



## Sheffield Wind Project

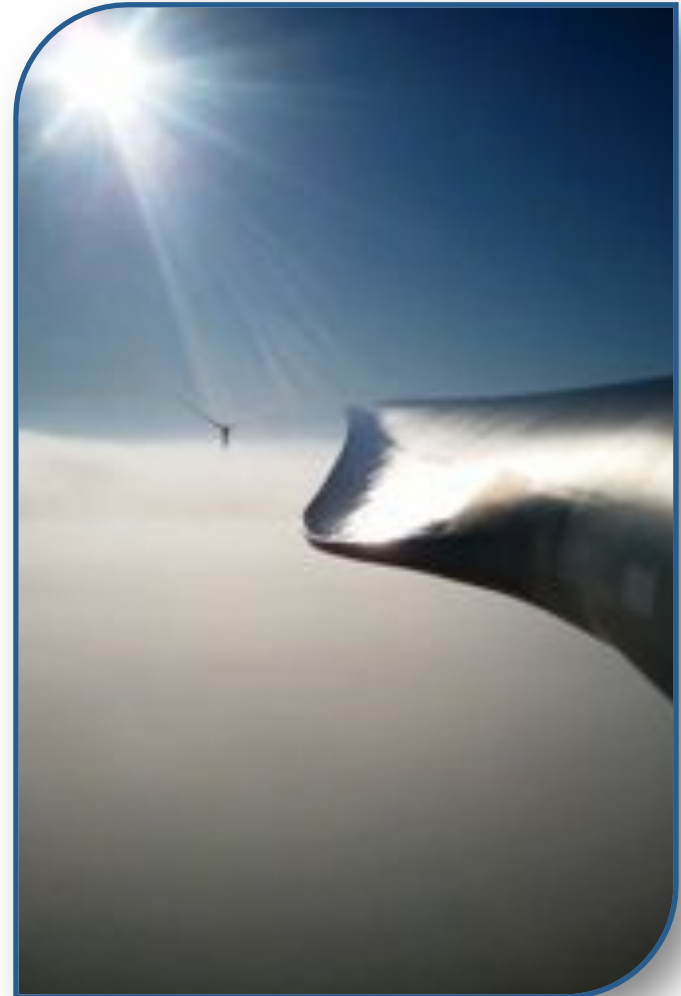
Josh Bagnato – First Wind

December 1, 2012



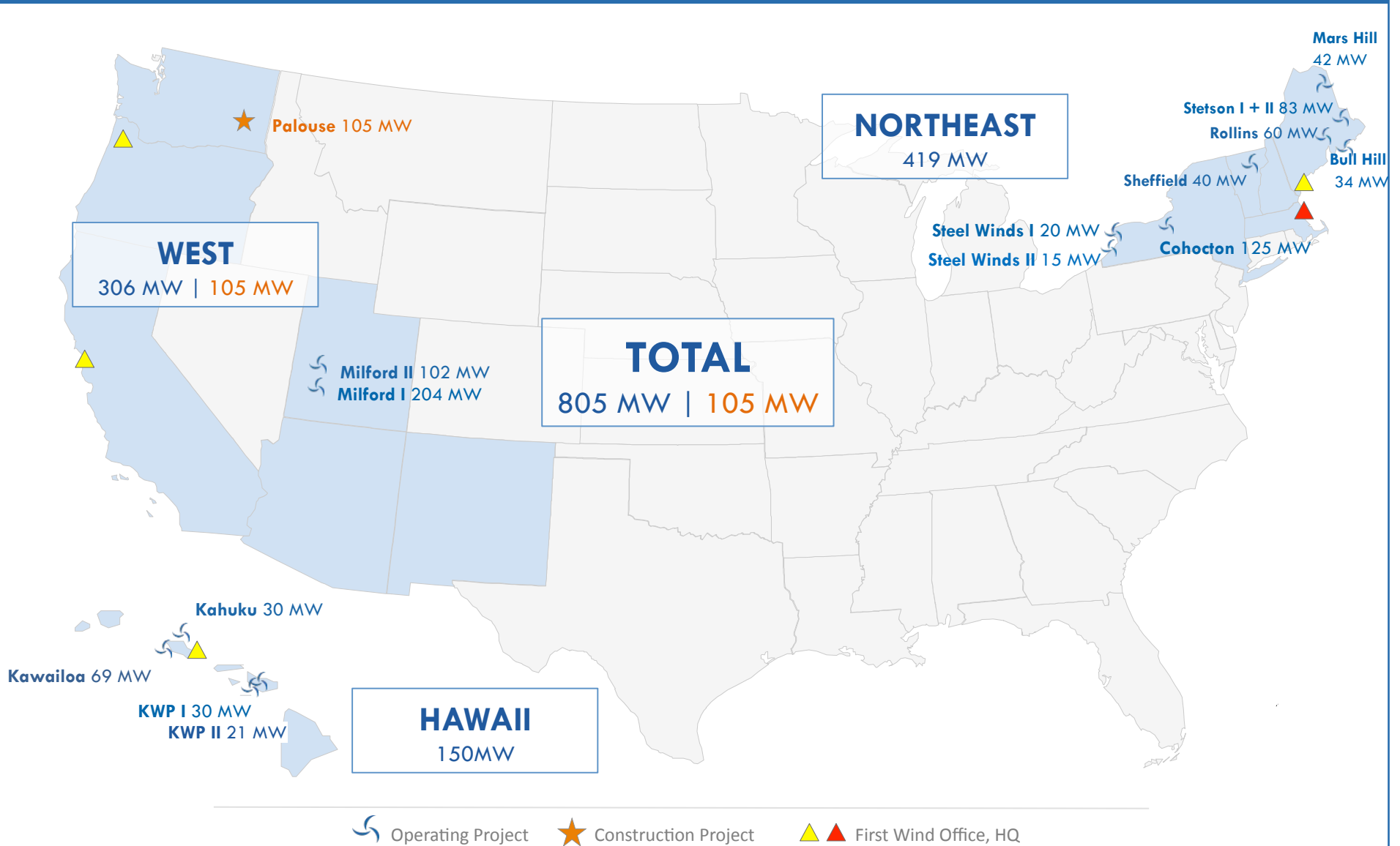
# First Wind Overview

- Independent, US-Based Wind Company founded in 2002
- “Build to Own” Business Model:  
Develop > Construct > Operate
- Headquartered in Boston with 200+ employees at offices and project sites around the U.S.
- Projects range from 15 – 205 MW, situated on private, state and federal lands



Sheffield Wind - 40MW

# Operating Projects – 2012 (874 MW)



# Operating Fleet **874 MW**



**Maui, HI**  
First HCP(s) for a wind project



**Mars Hill, ME**  
First commercial wind project in Maine



**Lackawanna, NY**  
First brownfield redevelopment for a commercial wind project



**Steuben County, NY**



**Washington County, ME**



**Millard & Beaver Counties, UT**  
First wind project permitted under BLM's PEIS



**Oahu, HI**  
Also with HCP



**Penobscot County, ME**



**Sheffield, VT**  
First ever agreement for bat curtailment



**Whitman County, WA**  
105 MW  
**Under Construction**

# Sheffield Wind Project



- 40 MW; 16 Clipper 2.5 MW turbines
- Development
  - 2005-2010
- Construction Started
  - Sept 14<sup>th</sup>, 2010
- Commercial Operation Date
  - Oct 19<sup>th</sup> 2011
- All Power sold in Vermont (WEC, VEC, BED)
- Generates enough power for approx. 15,000 houses
- Project cost: Approx. \$90 million

# Reasons for Success

- Commitment to innovate and compromise
  - Smaller project footprint (26 turbines to 16)
  - Less wetland impacts (.58 to .09 acres)
  - Extensive stormwater infrastructure
  - 2,700 acres of bear habitat protection
  - Voluntary Bat Curtailment
- Strong, consistent support from –
  - Utilities (VEC, BED, WEC) and their customers
  - Landowners
  - Local Residents



# Narrower Roads and Bridges



# Smaller Turbine Pad Clearings





# Operational Study Results

## Water Quality Impacts

- Report conducted by the State concluded no change in water quality at two primary streams based on sampling conducted in 2006, 2009, 2010 (construction), 2011 (operation)

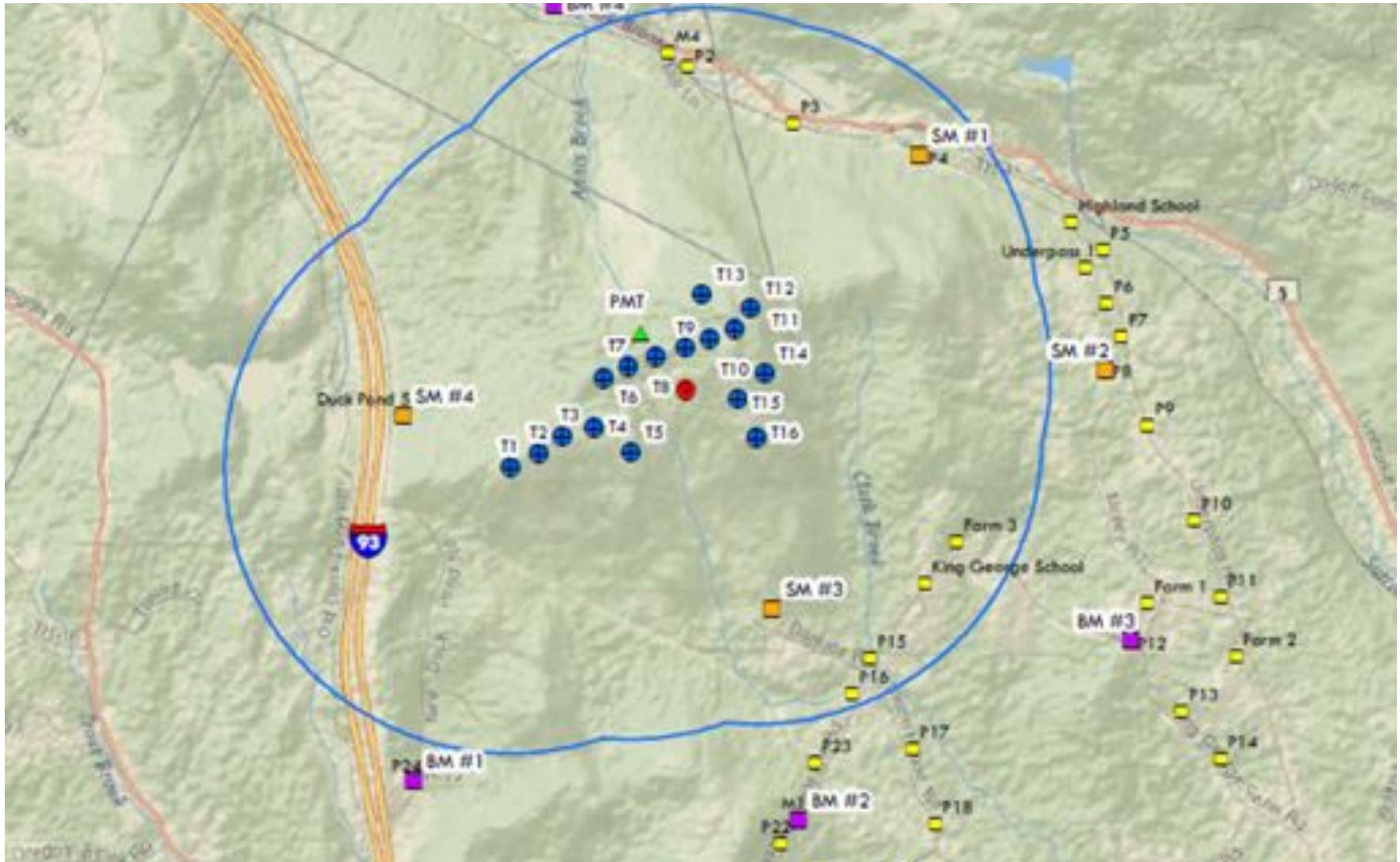
## Sound Impacts

- Three rounds of sound monitoring concluded Project well within State Sound Limits
- Two sound complaints since Project has been operational

## Bird/Bat Impacts

- Completed 1<sup>st</sup> year of collaborative scientific study on efficacy of turbine curtailment and bat mortality.
  - Study indicates curtailing turbines reduces bat mortality
  - No protected species taken during study

# Sound Monitoring



# State Water Quality Results

●	Meets ANR Biocriteria for Small High Gradient Streams
●	Fails to meet ANR Biocriteria for Small High Gradient Streams

Stream	Metric	Pre-Construction	During Construction		Post-Construction
		2006	2009	2010	2011
Calendar Brook Tributary 22	Den	●	●	●	●
	Rich	●	●	●	●
	EPT	●	●	●	●
	PMA-o	●	●	●	●
	B.I.	●	●	●	●
	Oligo	●	●	●	●
	Ept/EptC	●	●	●	●
	PPCS-F	●	●	●	●
Annis Brook	Den	-	●	●	●
	Rich	-	●	●	●
	EPT	-	●	●	●
	PMA-o	-	●	●	●
	B.I.	-	●	●	●
	Oligo	-	●	●	●
	Ept/EptC	-	●	●	●
	PPCS-F	-	●	●	●
					●

# Other Impacts

- Visual – Landscape Change
- FAA Night Lights



# Why do Wind Projects in VT Make Sense?

- During the first year the Sheffield Project will produce enough power for all residential customers in Burlington  
[publicservice.vermont.gov/planning/2011%20Utility%20Facts.pdf](http://publicservice.vermont.gov/planning/2011%20Utility%20Facts.pdf)
- If all 5 permitted projects in VT are built there would be 150 MW of Projects (120 MW expected on-line by the end of 2012)
  - Enough Power for 58,800 homes or 18% of VT households
- An additional 380 MW (125-150 turbines) would provide 25% of VT Power needs [www.vpirg.org](http://www.vpirg.org)
- WCAX poll in May, 2012 indicated 70% of Vermonters want more Wind.
- VT consumers wants more clean energy and VT policy requires

# Why do Wind Projects in VT Make Sense?

- Economic Development
  - Jobs
  - Community Benefits
  - State Tax Revenue
- Clean Energy
- Stable long-term pricing for VT electricity customers
- Made in Vermont for Vermonters

# Questions?

