# JAMESTOWN WIND ENERGY COMMITTEE

Report and Recommendation

## Report

The Jamestown Wind Energy Committee met on November 17, 2009. The Committee considered the pros and cons of all the sites and turbine sizes described in the Committee's Feasibility Study, public presentation and supplemental financing models developed by the Committee (the Feasibility Study and Public Presentation are available both electronically and in hard copy, the supplemental financing models are attached as Exhibit 1). Based on these materials, the Committee only seriously considered recommending turbines in the range of two megawatts (MW) at Ft. Getty or at Taylor Point.

After discussion, the Committee members present at the meeting unanimously found that Ft. Getty has the following advantages:

1. Possibility of expansion;
2. Aesthetically pleasing site;
3. Unquestioned ability to generate more revenue than Taylor Point due to higher wind speeds;
4. Potential to improve the Ft. Getty road vista by placing the interconnection underground;
5. Minimal interference with the current and projected uses of the park;
6. Likely to be more profitable than Taylor Point; and
7. Greater visibility as a public accomplishment.

While the Committee found that Taylor Point has a lower interconnection cost, it is likely to be less profitable overall due to lower wind speeds. Other Taylor Point disadvantages were found to be distraction to drivers on the Newport Bridge, no expansion opportunities and a more densely built fall zone.

The Committee also noted that sentiment at the public meeting was strongly in favor of maximizing green energy production in Jamestown and no one from either the Ft. Getty or Taylor Point neighborhoods objected to the Committee regarding siting at these locations.

## Recommendation

Based on the foregoing, the Jamestown Wind Energy Committee, at a meeting at which a quorum was present and voting throughout, unanimously recommends that the Town Council pursue the immediate design, construction and operation of an approximately 2 MW wind turbine at Ft. Getty. The Committee further recommends an

underground interconnection if affordable. The Committee would also support a turbine at Taylor Point if that is the site the Town Council selects.

The Committee would be happy to provide the Council with whatever additional information the Council requires.

Respectfully submitted by:

Jamestown Wind Energy Committee

Alternate Financing Scenario: **Detailed Results of 100% Net Metered 800 KW Enercon E53 assuming 15-year zero-interest Clean Renewable Energy Bonds (CREBs):**

| **Table 12-8** | **Revenue, Expenses & Net Cash Flows:** | **800 KW @ Taylor Point** | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Funding based on 15 yr CREB** | | | | | | | |
| | **Total Initial Funding = $2,354,700** | | | | | | | |
| Project Year | Electricity Value ($/MWh) | REC Price ($/MWh) | Revenue ($) | Revenue Exact figure ($) | Op. Exp. ($) | Debt Service (P Only) ($) | Debt Service (P+I) ($) | Annual Net Cash Benefits ($) | Cumulative Cash Benefits ($) |
| 0 | | | | | | | | 0 | 0 |
| 1 | $141.42 | $26.00 | $258,121 | $258,115 | ($49,200) | ($156,980) | | $51,935 | $51,935 |
| 2 | $148.52 | $24.50 | $266,755 | $268,062 | ($50,568) | ($156,980) | | $60,514 | $112,449 |
| 3 | $153.15 | $23.00 | $271,581 | $277,735 | ($77,956) | ($156,980) | | $42,799 | $155,248 |
| 4 | $156.62 | $23.00 | $276,931 | $286,272 | ($79,905) | ($156,980) | | $49,387 | $204,635 |
| 5 | $159.72 | $25.50 | $285,565 | $296,979 | ($81,903) | ($156,980) | | $58,096 | $262,731 |
| 6 | $163.08 | $26.50 | $292,287 | $304,718 | ($84,180) | ($156,980) | | $63,558 | $326,289 |
| 7 | $167.17 | $24.00 | $294,738 | $306,569 | ($86,049) | ($156,980) | | $63,540 | $389,829 |
| 8 | $171.62 | $20.50 | $296,203 | $308,253 | ($88,200) | ($156,980) | | $63,073 | $452,902 |
| 9 | $176.36 | $20.00 | $302,740 | $315,023 | ($90,405) | ($156,980) | | $67,638 | $520,540 |
| 10 | $181.30 | $19.50 | $309,585 | $322,985 | ($92,920) | ($156,980) | | $73,085 | $593,625 |
| 11 | $186.51 | $19.50 | $317,618 | $330,464 | ($118,962) | ($156,980) | | $54,522 | $648,147 |
| 12 | $194.28 | $21.00 | $331,910 | $345,038 | ($121,337) | ($156,980) | | $66,721 | $714,868 |
| 13 | $204.49 | $21.00 | $347,651 | $361,047 | ($123,771) | ($156,980) | | $80,296 | $795,164 |
| 14 | $214.11 | $21.00 | $362,483 | $377,178 | ($126,546) | ($156,980) | | $93,652 | $888,816 |
| 15 | $223.02 | $21.00 | $376,220 | $390,222 | ($128,822) | ($156,980) | | $104,420 | $993,236 |
| 16 | $232.30 | $21.00 | $390,528 | $404,826 | ($131,443) | | | $273,383 | $1,266,619 |
| 17 | $240.88 | $21.00 | $403,756 | $418,368 | ($134,130) | | | $284,238 | $1,550,857 |
| 18 | $250.81 | $21.00 | $419,066 | $435,156 | ($137,193) | | | $297,963 | $1,848,820 |
| 19 | $262.70 | $21.00 | $437,397 | $452,678 | ($139,706) | | | $312,972 | $2,161,792 |
| 20 | $274.00 | $21.00 | $454,819 | $470,441 | ($142,600) | | | $327,841 | $2,489,633 |

**Alternate Financing Scenario: Detailed Results of 2 MW Net Metered Fort Getty project assuming 15-year zero-interest Clean Renewable Energy Bonds (CREBs):**

| Table 12-17 | Revenue, Expenses & Net Cash Flows: 2 MW Net Metered @ Fort Getty<br>Funding based on 15 yr CREB<br>Total Initial Funding = $5,707,260 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Project Year | Electricity Value ($/MWh) | REC Price ($/MWh) | Revenue Exact figure ($) | Op. Exp. ($) | CREB Debt Service (P Only) ($) | Bond Debt Service (P+I) ($) | Annual Net Cash Benefits ($) | Cumulative Cash Benefits ($) |
| 0 | | | | | | | 0 | 0 |
| 1 | $108.13 | $26.00 | $505,242 | ($82,800) | ($380,484) | $0.00 | $41,958 | $41,958 |
| 2 | $113.85 | $24.50 | $523,998 | ($85,103) | ($380,484) | $0.00 | $58,411 | $100,369 |
| 3 | $117.59 | $23.00 | $544,944 | ($140,574) | ($380,484) | $0.00 | $23,886 | $124,255 |
| 4 | $120.39 | $23.00 | $563,477 | ($144,088) | ($380,484) | $0.00 | $38,905 | $163,160 |
| 5 | $122.89 | $25.50 | $587,501 | ($147,690) | ($380,484) | $0.00 | $59,327 | $222,487 |
| 6 | $124.54 | $26.50 | $603,347 | ($151,797) | ($380,484) | $0.00 | $71,066 | $293,553 |
| 7 | $128.71 | $24.00 | $604,780 | ($155,167) | ($380,484) | $0.00 | $69,129 | $362,682 |
| 8 | $132.15 | $20.50 | $605,103 | ($159,046) | ($380,484) | $0.00 | $65,573 | $428,255 |
| 9 | $135.80 | $20.00 | $617,607 | ($163,022) | ($380,484) | $0.00 | $74,101 | $502,356 |
| 10 | $139.62 | $19.50 | $632,411 | ($167,556) | ($380,484) | $0.00 | $84,371 | $586,727 |
| 11 | $143.66 | $19.50 | $646,701 | ($195,255) | ($380,484) | $0.00 | $70,962 | $657,689 |
| 12 | $149.74 | $21.00 | $675,963 | ($199,537) | ($380,484) | $0.00 | $95,942 | $753,631 |
| 13 | $157.76 | $21.00 | $706,858 | ($203,926) | ($380,484) | $0.00 | $122,448 | $876,079 |
| 14 | $165.32 | $21.00 | $737,980 | ($208,930) | ($380,484) | $0.00 | $148,566 | $1,024,645 |
| 15 | $172.30 | $21.00 | $763,096 | ($213,036) | ($380,484) | $0.00 | $169,576 | $1,194,221 |
| 16 | $179.56 | $21.00 | $791,222 | ($217,762) | | $0.00 | $573,460 | $1,767,681 |
| 17 | $186.27 | $21.00 | $817,272 | ($222,607) | | $0.00 | $594,665 | $2,362,346 |
| 18 | $194.05 | $21.00 | $849,626 | ($228,130) | | $0.00 | $621,496 | $2,983,842 |
| 19 | $203.40 | $21.00 | $883,446 | ($232,662) | | $0.00 | $650,784 | $3,634,626 |
| 20 | $212.26 | $21.00 | $917,676 | ($237,879) | | $0.00 | $679,797 | $4,314,423 |

**Alternate Financing Scenario: Detailed Results of 2 MW Net Metered Fort Getty project assuming 15-year zero-interest Clean Renewable Energy Bonds (CREBs) combined with 20-year Five percent interest Bond:**

**Table 12-17A** **Revenue, Expenses & Net Cash Flows: 2 MW Net Metered @ Fort Getty**

**Funding based on $3M 15 yr CREB and balance with 20 yr Bond at 5% interest**

**Total Initial Funding = $5,707,260**

| Project Year | Electricity Value ($/MWh) | REC Price ($/MWh) | Revenue Exact figure ($) | Op. Exp. ($) | CREB Debt Service (P Only) ($) | Bond Debt Service (P+I) ($) | Annual Net Cash Benefits ($) | Cumulative Cash Benefits ($) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0 | 0 |
| 1 | $108.13 | $26.00 | $505,242 | ($82,800) | ($200,000) | ($214,400) | $8,042 | $8,042 |
| 2 | $113.85 | $24.50 | $523,998 | ($85,103) | ($200,000) | ($214,400) | $24,495 | $32,537 |
| 3 | $117.59 | $23.00 | $544,944 | ($140,574) | ($200,000) | ($214,400) | ($10,030) | $22,507 |
| 4 | $120.39 | $23.00 | $563,477 | ($144,088) | ($200,000) | ($214,400) | $4,989 | $27,496 |
| 5 | $122.89 | $25.50 | $587,501 | ($147,690) | ($200,000) | ($214,400) | $25,411 | $52,907 |
| 6 | $124.54 | $26.50 | $603,347 | ($151,797) | ($200,000) | ($214,400) | $37,150 | $90,057 |
| 7 | $128.71 | $24.00 | $604,780 | ($155,167) | ($200,000) | ($214,400) | $35,213 | $125,270 |
| 8 | $132.15 | $20.50 | $605,103 | ($159,046) | ($200,000) | ($214,400) | $31,657 | $156,927 |
| 9 | $135.80 | $20.00 | $617,607 | ($163,022) | ($200,000) | ($214,400) | $40,185 | $197,112 |
| 10 | $139.62 | $19.50 | $632,411 | ($167,556) | ($200,000) | ($214,400) | $50,455 | $247,567 |
| 11 | $143.66 | $19.50 | $646,701 | ($195,255) | ($200,000) | ($214,400) | $37,046 | $284,613 |
| 12 | $149.74 | $21.00 | $675,963 | ($199,537) | ($200,000) | ($214,400) | $62,026 | $346,639 |
| 13 | $157.76 | $21.00 | $706,858 | ($203,926) | ($200,000) | ($214,400) | $88,532 | $435,171 |
| 14 | $165.32 | $21.00 | $737,980 | ($208,930) | ($200,000) | ($214,400) | $114,650 | $549,821 |
| 15 | $172.30 | $21.00 | $763,096 | ($213,036) | ($200,000) | ($214,400) | $135,660 | $685,481 |
| 16 | $179.56 | $21.00 | $791,222 | ($217,762) | | ($214,400) | $359,060 | $1,044,541 |
| 17 | $186.27 | $21.00 | $817,272 | ($222,607) | | ($214,400) | $380,265 | $1,424,806 |
| 18 | $194.05 | $21.00 | $849,626 | ($228,130) | | ($214,400) | $407,096 | $1,831,902 |
| 19 | $203.40 | $21.00 | $883,446 | ($232,662) | | ($214,400) | $436,384 | $2,268,286 |
| 20 | $212.26 | $21.00 | $917,676 | ($237,879) | | ($214,400) | $465,397 | $2,733,683 |

**Alternate Financing Scenario: Detailed Results of 2 MW Net Metered Taylor Point project assuming 15-year zero-interest Clean Renewable Energy Bonds (CREBs):**

| Table 12-20 | Revenue, Expenses & Net Cash Flows: 2 MW Net Metered @ Taylor Point<br>Funding based on 15 yr CREB<br>Total Initial Funding = $5,707,260 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Project Year | Electricity Value ($/MWh) | REC Price ($/MWh) | Revenue Exact figure ($) | Op. Exp. ($) | CREB Debt Service (P Only) ($) | Bond Debt Service (P+I) ($) | Annual Net Cash Benefits ($) | Cumulative Cash Benefits ($) |
| 0 | | | | | | | 0 | 0 |
| 1 | $106.91 | $26.00 | $486,179 | ($82,800) | ($380,484) | $0 | $22,895 | $22,895 |
| 2 | $112.68 | $24.50 | $504,606 | ($85,103) | ($380,484) | $0 | $39,019 | $61,914 |
| 3 | $116.45 | $23.00 | $525,480 | ($140,574) | ($380,484) | $0 | $4,422 | $66,336 |
| 4 | $119.28 | $23.00 | $543,795 | ($144,088) | ($380,484) | $0 | $19,223 | $85,559 |
| 5 | $121.80 | $25.50 | $567,353 | ($147,690) | ($380,484) | $0 | $39,179 | $124,738 |
| 6 | $124.48 | $26.50 | $582,840 | ($151,797) | ($380,484) | $0 | $50,559 | $175,297 |
| 7 | $127.67 | $24.00 | $584,379 | ($155,167) | ($380,484) | $0 | $48,728 | $224,025 |
| 8 | $131.15 | $20.50 | $584,842 | ($159,046) | ($380,484) | $0 | $45,312 | $269,337 |
| 9 | $134.85 | $20.00 | $597,144 | ($163,022) | ($380,484) | $0 | $53,638 | $322,975 |
| 10 | $138.71 | $19.50 | $611,678 | ($167,556) | ($380,484) | $0 | $63,638 | $386,613 |
| 11 | $142.79 | $19.50 | $625,741 | ($195,255) | ($380,484) | $0 | $50,002 | $436,615 |
| 12 | $148.93 | $21.00 | $654,400 | ($199,537) | ($380,484) | $0 | $74,379 | $510,994 |
| 13 | $157.03 | $21.00 | $684,711 | ($203,926) | ($380,484) | $0 | $100,301 | $611,295 |
| 14 | $164.66 | $21.00 | $715,222 | ($208,930) | ($380,484) | $0 | $125,808 | $737,103 |
| 15 | $171.71 | $21.00 | $739,895 | ($213,036) | ($380,484) | $0 | $146,375 | $883,478 |
| 16 | $179.04 | $21.00 | $767,495 | ($217,762) | | $0 | $549,733 | $1,433,211 |
| 17 | $185.82 | $21.00 | $793,062 | ($222,607) | | $0 | $570,455 | $2,003,666 |
| 18 | $193.68 | $21.00 | $824,785 | ($228,130) | | $0 | $596,655 | $2,600,321 |
| 19 | $203.12 | $21.00 | $857,991 | ($232,662) | | $0 | $625,329 | $3,225,650 |
| 20 | $212.06 | $21.00 | $891,578 | ($237,879) | | $0 | $653,699 | $3,879,349 |

**Alternate Financing Scenario: Detailed Results of 2 MW Net Metered Taylor Point project assuming 15-year zero-interest Clean Renewable Energy Bonds (CREBs) combined with 20-year Five percent interest Bond:**

**Table 12-20A** **Revenue, Expenses & Net Cash Flows: 2 MW Net Metered @ Taylor Point**

**Funding based on $3M 15 yr CREB and balance with 20 yr Bond at 5% interest**

**Total Initial Funding = $5,707,260**

| Project Year | Electricity Value ($/MWh) | REC Price ($/MWh) | Revenue Exact figure ($) | Op. Exp. ($) | CREB Debt Service (P Only) ($) | Bond Debt Service (P+I) ($) | Annual Net Cash Benefits ($) | Cumulative Cash Benefits ($) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0 | 0 |
| 1 | $106.91 | $26.00 | $486,179 | ($82,800) | ($200,000) | ($214,400) | ($11,021) | ($11,021) |
| 2 | $112.68 | $24.50 | $504,606 | ($85,103) | ($200,000) | ($214,400) | $5,103 | ($5,918) |
| 3 | $116.45 | $23.00 | $525,480 | ($140,574) | ($200,000) | ($214,400) | ($29,494) | ($35,412) |
| 4 | $119.28 | $23.00 | $543,795 | ($144,088) | ($200,000) | ($214,400) | ($14,693) | ($50,105) |
| 5 | $121.80 | $25.50 | $567,353 | ($147,690) | ($200,000) | ($214,400) | $5,263 | ($44,842) |
| 6 | $124.48 | $26.50 | $582,840 | ($151,797) | ($200,000) | ($214,400) | $16,643 | ($28,199) |
| 7 | $127.67 | $24.00 | $584,379 | ($155,167) | ($200,000) | ($214,400) | $14,812 | ($13,387) |
| 8 | $131.15 | $20.50 | $584,842 | ($159,046) | ($200,000) | ($214,400) | $11,396 | ($1,991) |
| 9 | $134.85 | $20.00 | $597,144 | ($163,022) | ($200,000) | ($214,400) | $19,722 | $17,731 |
| 10 | $138.71 | $19.50 | $611,678 | ($167,556) | ($200,000) | ($214,400) | $29,722 | $47,453 |
| 11 | $142.79 | $19.50 | $625,741 | ($195,255) | ($200,000) | ($214,400) | $16,086 | $63,539 |
| 12 | $148.93 | $21.00 | $654,400 | ($199,537) | ($200,000) | ($214,400) | $40,463 | $104,002 |
| 13 | $157.03 | $21.00 | $684,711 | ($203,926) | ($200,000) | ($214,400) | $66,385 | $170,387 |
| 14 | $164.66 | $21.00 | $715,222 | ($208,930) | ($200,000) | ($214,400) | $91,892 | $262,279 |
| 15 | $171.71 | $21.00 | $739,895 | ($213,036) | ($200,000) | ($214,400) | $112,459 | $374,738 |
| 16 | $179.04 | $21.00 | $767,495 | ($217,762) | | ($214,400) | $335,333 | $710,071 |
| 17 | $185.82 | $21.00 | $793,062 | ($222,607) | | ($214,400) | $356,055 | $1,066,126 |
| 18 | $193.68 | $21.00 | $824,785 | ($228,130) | | ($214,400) | $382,255 | $1,448,381 |
| 19 | $203.12 | $21.00 | $857,991 | ($232,662) | | ($214,400) | $410,929 | $1,859,310 |
| 20 | $212.06 | $21.00 | $891,578 | ($237,879) | | ($214,400) | $439,299 | $2,298,609 |