

Best Practices for Investing in Energy Efficiency and GHG Reduction

Michael van Holst – June 10, 2019

Dear Chair and members of the Civic Works Committee,

I attended an inspiring talk at the recent London Environmental Forum, where the speaker contrasted some very strong investments, in terms of energy savings and GHG reductions, with some very weak investments.

We have recently invested in two projects with savings of \$600,000 per year in electricity. One had a 20-year payback while the other was four years. The advantage of investing in projects with a short payback is that the recovered capital costs can be rolled into another project to produce additional savings. The table below compares the savings of our two previous investments with a 10-year payback investment (such as solar panels) and the kinds of projects discussed by the presenter having paybacks of one year. Note the dramatic difference in net gain over 20 years, based on reinvesting the capital.

	20-year payback	10-year payback	4 -year payback	1-year payback
Year 1	\$600,000	\$600,000	\$600,000	\$600,000
Year 2	\$600,000	\$600,000	\$600,000	\$1,200,000
Year 3	\$600,000	\$600,000	\$600,000	\$1,800,000
Year 4	\$600,000	\$600,000	\$600,000	\$2,400,000
Year 5	\$600,000	\$600,000	\$1,200,000	\$3,000,000
Year6	\$600,000	\$600,000	\$1,200,000	\$3,600,000
Year 7	\$600,000	\$600,000	\$1,200,000	\$4,200,000
Year 8	\$600,000	\$600,000	\$1,200,000	\$4,800,000
Year 9	\$600,000	\$600,000	\$1,800,000	\$5,400,000
Year 10	\$600,000	\$600,000	\$1,800,000	\$6,000,000
Year 11	\$600,000	\$1,200,000	\$1,800,000	\$6,600,000
Year 12	\$600,000	\$1,200,000	\$1,800,000	\$7,200,000
Year 13	\$600,000	\$1,200,000	\$2,400,000	\$7,800,000
Year 14	\$600,000	\$1,200,000	\$2,400,000	\$8,400,000
Year 15	\$600,000	\$1,200,000	\$2,400,000	\$9,000,000
Year 16	\$600,000	\$1,200,000	\$2,400,000	\$9,600,000
Year 17	\$600,000	\$1,200,000	\$3,000,000	\$10,200,000
Year 18	\$600,000	\$1,200,000	\$3,000,000	\$10,800,000
Year 19	\$600,000	\$1,200,000	\$3,000,000	\$11,400,000
Year 20	\$600,000	\$1,200,000	\$3,000,000	\$12,000,000
Total Savings	\$12,000,000	\$18,000,000	\$36,000,000	\$126,000,000

Capital Costs	\$12,000,000 (1 x \$12M)	\$12,000,000 (2 x \$6M)	\$12,000,000 (5 x \$2.4M)	\$12,000,000 (20 x \$0.6M)
Net Gain	\$0	\$6,000,000	\$24,000,000	\$114,000,000

Not all investments that “save on energy” are of equal value so we should develop some guidelines to make sure our taxpayer’s money is spent most effectively. The same can be said of investments that reduce GHG emissions, so metrics should be developed to evaluate them. For this reason, I am asking that the following motion be supported:

That staff develop a set of guidelines to evaluate energy efficiency and GHG reduction investments and provide some suggested best practices.