THE REGIONAL MUNICIPALITY OF YORK

Housing York Inc.
May 9, 2007
Report of the
General Manager

HOUSING YORK INC.
ENERGY MANAGEMENT PROGRAM UPDATE

1. RECOMMENDATIONS

It is recommended that:

1. Authorization be given to increase the maximum Green Light Loan amount to $250,000 for Founders Place (540 Timothy Street, Town of Newmarket) and Elmwood Gardens (325 Elm Road, Town of Whitchurch-Stouffville).
.
2. The General Manager provide the Board with annual progress reports on the Energy Management Program.

2. PURPOSE

The purpose of this report is to provide a progress update on the initial energy upgrade program and to seek approval to undertake further recommended energy upgrades, designed to reduce energy costs and increase efficiency of energy use.

3. BACKGROUND

Due to concerns about rapidly increasing energy costs, the impact of energy consumption on the environment, and peak power demand issues that were evident both locally and across the Province, the Board of Directors approved a plan in September 2005 to undertake a comprehensive approach to energy management. The comprehensive approach included the use of new technologies, improved consumption management, tenant education and participation, and maximization of funding opportunities and project management for building retrofits. Seed funding in the amount of $500,000 was approved by the Board for energy upgrade projects at two Housing York Inc. (HYI) properties (Founders Place and Elmwood Gardens) and the hiring of a Sustainable Building Engineer, for a two-year period.

During 2006, a number of organizations involved in the energy and social housing sectors introduced a broad range of programs to assist social housing providers with energy upgrades through the provision of free energy audits and cost effective procurement programs for energy efficient products. In addition, a number of incentive and low interest loan programs were made available. At its meeting on September 13, 2006, the Board of Directors gave approval for the Corporation to enter into loan agreements (Green Light Loan Program) through the Social Housing Services Corporation (SHSC) to fund energy upgrades at Founders Place and Elmwood Gardens not exceeding $110,000.

The Green Light Loan Program allows for affordable loan repayment from the energy savings. The first tranche of loans has benefited from substantial interest rate subsidies which bring the loan costs to a very low level. The Social Housing Services Corporation recognizes the ongoing need for this program and it is expected to be long term in nature.

Traditionally, HYI staff have used the capital replacement program and other avenues to reduce energy consumption in the buildings. Where energy consuming equipment was outdated and due for major repair or replacement, more energy efficient models of equipment were installed such as high efficiency domestic hot water boilers, energy efficient air conditioners and heating units, and energy saving lighting. These efforts have assisted in keeping energy costs below the rate increases, as shown in Table 1.

Table 1
Actual Utility Costs Paid by HYI

Year	Electricity	Gas	Water	Total	Annual % Change
2002	$ 956,116	$396,775	$243,817	$1,596,708	
2003	964,465	471,583	239,204	1,675,252	5%
2004	1,002,090	416,159	214,902	1,633,151	-3%
2005	1,043,212	445,987	237,732	1,726,931	6%
2006	1,096,216	434,829	294,171	1,825,216	6%
4 year change					14%

Notes:
1. In 2004, HYI acquired a 58-unit building.
   In 2005, HYI acquired a 14-unit building.
   In 2006, HYI acquired a new 60-unit building.
2. Electricity price in 2004 increased 9.3% over 2003.
3. Electricity price in 2005 increased 6.4% over 2004.
4. Electricity price in 2006 increased 10% over 2005.
5. Natural gas price in 2005 increased 8.7% over 2004.
6. Natural gas price in 2006 increased 22% over 2005.

4. ANALYSIS AND OPTIONS

4.1 Two Initial Major Energy Upgrade Projects

Work on the two initial major upgrade projects is nearing completion with the weather sensitive work being scheduled for May 2007. In September 2006, the cost estimate was $280,000; however the cost estimate is now $373,000 as a result of an increase to the scope of work.

Two new air make-up units were added at the Elmwood Gardens energy retrofit since they were originally planned for replacement during the 2007 capital replacement exercise. The air make-up units added $61,000 in costs. In addition, the number of refrigerators needing replacement was underestimated as the consultant who did the original audit only surveyed a small sampling of the units. The additional refrigerator replacement will cost $10,000.

Table 2 below displays the expected financial benefits of the initial upgrade program.

Table 2
Initial Energy Upgrade Costs and Savings

Property	Estimated Upgrade Cost	Minimum Incentive Funding	Balance	Annual Energy Savings	Payback Period (Years)
Founders Place	$156,000	$82,000	$ 74,000	$28,000	2.6
Elmwood Gardens	217,000	52,000	165,000	18,000	9.1
			$239,000	$46,000	5.2

4.2 Additional Energy Management Activities

4.2.1 Tenant Education

Over the last two years, tenant awareness of energy and environmental issues has been significantly improved by the use of a variety of educational tools. Each tenant newsletter contains an article relating to energy and/or environmental issues. Energy information brochures supplied by the utilities and other organizations such as Natural Resources Canada, are issued to all tenants twice annually. Bulletin boards have been posted in each apartment building specifically for posting of articles of interest relating to energy and the environment. The annual tenant meetings have included presentations on energy issues as part of the agenda. While empirical measures of success are not possible with this type of effort, there are visible signs that the tenants are more actively participating in energy saving efforts.

4.2.2 Energy Audits

Energy audits were completed on most of the HYI buildings. Seven buildings have not been audited and three others that had energy audits completed by Newmarket Hydro in 2006 only focused on electrical consumption and management strategies. In 2007, the balance of the buildings will be audited and the scope of the Newmarket Hydro audits expanded.

Blue Willow Terrace (in the City of Vaughan) and Armitage Gardens (in the Town of Newmarket), which are relatively new and already operating at a high level of efficiency, will not be audited.

4.2.3 Exploration of New Technologies

New technologies are being explored that offer improved building performance at a reasonable cost. The two pilot projects employ some new technologies including the use of photo luminescent fire exit signs that use no electricity and suite thermostats that have motion sensors and two levels of programming, allowing the landlord to establish broader parameters within which the tenant can make adjustments. A solar wall is being installed at 325 Elm Road, Stouffville that pre-heats the incoming make-up air.

4.2.4 Improved Consumption Management

Several efforts were made to acquire better knowledge and understanding of the energy consumption patterns in HYI buildings.

The Corporation is enrolled in the Region's Energy and Environmental Management System (EEMS) that allows for accurate recording and analysis of energy consumption data. The enhanced information will enable measures to be taken to better identify consumption issues, control peak demand and shift the load to off-peak periods resulting in additional savings and reduced strain on electricity supply.

The building automation systems (BAS) scheduled for installation in the two initial projects will enable staff to better control the use of gas and electricity within the common areas. Plans are in place to install BAS systems in the balance of the apartment buildings over the next five years.

4.3 Hydro One Incentive Program

Hydro One has created an incentive program for social housing providers contributing $450 per unit to reduce electrical energy consumption in buildings located in the Town of Georgina, Township of King, Town of Whitchurch-Stouffville and the Town of East Gwillimbury. This represents a total of $220,000 in available incentives for HYI. Hydro One also paid for energy audits to be done on all of these buildings.

Planned upgrades will maximize the benefit of this incentive program by undertaking one or more of the measures recommended in the audits in each of the buildings. The program has a deadline of September 30, 2007 for completion of the work. Should the cost of the initiatives nominally exceed the available incentive funding, the shortfall will be funded through savings in the 2007 Capital Program or Retained Earnings. *Attachment 1* lists each Hydro One upgrade per building within their service area.

5. FINANCIAL IMPLICATIONS

5.1 Maximizing Incentive Opportunities

To reduce the HYI capital cost, a number of incentive funding opportunities were secured through SHSC and the local utilities. The following table shows a summary of the incentive funds committed to HYI to date:

Table 3
Summary of Incentive Funds Committed to HYI to Date

Source of Funding	Amount
Newmarket Hydro (Founders Place)	$ 52,000
SHSC (Founders Place and Elmwood Gardens)	82,000
Hydro One (King, Georgina, East Gwillimbury, Stouffville)	220,000
Total	**$354,000**

The estimated cost of the energy improvements to the two pilot buildings is $373,000. The incentive funding at $134,000 represents approximately 36% of the total cost. The balance of the upgrade costs will be financed through SHSC's Green Light Loan Program at reduced interest rates and will be repaid through future energy savings.

5.2 Retained Earning Allocation

Of the $500,000 allocated for a two-year period, after one year, approximately $88,000 was used to pay for the engineer's salary and benefits.

By taking advantage of numerous incentive programs, as well as the Green Light Loan program, we have significantly reduced our reliance on the Retained Earnings allocation.

6. LOCAL MUNICIPAL IMPACT

There would be no direct financial impact on the local municipalities. However there may be some indirect benefit derived from the reductions in utility demand.

7. CONCLUSION

The benefits derived from reducing energy costs mitigates the impact on HYI's overall budget and reduces the risk of future rate increases taking away financial resources from other areas of the budget, such as repairs and maintenance.

Additionally, HYI is contributing to the broader community objective for reductions in energy demand.

For more information on this report contact Sylvia Patterson, Director, Housing Services Branch in the Community Services and Housing Department.

The Senior Management Group has reviewed this report.

Reviewed by:

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Recommended by:	Approved for Submission:
Joann Simmons General Manager	Michael R. Garrett President

April 25, 2007
Attachment - 1

KM/DM/SP/DR/sn

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