



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.

Electricity Consumption and Emissions Report of Shoolini University 2022 and 2021 (Baseline Year)

Scope-1 Emissions Calculation for the **Year 2022**:

GHG emissions (tonnes)									
Source ID	Sector	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 _{2e})
1	Institutional	Liquid fossil	Gas/Diesel oil	1600	litres (l)	4.282	5.779E-04	3.468E-05	4.308
2	Institutional	Liquid fossil	Gas/Diesel oil	1600	litres (l)	4.282	5.779E-04	3.468E-05	4.308
3	Institutional	Liquid fossil	Gas/Diesel oil	1200	litres (l)	3.212	4.334E-04	2.601E-05	3.231
4	Institutional	Liquid fossil	Gas/Diesel oil	400	litres (l)	1.071	1.445E-04	8.669E-06	1.077
5	Institutional	Liquid fossil	Gas/Diesel oil	3200	litres (l)	8.565	1.156E-03	6.935E-05	8.616
6	Institutional	Liquid fossil	Gas/Diesel oil	3600	litres (l)	9.635	1.300E-03	7.802E-05	9.692
7	Institutional	Liquid fossil	Gas/Diesel oil	2400	litres (l)	6.424	8.669E-04	5.201E-05	6.462
8	Institutional	Liquid fossil	Gas/Diesel oil	1800	litres (l)	4.818	6.502E-04	3.901E-05	4.846
9	Institutional	Liquid fossil	Gas/Diesel oil	1200	litres (l)	3.212	4.334E-04	2.601E-05	3.231
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	2400	litres (l)	6.424	8.669E-04	5.201E-05	6.462
12	Institutional	Liquid fossil	Gas/Diesel oil	1800	litres (l)	4.818	6.502E-04	3.901E-05	4.846
Total GHG emissions from fossil fuels (tonnes CO _{2e}):									60.309
Total CO ₂ emissions from biomass (tonnes):									0.000

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
Total CO ₂ emissions from biomass (tonnes):									0.000

Scope-2 Emissions Calculation for the **Year 2021 (Baseline) and 2022**:

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
2022	17,84,027	6,422	4,10,107	23%	3,34,237	14,53,982	11,19,745

Summary of Results		
Total Scope-1 Emissions (2022)	60,309	kg CO ₂ e
Total Scope-2 Emissions (2022)	11,19,745	kg CO ₂ e
Total Scope-1 and Scope-2 (2022)	11,80,054	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