

## Template for Evidence(s) UI GreenMetric Questionnaire

University : Universitas Negeri Surabaya  
Country : Indonesia  
Web Address : www.unesa.ac.id

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

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

CO <sub>2</sub> Total Calculation
<p><b>CO<sub>2</sub> (electricity)</b>  <math display="block">= \frac{\text{electricity usage per year (kWh)}}{1000} \times 0.84</math> <math display="block">= \frac{4,332,201 \text{ kWh}}{1000} \times 0.84 = 3,639.048 \text{ metric tons}</math></p>
<p><b>CO<sub>2</sub> (bus)</b>  <math display="block">= \frac{\text{numbers 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 0.02</math> <math display="block">= \frac{16 \times 2 \times 5 \times 240}{100} \times 0.02 = 7.68</math></p>
<p><b>CO<sub>2</sub> (cars)</b>  <math display="block">= \frac{\text{numbers of car entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0.02</math> <math display="block">= \frac{249,6 \times 2 \times 3 \times 240}{100} \times 0.02 = 71.885</math></p>
<p><b>CO<sub>2</sub> (motorcycle)</b>  <math display="block">= \frac{\text{numbers of motorcycle entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0.02</math> <math display="block">= \frac{4,803 \times 2 \times 3 \times 240}{100} \times 0.02 = 1,383.264</math></p>
<p><b>CO<sub>2</sub> (total)</b> = 3,639.049 + 7.68 + 71.885 + 1,383.264 = 5,101.877 metric ton</p>

#### Description:

Total Carbon Footprint → 5,101.877 metric ton

Total number of regular students, academic and administrative staff (part time and full time) = 38,096

#### Total Carbon Footprint divided by total campus population (in metric tons per person)

$$= \frac{\text{Total Carbon Footprint}}{\text{Campus Population}} = \frac{5,101.877}{38,096} = 0.133 \text{ metric tons per person}$$