Aga Khan Health Services

Kenya: Solarisation for Sustainable Healthcare at Aga Khan Hospital Mombasa

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The Aga Khan Hospital Mombasa (AKH- Mombasa) is committed to reducing carbon emissions and achieving net zero by 2030. Historically, the hospital relied on grid electricity and diesel generators to support 24/7 clinical operations, including laboratory and imaging services, operating and labor rooms, Accident and Emergency, bed units and clinics, air-conditioning of the buildings, and all other facility equipment. This resulted in high and rising energy costs driven by peak-time tariffs and grid fluctuations, and constituted its most significant carbon footprint contributing to its Scope 1 and 2 emissions[1].

To address these challenges, the hospital invested in a 620 kWp solar photovoltaic (PV) system, designed to supply a significant share of daytime energy demand. Key aspects of the intervention included; a) installation of a grid-tied solar PV plant capable of delivering stable solar power directly to hospital loads; b) integration with existing electrical infrastructure, ensuring seamless switching between solar and grid power; c) upgraded monitoring systems enabling real-time tracking of energy generation, performance and savings.



Figure: Solar system at AKH-Mombasa.

From November 2025 (solar PV project completion) to the end of June 2026, the system generated 491 MWh of clean solar electricity against a total facility consumption of 1474 MWh, resulting in a solar load ratio of 33%, (meaning a third of the hospital's electricity demand was supplied by solar energy). This translates to a cost saving of approximately

[1] The Greenhouse Gas Protocol: https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf . (Scope 1 are direct emissions, and Scope 2 are indirect emissions from supplied electricity).

USD94,000 in just 8 months. The system is expected to enable the hospital to avoid around 61 tonnes of CO_2 emissions and save approximately USD141K annually, with an estimated payback period of around three years. Carbon emissions were calculated using the AKDN carbon management tool.