

University : Universitat Internacional de Catalunya (UIC)

Country : Spain

Web Address : [www.uic.es/en](http://www.uic.es/en)

## [2] Energy and Climate Change (EC)

### [2.11] The Total Carbon Footprint (CO<sub>2</sub> emissions from the last 12 months, in metric tonnes)

#### CO<sub>2</sub> (electricity)

$$= \text{Electricity usage per year (kWh)} \times \frac{0.241 \text{ kg CO}_2}{1 \text{ kWh}} \times \frac{1 \text{ metric tonne}}{1000 \text{ kg}} =$$

$$= 3938008 \text{ kWh} \times \frac{0.241 \text{ kg CO}_2}{1 \text{ kWh}} \times \frac{1 \text{ metric tonne}}{1000 \text{ kg}} = 949.059928 \text{ metric tonnes}$$

#### CO<sub>2</sub> (cars)

= number of cars entering the university x 2 x approximate travel distance of

$$\text{vehicle each day on campus only (km)} \times \frac{\text{L fuel}^1}{\text{km}} \times \frac{\text{kg CO}_2}{\text{L fuel}} \times \frac{1 \text{ metric tonne}}{1000 \text{ kg}}$$

$$= 80 \text{ cars} \times 2 \times 0 \text{ km} \times \frac{0.16 \text{ L gasoline}}{1 \text{ km}} \times \frac{2.13418 \text{ kg CO}_2}{\text{L gasoline}} \times \frac{1 \text{ metric tonne}}{1000 \text{ kg}} = 0 \text{ metric tonnes}$$

**NOTE:** A distance of 0 km is applied since there is no movement on campus.

#### CO<sub>2</sub> (motorcycles)

= number of motorcycles entering the university x 2 x approximate travel distance of

$$\text{vehicle each day on campus only (km)} \times \frac{\text{L fuel}^1}{\text{km}} \times \frac{\text{kg CO}_2}{\text{L fuel}} \times \frac{1 \text{ metric tonne}}{1000 \text{ kg}}$$

$$= 16 \text{ motorcycles} \times 2 \times 0 \text{ km} \times \frac{0.16 \text{ L gasoline}}{1 \text{ km}} \times \frac{2.13418 \text{ kg CO}_2}{\text{L gasoline}} \times \frac{1 \text{ metric tonne}}{1000 \text{ kg}} = 0 \text{ metric tonnes}$$

**NOTE:** A distance of 0 km is applied since there is no movement on campus.

#### CO<sub>2</sub> (total)

$$= \text{total emissions from electricity usage} + \text{transport (car, motorcycle)} = 949,059928 + 0 =$$

$$= 949,059928 \text{ metric tonnes}$$

**Carbon footprint in 2022=** 949.059928 metric tonnes

Total Carbon Footprint (Universitat Internacional de Catalunya, Spain)

<sup>1</sup>The type of fuel and the litre consumed by each vehicle per km must be taken into account. Depending on the type of fuel, a certain emission factor (kg CO<sub>2</sub>/L) is associated. You can consult the data in the *Guide for calculating greenhouse gas (GHG) emissions. Version 2020. (Catalan version)* [https://canviclimatic.gencat.cat/en/actua/guia\\_de\\_calcul\\_demissions\\_de\\_co2/index.html](https://canviclimatic.gencat.cat/en/actua/guia_de_calcul_demissions_de_co2/index.html)

**Description:**

In 2022, only the CO<sub>2</sub> emissions from the university's electricity consumption, measuring metric 949.059928 tonnes were counted.

The electricity consumed at the Universitat Internacional de Catalunya (UIC) is provided by the peninsula's electricity grid. Therefore, the Catalan Office for Climate Change (OCCC) of the Government of Catalonia recommends using an emission factor of 0.241 kg CO<sub>2</sub>/kWh, also known as the electrical mix. This mix reflects the emissions associated with the net production of electricity consumed by the university **(1)**.

On the other hand, the CO<sub>2</sub> emissions associated with vehicles (cars and motorcycles) were zero since there is no movement on campuses.

**Additional evidence links:**

1. Catalan Office for Climate Change. (2020). *Guide for calculating greenhouse gas (GHG) emissions (Catalan version)*. Generalitat de Catalunya. Retrieved from [https://canvclimatic.gencat.cat/en/actua/guia\\_de\\_calcul\\_demissions\\_de\\_co2/index.html](https://canvclimatic.gencat.cat/en/actua/guia_de_calcul_demissions_de_co2/index.html)

**Note:**

**The complete data of the amount of electricity consumption is: 3940030 kWh total UIC**