

# Portsmouth RI Wind Energy Update

Presented by

Portsmouth Economic Development Committee  
Sustainable Energy Subcommittee

Gary Gump  
Chairman

April 20, 2007

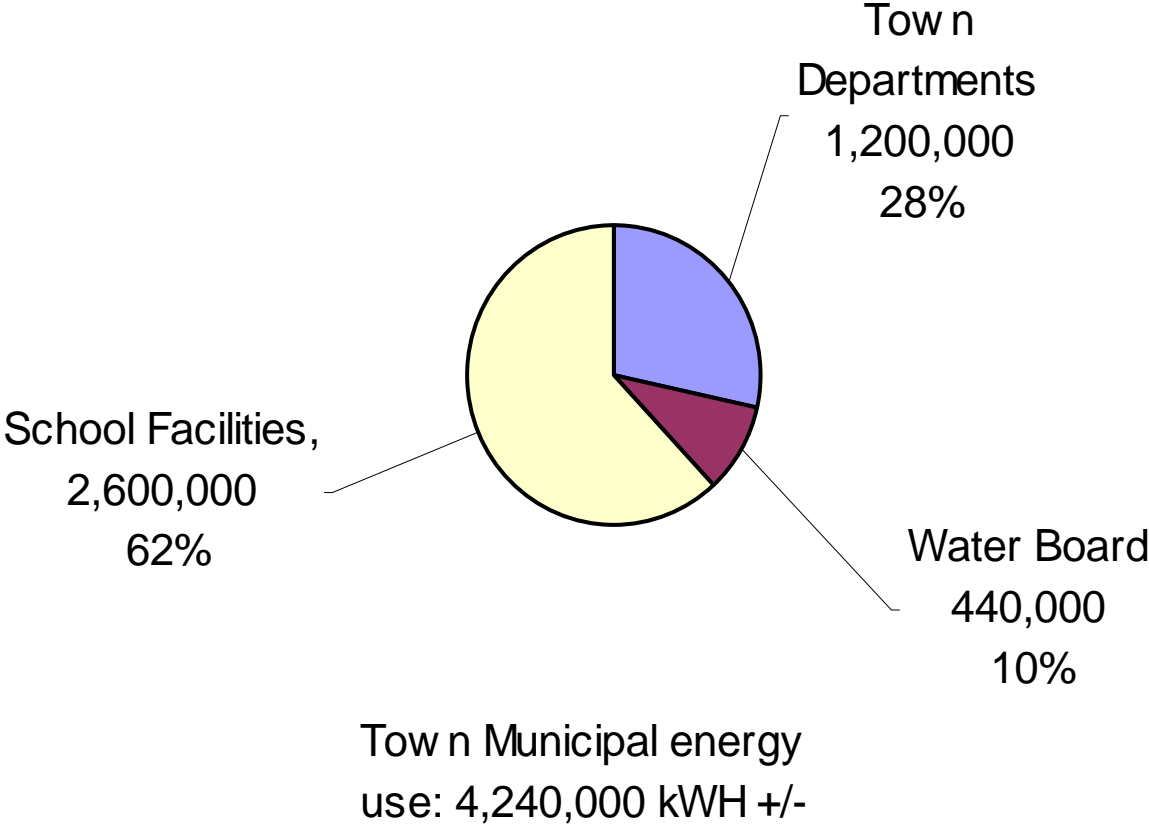
[www.portsmouthRlenergy.com](http://www.portsmouthRlenergy.com)

# Portsmouth Municipal Wind Energy Activity

- 2005
  - PEDC created Sustainable Energy Subcommittee
  - Participated in National, Regional and Statewide energy forums
  - Supported Portsmouth Abbey WTG effort
  - Worked with RWU student teams/ Supported RWU Wind energy survey
- 2006
  - Won \$25K feasibility grant from RI REF in Q2 06
  - Applied for/ received CREB go-ahead for \$2.6M Zero interest bonds
- 2007
  - Jan - Drafted legislation for voter wind power referendum
    - On RI House and Senate Calendars for April 25
  - Apr - Awarded Contract for Wind Resource and Economic Analysis
  - Apr – Launched [www.portsmouthRIenergy.com](http://www.portsmouthRIenergy.com)
  - Jun – Plan to Complete Feasibility Study
    - Present to Town Council
  - TBD - Present to Voters (if Town Council approves)
  - TBD – Order turbine
- 2008
  - Generate Power

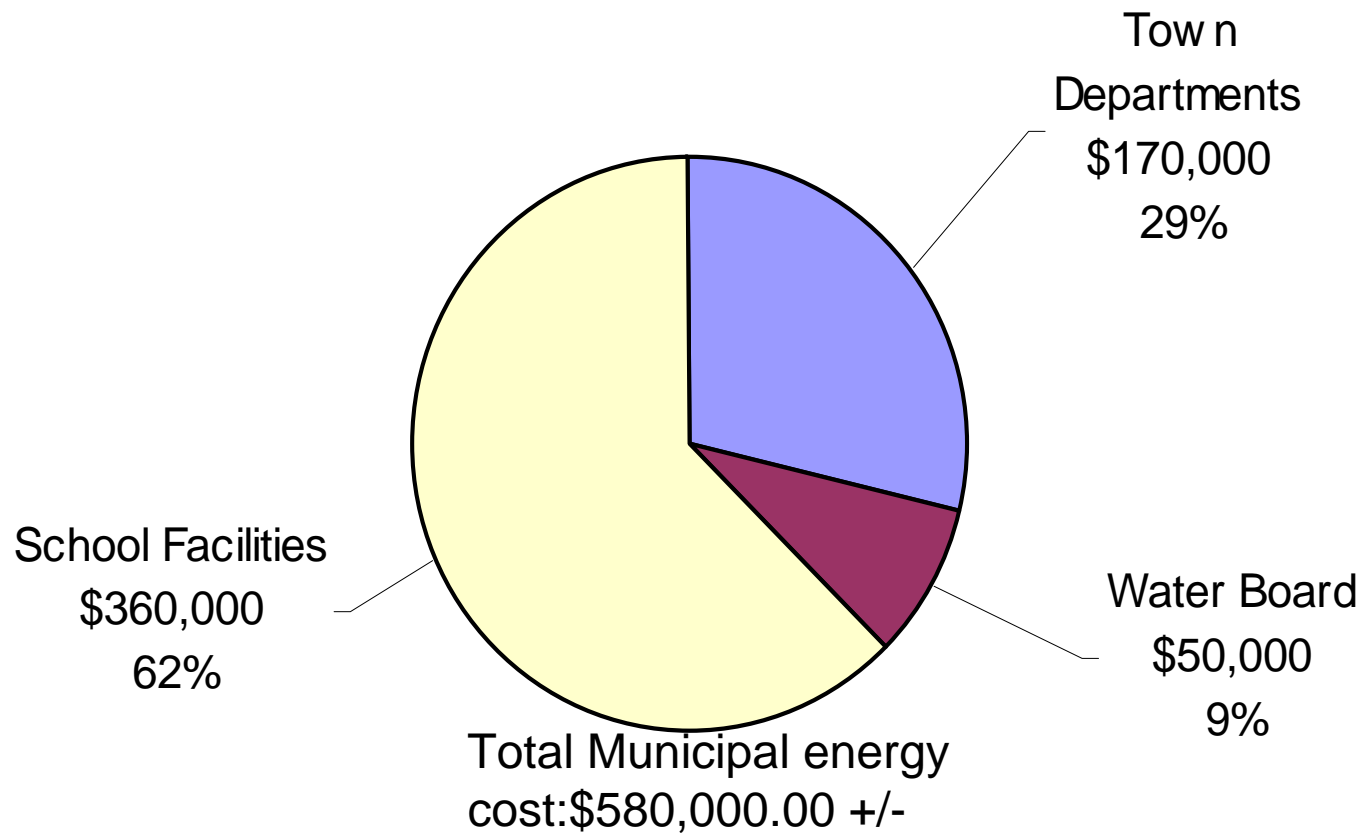
# Portsmouth Municipal Energy Use

Portsmouth Municipal energy Use  
2005/6 (Nov Oct) kWh

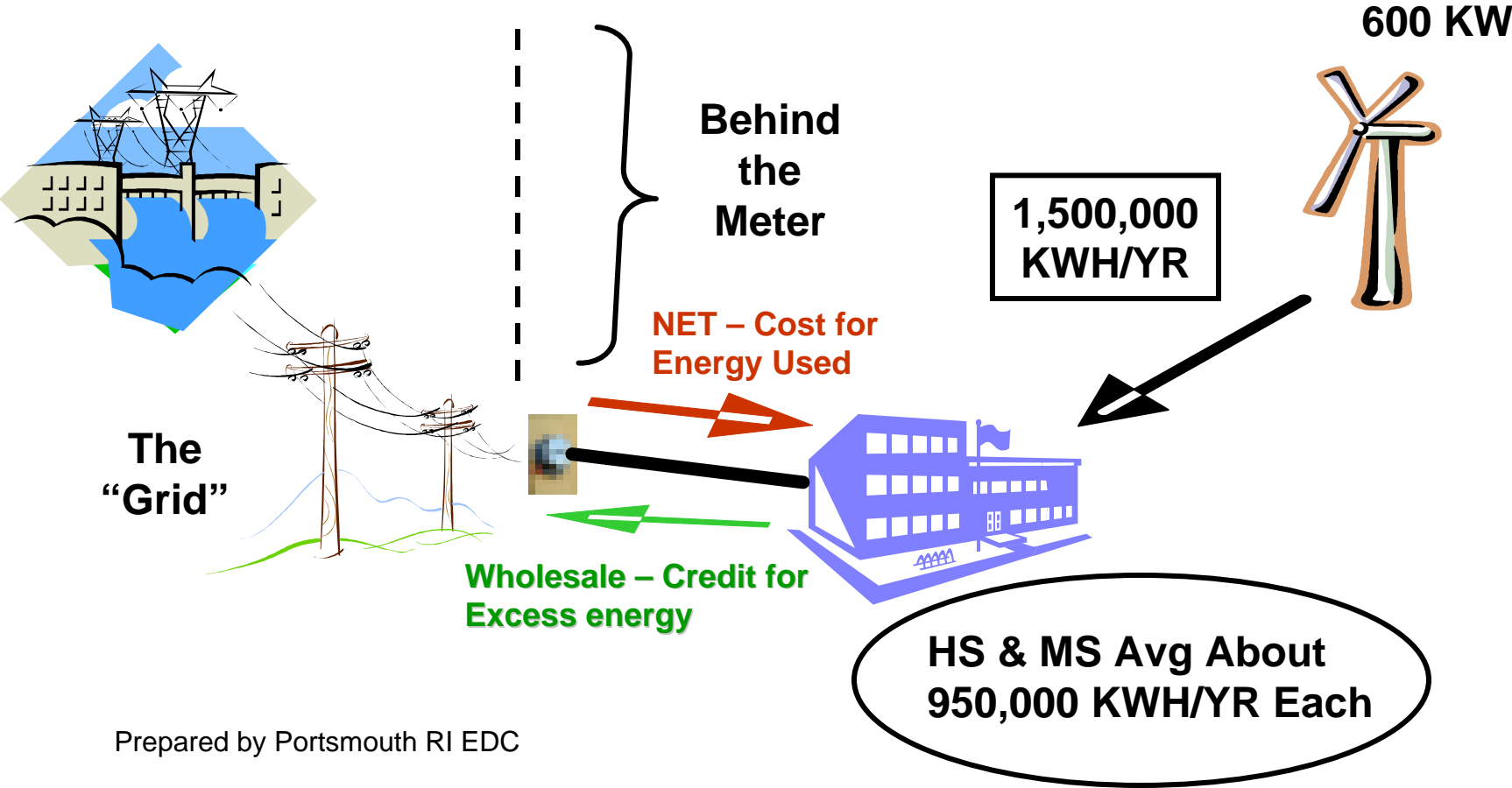


# Portsmouth Municipal Energy Cost

Portsmouth Municipal energy cost  
2005/06 (Nov-Oct) \$



# Power Generation and the “Grid”



Prepared by Portsmouth RI EDC

# Portsmouth Municipal Wind Energy Activity

- Initial focus on “behind the meter” applications
- HS and MS best application
  - Preliminary study indicated positive payback
  - Subsequent investigation indicates generation lags demand and weakens business case
- Challenge now is how to balance current reality against future unknowns
  - Goal of our feasibility study

# Portsmouth Municipal Wind Energy Activity

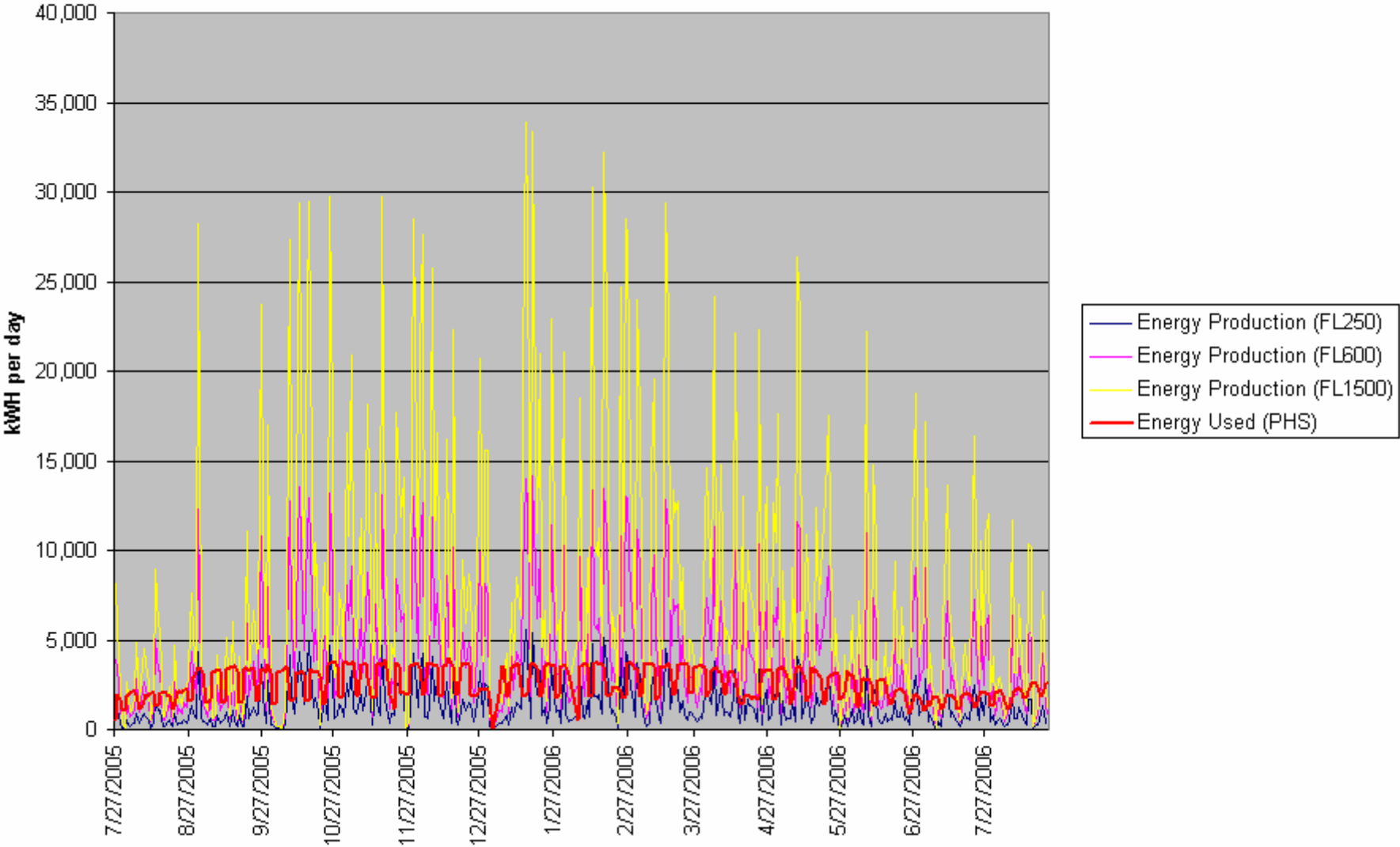
- HS energy and Value analysis “Behind the Meter”

<b>600 KW model / todays rules</b>				
<b>Total Energy generated</b>	<b>1,500,000</b>	<b>kWH</b>		
<b>HS Net Energy match</b>	<b>600,000</b>	<b>kWH</b>	<b>\$67,000</b>	
<b>Excess energy to Grid</b>	<b>900,000</b>	<b>kWH</b>	<b>\$54,000</b>	
<b>Total REC (per mWH)</b>	<b>1,500</b>	<b>mWH</b>	<b><u>\$60,000</u></b>	
	<b>value</b>		<b>\$181,000</b>	<b>(yrs 13-20)</b>
<b>Bond repayment*</b>			<b><u>\$133,000</u></b>	
<b>Mntc / Opr cost</b>			<b><u>\$20,000</u></b>	
	<b>total expense</b>		<b><u>\$153,000</u></b>	
<b>credit value</b>			<b>\$28,000</b>	<b>(yrs 1-12)</b>
<b>HS Net energy use /cost</b>	<b>950,000</b>	<b>kWH</b>	<b><u>\$104,000</u></b>	
<b>resultant total energy bill</b>			<b>\$76,000</b>	
<b>net energy value</b>	<b>\$0.1118</b>	<b>kWH</b>		
<b>wholesale energy value</b>	<b>\$0.0600</b>	<b>kWH</b>		
<b>REC Value (per mWH of total generated)</b>	<b>\$40.0000</b>	<b>mWH</b>		
<b>Mntc / Opr cost</b>	<b><u>\$0.0133</u></b>	<b>kWH</b>		
<b>* \$1.6 M bond / 12 yr payback</b>	<b><u>\$133,000</u></b>			
<b>20 year value total for yrs 1-12</b>	<b>\$336,000</b>			
<b>totals for years 13-20</b>	<b>\$1,288,000</b>			
<b>20* yr value current dollars</b>	<b>\$1,624,000</b>			
* Conservative estimate based on 25 - 30 year useful life				



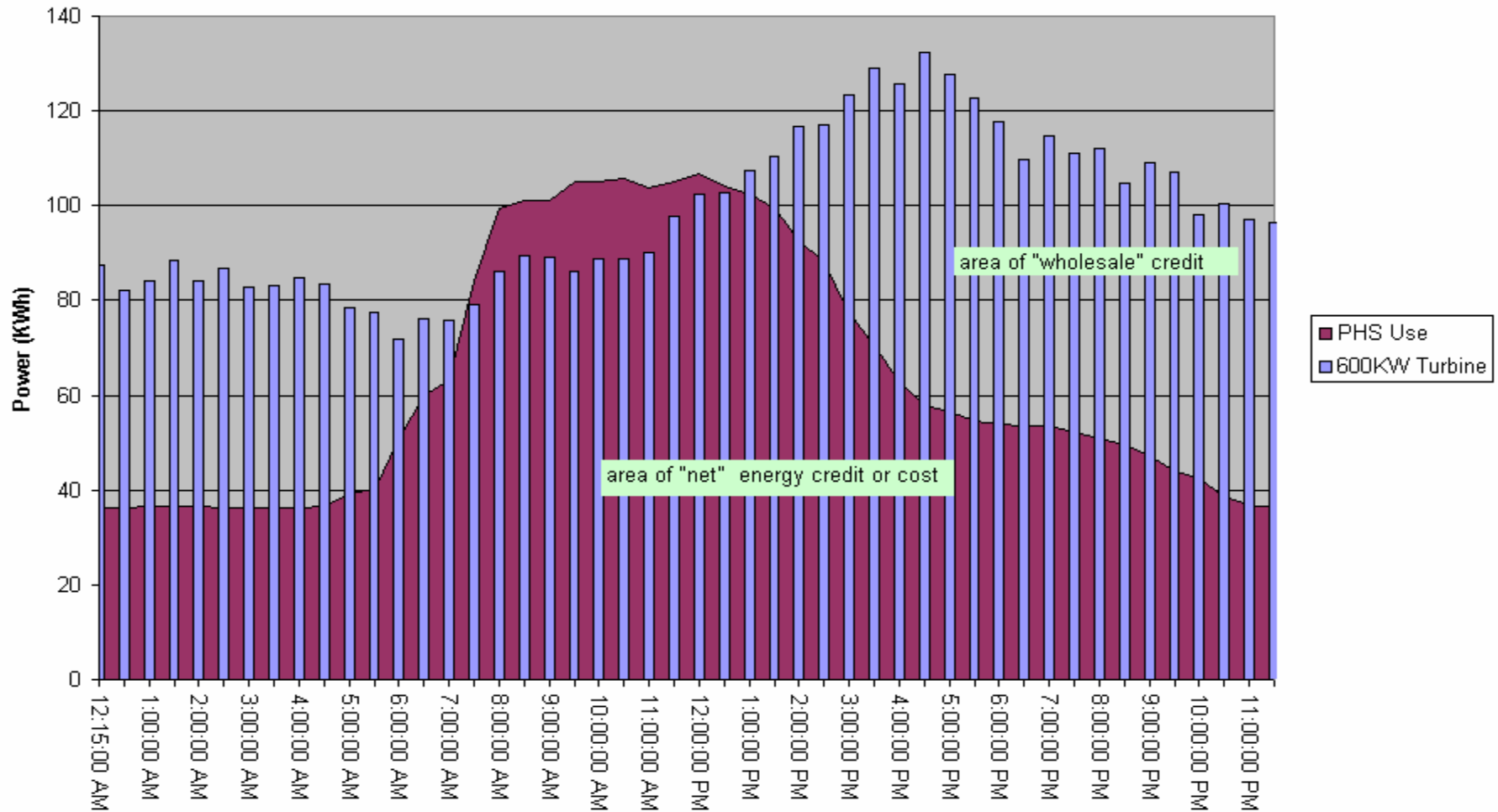
# Power vs. Use

PHS Power Production Vs Utilization

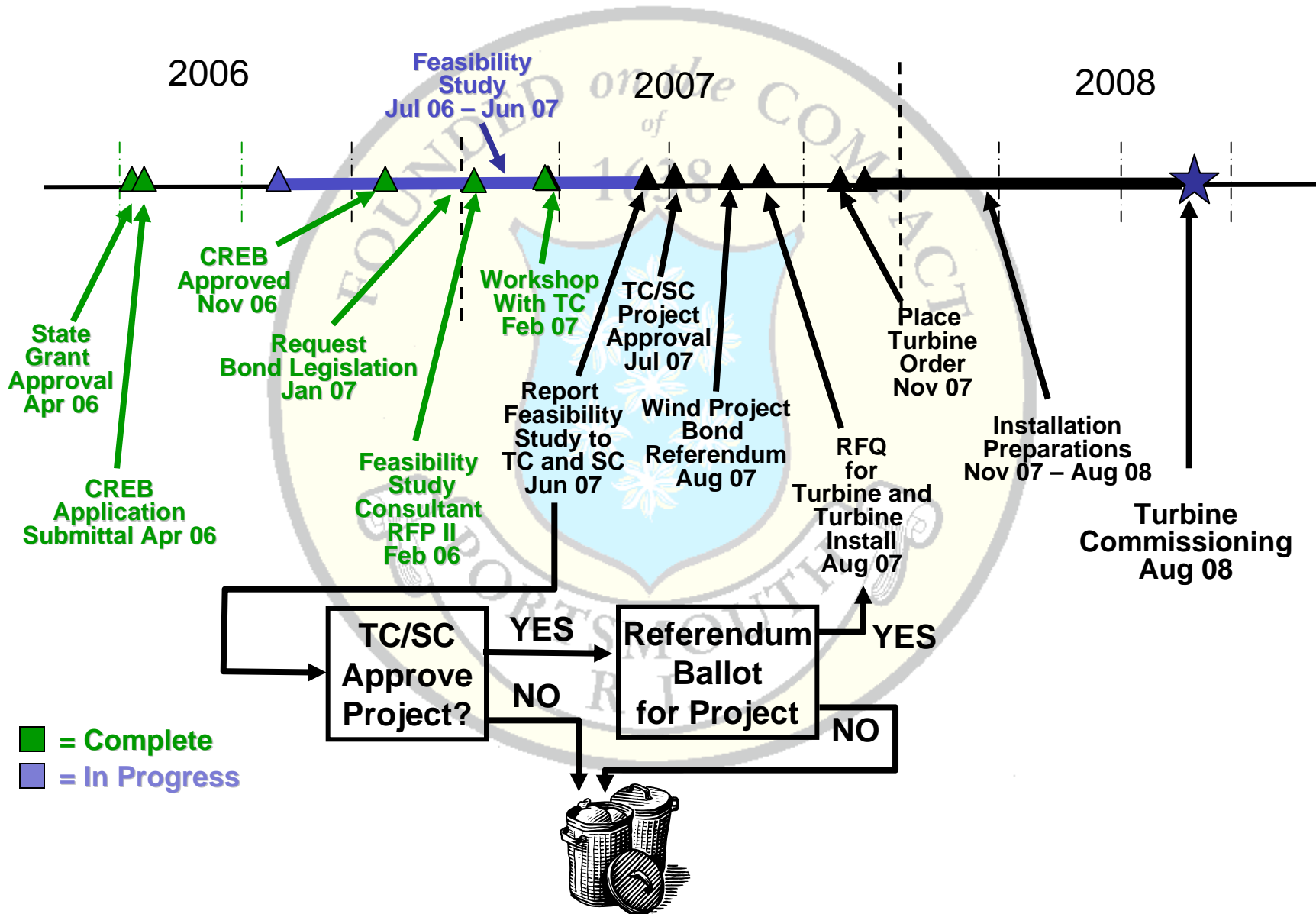


# A "Typical Wednesday"

600 KW Mean Turbine Generation vs Portsmouth High School Usage  
(Average Wednesday)



# Portsmouth School Wind Power Timeline



# Portsmouth Municipal Wind Energy Activity

- What to expect next:
  - Jun 07 - Results from our “expert consultant”
  - Apr-Jun 07 - Community Workshops
  - Jun 07 - Complete the feasibility study
  - Jun 07 - Town Council decision process
  - After TC approval - Town ballot referendum
    - Bond issue and contracting
  - After Citizen Approval - RFP for Turbine and Installation

# Portsmouth Municipal Wind Energy Activity

- We will work with any and all groups in support of an enlightened alternative energy policy.
- Call on us, we are ready!
- See [www.portsmouthRIenergy.com](http://www.portsmouthRIenergy.com)

