THE REGIONAL MUNICIPALITY OF YORK

Housing York Inc.
December 5, 2007
Report of the
General Manager

HOUSING YORK INC.
ENERGY MANAGEMENT RETROFIT PROGRAM

1. RECOMMENDATIONS

It is recommended that:

1. Staff be authorized to undertake energy management retrofits on 25 Housing York Inc. buildings over a five-year period starting in 2008, at up to a cost of $3.5 million.

2. York Region be requested to establish a loan facilitating from the Region's General Capital Reserve to complete these retrofit costs, net of any incentive funding received to undertake the works.

2. PURPOSE

This report seeks authorization to commence energy retrofit projects on 25 Housing York Inc. buildings over a five-year period, as part of an initiative to reduce energy consumption, utility costs, and related green house gas emissions.

3. BACKGROUND

3.1 Housing York Inc. has adopted a plan for energy management that includes building retrofits

In response to increasing energy costs, in September 2005 the Housing York Inc. Board of Directors approved a plan for energy management in its facilities. This plan included initiatives such as the use of new technologies, improved consumption management, tenant education, and also included undertaking two comprehensive building retrofits to reduce energy consumption.

3.2 Energy conservation initiatives have already been approved

Approval of two energy conservation projects

The Board approved energy upgrade projects at two Housing York Inc. facilities, at a cost of $386,000. Housing York Inc. secured incentive funding of $190,000 from five sources (Newmarket Hydro, Natural Resources Canada, Ontario Power Authority, Enbridge Gas and Hydro One), reducing the net cost of the works to $196,000. Housing York Inc.'s

Retained Earnings were used to finance the net cost of the works with repayment expected from energy savings over approximately four years.

Funding a sustainable building engineer

With the approval of the energy management plan, the Board of Directors approved the funding of a Sustainable Building Engineer in York Region's Property Services Branch to be dedicated to Housing York Inc. to project manage the two building retrofits, and assist in the development and implementation of an energy management strategy. Funding for the position was approved from Retained Earnings for a two-year period, with funding for subsequent years to come from energy savings. Projects are exceeding expectations in terms of savings achieved, confirming Housing York Inc.'s capacity to continue to fund this position.

3.3 Energy audits completed on Housing York Inc. buildings identified potential savings from further energy retrofits

Energy audits have been completed on 28 Housing York Inc. properties to determine areas of potential savings and the scope of capital works required to achieve the savings. These audits have estimated that approximately $480,000 (20%) in annual savings could be achieved through the completion of energy retrofits on Housing York Inc. properties.

3.4 Significant success already achieved through energy projects

With the modest energy reduction program to date, Housing York Inc. will realize the following significant benefits:

- $46,000 in estimated annual energy savings from retrofits to two buildings.
- $15,000 in estimated annual energy savings from hydro conversion to gas fired laundry equipment and high efficiency washers.
- $354,000 acquired from energy incentive programs.
- Use of innovative renewable energy supply—solar wall.
- Increased tenant knowledge and awareness of energy conservation benefits through our ongoing targeted communications.

4. ANALYSIS AND OPTIONS

4.1 Proposal to undertake retrofits on 25 Housing York Inc. buildings over a five-year period (five buildings per year)

Excluding buildings that are relatively new and already have energy management practices in place, or have already been upgraded (e.g. Blue Willow Terrace in the City of Vaughan), there are 25 buildings that would achieve significant savings from energy retrofits. The works identified consist of a wide range of projects such as the installation of energy efficient lighting, low flow toilets, programmable thermostats, high efficiency gas boilers, and air make up units. The cost of the energy retrofits is estimated at $3.5 million. The cost of these works could be reduced by taking advantage of financial incentive programs being offered by various organizations.

Staff has indicated that, based on the resources available and the time required to complete the works, five buildings could be retrofitted each year starting in 2008, resulting in a five-year work plan to complete all the retrofits. Therefore, it is proposed that staff be authorized to undertake works on five buildings each year, over a five-year period. Staff will develop a schedule of works based on several factors, including complexity of the identified projects, magnitude of potential savings, and the availability of financial incentives for particular works.

4.2 Future energy savings could pay for the initial cost of retrofits over an 8–13 year period

Based on the findings of the energy audits, completing the retrofits will result in annual savings of approximately $480,000. These savings could be used to fund the capital cost of the works. If the works were being completed within one year, it would take approximately seven years to pay for the cost of the works from energy savings. However, other factors will influence the payback period for these works, including:

- *Phased Implementation* - Since the works would be phased in over a five-year period, achievement of the full annual savings, and therefore payback, would occur over a longer period of time.

- *Tenants Paying Utility Costs* - It is important to note that five of the 25 properties proposed for retrofits are townhouse complexes where the tenant is responsible for utility costs. In these instances, the tenants, not Housing York Inc., would receive the benefit from the energy savings realized from the capital works. However, there continues to be a strong case for pursuing these retrofits in terms of marketability of rental units, mitigating the economic pressure on low income families, and meeting the Region's overall goals for achieving sustainability.

- *Incentive Funding* - Indications from the energy sector suggest it is possible that incentive funding of up to 25% could be achieved in the coming years, dependent upon the type of project undertaken. Receipt of incentive funding would shorten the payback period.

Based on these factors, it is estimated that the capital cost of the works could be repaid from future energy savings over an 8–13 year period.

4.3 There are other benefits to completing the retrofits

Reducing energy consumption and utility costs are compelling reasons to undertake the series of retrofit projects. There are, however, other significant reasons why it is beneficial to complete these works.

- Reduces utility demand and environmental impact.
- Energy savings realized after the payback period could be used for other initiatives (e.g. addressing capital reserve shortfalls).
- Part of York Region's Sustainability Strategy—retrofits identified in the Strategy's theme of maintaining a Corporate Culture of Sustainability.
- Housing York Inc. seen as a leader in "green" building management.

- Assists in housing affordability (e.g. townhouse units where tenant pays utilities) and increases their rental marketability.
- Best practice/benchmark for other buildings—program/projects could be a model for others such as non-profit housing providers.

5. FINANCIAL IMPLICATIONS

5.1 Summary of estimated annual capital costs and savings

Based on a preliminary schedule of project implementation over a five-year period, Table 1 summarizes the estimated annual capital costs and energy savings associated with the retrofit program. The capital costs shown do not reflect receipt of any incentive program funding.

Table 1
Sample Project Implementation Scenario
And Cash Flow Impacts

Year	Estimated Cost of Works	Potential Annual Savings
2008	$ 721,000	0
2009	593,000	$100,000
2010	737,000	180,000
2011	724,000	279,000
2012	749,000	375,000
2013	0	480,000
2014	0	480,000
2015	0	480,000
2016	0	480,000
2017	0	480,000
Total	**$3,524,000**	**$3,334,000**

1. Includes savings achieved in townhouse units.

The mix of projects implemented each year will determine the actual funding requirements and annual savings realized. As well, staff will actively pursue financial incentive programs to reduce the net cost of the works, which will shorten the associated payback period.

5.2 Using a loan to finance the initial capital costs would be financially beneficial to Housing York Inc.

Housing York Inc. has limited sources of funding to undertake these energy retrofits. Based on the energy audit findings, it is possible that a loan could be secured to finance the initial capital cost and repaid over an 8–13 year period by using savings resulting from the energy upgrades. This would have a more favourable cash flow impact on Housing York Inc. than funding the capital costs from Retained Earnings or other limited Housing York Inc. funding sources. Therefore, it is proposed that Housing York Inc. seek a loan from York Region's General Capital Reserve for the cost of the works, which would subsequently be repaid from the energy savings achieved. The Region has entered into similar arrangements pertaining to other projects (e.g. LED traffic signal retrofits) with positive results.

The proposed 2008 Housing York Inc. Budget would contain funds to reflect the start of this initiative, with repayments starting when savings commence in 2009.

6. LOCAL MUNICIPAL IMPACT

Reducing energy consumption in Housing York Inc. buildings reduces utility demand and the environmental impact on the community.

7. CONCLUSION

Energy audits have identified building retrofits that, once completed, would result in annual cost savings of approximately $480,000. It is recommended that these works be undertaken over a five-year period at an estimated cost of $3.5 million. It is also recommended that York Region be requested to provide a loan from the Region's General Capital Reserve to finance the cost of these works, to be repaid from the annual cost savings realized.

For more information on this report, contact Sylvia Patterson, Assistant General Manager, Housing Services Branch in the Community and Health Services Department.

The Senior Management Group has reviewed this report.

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WM/KM/KC/dm

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