DIY Grid Tied Solar
Richard & Rosemary Mudgett
Research

• Tracking vs fixed
  – Active tracking, passive tracking, or fixed frame
• Panels
  – Monocrystalline or Polycrystalline
• Inverters
  – SMA Sunny Boy with backup circuit
• Find a company that will work with you
Return On Investment

• Incentives
  – 30% tax credit, TVA $1000, kWh premium rate

• Cost
  – Equipment, rental, services

• Estimate production
  – PV estimator website

• Calculate payback time
Bureaucracy

- TVA Green Power Providers (GPP) contracts
  - GPP Capacity Reservation Request
  - GPP Participation Agreement
  - GPP Interconnection Agreement
- Huntsville Utilities
  - System line drawing
- Local inspections
  - NEC compliance
Installation
## Results

<table>
<thead>
<tr>
<th>Month</th>
<th>Total (kWh)</th>
<th>kWh/Day</th>
<th>Est KWH/Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec (partial)</td>
<td>247</td>
<td>17.6</td>
<td>26.7</td>
</tr>
<tr>
<td>Jan</td>
<td>916</td>
<td>29.5</td>
<td>28.8</td>
</tr>
<tr>
<td>Feb</td>
<td>877</td>
<td>31.3</td>
<td>35.9</td>
</tr>
<tr>
<td>Mar</td>
<td>1010</td>
<td>32.5</td>
<td>39.1</td>
</tr>
<tr>
<td>Apr</td>
<td>1204</td>
<td>40.1</td>
<td>44.3</td>
</tr>
<tr>
<td>May</td>
<td>1452</td>
<td>46.8</td>
<td>43.3</td>
</tr>
<tr>
<td>Jun</td>
<td>1355</td>
<td>45.2</td>
<td>44.4</td>
</tr>
</tbody>
</table>

We expect to pay $200 for electricity this year.  
We expect $525 from TVA this year for the $0.04 premium.