



Emissions Report of Shoolini University

Shoolini University monitors its GHG emissions and electricity consumption according to GHG emissions protocol. The calculations are made for direct emissions of CO₂, CH₄ and N₂O emissions from the combustion of fuel in boilers, furnaces and other stationary combustion equipment (Scope-1 emissions) and indirect emissions through electricity consumption (Scope-2 emissions). The emission factors used are according to the IPCC Guidelines for National Greenhouse Gas Inventories as well as issued by Central Electricity Authority Guidelines. The data used is provided by the estate/operations department of Shoolini university.

Electricity Consumption and Emissions Report of Shoolini University 2023 and 2021 (Baseline Year)

Scope-1 Emissions Calculation for the **Year 2023**:

User supplied data							GHG emissions (tonnes)			
Source ID	Sector	Fuel type (e.g., solid fossil)	Fuel	Amount of fuel	Units (e.g., kg or kWh)	Heating value basis	CO ₂	CH ₄	N ₂ O	All GHGs (tonnes CO ₂ e)
1	Institutional	Liquid fossil	Gas/Diesel oil	3000	litres (l)	Not applicable	8.029	1.084E-03	6.502E-05	8.077
2	Institutional	Liquid fossil	Gas/Diesel oil	600	litres (l)	Not applicable	1.606	2.167E-04	1.300E-05	1.615
3	Institutional	Liquid fossil	Gas/Diesel oil	3400	litres (l)	Not applicable	9.100	1.228E-03	7.368E-05	9.154
4	Institutional	Liquid fossil	Gas/Diesel oil	1200	litres (l)	Not applicable	3.212	4.334E-04	2.601E-05	3.231
5	Institutional	Liquid fossil	Gas/Diesel oil	3000	litres (l)	Not applicable	8.029	1.084E-03	6.502E-05	8.077
6	Institutional	Liquid fossil	Gas/Diesel oil	1700	litres (l)	Not applicable	4.550	6.140E-04	3.684E-05	4.577
7	Institutional	Liquid fossil	Gas/Diesel oil	2012	litres (l)	Not applicable	5.385	7.267E-04	4.360E-05	5.417
8	Institutional	Liquid fossil	Gas/Diesel oil	2800	litres (l)	Not applicable	7.494	1.011E-03	6.068E-05	7.539
9	Institutional	Liquid fossil	Gas/Diesel oil	1800	litres (l)	Not applicable	4.818	6.502E-04	3.901E-05	4.846
10	Institutional	Liquid fossil	Gas/Diesel oil	1800	litres (l)	Not applicable	4.818	6.502E-04	3.901E-05	4.846
11	Institutional	Liquid fossil	Gas/Diesel oil	600	litres (l)	Not applicable	1.606	2.167E-04	1.300E-05	1.615
12	Institutional	Liquid fossil	Gas/Diesel oil	2400	litres (l)	Not applicable	6.424	8.669E-04	5.201E-05	6.462
Total GHG emissions from fossil fuels (tonnes CO ₂ e):									65.456	

Scope-1 Emissions Calculation for the **Year 2021 (Baseline Year):**

GREENHOUSE GAS PROTOCOL		Fuel type (e.g., solid fossil)	Fuel	Amount of fuel	Units (e.g., kg or kWh)	CO ₂	CH ₄	N ₂ O	All GHGs (tonnes CO ₂ e)
Source ID	Sector								
1	Institutional	Liquid fossil	Gas/Diesel oil	400	litres (l)	1.071	1.445E-04	8.669E-06	1.077
2	Institutional	Liquid fossil	Gas/Diesel oil	1200	litres (l)	3.212	4.334E-04	2.601E-05	3.231
3	Institutional	Liquid fossil	Gas/Diesel oil	600	litres (l)	1.606	2.167E-04	1.300E-05	1.615
4	Institutional	Liquid fossil	Gas/Diesel oil	1600	litres (l)	4.282	5.779E-04	3.468E-05	4.308
5	Institutional	Liquid fossil	Gas/Diesel oil	1600	litres (l)	4.282	5.779E-04	3.468E-05	4.308
6	Institutional	Liquid fossil	Gas/Diesel oil	1200	litres (l)	3.212	4.334E-04	2.601E-05	3.231
7	Institutional	Liquid fossil	Gas/Diesel oil	1000	litres (l)	2.676	3.612E-04	2.167E-05	2.692
8	Institutional	Liquid fossil	Gas/Diesel oil	600	litres (l)	1.606	2.167E-04	1.300E-05	1.615
9	Institutional	Liquid fossil	Gas/Diesel oil	1800	litres (l)	4.818	6.502E-04	3.901E-05	4.846
10	Institutional	Liquid fossil	Gas/Diesel oil	1200	litres (l)	3.212	4.334E-04	2.601E-05	3.231
11	Institutional	Liquid fossil	Gas/Diesel oil	1200	litres (l)	3.212	4.334E-04	2.601E-05	3.231
12	Institutional	Liquid fossil	Gas/Diesel oil	1200	litres (l)	3.212	4.334E-04	2.601E-05	3.231
Total GHG emissions from fossil fuels (tonnes CO ₂ e):									36.616

Scope-2 Emissions Calculation for the **Year 2021 (Baseline) and 2023:**

Year	Net Energy Consumption (kWh)	Net Energy Consumption (GJ)	Solar PV Generation (kWh)	Solar Fraction (%)	Total CO ₂ Offset (kg)	Total CO ₂ Emissions (kg)	Total CO ₂ Emissions After Offset (kg)
2021 (Baseline)	12,34,852	4,445	4,08,942	33%	3,33,288	10,06,404	6,73,116
2023	22,93,594	8,257	3,65,224	16%	2,97,658	18,69,279	15,71,622

Summary of Results		
Total Scope-1 Emissions (2023)	65,456	kg CO ₂ e
Total Scope-2 Emissions (2023)	15,71,622	kg CO ₂ e
Total Scope-1 and Scope-2 (2023)	16,37,078	kg CO ₂ e
Total Scope-1 (2021 Baseline)	36,616	kg CO ₂ e
Total Scope-2 (2021 Baseline)	6,73,116	kg CO ₂ e
Total Scope-1 and Scope-2 (2021 Baseline)	7,09,732	kg CO ₂ e

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