PLEXUS ENERGY LIMITED

SITE SURVEY REPORT AND PROPOSAL

CLIENT	EQUITY BANK KIKUYU BRANCH
LOCATION	KIKUYU TOWN

A. Technical Proposal

Client's Need

The client needs a solution that powers the server, ATM and users at the branch.

Solution Description

A site survey was conducted and a load profile was obtained. The consumption patterns are as follows:

EQUITY KISII LOAD PROFILE					
Load	**Quantity**	**Wattage (W)**	**Total Wattage (W)**	**Operating hours (H)**	**Energy Demand (Wh)**
ATM	1	600	600	7	4200
Server	1	700	700	7	4900
Users	18	100	1800	9	16200
			3100		**25300**

To support the loads and meet the client's needs, a hybrid solar solution is recommended. The solar panels will generate energy during the day and power the connected loads. Surplus energy will be used to charge the batteries. The energy stored in the batteries will be used at night to power the loads. The system consists of the following:

a. 6kWp solar panels
b. 15kW Hybrid Inverter
c. 10kWh Lithium batteries
d. Control and monitoring setup

Lithium batteries will be used in this system. They have the following advantages:

- They are long-lasting
- They are very efficient during charging and discharging • They have a high energy density and hence require less space

- They have an aesthetic appeal, case in point:

Fig: Solar Installation with a lithium battery

System Placement

The solar panels will be mounted on the branch's rooftop. The cables will run along the walls and stairs. A hole will be drilled outside the bank near the air conditioning fans, through to the server room. The inverter, batteries, and control setup will be installed in the server room.

Rooftop for panel mounting