

WIND TURBINE ALTERNATIVES

Discussion and Recommendations

August 12, 2013

Wind Turbine Alternatives Report, August 9, 2013

- A staff document has been prepared in furtherance of the directive of the Board of Selectmen at their Workshop Meeting of July 1, 2013.
- Distributed in Board Packets
- Was developed with respect for the fiduciary responsibility of the Board in moving forward operationally.

Staff Process Recommendations

- ❖ BOS act to designate a preferred alternative(s)
- ❖ BOS Request that staff further detail and articulate this in all its options/nuances
- ❖ As per Town Counsel, responsible resolution must include a mitigation component
- ❖ If preferred alternative includes production exceeding 80%, staff will suggest a package of mitigation options – as wind turbine revenue will support exploring mitigation
- ❖ BOS Affirm an anticipated timetable for implementation; suggest final operational decision in September with implementation beginning in October 2013.
- ❖ Board Vote to affirm this process on August 12, 2013

Estimated Financials*
for Wind Turbine Operating Scenarios

Prepared by Sustainable Energy Advantage, LLC

Assumptions

* Prepared by Sustainable Energy Advantage LLC, with assumptions as directed by the Town of Falmouth.

** Reserve contribution increased (from previous analysis) by approximately \$70K per year.

Assumptions for All Cases:

The Operating Reserve Fund is replenished @ \$200,000 per year for 5 years (FY14 - FY18)
The obligation to deliver Wind 1 RECs to Mass CEC during years 6 - 20 has been forgiven.
All RECs from Wind 1 (formerly obligated to MassCEC) are assumed resold into the spot market @ \$25/MWh

Note:

Electricity markets are inherently volatile. This affects the market value of net metering credits, excess electricity sold at wholesale, and RECs over time. This analysis relies on the most recently available data to estimate future net metering credits and REC values. Deviations from individual forecasts should be expected as market conditions change, and it is therefore appropriate to consider a range of potential outcomes to make an informed decision.

Scenario Name -->	12-Hour Operation (Temporary Measure)	WTOP Breakeven Case, with Adjusted Reserve Requirement**	Both Turbines, Optimized 16-Hour Operation	Wind 1 12-Hour Operation, Wind 2 24/7 Operation	Wind 1 16-Hour Operation, Wind 2 24/7 Operation	Wind 1 20-Hour Operation, Wind 2 24/7 Operation	Both Turbines, 24/7 Operation
Est. Production (MWh), by Case	3,823	5,078	5,144	5,682	6,284	6,834	7,513
As % of Uncurtailed Production	51%	68%	68%	76%	84%	91%	100%
Net Cash Flow:							
FY 2015	(\$274,125)	(\$103,333)	(\$94,382)	\$23,281	\$88,802	\$155,065	\$220,117
FY 2016	(\$267,026)	(\$97,407)	(\$88,446)	\$28,135	\$93,318	\$159,238	\$223,952
FY 2017	(\$268,198)	(\$102,515)	(\$93,762)	\$20,920	\$84,269	\$148,300	\$211,134
FY 2018	(\$262,723)	(\$99,283)	(\$90,649)	\$22,823	\$85,145	\$148,106	\$209,868
FY 2019	(\$128,941)	\$32,801	\$41,346	\$153,827	\$215,382	\$277,537	\$338,485
FY 2020	(\$109,029)	\$57,477	\$66,274	\$180,552	\$244,441	\$308,973	\$372,266
FY 2021	(\$89,517)	\$81,620	\$90,663	\$206,699	\$272,861	\$339,710	\$405,294
FY 2022	(\$64,816)	\$114,239	\$123,702	\$242,871	\$312,878	\$383,650	\$453,109
FY 2023	(\$50,986)	\$131,019	\$140,625	\$251,614	\$326,098	\$401,446	\$475,430
FY 2024	(\$85,966)	\$103,340	\$113,333	\$227,245	\$305,268	\$384,230	\$461,786
FY 2025	(\$64,413)	\$130,900	\$141,212	\$257,491	\$338,434	\$420,374	\$500,872
Funds Available for Operation and Mitigation	(\$1,665,740)	\$248,859	\$349,916	\$1,615,459	\$2,366,895	\$3,126,630	\$3,872,313

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- ❖ **BOS Affirm an anticipated timetable for implementation; suggest final operational decision in September with implementation beginning in October 2013.**

❖ Board vote to Affirm this process tonight.