Powering Up: The Future of Energy & Economic Development

Wind
Economic Impact of Wind

Presentation Outline

1. Trends in Wind Farm Investment
2. Wind Outlook
3. Results of Prior Economic Impact Studies
4. The Case of GLOW
5. Conclusions, Recommendations & Other Resources
Historical Investment in Wind

- U.S. wind industry slowed dramatically during the first half of 2013.
- Only 1.6 MW installed during the first quarter of 2013 and 0 MW during the second quarter.
- The total installed wind capacity is now 60,009 MW.
- Short-term outlook – 73% to 93% decline for 2013.
Long Term Wind Indices (August 2013)

- **Source:** Ernst & Young developed the “U.S. Renewable Energy Attractiveness Indices”
- Long-term Wind Indices measures the long-term outlook of the wind industry (out of 100)
  - Resource
  - Infrastructure
  - Policies
  - Incentives

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## Top 10 Renewable Energy Investment Attractiveness Ranking

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National Wind Economic Activity

- Since 2005 - 7 of the top 10 turbine manufactures opened U.S. facilities
- 559 operating wind-related manufacturing in 2012
- 67% of components include domestic content in 2011
- 37 major component manufacturing facilities in the U.S. (towers, blades or assembles)
Economic Impact of Wind

• Studies conducted by Camoin
  1. Horizon – Jericho Rise
  2. Horizon – New Grange
  3. Long Island/New York City Off Shore
  4. The case of GLOW: NYPA’s Great Lakes Off Shore Wind
Horizon: Jericho Rise Impact

- Franklin County, NY
- $100 million
- 48 - 1.65 megawatt (MW) turbines
- 80 MW production capacity
- Provide power equivalent to serving 20,000 New York households

Annual Direct, Indirect & Induced Impacts
- Jobs (temp) – $100/51 = 151
- Jobs (perm) – 12/22 = 34
- Wages - $575K/$626K = $1.2M
- Annual Royalties & Tax Revenue - $1.4M
Horizon: New Grange Impact

• Chautauqua County, NY
• $100 million
• 44 - 1.8 megawatt (MW) turbines
• 80 MW production capacity
• Provide power equivalent to serving 20,000 New York households

Annual Direct, Indirect & Induced Impacts
• Jobs (temp) – 100/103 = 203
• Jobs (perm) - 12/25 = 37
• Wages - $500k/$235K = $735K
• Annual Royalties & Tax revenue $1.2M
Long Island-New York City Off Shore Wind

- 13 miles south of Rockaway Peninsula
- $250 million
- 350-700 megawatt (MW)
- 97 – 3.6 MW turbines (350 MW)

Annual Direct, Indirect & Induced Impacts (350 MW)
- Jobs (temp) – 2,300 (3 yrs) & $168M wages
- Jobs (perm) - 35/50 = 85
- Wages - $2.3M/$3.1M = $5.4M
NYPA GLOW Economic Impact Study

NYPA Objectives

• Meet NYS renewable energy goals (30% by 2015)
• Serve as a catalyst for becoming global leader in off-shore production
• Attract component manufacturing to upstate NY

Study Details

• Proposed 150-500 MW Great Lakes wind farm
• Study purpose – determine the long term economic development opportunities in NYS
• Approach – three scenarios
  1. Vessel
  2. Manufacturer’s location
  3. Ports
  4. R&D
NYPA GLOW Scenario #1: Least Optimistic

- Two out-of-State **retrofitted** vessels
- No **R&D** in State
- Only **5%** of component manufacturing in NYS
- Overseas manufactured components

Annual Direct, Indirect & Induced Impacts

- Jobs – 725
- Wages - $46M
NYPA GLOW Scenario #3: Most Optimistic

- Two in-State **retrofitted** vessels
- **R&D** spending equivalent to Europe and Asia
- **Wind Institute** - 1/3 of all Off Shore **R&D**
- 50% of components manufactured in-State

Annual Direct, Indirect & Induced Impacts
- Jobs – 7,600
- Wages - $490M
- Manufacturers needed 750 MW to 1,000 MW annually to attract facilities
### NYPA GLOW Impact Summary

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<th>Type</th>
<th>Market Leader Scenario</th>
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<th>Base Case Scenario</th>
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<td>$1,823,730,000</td>
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Table 68. Summary of Scenarios - Total Impacts
Conclusions & Recommendations

• **Federal incentives** like the PTC are critical

• **Uncertainty** in policy and inconsistent financial support will hinder alternative energy investment and thus its relevance to economic developers

• **Impact comes from manufacturing.** Construction is temporary and O&M can be minimal

• **Manufacturing** still dominated overseas

• Use the **Comprehensive Planning** process to examine and accommodate future alternative energy sites (i.e. zoning for wind, industrial sites near energy sources, etc.)

• Look to off grid projects to **lower energy** costs for businesses....

• But, **low cost natural gas** will diminish interest in alternative energy

• **And storage limitations will hinder** is long term success of RE sources like wind
Additional Renewable Energy Impact Resources

• Camoin Primer – Alternative Energy 101
• Camoin White Paper - Case studies on innovative and effective uses of alternative energy in economic development
• Ernst & Young – U.S. Renewable Energy Attractiveness Indices
• www.dsireusa.org

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