



Campus Carbon Emission Footprint in 2023

CO₂ (electricity)

$$= \frac{\text{electricity usage per year (kWh)}}{1000} \times 0,84$$

$$= \frac{4,905,122.34 \text{ kWh}}{1000} \times 0,84$$

$$= 4,120.30 \text{ metric tons}$$

CO₂ (bus)

$$= \frac{\text{number of shuttle bus in your university} \times \text{total trips for shuttle bus service each day} \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0,01$$

$$= \frac{8 \times 13 \times 3 \times 240}{100} \times 0,01$$

$$= 7.49 \text{ metric tons}$$

CO₂ (cars)

$$= \frac{\text{number of cars entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0,02$$

$$= \frac{1,567 \times 2 \times 1.5 \times 240}{100} \times 0,02$$

$$= 226.24 \text{ metric tons}$$

CO₂ (motorcycle)

$$= \frac{\text{number of motorcycle entering your university} \times 2 \times \text{approximate travel distance of vehicle each day inside campus only (KM)} \times 240}{100} \times 0,01$$

$$= \frac{3,325 \times 2 \times 1.5 \times 240}{100} \times 0,01$$

$$= 239.40 \text{ metric tons}$$

CO₂ (total)

$$= 4,120.30 + 7.49 + 226.24 + 239.40$$

$$= 4,593.43 \text{ metric tons}$$

Carbon footprint in 2023 = 4,593.43 metric tons

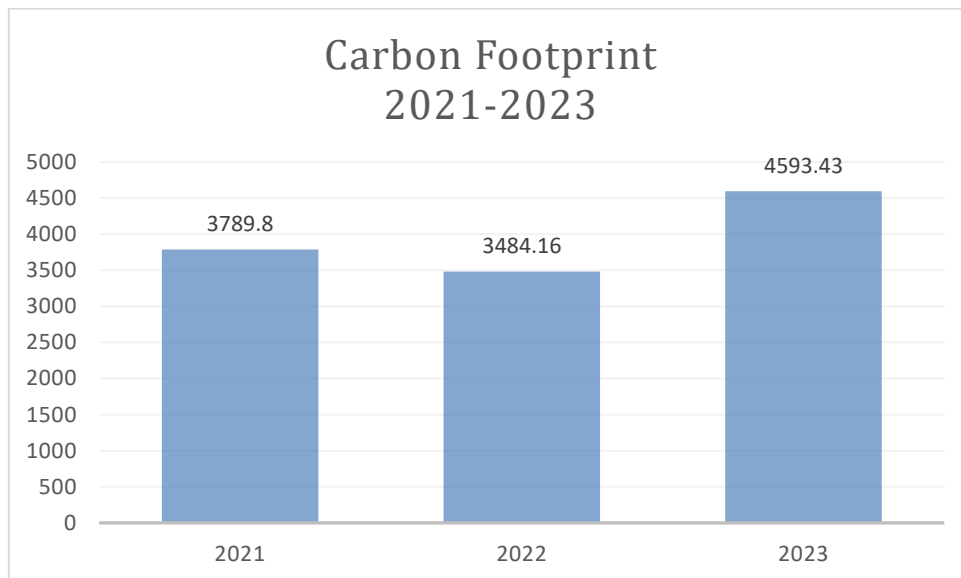
Description:

Vehicle counter 2023

Jenis Kendaraan	Lokasi Pemantauan	Jumlah Kendaraan Hari ke-							Jumlah Kendaraan dalam satu minggu	Rata-rata per-hari
		1	2	3	4	5	6	7		
Roda 2		4,474	3,618	3,583	4,431	3,613	2,946	610	23,275	3,325
Roda ≥4	Gerbang A	1,786	1,499	1,503	1,784	2,300	1,826	297.5	10,998	1,571
Shuttle		8	8	8	8	8	8	8	56	8
Jumlah		6,272	5,130	5,098	6,234	5,927	4,782	916	34,361	4,909



In the year 2023, Universitas Padjadjaran reported a significant total carbon emission of **4,592.79 metric tons**, marking a notable increase in carbon production. This surge in emissions can be attributed, in part, to the transition to a hybrid learning system in the post-pandemic era. Among the various contributors to this carbon footprint, electricity consumption emerged as the primary offender, accounting for a substantial 4,120.30 metric tons. The second-highest source of carbon emissions was motorbike usage, with an emission rate of 1,536 metric tons. This carbon impact is particularly striking when considering the per capita carbon footprint, which equates to **0.11 metric tons** for each member of the university's campus population. This data underscores the importance of addressing sustainability and adopting eco-friendly practices to mitigate the university's environmental impact in the future.



Graph 1. Carbon Footprint 2021-2023

Based on the graph above, a striking and noteworthy surge in carbon footprint is evident in the year 2023, amounting to a substantial increase of 4,593.43 metric tons. This marked upswing in carbon emissions can be largely attributed to the post-pandemic scenario when all campus activities resumed with heightened vigor and intensity. As the world transitioned towards a semblance of normalcy following the pandemic, the revival of campus life and academic pursuits led to a resurgence in energy consumption, particularly driven by the reactivation of facilities and the increased usage of electricity. This surge serves as a tangible reminder of the environmental impact of a return to pre-pandemic levels of activity, underscoring the need for universities and institutions like Universitas Padjadjaran to prioritize sustainable practices and eco-conscious initiatives in order to curb their carbon emissions and contribute to a greener, more environmentally responsible future.

At the forefront of our commitment to sustainability, we introduce the innovative Goes Behavior program, which has been instrumental in quantifying and achieving significant reductions in carbon footprints. By utilizing this program, we've been able to estimate an impressive daily average of 16 cyclists who have chosen an eco-friendly mode of transportation. This choice has proven instrumental in making a tangible environmental impact by reducing our carbon emissions by a notable 3.84 metrics ton. In essence, this program empowers us to effect a substantial reduction in our overall carbon footprint, contributing to our broader mission of fostering a greener, more sustainable future. Such initiatives are a testament to our dedication to responsible environmental stewardship and the advancement of eco-conscious behaviors within our community.