

# George Bell Arena



## New Cold Water Resurfacing Technology is a Game Changer

*“Enbridge’s rebates were the saviour for our rink. They allowed us to take advantage of this new cold water resurfacing technology with a payback of less than a year.”*

Larry Woodley, Facilities Manager  
George Bell Arena

George Bell Arena in Toronto’s west end is a City of Toronto facility that provides quality ice all year round for amateur hockey games. The arena’s non-profit board has a mandate to keep costs down to ensure affordability for its user groups. With ice arenas one of the biggest contributors to the city’s energy use, board and staff also have a laser focus on reducing environmental impacts.

By 2016 George Bell’s facilities manager, Larry Woodley, had already undertaken a number of energy efficiency upgrades at the aging facility including desiccant dehumidification, a lighting makeover, and a building automation system for the compressors. But energy costs were still rising.

Woodley knew that water heating was a major energy driver. In busy season their single rink is in use 62 hours a week and is flooded every 50 minutes. Each flood was using 150 gallons of water heated to 160° F (71.1° C).

The **REALice** system offered a solution. This emerging technology enables arenas to use cold rather than hot water for resurfacing the ice sheet. It is a method that delivers both natural gas and electricity savings. But there were two concerns. First that it would be a significant investment for the cost-conscious facility. Second, could it ensure the same high ice quality that was the pride of arena staff. Cold water resurfacing was gaining momentum worldwide but no other Toronto arena had installed it, so this would be its first test in the city.

Enter Enbridge’s **Energy Leaders** initiative. This incentive program was set up to promote early adoption of emerging technologies among commercial and industrial natural gas customers. By participating in the program George Bell Arena qualified for a rebate to cover 50% of the cost of the **REALice** technology.

The **REALice** system was installed in early December 2016 and was up and running for the prime season. Utility bills dropped dramatically from the first months. Based on an average weather year Enbridge estimates annual natural gas savings of 14,366 m<sup>3</sup> — around 21% reduction in overall use. There are also substantial electricity savings because the ice surface can be maintained at minus 6° C with a higher brine set point and that means fewer compressor runs. Load on the dehumidifier is also reduced. It's a big boost to the facility's environmental profile.

Best of all ice quality is outstanding — the new sheet is harder and clearer than previously. User groups are happy and ice resurfacing staff have given the new system a thumbs up.

### **REALice System de-aerates water without heat**

The **REALice** System, developed in Sweden and distributed in Canada by SWiCH Services Inc, eliminates the need for hot water to resurface ice — without any chemicals, filters or additional energy input. A specially designed valve, installed upstream of the resurfacer's feeder hose, features intake holes positioned to create a powerful vortex or swirling action that separates the micro-air bubbles from the incoming cold water.

George Bell arena staff easily installed the **REALice** system themselves. The compact wall-mounted unit is a space saver in the arena's small equipment room.

### **Results<sup>1</sup>**

- Estimated 14,366 m<sup>3</sup> annual natural gas savings
- 53,320 kWh annual electricity savings
- CO<sub>2</sub> (greenhouse gas) reduced by 27,000 tonnes over the life of the unit
- \$17,440 Enbridge **Energy Leaders** incentive

Utility cost savings amount to several thousand dollars annually. The Enbridge incentive reduced the payback of the project at George Bell arena to less than one year. But even without incentives, energy savings can pay for a **REALice** installation in 2 to 3 years at a single pad arena and 1 to 2 years for twin rinks using a single water feed.

<sup>1</sup>Enbridge models natural gas and electricity savings based on average temperatures over the course of a year. Actual savings will vary with weather conditions.



Enbridge Energy Solutions Consultant, Daniel Duhamel, being shown the compact REALice installation by Facilities Manager, Larry Woodley

## **Take advantage of our Energy Leaders offer**

Enbridge's new **Energy Leaders** initiative rewards and showcases our commercial and industrial customers who install leading edge technologies for incremental energy savings.

The initiative is aimed at customers who have already installed typical conservation measures and want to gain further energy savings. If you have identified an innovative technology that you would like to explore or if you would like some help to identify and assess new energy saving technologies for your facility, contact your Enbridge Energy Solutions Consultant.

Eligible projects can qualify for incentives of up to 50% of the project cost.

### **For more information:**

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