2H IDEAL STANDALONE SYSTEM

AIM:

AN EFFICIENT STANDALONE SYSTEM POWERED BY PV PANELS
STANDALONE SYSTEM

**ROOF INTEGRATED PV PANEL**
- ROOF ANGLE 60°

**RAIN FALLS ON THE ROOF AND IS COLLECTED IN THE COLLECTION POINT.**

**1. Rainwater collection point (roof drains, gutters, etc).**
2. Rainwater enters the vortex filter and is processed. (Possible 90% diverted to storage tank.)
3. Remaining water from vortex filter to storage tank.
4. Smoothing inlet - stainless steel "flow calming" device to eliminate turbulence of the incoming water as it enters the tank.

**PIPE 40m-50m DEEP**

**Storage Tank**
- 200 LITRES PER BARREL
-增添大型和细小的杂质

**VORTEX FILTER**
- REMOVES LARGE AND FINE DEBRIS

**PUMP**
- SUBMERSIBLE 45 PSI

**CHARGE CONTROLLER**

**BATTERY**

**INVERTER**

**Purification Kit**
- RH-4

**Overflow**

**Auxiliary Inlet**

**Collection Point**

**Pressure Tank**
- Made of steel

**Level Indicator**

**Tank**

**Primary Inlet**

**Float Switch**
- cut-off)

**Vortex Fine Filter**

**Grade**

**Storage Tank**
- (size as required)

**Auxiliary Inlet**
- (size as required)

**Vent**

**Collection Point**

**ROOF GUTTER**

**ABOVE GROUND TANK, SUBMERSIBLE PUMP, PRESSURE TANK & PURIFICATION KIT.**

**INVERTER**

**RAINWATER HARVESTING SYSTEM DETAIL**

**ABOVE GROUND TANK, SUBMERSIBLE PUMP, PRESSURE TANK & PURIFICATION KIT.**
### PROPOSED APPLICATIONS AND ESTIMATED LOADS

<table>
<thead>
<tr>
<th>Equipment/Load</th>
<th>Powered by (see below)</th>
<th>Qty</th>
<th>Load (Watts)</th>
<th>Total Load (Watts)</th>
<th>Hours used per day</th>
<th>Total Energy Use per day (Watt hours)</th>
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<tbody>
<tr>
<td><strong>AIR CONDITIONING/VENTILATION</strong></td>
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<tr>
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**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

ENERGY COLLECTION
2,955.5W of total PV capacity needed

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

SCHOOL DEMAND
11,140Wh per day

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