



SDG 13.2.1

Low carbon energy tracking

The University of Sharjah **systematically measures and tracks its energy use and associated carbon emissions** across all operational areas, including Scope 1, Scope 2, and Scope 3 sources. Annual monitoring covers:

- **Scope 1:** Direct emissions from on-site fuel consumption, including generators (tracked in metric tons of CO₂).
- **Scope 2:** Indirect emissions from purchased electricity, monitored annually at the university level.
- **Scope 3:** Upstream and downstream activities that contribute to the university's carbon footprint.

This tracking framework allows the university to calculate **total energy consumption, generator fuel use, low-carbon energy share**, and year-to-year progress. For example, data for 2022–2024 includes detailed measurements of generator energy (kWh/year), fuel consumption (gallons and liters), electricity use, and corresponding CO₂ emissions

Emissions Inventory Summary in 2024

Scope	Source	CO ₂ (metric tons)
Scope 1	Source 1	37.64
	Source 2	1.94
Scope 2	Source 1	42,012
	Source 2	2,320
Scope 3 – Upstream	Source 1	10.65
	Source 2	14,209
Scope 3 – Downstream	Source 3	2,574
Total	—	61,165.23

The University uses this information to evaluate its transition toward lower-carbon energy sources, monitor reductions in high-emission activities, and assess progress toward institutional climate goals. These measurements support the university's ongoing commitment to sustainability and carbon-reduction pathways

Energy consumption Tracking

SI. No.	Description	Quantity	Power (kVA)	Energy (kWh/year)	gal/hr (factors)	Running hrs in a year	Gal per year (gal)
1	Generator at M11-B 016, P200, 250 KVA	01 No.	250	300	5.7	1.2	6.84
2	Generator at M2 GR, GE150, 150 KVA	01 No.	150	180	3.6	1.2	4.32
3	Generator at W2 042, GE150 – Caterpillar 150 KVA	01 No.	150	180	3.6	1.2	4.32
4	Generator at M23-028, 150 KVA – Cummins	01 No.	150	180	3.6	1.2	4.32
5	Generator at M24, 150 KVA – Cummins	01 No.	150	180	3.6	1.2	4.32
6	Generator at M26, 150 KVA – Volvo Penta	01 No.	150	180	3.6	1.2	4.32
7	Generator at M27, 150 KVA – Cummins	01 No.	150	180	3.6	1.2	4.32
8	Generator at M28, 90 KVA – Cummins	01 No.	90	108	2.6	1.2	3.12
9	Generator at M29, 120 KVA – Cummins	01 No.	120	144	3.1	1.2	3.72
10	Generator at M16, 320 KVA – CAT	01 No.	320	384	7.4	1.2	8.88
11	Generator at W16, 320 KVA – CAT	01 No.	320	384	7.4	1.2	8.88
12	Generator at Lab – W12, 100 KVA – Perkins	01 No.	100	120	2.6	1.2	3.12
13	Generator at Lab – M12, 60 KVA – Perkins	01 No.	60	72	1.8	1.2	2.16
14	Generator at Institute of Medical Research – M32, 1500 KVA Perkins Gen 1	01 No.	1500	1800	32.2	1.2	38.64
15	Generator at Institute of Medical Research – M32, 1500 KVA Perkins Gen 2	01 No.	1500	1800	32.2	1.2	38.64
16	Generator at M31, 250 KVA – Perkins	01 No.	250	300	5.7	1.2	6.84
17	Generator at Planetarium, 420 KVA – Perkins	01 No.	420	0	0	1.2	0
18	Generator at UDHS, 1675 KVA – Cummins	01 No.	1675	0	0	1.2	0
19	Generator at M3A, 400 KVA – Perkins	01 No.	400	480	8.9	1.2	10.68
20	Generator at M1A, 500 KVA – Perkins	01 No.	500	600	11	1.2	13.2

Progress

Scope	Source	Baseline Year (2022)	Performance Year (2023)	Progress
Scope 1	Source 1	73.88	37.64	49%
	Source 2	30.59	1.94	94%
Scope 2	Source 1	48,437.94	42,012	13%
	Source 2	Not measured	2,320	NA
Scope 3 - Upstream	Source 1	21.42	10.65	50%
	Source 2	Not measured	14,209	NA
Scope 3 - Downstream	Source 3	3,305.00	2,574	22%
TOTAL	—	51,868.83	61,165.23	—