



## Evidence

### UI GreenMetric Questionnaire

University : Bursa Uludag University  
Country : Turkey  
Web Address : <http://www.uludag.edu.tr/english/default>  
Web Address for Sustainability Office: <https://uludag.edu.tr/sustainability>

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

##### [2.11] Please Provide The Total Carbon Footprint (CO<sub>2</sub> emission in the last 12 months, in metric tons)

###### Option 2: Recommended by UI GreenMetric

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

$$\begin{aligned} &= \frac{\text{electricity usage per year (kWh)}}{1000} \times 0,3750 \\ &= \frac{23.923.846,979 \text{ kWh}}{1000} \times 0,3750 \\ &= 8971,44 \text{ metric tons} \end{aligned}$$

###### CO<sub>2</sub> (natural gas)

$$\begin{aligned} &= \frac{\text{natural usage per year (m3)}}{1000} \times 1,9528 \\ &= \frac{3477129 \text{ m3}}{1000} \times 1,9528 \\ &= 6790,14 \text{ metric tons} \end{aligned}$$

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

$$\begin{aligned} &= \frac{\text{number of shuttle bus in your university} \times \text{total trips for shuttle bus service each day} \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0,01 \\ &= \frac{1 \times 8 \times 5 \times 240}{100} \times 0,01 \\ &= 9,6 \text{ metric tons} \end{aligned}$$

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

$$\begin{aligned} &= \frac{\text{number of cars entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0,02 \\ &= \frac{7763 \times 2 \times 1,5 \times 240}{100} \times 0,02 \\ &= 1103,5 \text{ metric tons} \end{aligned}$$

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

$$\begin{aligned} &= \frac{\text{number of motorcycle entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0,01 \\ &= \frac{400 \times 2 \times 1,5 \times 240}{100} \times 0,01 \\ &= 28,8 \text{ metric tons} \end{aligned}$$

###### CO<sub>2</sub> absorbed ( carbon sinks at the campus)

Total carbon wealth of the forest biomass at the campus is calculated according to 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Vol 4 Agriculture, Forestry and Other Land Uses (AFOLU).

Total C wealth of the biomass at the campus: 9857,74 tons C

Annual Carbon absorption by the biomass at the campus: 326,03 C/year

Annual CO<sub>2</sub> equivalent of the absorption: 1195,44 metric tons

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

$$\begin{aligned} &= 8971,44 + 6790,14 + 9,6 + 1103,5 + 28,8 - 1195,44 \\ &= 15708,04 \text{ metric tons} \end{aligned}$$

Total Carbon Footprint based on UI GreenMetric calculation method (Bursa Uludag University, Turkey)

**Description:**

The calculation was based on the numbers for the year 2021-2022 academic year.