OFF-GRID

Turn-key Off-Grid systems deliver affordable power solutions for Off-Grid living, remote industries, irrigation systems, communication towers, construction projects, and businesses that require energy independence. Our Off-Grid systems allow you to be your own power producer with little maintenance and low upkeep costs.

MINI-GRID

Rapid deployment and simple setup make Mini-Grid power the easy way to establish a new power grid. The ultimate solution to providing power for Villages, Communities, Industries, Multiple businesses or anywhere power production and distribution is needed. Mini-Grid Systems manage power distribution and track usage making billing customers effortless. Become your own utility and realize rapid returns while benefiting your customers. Professional monitoring, maintenance and support services available.

GRID GUARD

Power grid stability is critical. Grid-Guard is designed to strengthen and stabilize power grids with stored power released when needed. Grid-Guard supports the power distribution system with on-demand power capacity and intelligent systems that monitor demand and deliver power when loads peak. By providing extra capacity and flexibility, Grid-Guard provides an attractive return on investment.
430 KILOWATTS
Usable Battery Power

4500 CYCLES
@50% Depth of discharge
Matrix Carbon AGM Deep Cycle Batteries

Sealed lead-acid carbon batteries are a break-through in energy storage technology. Carbon batteries provide 3 to 4 times longer life cycles and the ability to handle extreme temperatures better. With proper sizing, carbon batteries can have a life cycle of up to 30 years.

20.7 kWp (Based on 40 foot models)
- 56 Solar Panels
- 370 Watt Bifacial technology
  Integrated Bifacial Solar Array
  10-30% more power with Bifacial Technology

119kWh/day
Average daily solar production with 5 hrs of peak sun and 15% power production from Bifacial Technology.

90° OF ROTATION
Seasonally Adjustable for optimal energy production
Up to 20% more production compared to fixed angle mounted systems
MPPT Charge Controllers
20 Kilowatt MPPT charge controllers
98% efficient
Data logging

Hybrid Inverter
30 to 200 Kilowatt Hybrid Inverters available
Supports Grid-Tie, Mini-Grid and Off-Grid

EMCS
The Energy Monitoring Control System (EMCS) governs all GRID-GUARD products.
Large touch display interface for ease of use.
Preprogrammed settings allow for quick setup and simple operation.
View manuals and video maintenance tutorials all from the EMCS touch screen interface.

Auxiliary Generator
When the power-grid requires 100% uptime, the backup generator is programmed to turn on when it’s needed. We offer 20kW to 100kW diesel / propane / gas generators installed

For more information call: 1-888-800-0010 or email us at info@grid-guard.com
COST COMPARISON
TOTAL COST OVER 30 YEARS

Based on estimated cost per kilowatt in Sub-Saharan Africa based on fuel and maintenance

Gas Generator

<table>
<thead>
<tr>
<th>10 year</th>
<th>20 year</th>
<th>30 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>$11.2 million USD</td>
<td>$22.4 million USD</td>
<td>$33.7 million USD</td>
</tr>
</tbody>
</table>

Diesel Generator

<table>
<thead>
<tr>
<th>10 year</th>
<th>20 year</th>
<th>30 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5.07 million USD</td>
<td>$10.1 million USD</td>
<td>$15.2 million USD</td>
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</tbody>
</table>

National Grid Power

(Average Sub-Saharan cost per kWh)

<table>
<thead>
<tr>
<th>10 year</th>
<th>20 year</th>
<th>30 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.13 million USD</td>
<td>$2.3 million USD</td>
<td>$3.4 million USD</td>
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</tbody>
</table>

Grid Guard®

<table>
<thead>
<tr>
<th>10 year</th>
<th>20 year</th>
<th>30 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.93 million USD</td>
<td>$1.02 million USD</td>
<td>$1.1 million USD</td>
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</table>

COST COMPARISON
TOTAL COST OVER 30 YEARS

Based on estimated cost per kilowatt in Canada based on fuel and maintenance

Diesel Generator

<table>
<thead>
<tr>
<th>10 year</th>
<th>20 year</th>
<th>30 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.6 million CAD</td>
<td>$3.2 million CAD</td>
<td>$4.9 million CAD</td>
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Grid Guard®

<table>
<thead>
<tr>
<th>10 year</th>
<th>20 year</th>
<th>30 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.5 million CAD</td>
<td>$1.6 million CAD</td>
<td>$1.7 million CAD</td>
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</table>

National Grid Power

(Average Canadian cost per kWh)

<table>
<thead>
<tr>
<th>10 year</th>
<th>20 year</th>
<th>30 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.14 million CAD</td>
<td>$0.29 million CAD</td>
<td>$0.4 million CAD</td>
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</tbody>
</table>

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