University of Bahrain

Carbon Emissions 2024

Description of the main emission sources

There are two main emission sources from the University of Bahrain, namely transportation (Scope 1) and the usage of electricity (Scope 2) within the **Sakhir** campus of the University.

The university provides free shuttle services dedicated to transporting students and staff between different colleges and buildings, and from parking areas to their respective colleges/buildings. Shuttle service is also allocated for students with special needs. Therefore, the amount of transportation emissions in this report is for the in-campus bus fleet.

Electricity involves the total energy used in all facilities at the Sakhir campus for the whole year (2024). The energy consumption of the year 2024 was directly sourced from the electricity bills produced by Electricity and Water Authority in Bahrain, which is the provider of both electricity and water.

The university started to estimate the carbon emission since **2016** as part of the UI Green Metric Ranking (https://greenmetric.ui.ac.id/rankings/overall-rankings-2024/uob.edu.bh). However, the year 2023 has been selected as the baseline year to compare the potential improvement due to the implantation of a major solar station at the University campus as part of the Government plan to reach the Net-Zero by 2060, and to reduce emission by 30% by 2035. This major project was initiated in 2024 (Tender Board - Kingdom of Bahrain).

Emissions calculations

Carbon estimation was conducted based on The Greenhouse Gas Protocol: A comparative accounting and reporting standard https://ghgprotocol.org/ .

Scope 1: Transportation

The emissions from the university bus fleet are 875.93 tons of CO_2 equivalent.

Scope 2: Electricity

The energy consumption of the year 2024 was directly sourced from the electricity bills produced by Electricity and Water Authority in Bahrain, which is the provider of the electricity and water. The total electricity for the Sakhir campus in 2024 was 48,991,978 KWh.

The emissions resulted from the total electricity consumption in Sakir campus are **23,272.69** tons CO_2 equivalent.

Total Emissions from scope 1 and scope 2 in 2024 = **24,148.62** tons CO_2 equivalent.

Most of the emission is attributed to the electricity consumption of 96.37% (Table 1).

Table1. contribution of emissions from transportation and electricity consumption

Scope	Source	Emissions (t CO2 e)	Contribution %
1	Shuttles	**875.93**	3.63
2	Electricity	**23,272.69**	96.37
	Total	**24,148.62**	

National targets

In COP 2018, Bahrain declared its commitment to reach Net Zero by 2060 with an interim goal of 30% reduction by 2035.

https://www.bna.bh/en/TheKingdomofBahrainannouncesitsintentiontobringcarbonemissionstonetzeroby2060..aspx?cms=q8FmFJgiscL2fwIzON1%2BDv%2BQZKlH675DoA8s4lZPN0o%3D.

Towards achieving 30% reduction by 2035, the Government of Bahrain represented the Electricity and Water Authority (EWA) has intended to establish a Minimum of 44 MWp solar power plant in the Campus of University of Bahrain for generating approximately 75 GWh per year. Tender Board - Kingdom of Bahrain.