QUANTUM UTILITY GENERATION

Connecticut IRP
Renewable Stakeholder Session

Wind Generation in Connecticut – A Developer's View

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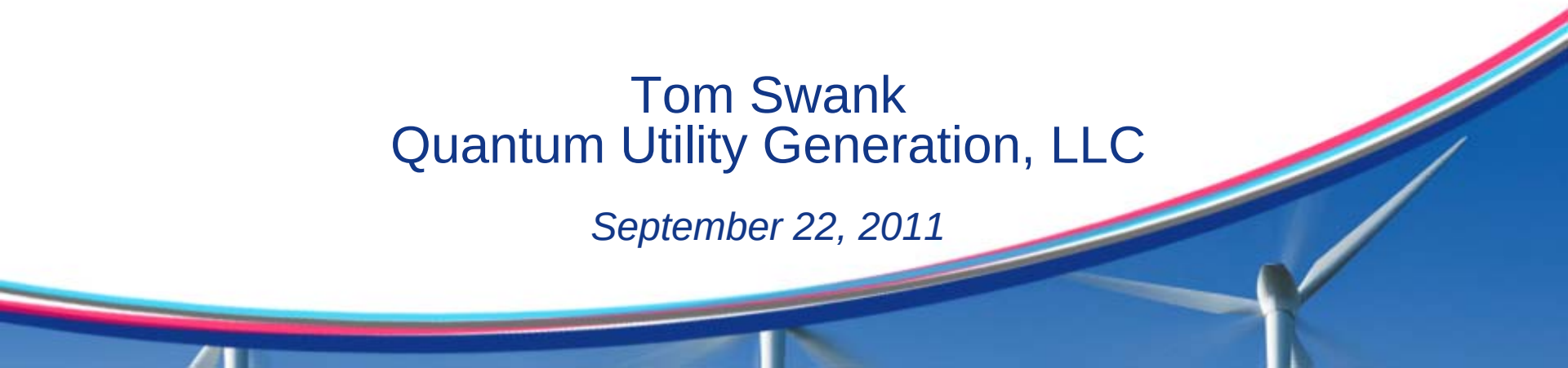
September 22, 2011



About Quantum Utility Generation

- Quantum Utility Generation, LLC (“QUG”) is a $1B investment fund focused on the development and acquisition of utility scale power generation assets
- QUG recently purchased the wind power development business of Noble Environmental Power, LLC (Essex, CT), one of the largest U.S. wind power development companies over the past several years
- QUG’s wind development business now based in Old Saybrook, CT
- Wind development portfolio includes 1,000 MWs of projects across the United States, including and Connecticut
- Pursuing several potential wind sites within CT, one of which will be 35-40 MW and is expected to begin the permitting process in 2012
- Acquisition by QUG of Noble’s development business underscores the increasing focus of financially strong companies on wind development in New England

Wind Power in CT

- Potential in CT for both small scale wind development (similar to what has occurred in RI and MA), as well as utility scale
- Wind resource assessment of state, coupled with transmission line access and site suitability evaluations, shows potential for significant amount of utility scale wind development within CT
- Limited number of “high wind” locations in CT, however recent technological improvements increase wind viability significantly
- Educated workforce and specific skills (technical, financial) within CT make the state well situated to grow the local wind industry
- Locating wind generation within CT (vs purchasing from other New England states) provides load support benefit, helps avoids costly transmission upgrades

Benefits of the Wind Power Industry to CT

- With the development of utility scale wind projects in CT, millions of dollars of benefits would flow into the state, through both public and private channels, including:
  - Tax dollars to state/local governments for installed windparks
  - Lease/Royalty payments to landowners (often annuities for 20+ years)
  - Significant short-term (up to a year) job creation during windpark construction
  - Small (but sustained) jobs created for the operating life (20+ yrs.) of windpark
    - ➢ Directly through project-site operations staff
    - ➢ Indirectly through additional third-party support services such as electrical contractors, crane rentals, etc.
  - Corporate-office jobs at wind companies based in CT
    - ➢ Wind industry companies based in CT include: Quantum, Noble Environmental Power, BNE Energy, OptiWind, UTC/Clipper, American Wind Capital

Challenges to Wind Development in CT

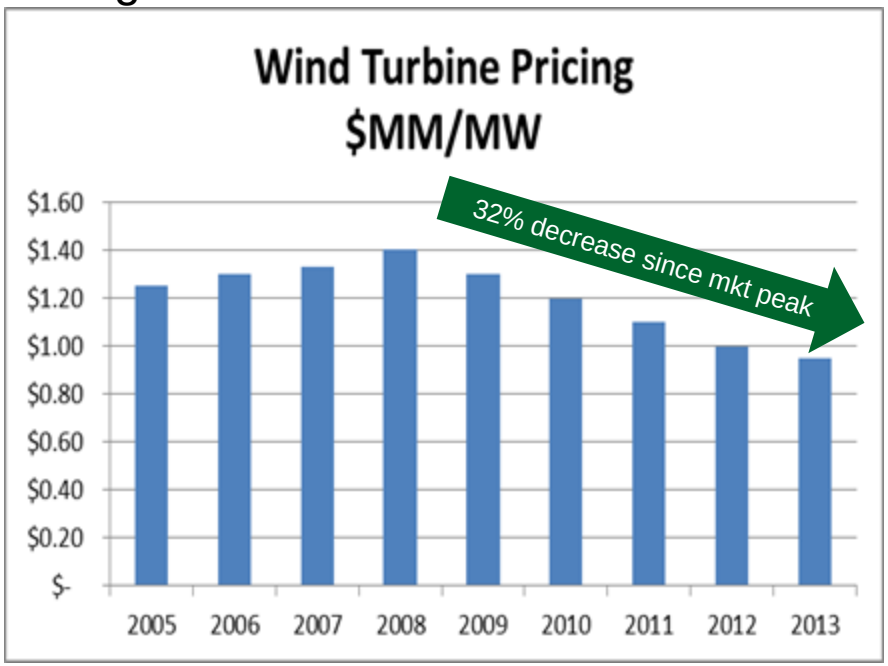
- Very few “high wind” sites in CT with sufficient land available for utility-scale wind projects
- Strong NIMBY opposition in many areas that do have significant winds (along coast line)
- Opportunities in neighboring states for development of “low hanging fruit”, sites, coupled with capital constraints, has pushed previous development efforts into other states to date
- Uncertain Regulatory Approval Process and RPS program creates risks to developers
- Annual fight in Hartford to change/weaken CT Renewable Portfolio Standard creates annual uncertainty in a business that has a 3 to 5 year develop/build cycle
- Long-term contracting not available to utility-scale wind generation to-date

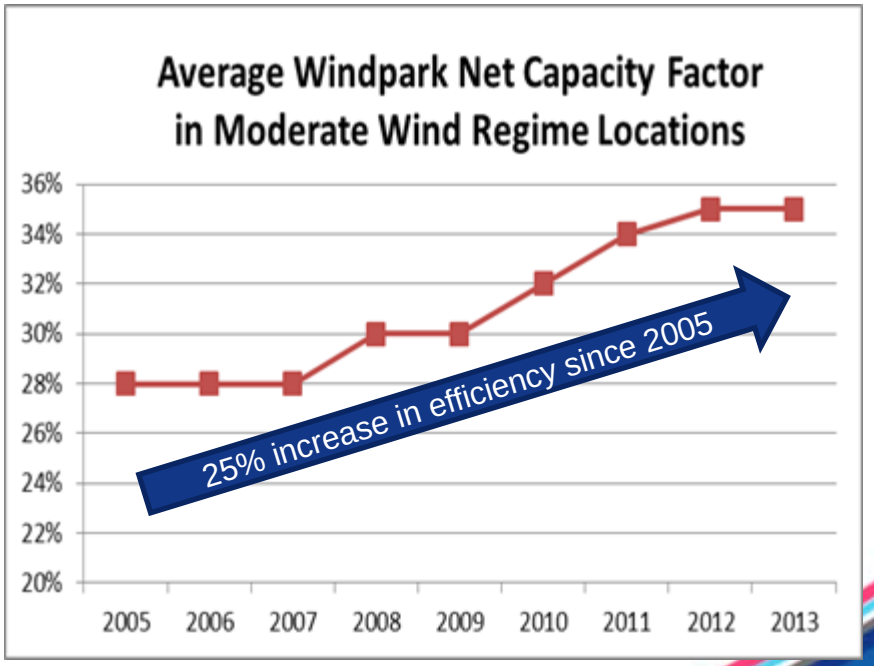
Improving Environment for CT Wind Development

- Site permitting process expected to be clarified (and wind siting approval moratorium lifted) in July 2012
- Many of the high-wind sites in other states have been built out, and focus now coming towards CT
- SB 1243 shows increased focus on developing a more strategic, and long-term focus on renewable energy in the state
- Evolving technology for wind turbines designed to operate efficiently in moderate wind regimes (as is Connecticut) dramatically increases the number of potential CT sites suitable for utility-scale wind development
- Increasing generating capacity of turbines (from 1.5 MW per turbine to 2.5 – 3.0 MW) decreases the number of turbines required to be installed at land-constrained sites common in CT, while still gaining economies of scale to allow for competitive pricing
- Cost of wind turbines have decreased as more suppliers enter the market, and new turbine manufacturing facilities are built in the U.S.

Improvement in Wind Turbine Efficiency and Economics

Developers' ability to competitively develop wind projects in moderate wind regimes (like CT) continues to improve, with turbines becoming less costly, and increasing efficiency of turbines specifically designed for moderate wind regimes.





These changing market fundamentals have dramatically improved the ability to develop cost-competitive wind projects within Connecticut.

Roadmap for Promoting In-State Wind

By changing strategies and focusing on certain areas of energy policy, Connecticut can both support the development of wind within CT, while decreasing the cost to CT stakeholders. This can be accomplished by implementing a longer-term, sustainable approach towards promoting in-state renewable generation.

1. Create an overall long-term energy policy for renewables, and stick to it; wind development takes 3-5 years, changing policy mid-way only increases costs for everyone.
2. Stop the annual threats in Hartford to decrease/change the CT RPS; this only serves to create risk for renewable companies, which delays projects and increases costs to CT stakeholders
3. Develop a legitimate, defendable, and fair siting policy to make the siting approval process as transparent and even as possible from project to project. Include specific timelines for review and approval to create a standardized process.
4. Consider the balance between benefits provided to small-scale renewable development vs. utility-scale projects.

Roadmap for Promoting In-State Wind (cont.)

5. Develop a plan for long term procurement of utility-scale renewable energy.
    - One of the greatest benefits of renewable energy is the long-term price certainty…take advantage of this by procuring it under long term (10-20 years) agreements to capture this benefit for CT stakeholders
    - Provide evaluation criteria to incent in-state generation vs out-of-state (difficult to exclude out of state entirely, but provisions can be included to benefit those in-state)
    - Assure that projects are viable and financeable, both technically and economically (signing contract doesn't help if project can't get funded/built)
    - Develop a procurement plan and schedule (multiple rounds) and stick to it…..this certainty will result in lower risk of project failure (can select appropriate round to enter a project), and ultimately lower cost to CT stakeholders
    - See other States' procurement models to see what works (and what doesn't) to promote low cost renewable energy procurement

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