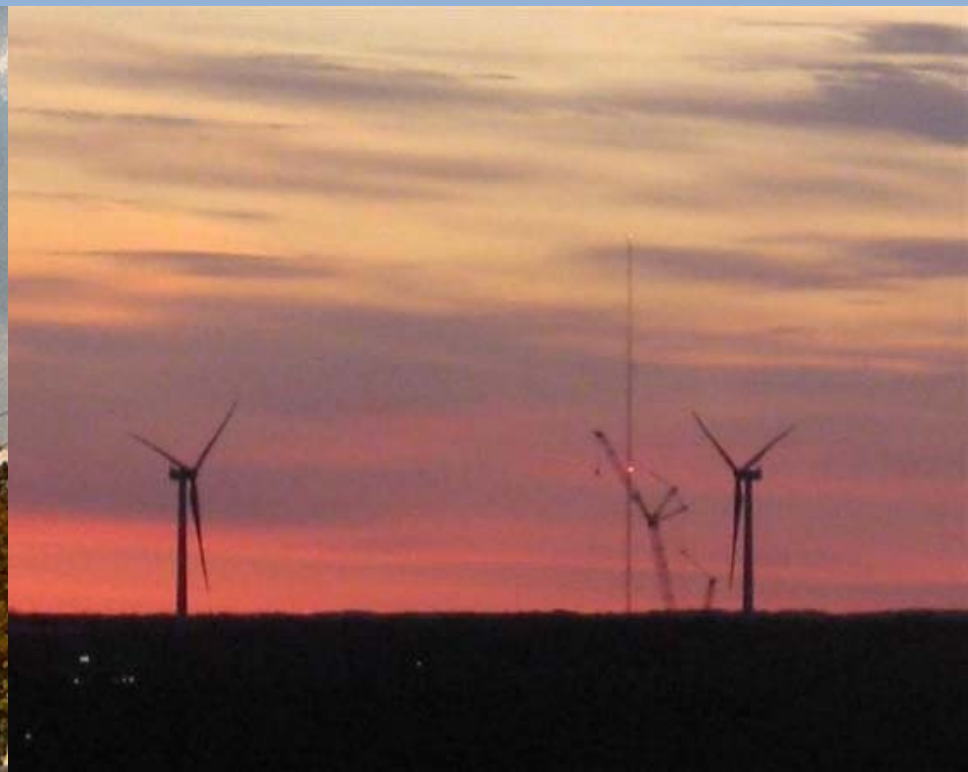


# Turbines are not all Rainbows and Sunsets

## Scituate and Fairhaven Wind Projects

MWWG October 17, 2012

Sumul Shah, Solaya Energy



# Agenda

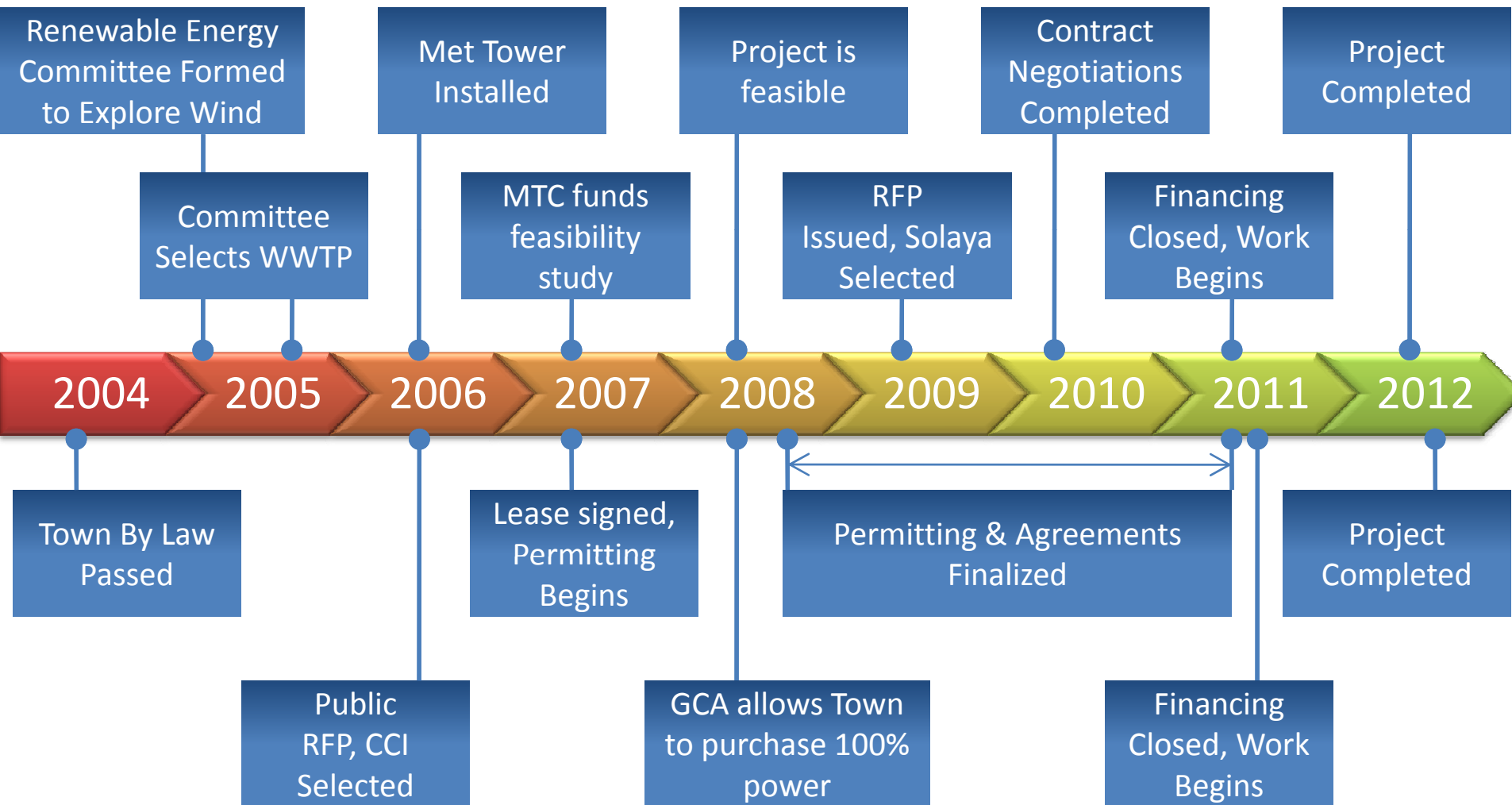
- Project Introduction and Timeline
- Project Status
- Community Reaction
  - Public Outreach Efforts
  - Fairhaven Concerns
  - Scituate Concerns
  - Our Concerns

# Scituate and Fairhaven: At a Glance

	Scituate	Fairhaven
Location	Town owned waste water treatment plant	Town owned waste water treatment plant
Construction Timeframe	2011 to 2012	2011 to 2012
Project Size	One 1.5 MW Turbine	Two 1.5 MW turbines
Turbine Make/ Model	Sinovel SL1500	Sinovel SL1500
Approved by Town Vote	2005	2005
Estimated Production	4,295,200 kWh	7,227,000 kWh
Lease Period	15 Years with two 5 year Option Periods	20 Year Term with Extension Options
PPA	Starting at \$89.00/ MWh	Starting at \$74.30/ MWh
Developers	Palmer Capital & Solaya Energy	CCI Energy, Palmer Capital, & Solaya Energy

# Scituate and Fairhaven: Timeline

## Scituate Wind



## Fairhaven Wind

# Scituate Wind Turbine: Timeline

2005

- Selectmen appoint a Renewable Energy Committee to explore options for wind power in Scituate
- Committee selects Sewer Plant Site for further study

2006

- Meteorological tower installed at site to measure the wind resource

2007

- MTC funds impact study by KEMA for Town

2008

- Study is complete. Committee recommends that construction of a turbine is economically, environmentally, and technically feasible

# Scituate Wind Turbine: Timeline

2009

- Site plan reviewed in public Planning Board meeting
- Town meeting votes to authorize lease of property for up to 25 years
- Request for Proposals issued
- Town selects Solaya Energy as energy partner
- Design for permitting initiated

2010

- Permitting

# Scituate Wind Turbine: Timeline

2011

- Scituate Wind LLC closes financing with local bank
- Construction commences

2012

- January -- Blade signing ceremony
- March -- Scituate Wind begins producing clean energy for the Town
- April -- Earth Day Celebration

2012 - 2027+

Scituate Wind looks forward to continuing its strong relationship with the Town of Scituate

# Fairhaven Project History

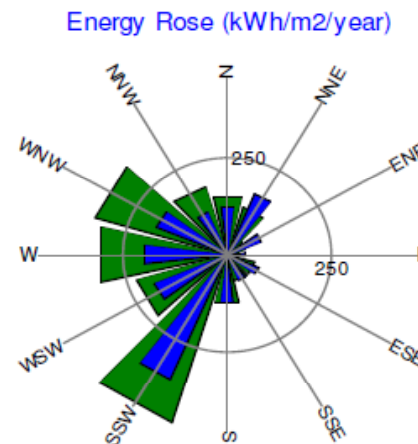
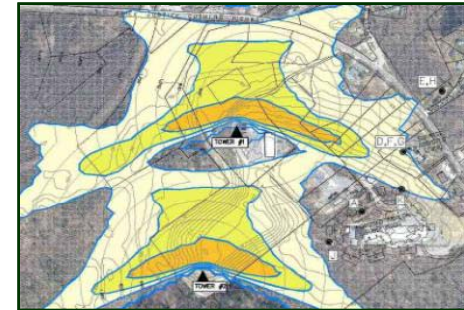
- 2004 - Town Wind By-law passed unanimously
- 2006 - Public RFP
- 2007 – Special Town Meeting approves project. Design & permitting commences
- 2008 to 2010 – Regulatory changes impact interconnection rules
- 2011 - Permitting for electrical interconnection
- September 2011 – Permitting to relocate the turbines
  - Reduced impact on wetlands
  - Moved turbines farther from residents
- November 2011 – Close financing and commence actual construction



# Extensive Permitting for Both Projects

- MEPA threshold review
- Acoustic analysis and addendum completed
- Visual Impact Study completed
- Icing analysis completed
- Shadow flicker analysis completed
- Contract negotiations completed
- FAA permits received
- Mass Historical Commission determination of “no adverse effect”
- Mass DOT Aeronautics determination of no violation
- Special permit received
- Interconnection study with National Grid completed
- Building permit issued

(The above is not an exhaustive list of permits/studies completed)

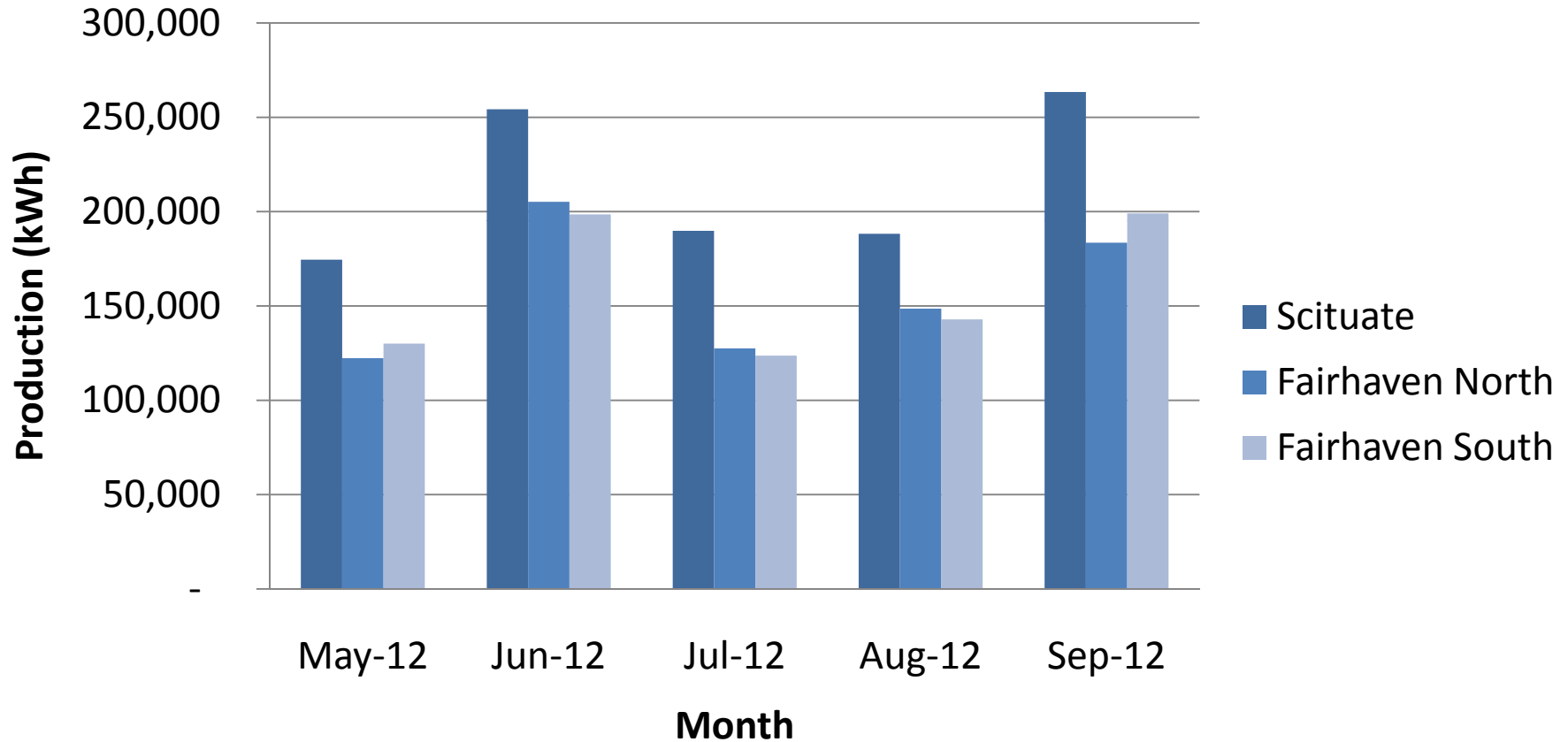


# Project Status: Both Operating

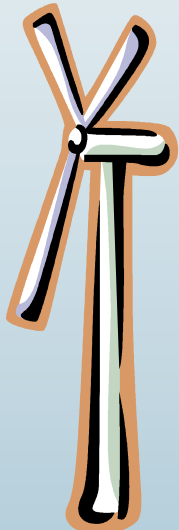


# Project Status

## Monthly Production by Turbine



# Scituate Environmental Benefits Per Year



**4,295,200 kWh**  
of Electricity  
produced by this  
turbine



**6,529,606 lbs**  
of Carbon Dioxide  
(CO<sub>2</sub>)



**581**  
Cars removed from  
the road per year



**332,038 gal**  
of oil consumed per  
year



**403**  
Homes powered by this  
turbine

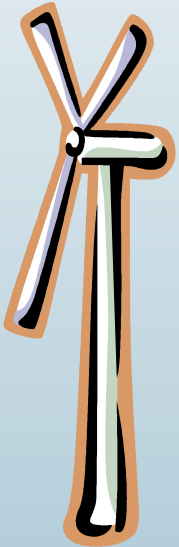


**16**  
Railroad cars of coal  
consumed



**632 acres**  
of pine or fir forests  
carbon offset

# Fairhaven Environmental Benefits Per Year



**7,227,000  
kWh**

**of Electricity  
produced by these  
turbines**



**10,985,634 lbs  
of Carbon Dioxide  
(CO2)**



**977  
Cars removed from  
the road per year**



**558,679 gal  
of oil consumed per  
year**



**678  
Homes powered by this  
turbine**



**27  
Railroad cars of coal  
consumed**



**1,063 acres  
of pine or fir forests  
carbon offset**



# Community Reaction

- Public Outreach Efforts
- Fairhaven Concerns
- Scituate Concerns
- Our Concerns

# Public Outreach— Information Meetings



# Public Outreach– Media Access

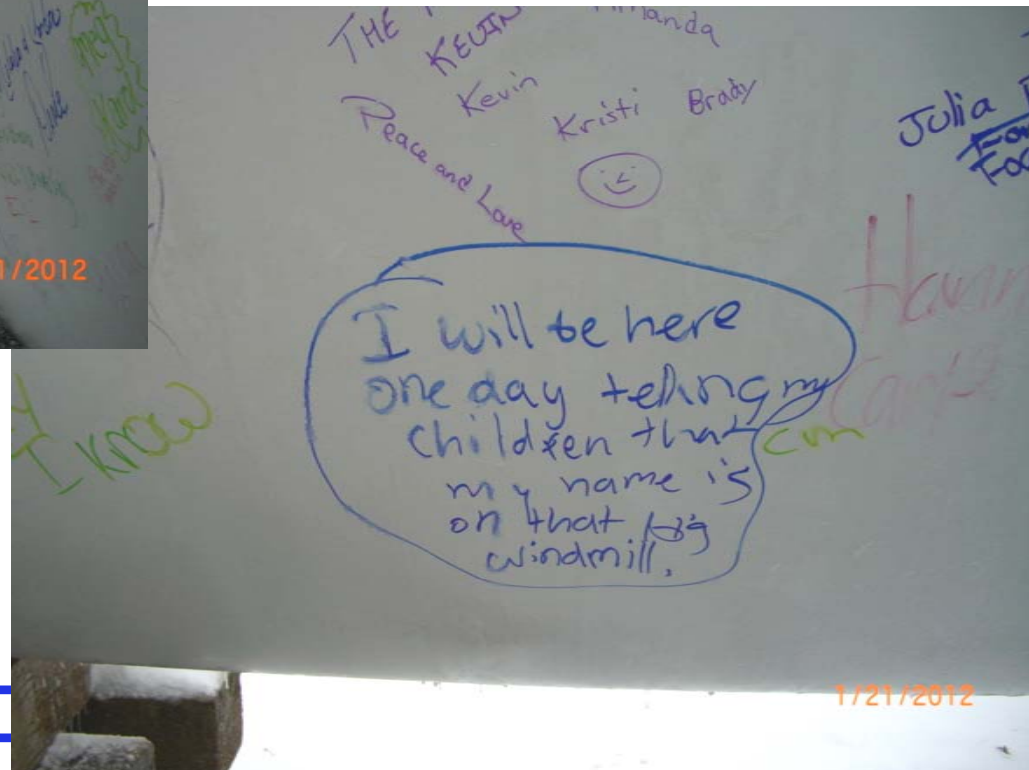




# Public Outreach— Scituate Blade Signing

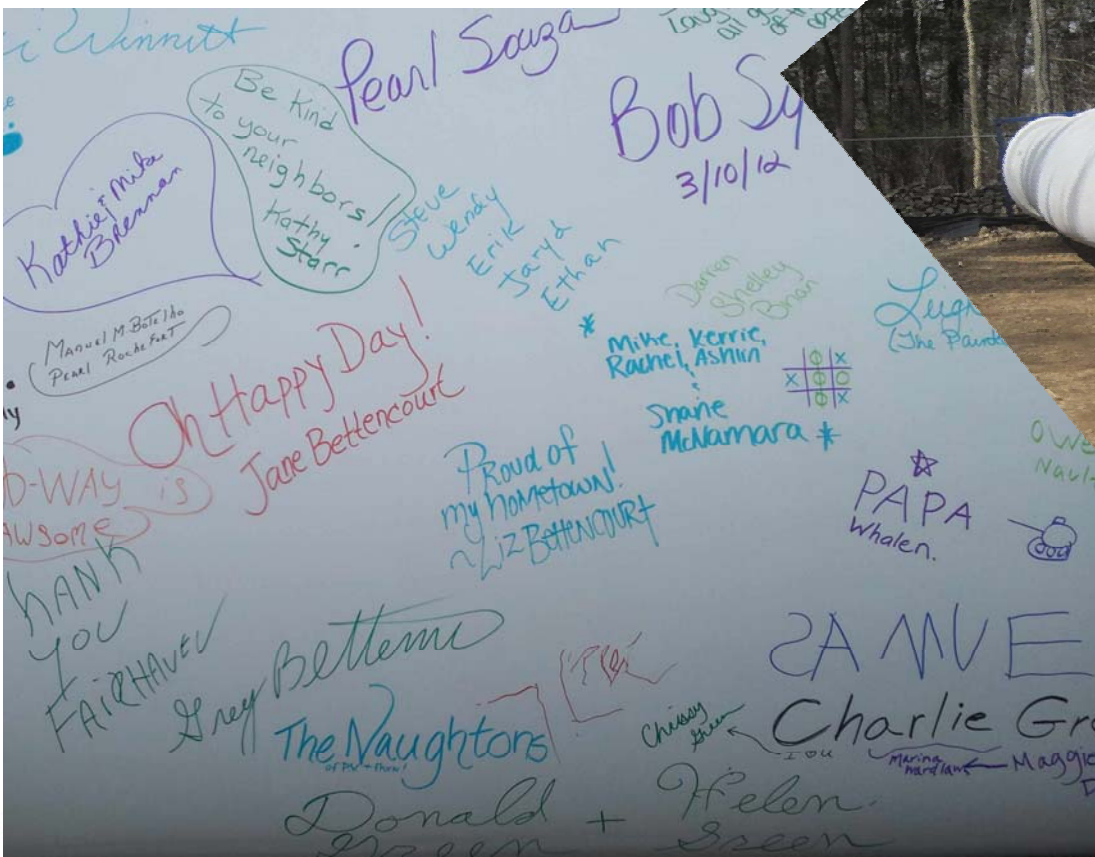


On January 21, a cold and snowy day, there were over 1250 signatures on one of the blades to be installed at the Scituate Wastewater Treatment Plant



# Public Outreach— Fairhaven Blade Signing

On March 10, there were over 1500 signatures (and at least one paw print) on one of the blades to be installed at the Fairhaven Wastewater Treatment Plant.





# Public Outreach— Fairhaven Blade Signing



The Fairhaven blade signing was also attended by wind turbine opponents, with about 25 opponents showing up to the community event.

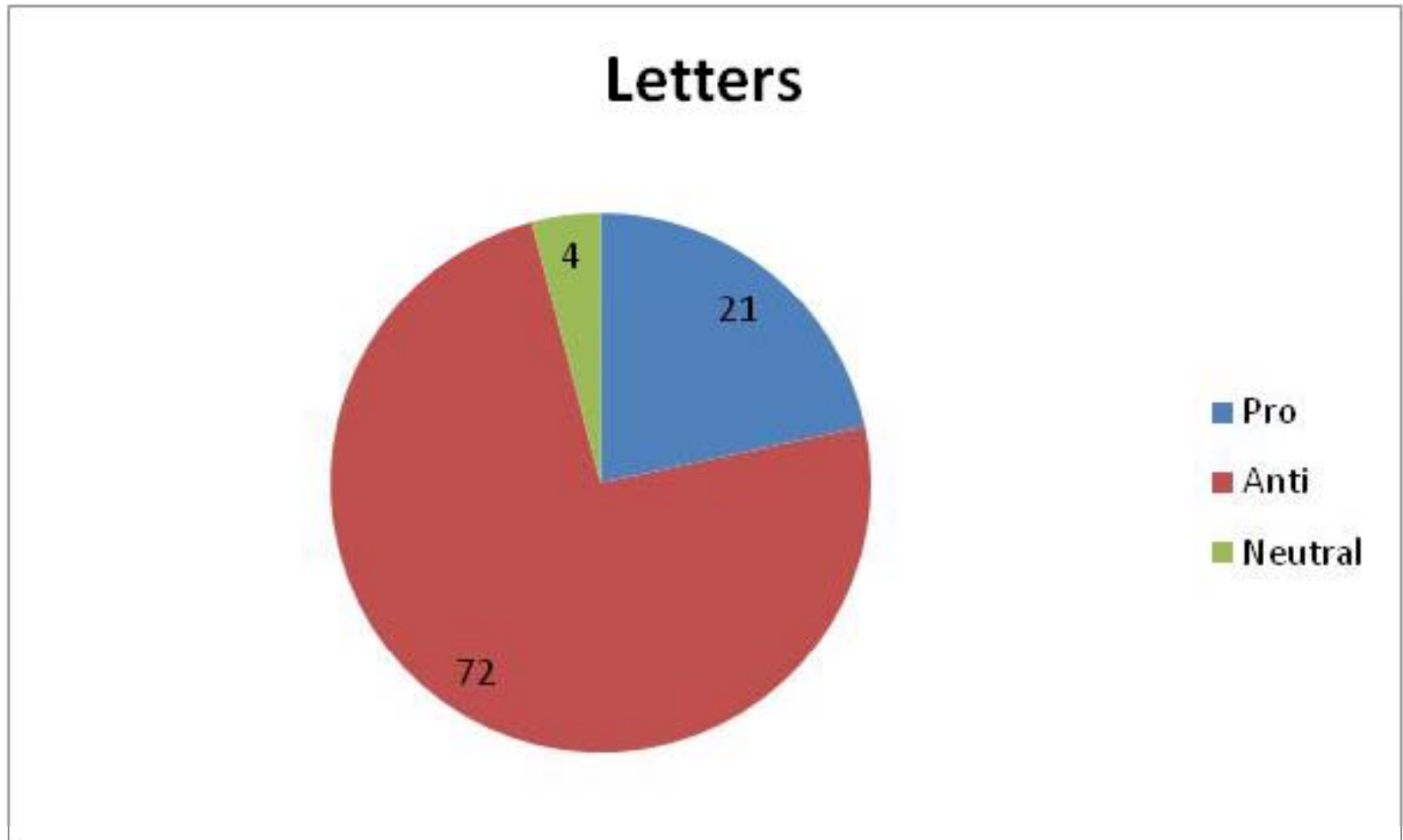
# Fairhaven Litigation History

- 2008 -- Opponents (a) asked the state for a MEPA review (denied), (b) appealed a special order of conditions by Conservation Commission (appeal denied by state issuing superseding order of conditions, (c) appealed the Town's special permit awarded to the project
- 2009 -- Court case against Town was mooted as the Town agreed to purchase more than 50% of the power from the project eliminating the need for a special permit.
- 2011 -- Project obtained amendment to superseding order of conditions to move closest wind turbine further away from residences and commenced construction; opponents tried to re-open prior case, which was denied.
- 2012 -- Opponents filed new suit against Town, including seeking emergency injunction to stop construction (which request for injunction was denied); litigation on-going; next hearing is October 25

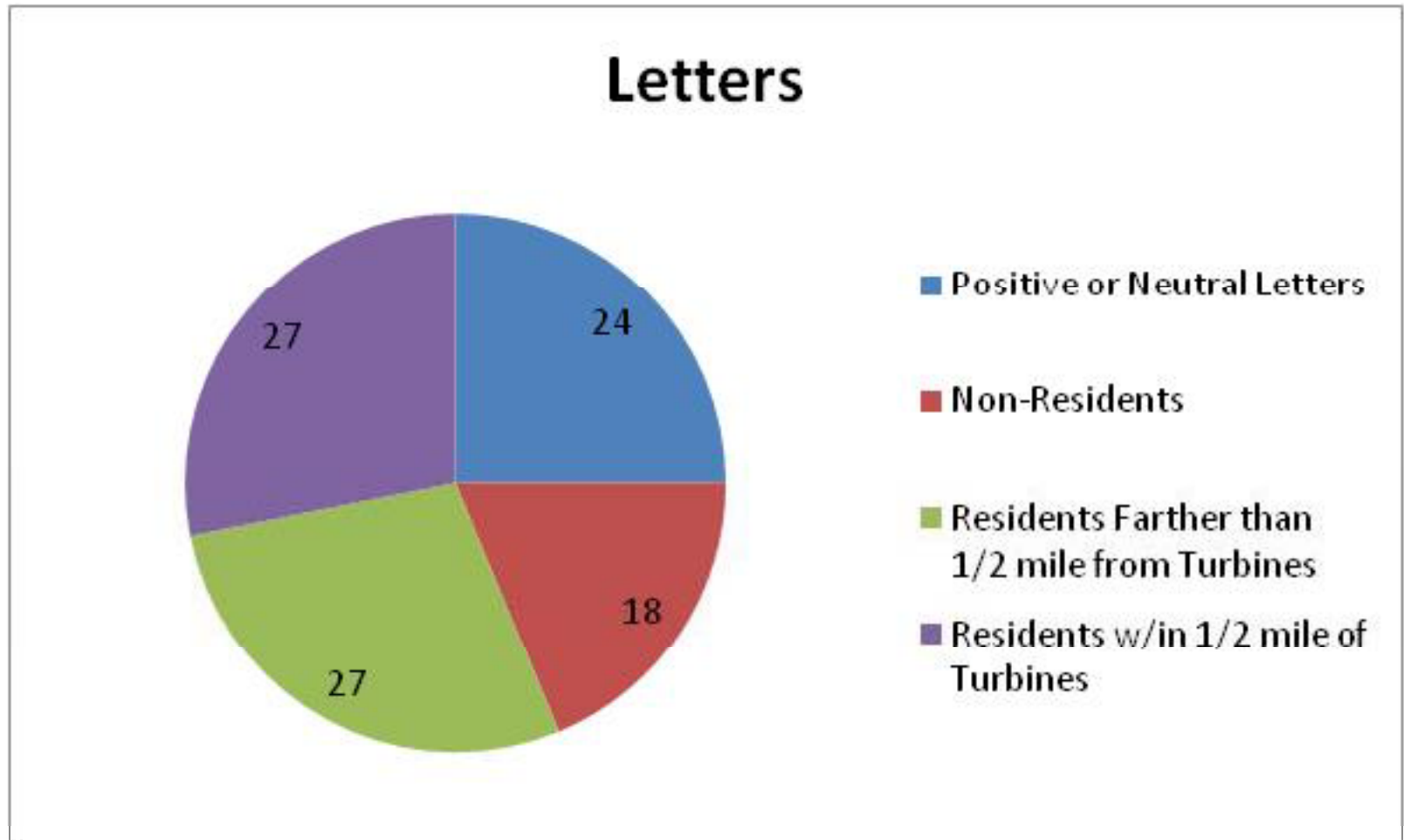
# Town Meeting Votes

- In January the project's opponents petitioned for a Special Town Meeting and submitted an article to stop construction and to terminate the Lease.
- February 15<sup>th</sup>, Town Meeting members voted to indefinitely postpone this article, a result that endorsed the Fairhaven Wind project with 134 of 214 votes.
- The 63% of Town Meeting members that voted to endorse the project is a greater percentage than originally approved the project in 2007 (59%).

# Fairhaven Letters



# Fairhaven Letters



# Fairhaven Quotes

- In Person, the vast majority of the community has been polite and respectful with Fairhaven Wind
- However, in print, some of the comments are deeply personal:
  - *“Town officials seem comfortable rolling the dice with the health and safety of their experimental subjects.”*
  - *“We have a set of rules in place used by the USA to regulate human experimentation. Do you consider it humane to treat some citizens of Fairhaven different than others? Why is one neighborhood being forced, against their will, to participate in something — an experiment per se, where there is no escape? Sounds similar to the Nazis doesn't it? “*
  - *“You may be the next victim and do not even know it yet....So how big is 400 feet? The FAA requires strobes on the blades. The strobes alone are almost the size of a Volkswagen Beetle. “*



# Fairhaven Quotes

- *“What I’ve found is the wind turbine industry operates like R.J. Reynolds dealing with the hazards of smoking”*
- *“This is very much the same sort of thing as cigarettes and asbestos... it may take time to prove but it will absolutely be proven... Why take the chance for the sake of a green energy badge?”*
- *“I have concerns that the developer is being swayed by his monetary interest in the project. It's like asking a tobacco company if cigarettes are bad.”*
- *“Asking the developer whether 400-foot industrial wind turbines are safe or pose any health risks is like asking the tobacco company if cigarettes are safe.”*

# Fairhaven Quotes

- *“There is no plan to address planes' chemical drops, to contain forest fires (as a result of atmospheric dryness and increased oxygen burn ignition, from the wind turbines.) “*
- *“I have followed most large-scale wind energy proposals across the state of Massachusetts over the past years and have to say this Fairhaven plan has to be the most outrageous display of reckless and irresponsible wind turbine siting that I have seen. This project should be viewed as a total embarrassment to the field of energy use, energy conservation and the goals of self-sustainability.”*

# Fairhaven Quotes

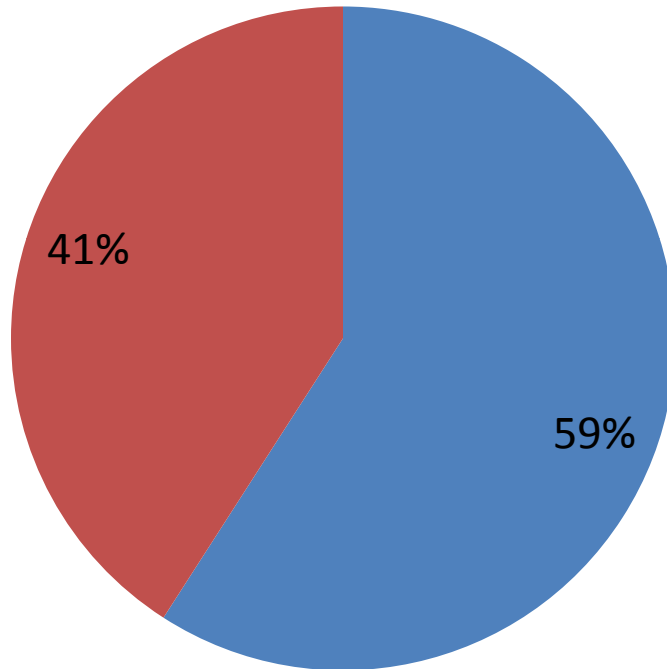
- *“With the economy tanked and two wind turbines going up, I'll have to give my house away.”*
- *“The MTC, which now operates as part of the Massachusetts Clean Energy Center, takes renewable energy taxes from our electric bills and develops sloppy, poorly defined turbine project proposals. And we are forced to pay again to protect our homes from their incompetence. The wind turbine fray is sparking class warfare. “*

# Fairhaven Concerns

- Fairhaven Concerns
  - Noise
  - Infrasound
  - Health Impacts
  - Flicker
  - Impact to Schools
- Complaints have gone to the Fairhaven Board of Health
  - Established a formal complaint process
- Board of Health has contacted the Massachusetts DEP for sound compliance testing

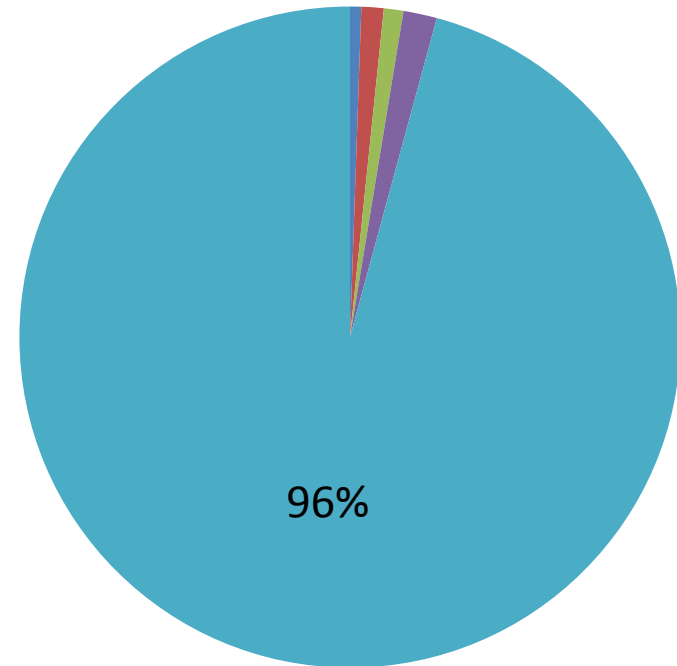
# Fairhaven Concerns: Board of Health

## Initial Complaints



- At Least 1 Turbine Generating Continuously
- Neither Turbine Generating Continuously

## Households in Complaint Radius



- North Affected
- South Affected
- East Affected
- West Affected
- Unaffected

# Scituate Concerns

- To our knowledge, between March 2012-August 2012, there were no complaints filed with Town.
- Beginning August 2012, concerns:
  - [Visual](#)
  - [Sound](#)
- Recently:
  - [Flicker](#)
  - [Health](#)

# Scituate Concerns: Visual

Beauty is in the eye of the beholder:

- “I find that there can be something quite magnificent about these turbines. They stand as demonstration of the power of nature and with their motion a reminder of the unseen energy that surrounds us.” – Scituate Article, Patriot Ledger (comments), [4/12/12](#)
- “Who . . . put that ugly thing there? What a monstrosity.” – Scituate Article, Boston Globe, [8/9/12](#)

# Scituate Concerns: Sound/ Flicker

- Studies calculated that sound emissions from the turbine comply with the MassDEP noise regulation and thus with the Scituate Bylaw.
- Scituate Wind believes turbine is operating within all regulation requirements.
- Commissioned shadow flicker studies.
- Predicted flicker calculations accepted as part of the special permit approval process.



# Our concerns: Good Neighbor

- We understand that neighbors' concerns are sensitive.
- We want to be responsive and constructive throughout our partnership with the Town.
- We anticipate a 15-25 year relationship with the Town and want to be a good neighbor.

# Our concerns: Nocebo Effect

“Nocebo” effect: negative expectations increase the likelihood of negative outcomes.



Informing people that they may experience symptoms from a source can lead to actual reports of symptoms, even if not possible to be caused by the source.

<http://www.aerzteblatt.de/pdf.asp?id=127210>

[http://articles.boston.com/2012-09-09/ideas/33645099\\_1\\_nocebo-side-effects-patients](http://articles.boston.com/2012-09-09/ideas/33645099_1_nocebo-side-effects-patients)

<http://www.nytimes.com/2012/08/12/opinion/sunday/beware-the-nocebo-effect.html>

# Our concerns: Windwise

- Windwise MA
  - Active anti-wind power group, Windwise Massachusetts, which is spreading non-scientifically vetted health concerns
  - Many of the group's claims are in direct conflict with the scientific, peer-reviewed literature available pertaining to wind turbines.
  - Windwise is well organized

# Thank you!

- My contact information is:  
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