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LEDVANCE

LEDVANCE LUMINAIRES CASE STUDY

ESKASONI FIRST NATION (CAPE BRETON, NOVA SCOTIA, CANADA)

Case Study Partner

REXEL

a world of energy

GOAL

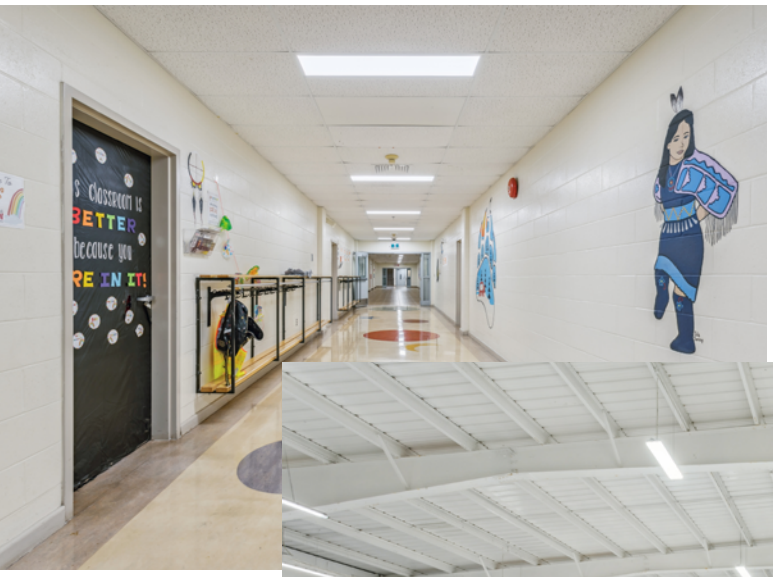
- Upgrade the outdated fluorescent T12 and T8 lighting technology in the Eskasoni First Nation's two school buildings and ice hockey arena/community centre with high-performing, energy-efficient, long-lasting, and low-maintenance LED fixtures from LEDVANCE

PRODUCTS INSTALLED

- 1,676 35-Watt and 40-Watt Lay-In LED Panels
- 54 LED Strip Lights
- 29 165-Watt Linear LED High Bays
- 32 180-Watt Vapour-Tight LED High Bay Fixtures from LEDVANCE, all of which are ideal replacements for fluorescent lighting

BENEFITS

- Upgrade to LEDVANCE LEDs slashed previous lighting energy consumption by 50%, reducing the cost to light the Eskasoni First Nation's two school buildings and hockey arena/community centre by roughly $80,000 annually
- The upgrade involved an easy one-for-one changeout and LEDVANCE LEDs were easy to install
- LEDVANCE LEDs reduced the elementary/middle school's carbon footprint by 512,000 kWh annually, achieving the Eskasoni First nation's sustainability goals
- Payback on the Eskasoni First Nation's investment in LEDVANCE LEDs occurred (or will occur) in just 15 months (1.25 years)
- The fixtures' high color rendering index (CRI) enhances visibility and delivers a comfortable, uniform ambiance that promotes occupant well-being
- Long-life LEDVANCE LEDs will significantly reduce maintenance costs and concerns for the Eskasoni School Board for years to come



THE SITUATION

Nestled within the rugged and beautiful terrain of Eastern Cape Breton Island in the province of Nova Scotia, Canada, the Eskasoni Mi'kmaq Nation represents the most populous community within the Mi'kmaq First Nation. A proud community with a rich culture and history, the Eskasoni First Nation – which translates to 'where the fir trees are plentiful' in Mi'kmaq – is nearly 5,000 members strong and operates everything from a bustling K-12 school system and robust network of private-sector businesses to a supermarket, radio station, community ice rink, and cultural centre.

As part of their historic heritage, the Eskasoni community is also extremely connected to and respectful of their environment, a value reflected in their 1999 launch of The Unama'ki Institute of Natural Resources (UINR), a non-profit organization that promotes stewardship of local waterways, forests, native species, protected areas, and other natural resources in Cape Breton.

With a track record of driving everything from solar installations to water conservation projects and more throughout their community, it came as no surprise when the Eskasoni First Nation elected to upgrade the outdated fluorescent lighting within its two school buildings and ice rink in 2021-2022. And thanks to their strong relationships with leading LED manufacturer partner LEDVANCE and electrical distributor Rexel Atlantic, students, faculty, and community members within the Eskasoni First Nation are enjoying the high-performing, energy-efficient, and long-lasting benefits of LED lighting and the community's school and ice rink now represent a more welcoming environment than ever in which to learn, grow, and gather.

According to **Jeffrey Paul**, **Maintenance & Transportation Supervisor for the Eskasoni School Board**, the high costs and upkeep of outdated lighting in their community's two school buildings – a nearly 50-year-old elementary/middle school building housing 700 students and a 25-year-old high school building housing 270 students – were adding up.

"From a maintenance perspective, we were paying quite a bit of money to replace our fluorescent lamps as they reached their end-of-life," shared Paul. "At the same time, lamps in a few of our classrooms flickered and caused some students to experience seizures and other health problems."

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"In addition to issues in our classrooms, the lighting fixtures in our gym had a strange greenish-yellow cast to them, which ruined pictures that we took of our Christmas concerts there," noted **Elizabeth Cremo**, **Director of Education for the Eskasoni School Board.**

"As a result of all of the flickering and odd coloring from some of the older lamps in both schools, teachers or students often opted not to replace failed lamps and/or to shut off half of the lights. This created challenges for students with low visual acuity, which concerned us because we didn't want to make the learning environment more challenging than it naturally is for students."

> **"We were informed that current product rebates available made it more attractive to pursue an LED upgrade now than it had been a few years earlier, so we were motivated to go back to the School Board with a proposal." – Jeffrey Paul**

Happily, Paul said, "we were informed that current product rebates available made it more attractive to pursue an LED upgrade now than it had been a few years earlier, so we were motivated to go back to the School Board with a proposal. We explained to them that it would be financially beneficial for us to undertake the upgrade now, and they wholeheartedly agreed."

THE SOLUTION

Paul and his colleagues at the School Board immediately turned to their partners at electrical distributor Rexel Atlantic, who'd informed them of the upgrade opportunity in the first place.

"We started this project with the Eskasoni School Board several years ago," shared **Michael Orychock**, **Outside Sales Specialist at Rexel Atlantic** in Cape Breton. "I told them about incentives available through Efficiency Nova Scotia and thought it would be a great opportunity for the schools because, based on their use of outdated T12 and T8 fluorescent lighting and the fact that several fixtures were out in each classroom, they definitely needed a lighting upgrade."

In 2020, Orychock and his colleagues, including **Rexel Lighting Specialist Phil Deal**, got right to work assessing the existing lighting configuration in the Eskasoni schools and designed a high-performing, energy-efficient new system featuring LEDVANCE LEDs.

Following approval from the School Board, electrical installers kicked off the upgrade in 2021 by replacing the system of 3-lamp, 32-Watt fluorescent lamps in the elementary/middle school with roughly 1,200 LEDVANCE 2X4 LED Lay-In Panels, sleek and high-quality fixtures which offer comfortable and uniform light distribution, long life, and up to 50% energy savings relative to fluorescent lighting technology.

"The previous cost of the energy to run the school's lighting was $114,500 annually, which was reduced to less than $57,000 annually after the upgrade," said Deal of the new LED system, which cut the school's lighting energy bill in half. "Thanks to product rebates of $27,000 on the LEDs, the project paid itself back in just 1.25 years and successfully reduced the school's carbon footprint by 512,000 kWh."

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– Phil Deal

In 2022, the team proceeded to upgrade the outdated T5 High Output fluorescent lights in the community's hockey arena with 32 LEDVANCE Vapour Tight LED High Bay fixtures. "The hot lights, crowds, and sub-zero temperatures in this facility creates climate challenges for fixtures, which can suffer from the effects of humidity, condensation, and rust if water penetrates their housing," said Orychock, who added that the facility's high ceilings make lighting maintenance difficult and costly as well. "But thanks to their IP65-rated protection from moisture, highly durable polycarbonate housing, long, maintenance-free life, and powerful light output, LEDVANCE's Vapour Tight LED High Bays successfully addressed all of those concerns."

In late 2022, the contracting team kicked off the lighting upgrade in the community's high school by replacing outdated 28-Watt fluorescent lamps with 532 LEDVANCE LED Panels, LED Strip fixtures, and Linear LED High Bays in the community's high school. Once completed in Fall 2023, "this upgrade will reduce the school's $42,000 annual power bill for lighting to just $21,000 each year and, thanks to the additional availability of a $25,000 rebate on the LEDs, will pay itself back in just 1.25 years," Rexel's Deal said.

STELLAR RESULTS

"The contractors on the job confirmed that these were some of the easiest fixtures to install," Orychock said of the LEDVANCE LEDs. "The teachers like the new lighting and say that it brightens everything and makes the schools' classrooms and common areas look clean, comfortable, fresh, and inviting."

> **"I'd absolutely encourage other communities and school systems to undertake an LED upgrade because the savings speak for themselves."**

Eskasoni School Board members Jeffrey Paul and Elizabeth Cremo confirmed that they couldn't be happier with the results.

"We have a small maintenance crew for two schools and replacing lamps was time-consuming for them, but since we upgraded our schools' lighting, we haven't had to change one fixture," Paul said. "In addition to the significant energy and maintenance savings they deliver, the LEDVANCE LEDs are very high-quality and really brightened up our schools and arena. Our faculty and students have been amazed at the difference in the brightness compared to the old lighting and it's enhanced their ability to learn. And with our students no longer complaining of headaches from flickering lamps, the new lighting also promotes their well-being," he said.

> **"We're very proud of where we live and want to do the best we can for the land that we live on and leave to our kids." – Elizabeth Cremo**

Cremo added that the lamps' sustainability has been another big benefit of the upgrade.

"We're very proud of where we live and want to do the best we can for the land that we live on and leave to our kids," Cremo explained. "As a result, we're very focused on our carbon footprint and always try to make the best choices from an environmental perspective.

The fact that LEDs consume less energy, are mercury-free, and are very long-lasting, which reduces waste in landfills, made this upgrade a no-brainer for us."

According to **Ed Evans**, **National Account Manager at LEDVANCE**, "we're extremely proud to be Rexel's primary LED partner and to offer products that deliver the benefits of quality, sustainability, reliability, long life, and value. The

> **"It reduces costs, supports the environment, and promotes the well-being of building occupants. It's a win-win for everyone." – Jeffrey Paul**

Eskasoni First Nation has an amazing track record of achievements in sustainability and we're delighted to have been part of such a prominent and successful project and to help support their lighting and sustainability goals."

Nathan Salmon, **General Manager of Rexel Atlantic**, agreed. "We love opportunities for Rexel and LEDVANCE to collaborate on products and projects that truly make a difference and we're thrilled to work with the wonderful Eskasoni First Nation on initiatives that promote sustainability and environmental stewardship, values which all of our teams are passionate about," Salmon said.

"I've been working with the Eskasoni First Nation for 30 years and have many good friends there," Rexel's Orychock added. "It's an honor to have helped bring about this accomplishment, which will benefit their community for years to come."

Agreed Rexel's Phil Deal, "it's extremely rewarding to help provide a community with improved infrastructure."

For his part, Jeffrey Paul hopes that others will be inspired by the Eskasoni First Nation's achievements.

"I'd absolutely encourage other communities and school systems to undertake an LED upgrade because the savings speak for themselves," Paul said. "It reduces costs, supports the environment, and promotes the well-being of building occupants."

"Ultimately," Paul concluded, "it's a win-win for everyone."

PRODUCTS INSTALLED

LED Flat Panels

LED High Bays

Strip Lights

Vapor Tights

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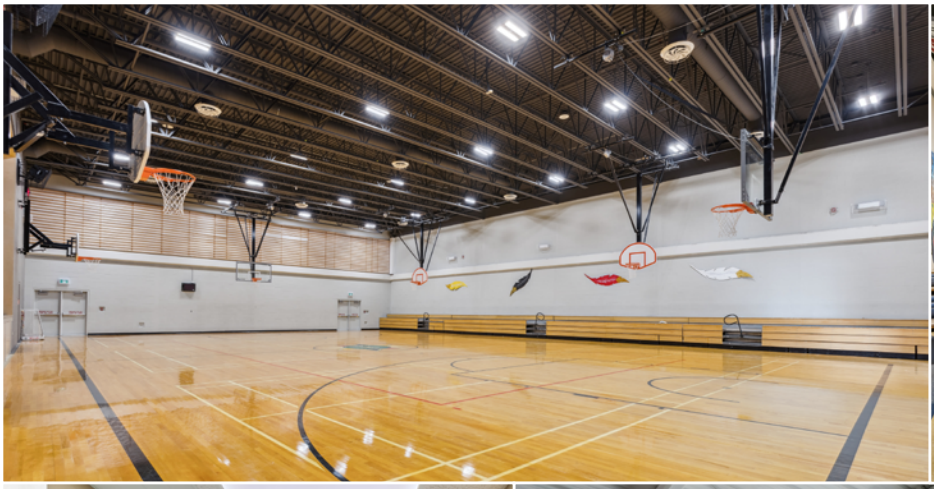

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