### Guterman Greenhouse: ECI Savings Table

<table>
<thead>
<tr>
<th>Utility</th>
<th>Historical Energy Use (MMBtu)</th>
<th>Est. FY 2013 Energy Use (MMBtu)</th>
<th>Energy Savings (MMBtu)</th>
<th>% REDUCTION</th>
<th>Historical Cost (billed rates)</th>
<th>*Est. FY 2013 Cost (billed)</th>
<th>Annual Savings $</th>
<th>Equivalent # Homes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric</td>
<td>13,156</td>
<td>5,025</td>
<td>8,131</td>
<td>62%</td>
<td>$270,000</td>
<td>$103,000</td>
<td>$167,000</td>
<td>203</td>
</tr>
<tr>
<td>Steam</td>
<td>26,677</td>
<td>19,139</td>
<td>7,538</td>
<td>28%</td>
<td>$603,000</td>
<td>$433,000</td>
<td>$170,000</td>
<td>84</td>
</tr>
<tr>
<td>Chilled Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Totals</td>
<td>39,833</td>
<td>24,164</td>
<td>15,669</td>
<td>39%</td>
<td>$873,000</td>
<td>$536,000</td>
<td>$337,000</td>
<td>287</td>
</tr>
</tbody>
</table>

* Based on energy study

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**What We Did:** Working in partnership with Cornell University Agricultural Experiment Station all greenhouse lighting and environmental controls throughout 47 greenhouse ranges were replaced. The new lighting is dimmable high pressure sodium (replacing on/off metal halide) and is controlled by the same environmental controls that operate the heating and cooling systems.

**What It Cost:** $2,100,000

**How Long It Took:** 17 months. Completing April, 2013.

**What We Saved:** $337,000 and 386 tons/year carbon equivalent annually.

**Benefits:** The new lighting is significantly more efficient and will be controlled to provide a constant amount of total light energy (natural plus artificial) delivered to the plants each day. The environmental controls stabilize inside temperatures and dramatically reduce heating and lighting energy usage, with all data and controls web accessible to the user.

The Guterman project is dramatically increasing our ability to manage and reduce energy usage in our greenhouse space with state-of-the-art lighting and controls. Our continued collaboration with the Energy Management staff in Facilities Services is transforming sustainability in our growth chambers and greenhouses across campus.

Andrew Leed, Greenhouse Manager, Cornell University Agricultural Experiment Station

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**Guterman Greenhouse**

- **Guterman Greenhouse: Total Energy Use Pre & Post ECI**
  - [Graph showing energy use for Electric and Steam](#)

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**Utility Cost and Use**

- **Facility code 1068 Utilities Cost and Use**
- **Facility code 1068B Utilities Cost and Use**

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**Energy and Sustainability**

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