





Greening The Raleigh Fitkin Memorial Hospital:

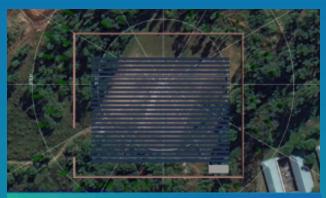
Enhancing Power Reliability While Promoting Green Energy Solutions

Eswatini has recognized that climate crisis can severely impact the achievement of the ultimate vision of national development for the country. Therefore, climate change is a priority development concern, and the country is committed to taking urgent and long-term actions to reduce the vulnerability of its people and the risks to national development. The key stakeholders including the Government of Eswatini, Ministry of Tourism and Environmental Affairs, Ministry of Natural Resources and Energy, Ministry of Health, The Italian Government, and UNDP, together, have pledged their support to the project for Greening the Raleigh Fitkin

Memorial Hospital. While addressing the objective of increasing access to renewable, clean, and modern energy sources and energy efficiency appliances, the project will contribute to reduced energy demand and cost of energy while reducing CO2 emissions and improving primary healthcare services and wellbeing of the hospital catchment population. The project is a national showcase of the clean energy opportunities that exist for the country as it will pilot, demonstrate, and document benefits of using clean and low-cost energy systems and appliances by replacing old energy systems with clean, renewable, and affordable ones.



Part of the equipment that will be powered by the Solar PV System



Location of solar PV panels next to the Hospital





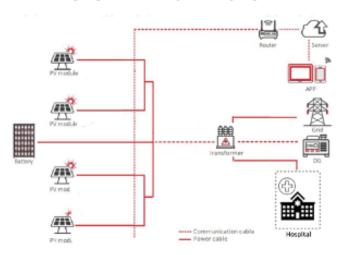


The front view of RFM Hospital



The Government of the Kingdom of Eswatini and the Republic of Italy concluded a Memorandum of Understanding to strengthen and coordinate their effort to-among others-combat global climate change and to promote clean and efficient energy use which includes the funding of the Greening the Raleigh Fitkin Memorial Hospital demonstration project in Manzini, Eswatini. At present, the project is in the direction of implementation. It addresses key challenges facing the hospital while simultaneously replacing fossil fuels with renewable energy thus, addressing important environmental concerns. As part of this inititiative, a 1 MW Solar Photovoltaic system which includes transmission line, a 1400-kWh battery storage will be implemented. This solar PV system represents the highest renewable penetration in the energy supply of the hospital. The battery pack can cover critical load during the day for about 4.5 hours-providing higher reliability in case of events like power outages. During the night this value is even

SYSTEM ARCHITECTURE



higher reaching up to 10 hours and the genset reduces its utilization up to only 100 hours per year, thus contributing greatly to reducing the carbon footprint of the hospital.

RFM Solar PV system Economical, Environmental & Social Benefits



Capital Investment: **\$2,173,000 USD**Annual Savings: **\$176,714 USD**



536 tonnes of CO2 saved /year Renewable fraction: **72%** Solar PV Capacity: **1 MWp**



Cars taken off the road (cars/year): 125

Distance driven avoided (km): 4,523,207

Carbon footprint reduced (citizens/year): 5360

Phone use avoided (phones/year): 1608563

Laptop use avoided (laptops/8 hours/day/year): 10724

Energy footprint reduced (citizens/year): 40214.075

This initiative is aligned with the Kingdom of Eswatini's commitment to climate action under the Paris Agreement and UN Sustainable Development Goals. It reduces the burden on the environment, energy costs and promotes green energy solutions while inspiring local communities to join the movement towards a greener and more sustainable future