



Carbon footprint from electricity usage at Sohar University

Objective: To report to the EMC on the average carbon footprint from electricity usage at SU during the academic year 2022/2023 and the average carbon footprint from electrical energy per person.

Summary:

The carbon emissions from electrical energy is one of the major carbon emissions at the University campus. Hence, to enable SU start the estimation and improvement of its carbon footprint generated from energy, the following simple calculation is suggested which is support by available carbon emissions from the usage of electrical energy. The data provided is the average per year.

- The average carbon emission from every KW of electrical energy is 688.5g according to the Environmental Protection Agency (EPA); EPA is the agency of the United States federal government whose mission is to protect human and environmental health.
- The total usage of electrical energy for the 2022/2023 academic year at SU is given below (as provided by the PVC AF).

Total Usage of Electrical Energy (2022/2023):

Month	kWh
Sep-22	1,620,818
Oct-22	1,511,864
Nov-22	1,262,947
Dec-22	910,678
Jan-23	742,863

Month	kWh
Feb-23	856,377
Mar-23	1,137,312
Apr-23	1,068,483
May-23	1,566,771
Jun-23	1,736,788
Jul-23	1,732,609
Aug-23	1,492,405
Total	15,639,915
Avg./Month	1,303,326

The above will give the following total and average carbon emissions per year:

Month	Carbon Emissions (Kg)
Sep-22	1,115,933

Month	Carbon Emissions (Kg)
Oct-22	1,040,918
Nov-22	869,539
Dec-22	627,002
Jan-23	511,461
Feb-23	589,616
Mar-23	783,039
Apr-23	735,651
May-23	1,078,722
Jun-23	1,195,779
Jul-23	1,192,901
Aug-23	1,027,521
Total	10,768,081

Carbon Emissions Calculation Basis:

- Since number of students and staff in the university campus change from year to year (and of course from hour to hour and from day to day) and in order to have an acceptable base for the calculation, the average carbon emission per year divided by the average number of staff and students is used as a measure.
- In 2022-2023 the number of staff and students at the campus is estimated at 7500.

Month	kWh	Carbon Emissions (Kg)	Kg/Person/Hour	Kg/Person/Day
Sep-22	1,620,818	1,115,933	0.1984	4.761
Oct-22	1,511,864	1,040,918	0.1928	4.626
Nov-22	1,262,947	869,539	0.1610	3.865
Dec-22	910,678	627,002	0.1161	2.787
Jan-23	742,863	511,461	0.0947	2.273
Feb-23	856,377	589,616	0.1092	2.621
Mar-23	1,137,312	783,039	0.1450	3.480
Apr-23	1,068,483	735,651	0.1362	3.270

Month	kWh	Carbon Emissions (Kg)	Kg/Person/Hour	Kg/Person/Day
May-23	1,566,771	1,078,722	0.1998	4.794
Jun-23	1,736,788	1,195,779	0.2214	5.315
Jul-23	1,732,609	1,192,901	0.2209	5.302
Aug-23	1,492,405	1,027,521	0.1903	4.567
Average			0.1655991	3.974

The above is suggested to be used as a base line and the University should improve in the coming years.

Unit of Measurement: Kg /per person /per day