Types of Renewable Energy

- Photovoltaic (PV)
  - Generates Electricity
- Solar Hot Water
  - Provides heat for water or space heating
- Micro-Hydro
  - Generates Electricity
- Geothermal
  - Provides Heat for water or space heating

*Dependent on the local resources*
Utility Programs

- Renewable possibilities are unique to each state & utility
- Contact your local utility website for information
- [www.dsire.org](http://www.dsire.org) information on utility, national & state incentives.

**Types of Incentives:**
- Tax Credits (Federal and State)
- Renewable Energy Credits (RECs)
- Net Metering
- Rebates
- NC Green Power
  - <5kW (solar) $.10/kWh
  - <10kW (small wind) $.09/kWh
Resources

- Home Power Magazine
  www.homepower.com
  - Great Articles on small all types of Renewable projects including designs and cost info
- NC Solar Center
  www.ncsc.ncsu.edu
  - Installer Directory
- ASU WNCREI
  wind.appstate.edu
  - Wind Site Assessments
  - Limited Tech Support
- NC GreenPower
  www.ncgreenpower.org
  - Technical Documents
- DSIRE
  www.dsireusa.org
  - Database of State Incentives for Renewables and Efficiency
- NREL
  www.nrel.gov
  - National Renewable Energy Lab
Examples

Mellow Mushroom
Asheville, NC

6 collector Solar Thermal System heats up to 20% of the 1,000 gallons of hot water that are used daily in the restaurant’s operations

Installed by Sundance Power Systems

RayLen Vineyards
Mocksville, NC

9.88 kilowatt thin film solar PV system

Installed by Southern Energy Management
Examples Cont.

Micro-Hydro System

Geothermal System
### Renewable Energy Cost *

*Numbers and calculations are estimates only
Cost will vary from site to site*

<table>
<thead>
<tr>
<th>System Size and Type</th>
<th>Initial Cost</th>
<th>Output (kWh/yr)</th>
<th>NCGP Pmt</th>
<th>30% Federal Tax Credit</th>
<th>35% NC State Tax Credit</th>
<th>Final Cost</th>
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<tbody>
<tr>
<td>5 kW PV</td>
<td>$37,500</td>
<td>6706</td>
<td>$671</td>
<td>$11,250</td>
<td>$13,125</td>
<td>$12,454</td>
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<td>10 kW Wind</td>
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<td>14000</td>
<td>$1,260</td>
<td>$9,000</td>
<td>$10,500</td>
<td>$9,240</td>
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<td>6 Panel SHW</td>
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<td>1 kW Micro-Hydro</td>
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<tr>
<td>Residential Geothermal</td>
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<td></td>
<td>$6,000</td>
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