Virginia Small Wind
Installer Training

Presented By:

SUSTAINABLE ENERGY DEVELOPMENTS INC.
The Sleeping Giant – Small Wind

- >47,000 farms in Virginia
- Current payback in Virginia for 10kW install is 13 years
Happy Neighbors Help

- Education
- Involvement
- Respecting opinions
Need for Cooperation and Patience

- Underdeveloped Market
- Permitting
- Unrealistic expectations
- Limited ARRA resources
Safety First

Installation with considerations
The Vision – High Level Installer Training

- Collaboration
- Energy Production Assessments, Siting, Capital Cost
- Hands on workshop/s
- Group installs
Thanks for your time

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Common Funding Requirements

- Wind speed minimum (10 mph or 4.47 m/s)
- Approved / proven technologies
- Siting considerations
- Working with approved installer
  - Insurance
  - Experience
Setbacks for turbines 10 kW and under

**Light green** - No human occupied buildings preferable, no major obstructions to airflow

**Yellow** - Absolutely no human occupied buildings, no property boundaries, roads, overhead transmission lines, etc.

**Orange** - Guyed tower typical distance of 60% of tower height, preferable no buildings, possible fencing requirement

**Red** - No buildings, possible fencing requirement
Interconnection with Utility

- Standard Interconnection Requirements
  - Lockable disconnect near billing meter
  - Five minute start-up for cold start
  - Labels, maps, application, insurance, change of meter
  - Electrical infrastructure upgrades?
Permitting

- Common regulations
- Neighbor relations
- Turbine placement
- Work with an installer
Operations and Maintenance

- After initial installation, there is a typical settling period;
  - Guy wires stretch
  - Anchors adjust
  - Structure settles
- 30 day and 180 day maintenances help to keep settling period from having an effect on the integrity
- Annual maintenance for life of turbine
- Dedicated meter monitoring
### Funding

- **State, USDA, Federal?**
- **NY’s funding is turbine size and tower height based**
- **Low interest loans available**

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<thead>
<tr>
<th>MANUFACTURER</th>
<th>MODEL</th>
<th>DESCRIPTION</th>
<th>INCENTIVE</th>
<th>STANDARD TOWER HEIGHT (ft)</th>
<th>TOWER HEIGHT ADJUSTMENT ($/ft difference from standard tower height)</th>
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<tbody>
<tr>
<td>Bergey Windpower</td>
<td>BWC EXCEL</td>
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