

Promising Practices



Non-Profits

Ottawa Community Housing Corporation Goes Green

Ottawa Community Housing (OCH) is Ottawa's largest social housing provider. Its primary goal is to provide affordable housing to thousands of Ottawans, though OCH has proven this does not mean the environment must suffer; instead, it has found that not only are environmental solutions feasible, but they also result in significant financial savings. OCH is committed to reducing its environmental impacts while providing social and financial benefits to its residents.

Conservation Projects

Energy Efficiency in Wurtemberg: OCH received a grant for \$25,000 from Home Depot to make energy efficient upgrades in its Wurtemberg community (in Lowertown). OCH contributed an additional \$10,000 to the project, which will result in estimated savings of \$300,000 over 10 years.¹ The Wurtemberg community is benefitting from several retrofits, from new compact fluorescent lights (CFL), to low flow toilets and shower heads. Prior to the retrofits, there were very old fixtures, installed about 40 years ago, including 20L toilets and showerheads with virtually no flow reduction. There were water leakage problems as well. Thus **the retrofits led to a 50% reduction in water use.**² Additionally, OCH installed low flow faucet aerators. These aerators mix air into water flow, reducing water usage but delivering the same perceived flow. According to Eartheasy, low flow aerators not only reduce water use by up to 50%, but also reduce the equivalent in energy used to heat water.³

Due to some residents' concern about the lowered pressure from the low-flow showerheads, OCH replaced some of the low pressure showerheads with high pressure—but still low flow—versions. OCH also purchased CFLs with warm light so no tenants complained about harsh lighting.⁴ OCH is ramping up its community engagement program with the hopes that it can keep Wurtemberg community members involved in environmental initiatives and to be sure that the retrofits are accompanied by behavioural changes in order to make the biggest environmental impact.⁵



Now House: OCH took part in the Now House Project, obtaining funds from Hydro Ottawa and the Ontario Power Authority to renovate a one of its wartime house and make it a near-zero home—one that produces almost as much energy as it uses.⁶ For example, it had the doors of the house relocated to improve cross-ventilation. They also replaced old appliances with new energy efficient ones and used spray foam insulation, upgrades that have all resulted in large energy and cost savings.

For those interested in having a more energy efficient home but who cannot afford the costly renovations of the Now House, Dan Dicaire,

OCH's Energy Efficiency and Sustainability Officer, suggests that every time an upgrade is needed, energy efficiency be sought out. For instance, if new appliances are needed, energy efficient models should be purchased. It is an easy step that results in lower utility bills.

Renewable Energy Generation Projects

Solar Wall in the Clementine Community: The Clementine building needed to be re clad, meaning the whole brick façade had to be ripped off and replaced. Since it has a wall with southern exposure, able to benefit from the sun's rays, the building was a perfect candidate for a solar wall. **The wall is expected to save between \$10,000 and \$14,000 a year in heating costs**, giving the project an estimated seven to 10 year payback period. The solar wall should last around 50 years, making the installment worthwhile.⁷

How it works: the corrugated, black surface is separate from the exterior wall. The air heats up due to the black wall, resulting in an average temperature rise of 26°C. The hot air then rises and flows through to the heating system of the building, where it only needs to be heated a bit more in order to have a reasonable temperature in the building. This saves both gas and money. In the summer, the vent that links to the wall can be closed so as not to heat the air; instead, a vent that brings (unheated) air directly from the outside is used.⁸

The financing for this project comes from a green fund created by OCH. **Any money that was granted to OCH through rebates was put into this fund so that it could be reinvested into greening projects for the community.** As of June 2011, OCH had leveraged about \$1 million through this fund. As this is the first solar wall in an OCH building, Dicaire is hoping that it will be successful and lead to great savings. The solar wall, he says, is "one of the simplest systems with such fantastic returns," and he is hoping that similar projects will be introduced to other buildings, especially since he expects between

one to four re cladding projects a year for buildings in OCH's portfolio.⁹

Solar Energy Systems

By September 2011, 30 microFIT (Feed-In-Tariff) solar panel systems, along with two solar thermal systems, will have been put in place on the roofs of various OCH properties. These projects received \$3.2 million in funding from the Renewable Energy Initiative, a joint program of the Social Housing Renovation and Retrofit Program (SHRRP) and the Canada-Ontario Affordable Housing Program (AHP). Since the Ontario Power Association introduced the microFIT program, OCH will now receive payment for every kilowatt hour of electricity the solar panels supply to the grid. It is estimated that **this revenue will total \$240,000 a year for 20 years**, for a grand total of \$4.8 million. This money will be reinvested into the OCH's green initiatives. While OCH's two solar thermal projects will not generate revenue, they will save approximately \$9000 a year in utility bills.¹⁰

Geothermal

Dicaire says, "We are keeping our ears to the ground," looking for any opportunities to make OCH's housing greener through grants.¹¹ In future renovation and construction projects, buildings will be assessed to determine which renewable energy system could be used. Currently, geothermal surveys are being conducted at several new construction sites—while it is costly to install geothermal systems in existing buildings, there is great payback for installing it in new buildings.¹²

Additionally, OCH is looking at air source heat pumps. "An air source heat pump uses outside air as a heat source or heat sink. A compressor, condenser and refrigerant system is used to absorb heat at one place and release it at another. Outside air, necessarily existing at some temperature above absolute zero is a heat container. An air-source heat pump moves

("pumps") some of this heat to provide hot water or household heating. This can be done in either direction, to cool or heat the interior of a building."¹³

Education and Engagement

OCH reaches out to community members through its "Community Champions Program," in which tenants are trained about environmental initiatives so that tenants will ultimately be the ones bringing back sustainability initiatives to their communities. This program was originally being run by GLOBE from Toronto. Now OCH staff will be running educational seminars, possibly in partnership with Seventh Generation from Tucker House.¹⁴

Community Capital Fund & Conservation

OCH has created a fund to support community-driven initiatives put forth by tenants. For example, when there are concerns about phantom loads (ie. electricity that is being used by devices that are plugged into outlets but are on standby, yet still using electricity), residents could opt to purchase power bars which could be switched off when not in use. The fund can be used to purchase power bars and other simple, environmentally friendly devices.¹⁵

OCH also plans on purchasing software to detect abnormal energy consumption. Each month, OCH would lower one large area of consumption. This would in turn lower the average benchmark every month, so OCH would constantly be setting new targets.¹⁶

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This Promising Practice was brought to you by Ecology Ottawa on behalf of the **Community Energy Network of Eastern Ontario** Encouraging the uptake of renewable energy and energy efficiency initiatives

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The Network gratefully acknowledges the support of the Ontario Trillium Foundation



References:

- ¹ Ottawa Community Housing Corporation. "Report to the Board of Directors: Home Depot Project Grant." 9 December 2010. www.och.ca/site/images/stories/downloads/boardofdirectors/december%209%202010.pdf. Accessed June 2011.
- ² Dicaire D. Telephone Interview. 3 June 2011.
- ³ Eartheasy. "Low-Flow Aerators/Showerheads." Website text. http://eartheasy.com/live_lowflow_aerators.htm. Accessed 2 June 2011.
- ⁴ Supra note 2.
- ⁵ Ibid.
- ⁶ Cook M. "Breathing New Life into Old Homes." Canwest News Service. 13 October 2009. www.markhamareahomes.com/text/oct_13_2009.pdf. Accessed June 2011.
- ⁷ Supra note 2.
- ⁸ Ibid.
- ⁹ Ibid.
- ¹⁰ Ottawa Community Housing Corporation. "Report to the Board of Directors: Renewable Energy Initiative (REI) Update." 9 December 2010. www.och.ca/site/images/stories/downloads/boardofdirectors/december%209%202010.pdf. Accessed June 2011.
- ¹¹ Supra note 2.
- ¹² Ibid.
- ¹³ Wikipedia. "Air source heat pumps." Website text. 9 June 2011. http://en.wikipedia.org/wiki/Air_source_heat_pumps. Accessed June 2011.
- ¹⁴ Supra note 2.
- ¹⁵ Ibid.
- ¹⁶ Ibid.

