

SU Energy Sustainability Commitment (Carbon Footprint from Electricity Consumption)

Introduction:

SU is committed to work towards energy sustainability. In its strategic plan 2023-2028, SU has set a strategic objective to implement “Go-Green” and “Go Lean”. Therefore, one of the corporate KPIs is to measure the percentage of carbon footprint reduction resulting from electricity usage at SU. meant to set energy utilization. To enable measuring the reduction in Carbon Footprint generated from the electricity usage at SU, a baseline is determined for the average carbon footprint from electrical energy per person using electricity usage records during the academic year 2022/2023.

The same calculation model will be used at the end of every academic year to determine the percentage of carbon footprint reduction resulting.

SU has set the annual target as 2% reduction starting from 2023/224 academic year

Calculation model to be used:

•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 for 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).

Month	KWH
Sep-22	1620818
Oct-22	1511864
Nov-22	1262947
Dec-22	910678
Jan-23	742863
Feb-23	856377
Mar-23	1137312
Apr-23	1068483
May-23	1566771
Jun-23	1736788
Jul-23	1732609
Aug-23	1492405
Total	15639915
Avg./ Month	1303326

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

Month	Carbon emissions (Kg)
22-Sep	1115933
22-Oct	1040918
22-Nov	869539
22-Dec	627001.8
23-Jan	511461.2
23-Feb	589615.6
23-Mar	783039.3
23-Apr	735650.5
23-May	1078722
23-Jun	1195779
23-Jul	1192901
23-Aug	1027521
Total	10768081

- 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	KW/h	Carbon emissions Kg	Average measure of carbon emissions (Kg) from the use of electricity per person per hour
22-Sep	1620818	1115933	0.198388123
22-Oct	1511864	1040918	0.19276266
22-Nov	1262947	869539	0.161025743
22-Dec	910678	627001.8	0.116111445
23-Jan	742863	511461.2	0.094715033
23-Feb	856377	589615.6	0.109188068
23-Mar	1137312	783039.3	0.14500728
23-Apr	1068483	735650.5	0.136231583
23-May	1566771	1078722	0.199763303
23-Jun	1736788	1195779	0.22144047
23-Jul	1732609	1192901	0.220907648

23-Aug	1492405	1027521	0.190281638
Average (Kg) emissions of Carbon per hour per person			0.1655991

- The above is suggested to be used as a base line and the University should improve in the coming years to determine the average emission of carbon and accordingly to calculate the percentage of reduction in carbon footprint.