SUSTAINABLE SOLUTIONS FOR THE TOWN OF NORTH SMITHFIELD

April 2018
Our Proposal: $40 million in local economic benefit over 25 years from temporary use of only 1% of North Smithfield’s land

• About Green Development
• Overlay District
• Community Benefits
• Conclusion
Who is Green Development?

- RI-based company founded in 2009
- Largest owner and operator of renewable energy in RI
- 26 MW wind/solar in operation
- 55 MW in operation by YE 2018
- Management has developed > 300 MW of renewable energy
- Comprehensive renewable energy company
  - Develop, design, finance, build, own and operate
  - Most services performed with local staff and labor
# Completed Projects & Projects In Construction

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Ownership</th>
<th>Location</th>
<th>Capacity (kW DC)</th>
<th>Technology</th>
<th>Power Purchaser</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Kingstown Green</td>
<td>Green</td>
<td>North Kingstown</td>
<td>1,500</td>
<td>Wind</td>
<td>National Grid</td>
<td>December 2012</td>
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<tr>
<td>Coventry Two</td>
<td>Town of West Warwick</td>
<td>Coventry</td>
<td>4,500</td>
<td>Wind</td>
<td>West Warwick</td>
<td>August 2016</td>
</tr>
<tr>
<td>Coventry One, Three, Four</td>
<td>Narragansett Bay Commission</td>
<td>Coventry</td>
<td>4,500</td>
<td>Wind</td>
<td>NBC</td>
<td>August - September 2016</td>
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<tr>
<td>Coventry Five</td>
<td>Green</td>
<td>Coventry</td>
<td>1,500</td>
<td>Wind</td>
<td>National Grid</td>
<td>February 2017</td>
</tr>
<tr>
<td>Coventry Six</td>
<td>Green</td>
<td>Coventry</td>
<td>4,500</td>
<td>Wind</td>
<td>National Grid</td>
<td>September 2016</td>
</tr>
<tr>
<td>Portsmouth One</td>
<td>Green</td>
<td>Portsmouth</td>
<td>1,500</td>
<td>Wind</td>
<td>Portsmouth and Coventry</td>
<td>August 2016</td>
</tr>
<tr>
<td>Stilson Solar</td>
<td>Green</td>
<td>Richmond</td>
<td>2,430</td>
<td>Solar</td>
<td>National Grid</td>
<td>December 2017</td>
</tr>
<tr>
<td>Kingstown I</td>
<td>Green</td>
<td>Richmond</td>
<td>5,300</td>
<td>Solar</td>
<td>Quasi State Entity</td>
<td>December 2017</td>
</tr>
<tr>
<td>Johnston (Shun I-III, Plainfield I-III, Green Hill)</td>
<td>Green</td>
<td>Johnston</td>
<td>21,000</td>
<td>Wind</td>
<td>National Grid, RICCA, other confidential entities</td>
<td>December 2018</td>
</tr>
</tbody>
</table>
Solar Photovoltaic Overlay District
Proposed Overlay District: Parcels

- Overlay Siting Criteria:
  - North of Iron Mine Hill Rd and East of Providence Pike
  - 1.5 miles from Woonsocket and West Farnum substations
  - Parcels >80 acres or contiguous ownership greater than 80 acres.

- Wetland Overlay
Meets Major Components of Existing Ordinance

• Section 5.7.5: Requirements
  • Setback a minimum of 100’ from external property lines
  • Plans will incorporate a green buffer along neighboring residential properties
  • Signage will be included along the fencing
  • Array will be 10-12’ tall
  • All privately owned utility interconnection runs will be underground
  • All Inverters, transformers and other equipment will be fenced unless otherwise required by utility

• Section 5.7.6: Procedure
  • Project will follow the Major Land Development Process through Planning
    • At least 4 separate package submissions and meetings
Community Benefits
Financial Benefits for North Smithfield

• In exchange for 1% of Town land, the 50-to-65 MW AC solar array will provide (at 57.5 MW midpoint):
  • $402,000 per year in annual tax payments = $10 million over 25 years
  • $7,000/MW AC = 40% more than state requires
  • Nearly 70% more than Walmart ($238,000/yr)
  • National Grid is the only higher single tax payer
  • One-time upfront donation to Town of $287,500 ($5,000/MW AC) To be used at Town’s discretion
Local Economic Benefits

- $31 million of lease payments to landowners
- Creation of 250 local construction jobs for average of 1 year
  - Green will hold a job fair to allow North Smithfield residents to participate
  - Emphasizing veterans at request of town council
Community Benefits of Solar

• Project will produce enough energy to power 13,500 typical Rhode Island homes, more than 2.5 times all the households in North Smithfield!

• Safe: no hazardous emissions, no health risks

• Compared to other development options:
  ✓ No added traffic, noise, or pollution
  ✓ No added strain on fire, police or school systems
Environmental Benefits of Solar

• At end of term all footings and underground conduit removed and site restored to prior condition
• Array will be designed to include native, pollinator friendly plants and utilize no herbicides or pesticides
• Fencing will allow ingress/egress of animal species
• Town participating in meeting the states renewable energy goals
Proposed Overlay District: Development Potential

Site could host over 76 residential housing units, costing town at least $415,000/year for schools.

- North Smithfield School Cost
  4,483 households (US Census 2016)
  1,707 students (RIDE 2016-2017)
  Per pupil expenditure = $14,361 (RIDE 2016)
  0.38 students per house x 76
  =~29 new students @ $14,361 each

- In addition to school, added cost for water, sewer, roads, electric utility
Why Overlay District works for North Smithfield

- Limited in Geographic Footprint
  - Gives North Smithfield control over placement
  - Solar Project are not visible from residential neighborhoods
- Revenue Positive
  - $40 million in local economic benefit over 25 years from 1% of land
  - Prevents additional strain on school districts, public resources
  - Provides roughly 250 local jobs
- Maintains Rural Towns
  - Preserve Open Space; Solar = Placeholder
  - Safe for Community
Thank you
Questions?

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www.green-ri.com
About Solar
About Solar: How it Works

- **Solar panels**: Converts the sun's rays into electricity.

- **Inverters**: Convert the direct current (DC) that comes from the solar panel to alternating current (AC) that the grid use.

- **Electrical Interconnection**: Sends the electricity back into the grid.

- **Power Use**: Utility receives the energy and either a) sends credit to eligible net-metering entities or; b) keeps it for themselves.
About Solar: A Good Neighbor

• Supports the Rural character: no added traffic, no noise pollution, no impact on land/drainage, no special fire risks
• Safe: no hazardous emissions, no health risks
• Proposed solar offsets carbon emissions from 10,000 cars
• Provides local jobs
About Solar: Addressing Common Concerns

• Solar Panel Glare:
  • light absorption, not reflection central to function
  • reflect as little as 2% of incoming sunlight, same as water and less than soil

  Department of Energy

• Electromagnetic Interference (“EMI”):
  • “emissions from typical PV systems are low strength and unlikely to cause interference”
  • Compliant equipment with 250-foot setback should have little to no EMI impact on nearby communications or telemetry equipment

  NREL

• Environmental Concerns:
  • Polycrystalline panels proposed contain no toxic materials
  • Pay back energy involved in manufacturing in 1-3 years
  • Site is reseeded with native grass and vegetated buffers and restored on conclusion of lease

  Scientific America