

ENERGY CASE STUDY

FASHION HISTORY MUSEUM

In 2016, ArtsBuild Ontario offered a one-time grant for energy conservation projects, as part of our [Energy Conservation Program](#). We were pleased to offer the grant to eight arts organizations, all taking on a new renovation or project that would result in lowering their monthly energy use.

One of our grant recipients was the Fashion History Museum in Cambridge, Ontario. This stylish museum, housed in a historic post office brightened their space by converting a number of track lighting fixtures to LED. We chatted with Chair of the museum, Kenn Norman about how this project improved their space and the savings they've seen since.

WHY TAKE ON A LIGHTING RETROFIT PROJECT?

The Fashion History Museum houses a collection of over 12,000 garments and accessories dating from the 1660s to the present. Founded in 2004, the museum opened its new home in the old post office in the heart of Hespeler in 2015.

Kenn credits the move to the new space with helping them identify lighting as a potential area of energy savings. "It was two-fold," he says, "one was the shock of the hydro bills [after the relocation]!"

The second factor was the ceiling height. "Although we have decent height here,"

Kenn says, "we had taken our [track lighting] fixtures from our previous location which had a much higher ceiling and noticed the brightness was too much on the artefacts." The lower ceilings positioned the lighting fixtures in closer proximity to the garments on display, causing issues with not only brightness and light distribution but also conservation best practices.

On top of the aesthetic issues with the halogen bulbs, the heat they were giving off was also causing problems for the gallery. "Because of the heat coming off the bulbs, it was forcing on the air conditioning, even in winter," said Kenn, "[...] it was either freezing or too hot." The heat emitted by halogen bulbs can contribute to higher cooling costs for arts facilities in the summer, but for the Fashion History Museum,



From the Fashion History Museum's Pat McDonough Retrospective, 2016

they were disturbing the whole environmental system. Wanting to provide a comfortable environment for both their artefacts and visitors, the lighting project became an easy priority for the museum.



From *Tying the Knot - Wedding Dresses, 2016*

ABOUT THE PROJECT

The project saw all of Fashion History Museum's track lighting fixtures retrofitted with LED bulbs, which give off less heat than halogen, a more pleasing light and offer more accurate colourization – an important detail when considering artefacts, and particularly so for textiles. The track fixtures throughout the gallery were transitioned and two fixtures were added, distributing light more evenly through the space.

The project also presented an opportunity for the Fashion History Museum to install dimmer switches, a function they had wanted at their previous facility but had never seen to fruition. The dimmer switches allow the gallery to tailor the lighting to the pieces on display and makes their already versatile space even more so. "We can actually pin point better to the artefacts on display," says Kenn. The dimmer switches also allow them to increase their energy conservation efforts, saving wattage where it isn't required.

OVERALL SAVINGS ON ENERGY AND COSTS

In terms of kilowatts used, the Fashion History Museum saw a 20% decrease in kilowatts used, even though they added two lighting fixtures in the gallery. Overall, they saved an average of 248.43 kilowatts/month, or just under 1,000 kilowatts over the six-month period measured.

Measuring impact six months after completing the project, the Fashion History Museum has seen an overall 32% decrease in dollars spent in energy use when compared with the same six-month period the previous year. Like most of our energy grant recipients, the Fashion History Museum noted the unusually hot summer experienced in southern Ontario during this time, which likely skewed results due to higher than usual AC usage. When translated to monthly savings, the Fashion History Museum saved just over \$75.00 a month on energy – meaning the full investment of the project will pay itself off in only 32 months.

IMPACT IN THE SPACE

Since completing the project, along with the significant energy and dollars saved, Kenn says visitor and staff experience has been improved. With flexible lighting, the gallery can showcase every object on display more effectively and display particularly rare or delicate items longer. With the excess heat from the halogen bulbs eliminated, the environmental controls are stable and more comfortable for employees

and visitors. The staff in particular reap the benefits of the new lighting – particularly in the form of maintenance. “Burnt out bulbs were difficult to change, particularly during exhibitions,” says Kenn, “but we haven’t had a bulb burn out since we completed the project.”

Along with significant dollar savings and improved visitor experience, Kenn says the lighting project has raised the bar for the Fashion History Museum in terms of museum best practices and overall conservation efforts. “Because we are textile-based,” he says, “[our artefacts] can be much more sensitive. That was really important to us in terms of [conservation of the collection], but also in being able to [borrow] items that are far more sensitive and have them on display longer and share that with the public.” The lighting project has brought the level of environmental controls up for the gallery,” and, says Kenn, “raises the bar on where we go next!”

UPCOMING ENERGY PROJECTS

When asked what could be next for the Fashion History Museum in terms of energy conserving projects, Kenn excitedly shows us the museum’s new antique cases, recently donated and installed in the back gallery. Kenn plans to install LED lights within the cases, which date back to 1910. LEDs are particularly significant for use in enclosed units due to the lack of heat emitted – a crucial consideration when it comes to conservation standards.

Another project in the pipeline includes addressing the energy leakage happening in the back gallery of the museum, which was a former loading dock when the space was an operational post office. As a heritage building, this project becomes more complex than simply installing a new door. Noting accessibility is a major priority for the museum (which already has a fully accessible front entrance), Kenn would like to address the energy leakage during accessibility improvements to create a new emergency exit with a ramp. Remember, energy-saving initiatives can often be combined with larger projects or renovations – an energy audit of your facility can help you identify areas for potential improvements.

For now, the Fashion History Museum is enjoying the benefits of their new lighting fixtures and monthly savings, and planning for major upcoming exhibitions in their new-and-improved space.