



HIGH PERFORMANCE
NEW CONSTRUCTION

Non-Profit Dow Centre for Youth Peak power reduction – another way of serving the community





**Big Brothers
of Sarnia-Lambton**



**Big Sisters
of Sarnia-Lambton**

This visionary project brings together several youth-oriented services under one roof: Sarnia-Lambton Rebound, Big Brothers of Sarnia-Lambton, and Big Sisters of Sarnia-Lambton. Collectively the lead agencies provide programs and services for more than 2,500 children and youth and more than 100 parents in the region.

Prior to the new building project the three social agencies were operating in three separate buildings each with high energy costs and less than ideal spaces for programs. As non-profits, the lead tenants wanted to keep administrative costs as low as possible to maximize the funding that goes into program delivery. Together they decided that a shared green building would help them serve the community more effectively.

The new \$3 million Centre, facilitated with a gift from the Dow Legacy Fund, land donation from St. Luke's United Church, and generous help from the community, provides tenants with 14,808 ft² (1736 m²) of functional program and office space. Robert E. Dale Engineering Limited worked with Maxine Shabshove, Architect with Elevation Architect, Enersave Logistics, and Roy Ojala, Consultant with Electrical Company Rombald Inc. to incorporate best practices in the design. General Contractor Wellington Builders Inc. brought the job in under the original

estimate and with minimal waste in the construction process. As part of their leading-edge approach to design and construction, the project team made sure to incorporate features that would reduce electricity demand and annual electricity use. The HPNC's prescriptive program made it easy to calculate the savings and apply for incentives.

Lighting and air conditioning choices that qualified the project for HPNC incentives include:

LIGHTING AND SENSORS: The project employs an efficient lighting design with average lighting power density of 0.515 W/ft². Projected electricity demand savings of 1.58 kW are the result of using Compact Fluorescent pin-socket lights in some areas and ceiling mounted occupancy sensors in combination with other lighting.

AIR CONDITIONING: Demand savings of 5.117 kW were achieved with the choice of higher efficiency unitary air-conditioners ranging in size from 3 to 10 tons with average efficiency of 12.5 EER (compared with the MNECB default of 8.5 EER). The choice of these high efficiency units is projected to deliver demand savings of 5.117 kW.

In total these features deliver 6.69 kW in monthly demand savings and earned the project an incentive of \$1,674.25.

Electricity measures were just some of the many advanced features that contributed to the overall efficiency of the building. These include building shell and window improvements, heat recovery, low-flow water fixtures, and other measures to minimize energy and water use.

Benefits

This state-of-the art building provides Sarnia's youth services with a spacious and light-filled environment. Energy costs are actually below what they were in the three old locations. Equally important, the agencies have room to grow. The extra space, building amenities, and cost-effectiveness means staff and volunteers can now offer a broader range of programs than ever. They are also looking forward to expanding partnerships with other organizations.

Don Cook, Chairman of the Board of Directors for the Dow Centre for Youth, is thrilled with the building's performance and pleased with the recognition garnered for its pioneering features. Although the Centre does not pay electricity demand charges, its participant agencies are pleased to be making a contribution to managing Ontario's peak demand for electricity as well as reducing energy use and greenhouse gas emissions:

We believe that environmental sustainability is part and parcel of serving the community. We are extremely proud to have earned the Ontario Power Authority's and others' recognition for the work of so many people who made this a reality.

SARNIA - LAMBTON



Rebound
Supporting Youth
Strengthening Community

Designing it right. Reaping the rewards.

The Dow Centre for Youth in Sarnia is proving that the Ontario Power Authority's High Performance New Construction (HPNC)

Program is not just designed for big business. The Sarnia Centre is one of the first non-profit sector projects to be recognized by the program, pointing the way for others.

Projected savings include:

6.69 kW reduction in summer peak demand for electricity

On the basis of the demand reduction, the Dow Centre for Youth received

\$1,674.25

in incentives from HPNC prescriptive program.



Dow Centre for Youth

Lessons Learned

Geoff Dale, President of Robert E. Dale Engineering Limited, says that fear of the unknown is the biggest barrier to green construction – both unfamiliarity with new construction practices and uncertainty about costs. Now that the Dow Centre is complete and in operation Dale is confident that it will serve as an important demonstration project to encourage others to build new green facilities:

The fact that the Dow Centre met its sustainability goals while coming in 10% under budget should encourage others to aim for high energy and environmental performance for their new buildings.



HIGH PERFORMANCE
NEW CONSTRUCTION



OPA's High Performance New Construction (HPNC) Program

The Ontario Power Authority's HPNC program, delivered by Enbridge Gas Distribution and Union Gas, offers incentives to incorporate electricity efficiency in the design and construction phases of new buildings, additions and major renovations.

Incentives are available for both prescriptive projects (where builders choose from the OPA's menu of pre-approved technologies) and custom projects (where building modelling is used to determine the impact of site-specific efficiency upgrades).

Eligible new building projects include: office buildings, industrial buildings, retail spaces, multi-unit residential buildings, affordable housing complexes, colleges, universities, schools, hospitals, long-term care facilities, agricultural buildings, hotels and motels. Single-family dwellings are not eligible.

Find out how you can qualify by phoning 1-888-OPA-HPNC, visiting www.hpnc.ca, or emailing hpnc@enbridge.com.

To qualify for the HPNC Program, a project must be located in Ontario (excluding the 416 area code), conform to Part 3 of the Ontario Building Code (OBC), and be intended for commercial, institutional, industrial or multi-unit residential occupancy. Agricultural buildings may apply. Applications will be accepted for approval through late fall 2010, and projects must be completed, evaluated, and delivering energy savings by December 2012. Buildings that obtained a building permit between August 2007 and March 2008 may also be eligible.

⁰⁰¹ An official mark of the Ontario Power Authority.

Program Highlights

\$250 per verified kW saved in the prescriptive stream

\$200-\$250 available per verified ton for alternative energy measures

Up to \$60 per eligible in-suite appliance in multi-residential new construction

\$250-\$400 per verified kW saved in the custom stream

\$50-\$100 per verified kW saved available to design decision-maker in custom stream

100% of building modelling costs, up to \$10,000

Available throughout Ontario outside 416 area code.



uniongas
A Spectra Energy Company