

EBN Member Case Study

Prepared for: The City of Pickering



Our Mission and Vision



Each day at EcoBusiness Network, we aim to support organizations driving the shift to a lower carbon, sustainable future. Our vision for the future of our community is a dynamic network of organizations integrating environmental sustainability into all aspects of their operations.



Canada Rubber Group is one of over 200 businesses in the Green Economy Canada working to set and achieve sustainability goals. Together, we are demonstrating a more sustainable economy is possible.



1 BACKGROUND

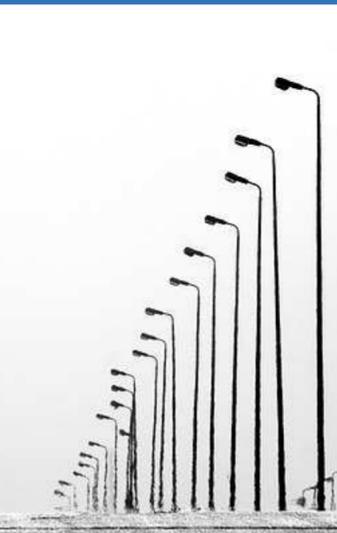
ABOUT THE CITY OF PICKERING

As the gateway to the east GTA, Pickering is strategically located where Toronto, York and Durham Regions meet. The City of Pickering and its 400 staff are committed to intelligent community development to create a more connected, engaged, inclusive, and sustainable City, and to attract the best and brightest residents and businesses. As a result of these efforts, Pickering has been recognized as one of the world's Smart21 Communities of 2017 by the Intelligent Community Forum. Furthermore, Pickering offers a wealth of sports, leisure and recreation opportunities and continues to evolve as a preferred destination for creative learning, memorable events, and unique experiences.

The City of Pickering is building sustainable communities.

"The City of Pickering was a founding member of the EBN initiative for the first three years of its inception. The overarching goals aligned with our Sustainable Pickering program, and we recognized value in collaborating with like-minded agencies to work towards our shared sustainability objectives. Moving forward, the EBN program has continued to evolve and expand. EcoBusiness Network has proved to be a great partner who is both responsive and resourceful, and we've benefited from an impressive and varied number of activities and promotional opportunities."

- Chantal Whitaker, BESC (Hons) Coordinator, Sustainability | City Development



2 ACTION

MAKING SUSTAINABLE CHANGE

Challenges

One of the driving factors for the Smart21 designation was the establishment of Seaton: a new, sustainably-designed community. Seaton is integrated with a thriving agricultural sector and an extensive Natural Heritage System.

As Seaton has a focus on technology and sustainability, developers approached the City to explore streetlight options.

City staff found that an increasing number of municipalities were investigating and adopting alternative technologies as the primary source for roadway lighting. With the pending development in the Seaton community and the subsequent impact to the City with regards to street lighting administration, maintenance and cost, staff recommended that Council approved LED technology as the new standard light source. This standard would provide both a reduction in energy use and maintenance costs while providing environmental benefits, improved color rendering and lighting controls.

In 2014, Council approved the use of LED technology as the City standard for street lighting in the Seaton Community and in subsequent capital projects and street lighting retrofit programs in south Pickering.

Areas of Focus

- 1 Assess opportunities to convert to more sustainable lighting.** Approximately 7,500 streetlights across Pickering were audited to provide data on the condition of City lighting and estimate the cost to upgrade. In April of 2017, Council approved the LED streetlight conversion program and is now underway.
- 2 Implement the conversion process.** Approximately, 5,000 lights have already been converted to LED and the full conversion is to be completed by November 2017 (with the exception of Whitevale). The selection of these luminaires will need to respect the heritage character of the hamlet. It is anticipated a 2018 installation date subject to budget approval.



3 IMPACT

THE SHIFT TO SUSTAINABILITY

Number Crunching

Some of the benefits expected from the conversion include:

- Reduction of energy use by 400%
- Improved light quality
- Reduced maintenance as LED fixtures don't use singular light bulbs
- LED lighting does not contain mercury or lead as found in HPS lighting
- Reduced carbon dioxide emissions to help them reach their 5 year goal of 13.8% before 2019.

Current Annual Energy Consumption: 5,255,295 kWh

- Projected LED Annual Energy Consumption: 1,711,579 kWh
- Annual Savings: 3,543,716 kWh
- Estimated GHG Reduction: 269 metric tonnes
- GHG Reduction over Luminaire Life; 6,195 metric tonnes

Looking Forward

By upgrading Pickering's streetlights to LED, the City anticipates a cost savings of approximately \$456,000.00 in annual energy costs and \$235,000.00 in annual maintenance costs for a total savings of approximately \$691,000.00 annually.

Upon completion of a Save on Energy Retrofit application, Veridian Connections Inc. determined that the City is eligible for an incentive of approximately \$500,000.00 to be received after project completion.

Advice For Other Members

- The industry itself is moving to an LED format, it does not make sense for a business to consider any other light source from a maintenance perspective.
- Having an inventory database makes it much easier to track the project. The vendor can update the database as the project is completed, ensuring you have a current status of the initiative.
- New technology allows for potential installation of additional application's in the future. For instance, the lighting retrofit will support Pickering's move toward being a SMART City.
- Look at the warranty: maintenance guarantees can help reduce maintenance costs.
- Complete an audit, if you don't know the condition of your assets, the ROI is difficult to prove. An audit allowed the City of Pickering to determine the true cost of the project.
- Make sure you do your research, find an auditor who is experienced in your industry and talk to their references.