The Total Carbon Footprint (CO_2 emission in the last 12 months, in metric tons)

CO_2 (electricity)

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

$$= \frac{1246585\ kWh}{1000} \times 0,84$$

$$= 1047.1314 \text{ metric tons}$$

CO_2 (cars)

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

$$= \frac{105 \times 2 \times 1 \times 240}{100} \times 0,02$$

$$= 10.08 \text{ metric tons}$$

CO_2 (total)

$$= 1047.1314 + 10.08$$

$$= 1057.2114 \text{ metric tons}$$

Carbon footprint in 2022 = 1057.2114 metric tons

Description:

Carbon footprint in 2022 = 1057.2114 metric tons

Carbon Footprint report 2023

The Total Carbon Footprint (CO_2 emission in the last 12 months, in metric tons)

CO_2 (electricity)

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

$= \frac{2016830\ kWh}{1000} \times 0,84$

= 1694.1372 metric tons=**847.07 metric tons** (Shakarim University receives 60% electric power, which is produced at the Hydroelectric power station of Shulba (https://shges.kz), the Hydroelectric power station of Bukhtarma (**https://bges.kz/**)).

Notes: 0.84 is the coefficient to convert kWh to metric tons (source: https://www.carbonfootprint.com/)

CO_2 (cars)

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

$= \frac{78 \times 2 \times 0.3 \times 240}{100} \times 0,02$

= 2.25 metric tons

Notes: 0.02 is the coefficient (source: www.carbonfootprint.com) to calculate the emission in metric tons per 100 km car

240 is the number of working days per year

Heating of Shakarim University buildings = 42.9 metric tons

The CO_2 emissions for 10,258.62 Gcal of heat produced from coal amount to approximately **42.9 metric tonnes**

CO_2 (total)

= 847.07 +2.25+42.9

= 892.22 metric tons

Carbon footprint in 2023 = 892.22 metric tons

Description:

Carbon footprint in 2023 = **892.22 metric tons**

Carbon Footprint report 2024

The Total Carbon Footprint (CO_2 emission in the last 12 months, in metric tons)

CO_2 (electricity)

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

$= \frac{1211662\ kWh}{1000} \times 0,84$

= 1017.8 metric tons=**508.9 metric tons** (Shakarim University receives 60% electric power, which is produced at the Hydroelectric power station of Shulba (https://shges.kz), the Hydroelectric power station of Bukhtarma (**https://bges.kz/**)).

Notes: 0.84 is the coefficient to convert kWh to metric tons (source: https://www.carbonfootprint.com/)

CO_2 (cars)

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

$= \frac{78 \times 2 \times 0.3 \times 240}{100} \times 0,02$

= **2.25 metric tons**

Notes: 0.02 is the coefficient (source: www.carbonfootprint.com) to calculate the emission in metric tons per 100 km car

240 is the number of working days per year

Heating of Shakarim University buildings =49,28 metric tons

The CO_2 emissions for 11783,01 Gcal of heat produced from coal amount to approximately **49.28 metric tonnes**

CO_2 (total)

= 508.9 +2.25+49.28

= **560,43 metric tons**

Carbon footprint in 2024= 560.43 metric tons

Description:

Carbon footprint in 2024= **560.43 metric tons**