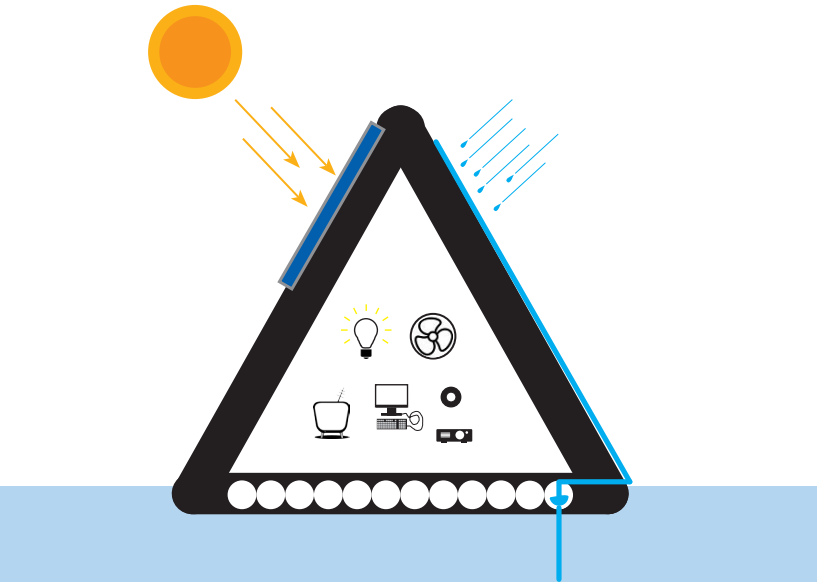
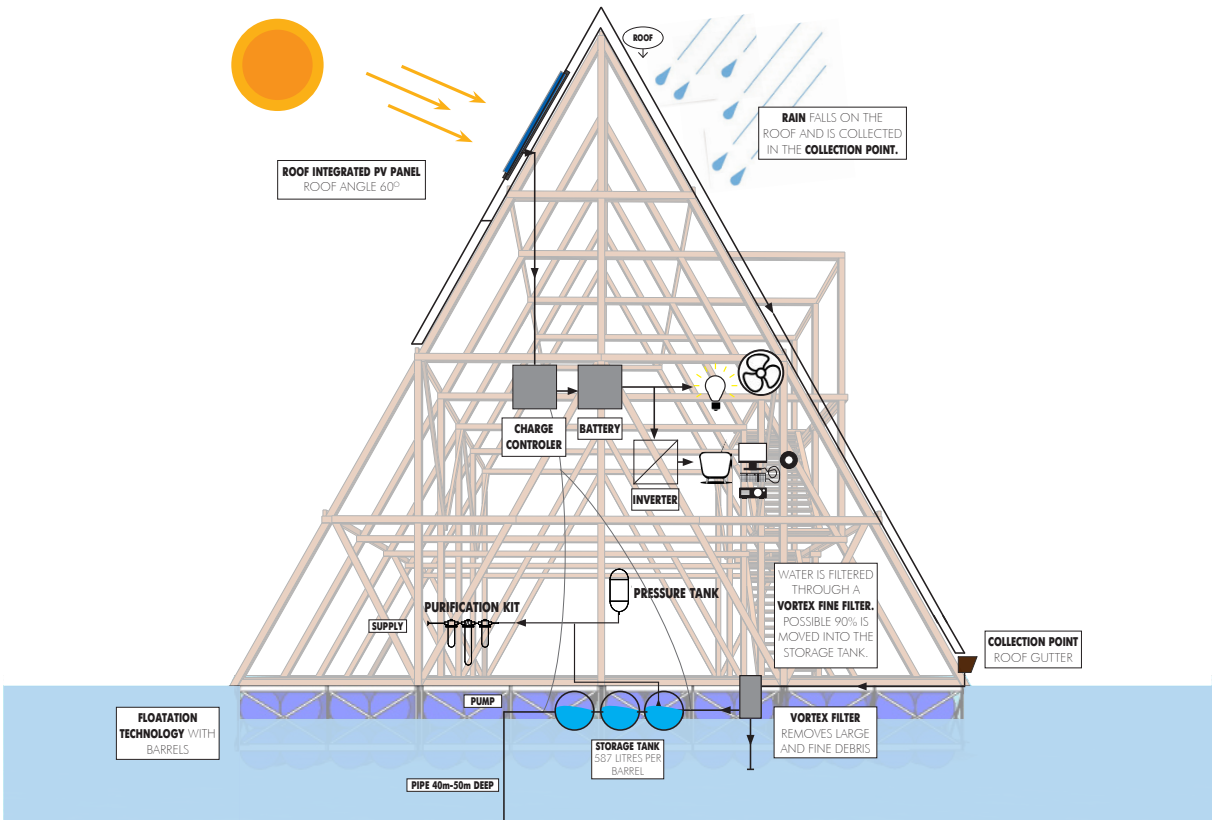
2H IDEAL STANDALONE SYSTEM



AIM:

AN EFFICIENT STANDALONE SYSTEM
POWERED BY PV PANELS

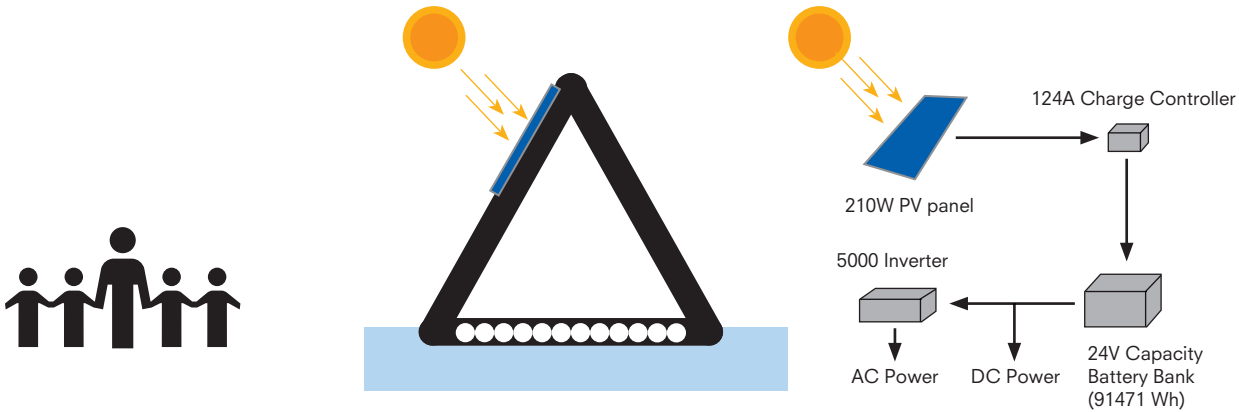
STANDALONE SYSTEM



PROPOSED APPLICATIONS AND ESTIMATED LOADS

Equipment/ Load	Powered by (see below)	Qty	Load (Watts)	Total Load (Watts)	Hours used per day	**Total Energy Use per day** (Watt hours)
AIR CONDITIONING/VENTILATION						
Fans	DPN	10	10	100	6	**600**
WATER SUPPLY						
Water delivery	PV-Direct	1	70	70	4	**280**
Borehole pump	PV-Direct	1	500	500	4	**2000**
WATER TREATMENT PLANT						
All equipment	DPN	1	1500	1500	1	**1500**
SOIL AND WASTE WATER DISPOSAL						
Sewage treatment	DPN	1	2000	2000	1	**2000**
POWER TO SOCKETS						
Computer	DPN	1	100	100	8	**800**
Television	DPN	1	20	20	6	**120**
DVD player	DPN	1	10	10	2	**20**
Projector	DPN	1	150	150	2	**300**
LIGHTING						
LED fluorescent	DPN	20	10	200	8	**1600**
LED fluorescent	DPN	4	40	160	12	**1920**
TOTAL ENERGY USED PER DAY IN WATT HOURS						**11,140 Wh**
DPN = DISTRIBUTED POWER NETWORK						or **11.14 kWh**

ESTIMATED MAJOR EQUIPMENT TO BE INSTALLED



SCHOOL DEMAND
11,140Wh per day →

ENERGY COLLECTION
2,955.5W of total PV capacity needed →

STORAGE / DISTRIBUTION
2,955.5W / 175W = 20 modules

Actual requirement:
20 Solar Modules of 175Wp, 17.4V, multicrystalline silicon
24 Deep cycle batteries 210AH, 12V, deep cycle VRLA
1 Inverter 5000W, 230VAC pure sine wave inverter