

# St. Joseph's Healthcare Hamilton embraces RETScreen with calculated results

Kent Waddington

***RETScreen Expert Energy Management software has proven to be exactly what the doctor ordered to substantiate the value energy management initiatives bring to St. Joe's bottom line.***



**RETScreen<sup>®</sup>**  
Expert

St. Joe's Hamilton, a member of the St. Joseph's Health System, is a multi-site, regional, tertiary centre, known for its strength in respiratory care, kidney and urinary care, mental health and addictions, surgical services, cancer surgery and women's and infants' care.

With approximately 5,000 staff, 700 physicians and 1000 volunteers watching over 777 acute, non-acute and infant beds, and over 50,000 yearly emergency department visits, you can imagine St. Joe's is a very busy place that consumes a large number of resources including electricity, natural gas, and water.

Managing those resources falls to the Energy Manager, Mike McKnight, who is responsible for monitoring and analyzing utility consumption, planning and implementing initiatives such as renovations and retrofits that maximize utility conservation, helping to manage the energy budget and supporting senior leadership in forecasting energy needs and expectations. Thanks to the RETScreen Expert Energy Management software, McKnight's job just got a lot easier.

RETScreen is a comprehensive "made-in-Canada" clean energy management software platform which enables health care energy and building professionals and decision-makers to identify and assess the viability of energy efficiency, renewable energy and cogeneration projects; and measure and verify the actual and ongoing energy performance of buildings such as hospitals, long-term care homes, and energy plants.

RETScreen's beauty lies in its ability to help energy managers in the measurement and verification of actual energy performance and can help them uncover additional energy savings possibilities. It can also help identify, assess and optimize the technical and financial viability of energy projects while assisting them to improve their climate change impact resilience.

JJ Knott the Canadian Coalition for Green Health Care's HealthCare Energy Leaders Canada lead, and resident Certified RETScreen Expert says, "By using RETScreen, an energy manager or energy team can quickly analyze cost savings, feasibility, and emissions reductions related to proposed



*A wide range of services occurs within St. Joseph's Healthcare Hamilton's Juravinski Innovation Tower including Diagnostic Imaging, Respiratory Health, Complex Care, Nephrology and Acute Mental Health.*

*energy conservation measures. It can also be used to help prioritize future projects based on net present value analysis, return on investment, cost to benefit analysis, and future cash flows, and it enables health*

care organisations to monitor and track energy savings and report on cumulative savings resulting from completed projects, with adjusted baselines based on project completion dates.”

McKnight is among a growing number of Canadian health care energy managers who are using RETScreen and are experiencing very favourable results. According to McKnight, “RETScreen has proven to be a very comprehensive piece of energy management software that is giving us a good indication of energy performance and is helping to highlight our energy performance, particularly when something such as air handlers, boilers or chillers are not operating at peak efficiency.”

He also finds RETScreen, “Very useful if you are working on a behavioural shift in energy consumption as the software can identify the savings that can accrue by adopting conservation measures.”

## Why RETScreen?

Months after a number of energy conservation measures were implemented at St. Joe's, it was time to look at a regression analysis of the hospital to see how things were really performing so McKnight created and populated an Excel® spreadsheet but quickly discovered the spreadsheet would not be easy to maintain. He found it took a lot of thought and manipulative effort to get results – results that RETScreen could provide quickly and easily.

Canvassing his energy manager community for a better way, he learned RETScreen was the software of choice whereupon he downloaded a trial version and was hooked. After uploading his data, he quickly saw how intuitive RETScreen was and how easily he could populate appealing graphs that he could use to share a variety of energy conservation success stories. “A tremendous benefit to me currently is that I can quickly generate easy-to-read graphs that I can share with management. These graphs highlight the positive changes that have been occurring at the hospital and provide a clear indication of the value that our energy management initiatives are having at St. Joe's,” claims McKnight.

Having mastered the basics of RETScreen, McKnight is now aiming to learn how to update the regression analysis with as little effort as possible and hopes to soon venture into the financial portion of RETScreen to help he and his team with project scoping.

“Measuring energy that is NOT consumed can be tricky, but with the help of RETScreen, you can understand how your facility historically performed compared against your current performance to reveal a clear picture of the savings resulting from your improvements, and for that reason, RETScreen should be considered as an essential energy management tool.”

Mike McKnight, Energy Manager, St. Joe's Hamilton

## A cautionary tail about forecasting

Management is always looking to find operational cost savings, so when you have a year of favorable weather, says McKnight, “They may push that you operate next year with the same utilities budget from the past year. Using historical weather data allows you



Mike McKnight, St. Joseph's Healthcare's Energy Manager, is taking a hands-on approach to energy conservation at the hospital and loves seeing the savings accumulate (with the help of RETScreen).

to support the request to ' earmark ' a larger utilities budget. As the year progresses, it will allow you to correlate the variance from budget as the weather varies from the 'norm'”

Knowing when a project was completed and plotting those event dates on a CUSUM graph equips you with a visual representation of the energy impacts. The CUSUM baselines can also be adjusted to reflect cumulative energy savings from project completion dates forward. This is a great tool to use to promote a project and roll it out campus wide. It also makes it far easier to approach management with a request if they can see the impact it has had in another area.

## A teaching moment

The simplicity of initializing and using RETScreen is to be applauded. Download your energy data, ensure it has the proper headings to comply with RETScreen's formatting, then do a simple bulk upload. McKnight does caution, however, on too much data granularity. Having access to

hourly meter reading and trying to use that data for analysis can slow down the software so he suggests aggregating data to daily values.

*“One thing I have learned is to keep it simple,” says McKnight. “Don’t overcomplicate things. Roll data up weekly. Even if you have a very low power weekend, an analysis at the weekly level will still provide a very accurate image of your weekly energy consumption which can then be used to predict annual values.”*

**“Don’t overcomplicate things.  
Keep it simple. Roll data up to  
‘weekly’ levels.”**

### Parting words

McKnight’s hope is that one day, he will be able to update his Excel spreadsheet and have RETScreen automatically pick up the changes. In the meantime, he is sold on RETScreen as an invaluable energy management tool.

The software has allowed him to continue to focus on future energy project at St. Joe’s and not have to worry about spending an inordinate amount of time analyzing the results from past projects. *“The only thing I need to think about,” he says “Is keeping a log of the changes I’ve made so that I can add those annotations to the CUSUM.”*

Moving forward, he plans to continuing update his software model and watching the CUSUM grow in the direction of favourable energy savings.

*“RETScreen has become my greatest advocate for showing the tangible benefits of energy management and maintaining a position within the Hospital. Also, when it comes time to budgeting for the upcoming fiscal years, it will be a simple and calculated approach – even with the ever-changing political landscape trickling into the cost of energy.”*

*“If you are working on lots of energy improvements (big or small) or trying to drive a cultural shift to one of a conserver mentality, then you need to create a Regression Analysis & CUSUM to support the savings, and what better way to accomplish that then with the help of RETScreen!”*

Visit the RETScreen website (<https://www.nrcan.gc.ca/energy/software-tools/7465>) to download the advanced complimentary premium ‘viewer mode’ version of the software and see why it is so aptly suited to assisting Canada’s health care facility and energy managers in taking a data-driven approach to managing energy use. From benchmarking, to consumption tracking and GHG emissions, energy audits and more, RETScreen provides a solution for health care energy professionals to take control of their facility portfolio.

Interested in rapidly developing an understanding and gaining hands-on experience with RETScreen? Check out RETScreen’s eLearning channel which has a wide variety of short videos on different aspects of the software: [https://www.youtube.com/channel/UCyFMjG\\_OXXGtRVnsiTim0IQ](https://www.youtube.com/channel/UCyFMjG_OXXGtRVnsiTim0IQ). If you’d like more in-depth training, consider taking the three-day Certified RETScreen® Expert (CRE) course (<https://cietcanada.com/programs/cre>) which includes access to a fully-functioning 90-day trial subscription. Depending upon your location, training subsidies may be available to help reduce your cost.

Be the first to learn about software updates and receive other RETScreen-related news. Sign up to receive communications and alerts by sending an e-mail to [nrcan.retsscreen.nrcan@canada.ca](mailto:nrcan.retsscreen.nrcan@canada.ca).

HealthCare Energy Leaders Canada looks forward to assisting you in implementing RETScreen in your health care organisation and helping you develop a sound energy management plan. Reach us at [jj.knott@greenhealthcare.ca](mailto:jj.knott@greenhealthcare.ca) or visit us at: <http://greenhealthcare.ca/retsscreen/>

### Credits

We would like to thank Mike McKnight, Energy Manager from St. Joseph’s Healthcare Hamilton, and his St. Joe’s team for assisting in the development of this Case Study.

### HealthCare Energy Leaders Canada

The Coalition and HealthCare Energy Leaders Canada looks forward to assisting you in implementing RETScreen in your health care organisation and helping you develop a sound energy management plan. Reach us at [jj.knott@greenhealthcare.ca](mailto:jj.knott@greenhealthcare.ca) or visit us at: <http://greenhealthcare.ca/retsscreen>

*The Canadian Coalition for Green Health Care is Canada’s premier green health care resource network and is leading the evolution of green in Canada’s health sector as a national voice and catalyst for environmental change. Collaboratively, we strive to reduce health care’s ecological impact from compassionate care delivery while providing a nurturing platform upon which to discuss and promote best practices, innovation, environmental responsibility and climate change resiliency. [www.greenhealthcare.ca](http://www.greenhealthcare.ca)*

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