What you need to know about …

LED Technology for Streetlights

LED (Light-emitting diode)

Shedding Light on LED Streetlights

ATCO Electric has been lighting up Alberta communities for more than 80 years. Time has passed; technology has evolved, but our goal has always been to provide safe, reliable electricity to the communities we serve.

Today, our customers are looking for ways to improve energy efficiency and use materials that are less harmful to the environment. Light-emitting diode (LED) technology has recently emerged as a new option for streetlights. It has the potential to increase energy efficiency and reduce fixture replacement and maintenance costs. Like many new technologies, LED for streetlights is rapidly changing, but it hasn't been in use long enough to prove or disprove manufacturers' claims.

Testing Before Investing

We're all familiar with the LED lights that decorate a Christmas tree, but LED lighting is a relatively unproven way to illuminate busy streets and roadways. The initial investment to change over to LED is also significantly higher than the cost of traditional high-pressure sodium (HPS) streetlights.

LED technology is rapidly improving. That means it is also rapidly changing. Advances in colour quality, energy efficiency and manufacturing costs might help make the choice easier. There are advantages to being on the leading edge of technology, and there are risks, too.

Passing the Performance Test

From an energy efficiency perspective, LED lights offer advantages over traditional lights. Preliminary findings suggest LEDs use less electricity than traditional lights to light the same area.

We expect more than energy efficiency from our streetlights. In community settings, we expect them to:

- produce the right amount of light across the right area
- be relatively easy and inexpensive to install, maintain and replace
- meet aesthetic standards

Saving Energy vs. Reducing Energy Costs

The energy savings of LED fixtures do not necessarily translate into significant cost savings for our customers.

That's because the amount of energy consumed is just one factor that influences the cost of lighting our communities. Capital cost, installation, maintenance, energy use and end-of-life costs must also be considered.

LED Streetlights: Are They the Right Light?

The right choice for lighting a community will balance several criteria, and cost versus environmental considerations will be left to community leaders to assess:

- **Energy use and energy costs**
  Is the priority to reduce costs or save energy?
- **Initial and replacement costs**
  LED lamp replacements are anticipated to occur every 10 to 20 years, but the technology hasn't been around long enough to prove that. Can the community accommodate the cost of a shorter-than-anticipated replacement schedule?
- **Lifecycle costs**
  Is the community prepared to invest now to reduce costs over the long term?

The Pros and Cons of LED Technology	
PROs	**CONs**
– Reduces energy use	– Higher initial costs
– Uses fewer heavy metals	– Higher replacement costs
– Possibly replaces fewer units over time	– Unproven performance and reliability
– Possibly reduces maintenance over time	– Unproven long-term maintenance costs

ATCO Electric's LED Technology Pilot Project

ATCO Electric is conducting a pilot project in Jasper and Drumheller to identify the costs and benefits of using LED technology to light our communities. The pilot project will help us better understand the opportunities LED technology offers our customers.

ATCO Electric has installed LED products from four vendors, in both locations, to do the following:

- test energy consumption
- calculate energy cost savings
- ensure suitability (i.e., are we meeting lighting safety standards)

The pilot project is expected to be completed in mid-2011.

Talk to us

If you have further questions about LED technology for streetlights, please let us know.

Contact us

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