emissions was energy consumption**, accounting for **74.32% of total emissions**. **Mexico** consumed the most electricity and therefore had the highest amount of related emissions, **22 times higher than the consumption in the other three countries** where we operate.

Despite this, **Chile required the most energy per ORN**, at **19.58 kWh**. **Colombia had the highest energy efficiency** at **14.39 kWh per ORN**.



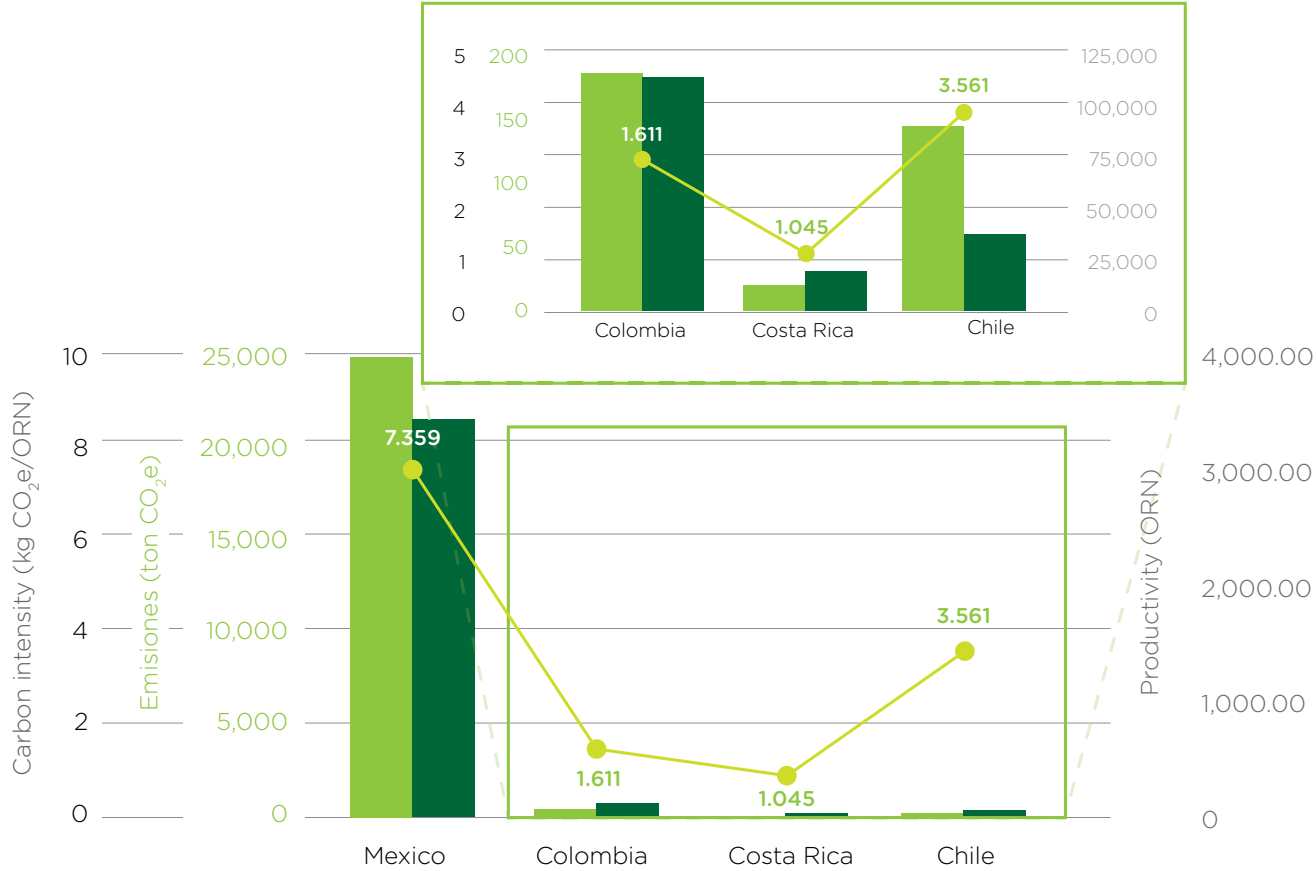




# ENERGY CONSUMPTION ANALYSIS

In terms of energy-related emissions, **Mexico had the lowest efficiency, emitting 7.359 kg CO2e per ORN. Chile comes in second, emitting 3.613 kg CO2e per ORN**, which makes sense given that it uses more energy per ORN than the other countries where we operate.

Mexico's higher energy-related emissions can be explained by the country's energy emission factor, which is **the highest of the four countries analyzed.**





# MITIGATION AND OFFSET ACTIONS

2023

## Mitigation

- Replacing LP Gas with Natural Gas in 43 hotel facilities for greater eco-efficiency.
- Optimizing energy and fuel consumption processes to reflect the COVID-19 pandemic context.
- Implementing centralized refrigeration systems to reduce refrigerant leaks from individual units..

## Compensación

- We formed a partnership with the Reforestamos Mexico association to provide financial support for the Corredor Selva Maya project, which aims to restore and conserve the land. We estimate that this action could result in the capture of 12,698 tons of CO<sub>2</sub>e per year, which represents 37.51% of the emissions generated in this period.



# RECOMMENDATIONS



# RECOMMENDATIONS

## MITIGATION

- Monthly report of **gasoline and diesel fuel consumption** in operations.
- Maintaining an **up-to-date database of refrigeration units and refrigerant recharges** to ensure accurate emission estimates.
- Continue with the facility **transition of from LPG to Natural Gas**.
- Implementing **efficiency-enhancing methods for kitchen and laundry equipment**.
- Prioritize upgrades to **equipment with significant energy use**, as determined by the Significant Energy Users Study.
- Prioritize **solar energy and biogas systems as alternative sources of renewable energy**.
- **Raising awareness among guests** to reduce energy consumption.
- Implementing an **optional financial contribution program for guests to offset environmental impact**.

# RECOMMENDATIONS

## OFFSET

Implementing an **ongoing evaluation and monitoring process for offset initiatives** is essential. Collecting periodic information, either monthly or annually, is suggested as a way of monitoring progress. Key indicators include:

- Net emission reduction (projected and measured annually).
- Greenhouse gas reduction (breakdown by specific gases).
- Environmental impact (expected and measured annually).
- Project sustainability, certifications and additional benefits.



# APPENDIX 1

## METHODOLOGY NOTE

### Scope 1

Scope 1 emissions are derived from direct energy consumption, as defined by the GHG Protocol, available at: <https://ghgprotocol.org/>

In order to obtain the most realistic impact, the emission factors used for fuels are extracted from the Mexican Official Journal of the Federation (Diario Oficial de la Federación, DOF) 2015, available at: [http://dof.gob.mx/nota\\_detalle\\_popup.php?codigo=5406149](http://dof.gob.mx/nota_detalle_popup.php?codigo=5406149)

These factors were applied to all consumption since the information on fuel consumption was pooled by brand with no breakdown by country. Since Hoteles City's operation in Mexico accounts for 95.17% of total operations, the Mexican emission factors and calorific value were used for this emission source, regardless of the country.

The calorific value information for the calculation is obtained from the Intergovernmental Panel on Climate Change, from The Earth's Energy Budget, Climate Feedbacks, and Climate Sensitivity Supplementary Material in Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report, available at [https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC\\_AR6\\_WGI\\_Chapter07\\_SM.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter07_SM.pdf), as well as the Guidance Note

for the assessment of greenhouse gas emissions from refrigerants developed by the United Nations Development Programme (UNDP) 2022, available at <https://www.undp.org/sites/g/files/zskgke326/files/2022-07/Refrigerants%20methodology%20version%20July%202022.pdf>. A 2.5% annual leak rate per unit was estimated, considering that Hoteles City conducts constant maintenance programs. In addition, 1.7% of the rooms were recorded as being out of service annually due to air conditioning malfunctions.

We complemented it with values reported by the California Atmospheric Resources Board, consulted in December 2023, available at <https://ww2.arb.ca.gov/es/resources/documents/high-gwp-refrigerants> and emission factors published by the Mexican National Institute of Ecology and Climate Change (Instituto Nacional de Ecología y Cambio Climático, INECC): [https://www.gob.mx/cms/uploads/attachment/file/110131/CGCCDBC\\_2014\\_FE\\_tipos\\_combustibles\\_fosiles.pdf](https://www.gob.mx/cms/uploads/attachment/file/110131/CGCCDBC_2014_FE_tipos_combustibles_fosiles.pdf)



# APPENDIX



# APPENDIX 2

## FACTORS

### Scope 2

Scope 2 emissions are derived from electricity consumption, as defined by the GHG Protocol, available at: <https://ghgprotocol.org/>

Electrical emission factors were used for Mexico based on the Energy Regulatory Commission (Comisión Reguladora de Energía, CRE) (2023), available at:

[https://www.gob.mx/cms/uploads/attachment/file/896217/aviso\\_fesen\\_2023.pdf](https://www.gob.mx/cms/uploads/attachment/file/896217/aviso_fesen_2023.pdf)

We were able to collect data on electricity consumption divided by brand and country, so we used Colombia's 2023 electricity emission factors (available at [https://www1.upme.gov.co/Normatividad/762\\_2023.pdf](https://www1.upme.gov.co/Normatividad/762_2023.pdf)), Costa Rica's 2023 electricity emission factor (available at <http://cglobal.imn.ac.cr/documentos/publicaciones/factoresemision/factoresemision2023/FactoresEmision-GEI-2023.pdf>) Chile's 2023 electricity emission factor (available at <https://www.enorchile.cl/emisiones>) depending on the country where the facility was located.

Global Warming Potentials (GWPs) are available at: [https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC\\_AR6\\_WGI\\_Chapter\\_07\\_Supplementary\\_Material.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter_07_Supplementary_Material.pdf)

### Equivalences

The following conversion factors were used to calculate the equivalences corresponding to the total calculated emissions.

To calculate land travel by car in Mexico, the average emission of 150 g CO<sub>2</sub>e/km for a four-

seater internal combustion car was considered, based on the average consumption in the United States (<https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle>) and in Europe (<https://www.acea.auto/figure/average-co2-emissions-from-new-passenger-cars-by-eu-country/>). We also considered the distance shown on LasDistancias website for this route (<http://mx.lasdistancias.net/calcular?from=Baja+California%2C+M%C3A9xico&to=merida>).

To calculate the number of 10-year-old adult tree specimens required to absorb the carbon emitted by the organization, we took the average data of carbon absorbed for a series of 83 tree species, data reported by the Spanish Ministry for Ecological Transition (Ministerio para la Transición Ecológica) (2019) available at [https://www.miteco.gob.es/content/dam/miteco/es/cambio-climatico/temas/mitigacion-politicas-y-medidas/guiapa\\_tcm30-479094.pdf](https://www.miteco.gob.es/content/dam/miteco/es/cambio-climatico/temas/mitigacion-politicas-y-medidas/guiapa_tcm30-479094.pdf)

We calculated the number of households that would be supplied with electricity to match the amount of emissions based on average consumption data reported by the Mexican Ministry of Environment and Natural Resources (Secretaría de Medio Ambiente y Recursos Naturales, SEMARNAT), available at [http://dgeiawf.semarnat.gob.mx:8080/ibi\\_apps/WFServlet?IBIF\\_ex=D2\\_ENERGIA06\\_20&IBIC\\_user=dgeia\\_mce&IBIC\\_pass=dgeia\\_mce&NOMBREENTIDAD=&NOMBREANIO=\\*](http://dgeiawf.semarnat.gob.mx:8080/ibi_apps/WFServlet?IBIF_ex=D2_ENERGIA06_20&IBIC_user=dgeia_mce&IBIC_pass=dgeia_mce&NOMBREENTIDAD=&NOMBREANIO=), as well as the emission factor of the national electricity system for 2022.

### FUEL EMISSION FACTORS

FUEL	CO <sub>2</sub> VALUE (ton/MJ)	CH <sub>4</sub> VALUE (kg/MJ)	N <sub>2</sub> O VALUE (kg/MJ)
Diesel	0.0000741	0.0000039	0.0000039
Gasoline	0.0000693	0.000025	0.000008
Natural Gas	0.0000561	0.000092	0.000003
LP Gas	0.0000631	0.000062	0.0000002

### FUEL CALORIFIC VALUE

FUEL	VALUE	UNIT	YEAR
Diesel	6065	MJ/bl	2023
Gasoline	4781	MJ/bl	2023
Natural Gas	39083	KJ/m <sup>3</sup>	2023
LP Gas	4153	MJ/bl	2023

### GLOBAL WARMING POTENTIAL

GAS	GWP	UNIT
Carbon Dioxide	1	ton CO <sub>2</sub> / ton CO <sub>2</sub>
Methane	27.9	ton CO <sub>2</sub> / ton CH <sub>4</sub>
Nitrous Oxide	273	ton CO <sub>2</sub> / ton N <sub>2</sub> O
R410A	2256	ton CO <sub>2</sub> / ton R410A



# APPENDIX 3

## EMISSIONS INVENTORY BY BRAND

### NATIONAL ELECTRICITY SYSTEM EMISSION FACTOR

FACTOR	AMOUNT	UNIT
Mexico Electricity 2023	0.438	tCO <sub>2</sub> e / MWh
Colombia Electricity 2023	0.112	tCO <sub>2</sub> e / MWh
Costa Rica Electricity 2023	0.0534	kgCO <sub>2</sub> e/kWh
Chile Electricity 2023	0.2384	tCO <sub>2</sub> e / MWh

### UNIT CONVERSION FACTORS

VALUE A	UNIT A	UNIT B	UNIT B
1	GJ	277.78	kWh
1000	kWh	1	MWh
1	bl	158.987295	liters
1	ton	1000	kg
1	ton	1000000	g

Brand	Scope	Source	Amount	Unit	Emissions (ton CO <sub>2</sub> e)
<b>City Centro by Marriott</b>	Scope 1	Diesel	289.38	liter	0.83
<b>City Centro by Marriott</b>	Scope 1	Gasoline	7,723.46	liter	16.76
<b>City Centro by Marriott</b>	Scope 1	Natural Gas	0.00	liter	0.00
<b>City Centro by Marriott</b>	Scope 1	LP Gas	98,610.49	liter	167.13
<b>City Centro by Marriott</b>	Scope 1	R410A	16,565.00	g	37.37
<b>City Centro by Marriott</b>	Scope 2	Electricity	927,514.00	kWh	406.25
<b>City Express Suites by Marriott</b>	Scope 1	Diesel	1,061.07	liter	3.05
<b>City Express Suites by Marriott</b>	Scope 1	Gasoline	28,319.34	liter	61.47
<b>City Express Suites by Marriott</b>	Scope 1	Natural Gas	169,493.38	liter	0.39
<b>City Express Suites by Marriott</b>	Scope 1	LP Gas	117,036.58	liter	198.36
<b>City Express Suites by Marriott</b>	Scope 1	R410A	41,810.00	g	94.32
<b>City Express Suites by Marriott</b>	Scope 2	Electricity	2,776,879.90	kWh	1,216.27
<b>City Express Plus by Marriott</b>	Scope 1	Diesel	2,110.02	liter	6.06
<b>City Express Plus by Marriott</b>	Scope 1	Gasoline	54,791.34	liter	118.93
<b>City Express Plus by Marriott</b>	Scope 1	Natural Gas	1,382,927.85	liter	3.22
<b>City Express Plus by Marriott</b>	Scope 1	LP Gas	334,329.34	liter	566.65
<b>City Express Plus by Marriott</b>	Scope 1	R410A	200,110.00	g	451.45
<b>City Express Plus by Marriott</b>	Scope 2	Electricity	12,333,340.43	kWh	4,949.85



# APPENDIX 4

## EMISSIONS INVENTORY BY COUNTRY

Brand	Scope	Source	Amount	Unit	Emissions (ton CO <sub>2</sub> e)
City Express by Marriott	Scope 1	Diesel	10,013.74	liter	28.75
City Express by Marriott	Scope 1	Gasoline	264,975.49	liter	575.16
City Express by Marriott	Scope 1	Natural Gas	1,421,853.91	liter	3.31
City Express by Marriott	Scope 1	LP Gas	2,274,803.32	liter	3,855.53
City Express by Marriott	Scope 1	R410A	704,120.00	g	1,588.49
City Express by Marriott	Scope 2	Electricity	36,759,587.32	kWh	15,831.78
City Express Junior by Marriott	Scope 1	Diesel	2,309.00	liter	6.63
City Express Junior by Marriott	Scope 1	Gasoline	60,863.98	liter	132.11
City Express Junior by Marriott	Scope 1	Natural Gas	338,994.86	liter	0.79
City Express Junior by Marriott	Scope 1	LP Gas	299,721.39	liter	507.99
City Express Junior by Marriott	Scope 1	R410A	115,215.00	g	259.93
City Express Junior by Marriott	Scope 2	Electricity	6,408,678.12	kWh	2,730.82

Country	Scope	Source	Amount	Unit	Emissions (ton CO <sub>2</sub> e)
Mexico	Scope 1	Diesel	14,083.26	liter	40.44
Mexico	Scope 1	Gasoline	375,874.91	liter	815.88
Mexico	Scope 1	Natural Gas	2,722,609.73	liter	6.33
Mexico	Scope 1	LP Gas	3,096,872.12	liter	5,248.84
Mexico	Scope 1	R410A	1,020,830.00	g	2,302.99
Mexico	Scope 2	Electricity	56,611,265.87	kWh	24,795.73
Colombia	Scope 1	Diesel	1,133.30	liter	3.25
Colombia	Scope 1	Gasoline	27,199.13	liter	59.04
Colombia	Scope 1	Natural Gas	447,803.27	liter	1.04
Colombia	Scope 1	R410A	36,345.00	g	81.99
Colombia	Scope 2	Electricity	1,620,660.90	kWh	181.52
Costa Rica	Scope 1	Diesel	283.32	liter	0.81
Costa Rica	Scope 1	Gasoline	6,799.78	liter	14.76
Costa Rica	Scope 1	LP Gas	27,629.00	liter	46.83
Costa Rica	Scope 1	R410A	9,325.00	g	21.04
Costa Rica	Scope 2	Electricity	392,000.00	kWh	20.93
Chile	Scope 1	Diesel	283.32	liter	0.81
Chile	Scope 1	Gasoline	6,799.78	liter	14.76
Chile	Scope 1	Natural Gas	142,857.00	liter	0.33
Chile	Scope 1	R410A	11,320.00	g	25.54
Chile	Scope 2	Electricity	582,073.00	kWh	136.79



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