

[2] ENERGY AND CLIMATE CHANGE (EC)

The Total Carbon
Footprint (CO₂ emission in the last
12 months, in metric tons)

CARBON FOOTPRINT

Walailak University had electricity usage were 13,947,236.93 kWh in year 2019. The university has two shuttle bus for service the staffs and students 2 rounds and 9 km average distance per day in 2019. For the cars and the motorcycles the university conducted a survey in year 2019 and found that 1,082 and 970 units was used in university 2 rounds and 1 km average distance per day, respectively. It is calculated with emission factor for convert to carbon dioxide equivalent. Totally the university had carbon footprint is 11,902.96 metric tons in year 2019.

Option 2: Recommended by UI GreenMetric

CO₂ (electricity)

$$\begin{aligned} &= \frac{\text{electricity usage per year (kWh)}}{1000} \times 0.84 \\ &= \frac{13,947,236.93 \text{ kWh}}{1000} \times 0.84 \\ &= 11,751.67 \text{ metric tons} \end{aligned}$$

CO₂ (bus)

$$\begin{aligned} &= \frac{\text{number of shuttle bus in your university} \times \text{total trips for shuttle bus service each day} \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0.01 \\ &= \frac{2 \times 2 \times 9 \times 240}{100} \times 0.01 \\ &= 0.864 \text{ metric tons} \end{aligned}$$

CO₂ (cars)

$$\begin{aligned} &= \frac{\text{number of cars entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0.02 \\ &= \frac{1082 \times 2 \times 1 \times 240}{100} \times 0.02 \\ &= 103.87 \text{ metric tons} \end{aligned}$$

CO₂ (motorcycle)

$$\begin{aligned} &= \frac{\text{number of motorcycle entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0.01 \\ &= \frac{970 \times 2 \times 1 \times 240}{100} \times 0.01 \\ &= 46.56 \text{ metric tons} \end{aligned}$$

CO₂ (total)

$$\begin{aligned} &= 11,751.67 + 0.864 + 103.87 + 46.56 \\ &= 11,902.96 \text{ metric tons} \end{aligned}$$

Carbon footprint in 2019 = 11,902.96 metric tons

Total Carbon Footprint (Walailak University , Thailand)

Carbon footprint in 2019 : 11,902.69 metric tons

WEBSITE

<https://green.wu.ac.th>