



**SUSTAINABLE  
ENERGY  
DEVELOPMENTS™**



# **POWERING YOUR FUTURE**



# Who We Are



Sustainable Energy Developments, Inc. is an Ontario, NY based community wind project developer, currently working with state agencies, municipalities, businesses, schools, farms and homeowners. SED in conjunction with its partners has full engineering, procurement and construction capabilities.



- Company founded in April 2002 with no seed capital
- Management team and co-founders are 7 college friends
- 55 Operating Wind Projects
- 8.5MW Installed and Under Operation
- 60 Million kWh Produced
- 7 Operating Solar Projects
- The leading distribute wind energy developer in the northeastern US
- Leading National Policy Expert on Community Wind
  - Vice President – Distributed Wind Energy Association
  - Chairman- AWEA Community Wind Working Group
  - ACENY – BOD Secretary
- 300+% growth in employment (20 Current Employees)
- Company is 100% privately held

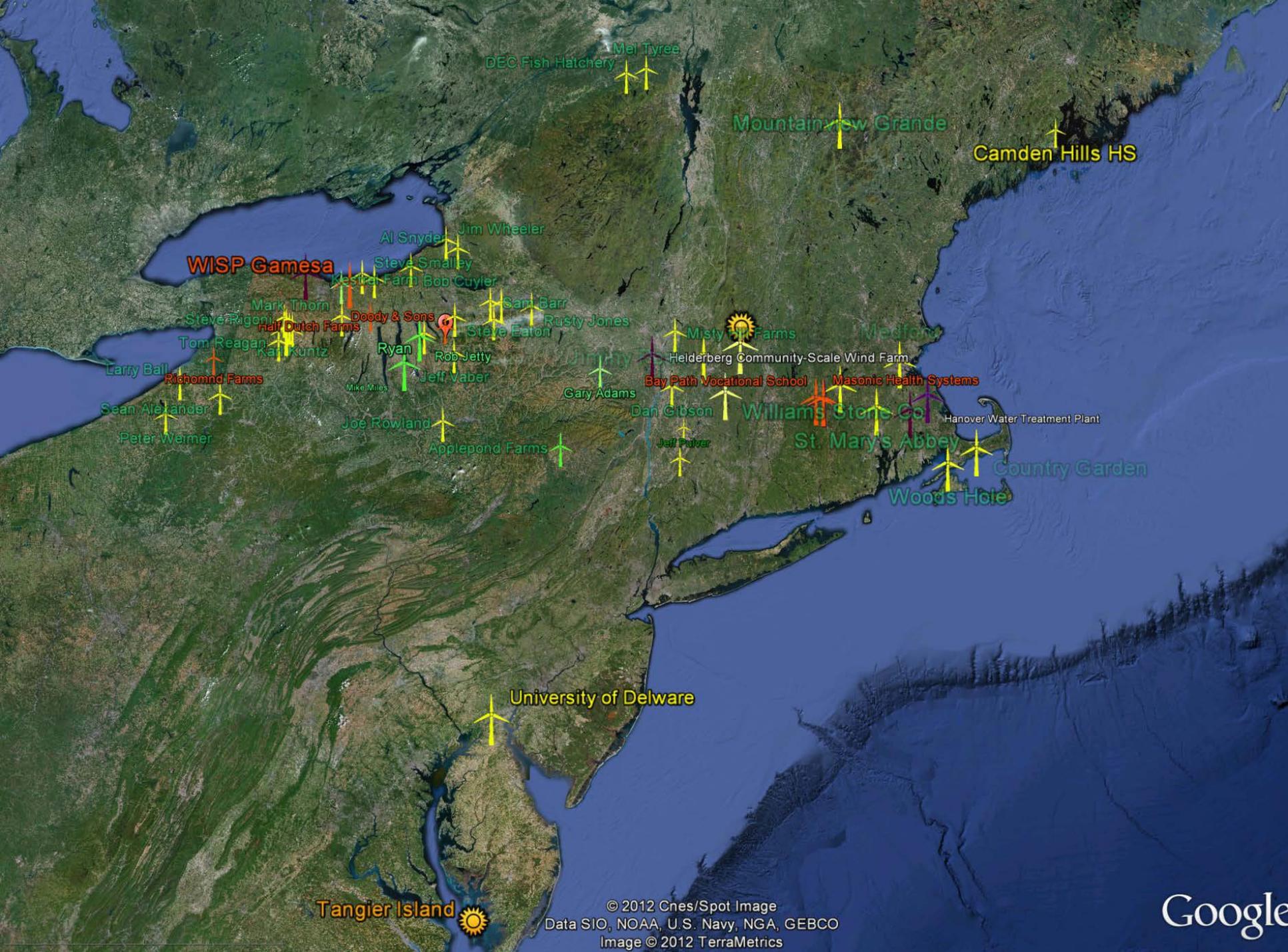
# SED's Project Statistics



- 62 Operating Projects
- 200 Operating Years



- Population of the immediate Municipality of a project is approximately 1,000,000 People
- Population in the County of project installations is more than 10,000,000 or 3% of the US population
- Holy Name, Medford, Williams Stone, and St. Mary's Abbey are viewed by nearly a half a million people a day according to MASSDOT
- More than 400,000 people per year visit Jiminy Peak and Berkshire East and undertake activities in and around their Wind Turbines both resorts have seen increased visit since there turbines were installed



# Otis Energy Cooperative – A Retail Energy Provider



- ✧ SED installed first wind turbine in town in 2008 for a private customer
- ✧ Based on local project success - Town came to SED to install a wind energy project
- ✧ Town's goal is to reduce the electricity bills for all 500 individual residences
  - ✧ Not reduce tax rate
  - ✧ Not lower water bills
  - ✧ Not provide additional services

# Otis Energy Cooperative – A Retail Energy Provider



-  **Question 1** – Can a wind turbine be installed, owned by the town and return a profit?
-  **Question 2** - Can that profit be distributed to the permanent residences of the Town of Otis?

# Otis Energy Cooperative – Otis Wind 1



- ✈ Single Vestas V100 on an 80m Tower
- ✈ MA CEC Grant program is applied \$400,000
- ✈ REC's to be sold at \$0.04 per kWh for 10 years
- ✈ 500,000 kWh used under virtual net metering (does not allow transfer of credits from municipality to residences) by the Town of Otis facilities
- ✈ 5,500,000 kWh sold to neighboring school district
- ✈ Cost of Maintenance is included
- ✈ Cost of Capital Reserve is Included
- ✈ Municipal Bond is used to finance the project at 4.5% over 20 years.

# Otis Energy Cooperative – Otis Wind 1



## Results

Payback (years)	0.00
NPV at 5.5%	<b>\$ 2,692,669</b>
Lifetime Net Savings	\$ 4,030,273
Lifetime Energy Output (kWh)	121,980,000
Average Lifetime Cost/kWh of Grid Power	\$ 0.115
Lifetime Fixed Cost/kWh of Wind Energy	\$ 0.088
First Year Project Revenue	\$ 275,408

# Otis Energy Cooperative – A Retail Energy Provider



Pursuant to c. 164, §136, energy cooperatives have broad authority, including to, among other things: (1) purchase and own generation, transmission and other projects and property; (2) enter into contracts and incur liabilities; (3) borrow money, issue notes and bonds; (4) enter into private/public collaboration (contractual); (5) purchase, sell and distribute energy; and (6) sell electricity to any consumer within cooperative member communities. G.L. c. 164, §136.

# Otis Energy Cooperative – A Retail Energy Provider



## Residential Supply v. Wholesale Energy Prices



- Otis Energy Cooperative signs all 500 permanent residences to supply contracts
- Otis Energy Cooperative buys 5,000 MWh block from NE ISO
- Otis is a competitive Energy Supplier for permanent residences only
- \$0.01 per kWh is applied to administering the program

	<i>Difference</i>	<i>Cost of Administration</i>	<i>Final Savings to Residences</i>
<b>May-12</b>	-\$0.038	0.01	\$0.028
<b>Jun-12</b>	-\$0.036	0.01	\$0.026
<b>Jul-12</b>	-\$0.015	0.01	\$0.005
<b>Aug-12</b>	-\$0.027	0.01	\$0.017
<b>Sep-12</b>	-\$0.029	0.01	\$0.019
<b>Oct-12</b>	-\$0.029	0.01	\$0.019
<b>Nov-12</b>	-\$0.033	0.01	\$0.023
<b>Dec-12</b>	-\$0.035	0.01	\$0.025
<b>Jan-13</b>	-\$0.042	0.01	\$0.032
<b>Feb-13</b>	-\$0.052	0.01	\$0.042
<b>Mar-13</b>	-\$0.047	0.01	\$0.037
<b>Apr-13</b>	-\$0.047	0.01	\$0.037
<b>Average Difference</b>	<b>-\$0.036</b>		<b>\$0.026</b>

# Otis Energy Cooperative – A Retail Energy Provider



Wind Turbine Year 1 Revenue	\$275,000
Additional Administration Costs	\$50,000
Permanent Residential Load (kWh)	5,000,000
<b>Benefit per residential kWh purchased</b>	<b>\$0.045</b>

# Otis Energy Cooperative – Residential Energy Savings



	<b>Total Residential Savings from Otis Energy Cooperative</b>
<b><i>May-12</i></b>	\$61
<b><i>Jun-12</i></b>	\$59
<b><i>Jul-12</i></b>	\$42
<b><i>Aug-12</i></b>	\$51
<b><i>Sep-12</i></b>	\$54
<b><i>Oct-12</i></b>	\$53
<b><i>Nov-12</i></b>	\$57
<b><i>Dec-12</i></b>	\$58
<b><i>Jan-13</i></b>	\$64
<b><i>Feb-13</i></b>	\$72
<b><i>Mar-13</i></b>	\$69
<b><i>Apr-13</i></b>	\$68
<b><i>Annual Energy Savings</i></b>	<b>\$708</b>

# Otis Energy Cooperative – A Path Forward



## 1. Town of Otis forms an Energy Service Company

- † Known in MA as a Retail Energy Provider
- † Town of Otis Permanent Residences switch Competitive suppliers to Otis Energy Cooperative
- † Bulk energy purchases are made from NE ISO to supply all customers

## 2. Otis Energy Cooperative Installs Otis Wind 1

- † Power is sold to other municipal and government loads in WMECO
- † Revenue is used to reduce Otis ESCO customers cost

## 3. Otis Wind 2 is added to fulfill more customer subscriptions for Otis Energy Cooperative

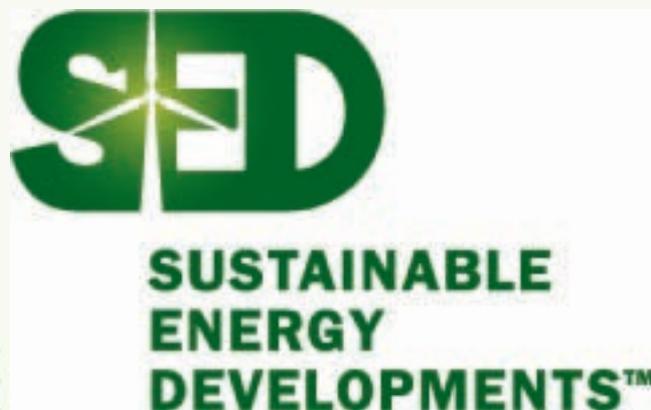
- † Program is expanded to include, non-permanent residences, local business and other loads.

# Otis Energy Cooperative – Replicability



1. Requires no tax incentive
2. Market must be deregulated
3. Wind project must be profitable
  - ✦ Virtual Net Metering?
  - ✦ State Grant?
  - ✦ REC Market?
- 4. Where there is will there is a way!!!**

# Thank you For Your Time



Please Visit us on the Web at:  
[www.sed-net.com](http://www.sed-net.com)