The Perley and Rideau has struck not two, but three birds with one stone by upgrading their infrastructure and reducing energy costs, as well as improving comfort levels for their residents.

"Through consistent review of the facility and close monitoring of the outputs and efficiencies of these new programs, we have been able to defer capital costs and that can only help the larger health care system in the region."

- Akos Hoffer, CEO, The Perley and Rideau Veterans’ Health Centre.

Implementing energy retrofits to Perley and Rideau buildings

$560,000

Savings to the tune of $560,000 per year
With 450 private rooms, the Perley and Rideau Veterans’ Health Centre is the third largest long-term care home in Ontario. It serves as an advanced health centre for Veterans from both the Second World War and the Korean War, along with seniors from the community.

With roots that date back to 1897, Perley Rideau is the amalgamation of three care facilities: the Perley Hospital, the Rideau Veterans Home for service personnel and the National Defence Medical Centre. In 1995, the three facilities were united when the new hospital opened at the current Russell Road location. Following the amalgamation, the “hospital” label was changed and the Perley and Rideau Veterans’ Health Centre was designated a long-term care centre.

In 2013, two seniors apartment buildings were constructed in the 25-acre property providing 139 units for lease by seniors from the general public and former members of the Canadian Armed Forces to establish a thriving village that is home for more than 650 seniors.

As the largest long-term care home in the Champlain region and striving to be an innovative leader in the field, the activities of the Perley Rideau require significant amounts of energy, which constitute a large portion of the Centre’s annual budget.

Prior to the renewal program the Centre relied on a shared district heating system that left its residents vulnerable if the system failed. By the end of their contract, the Centre’s leadership team understood that it no longer made sense to continue with that approach due to its high cost and inadequate reliability.

In parallel with the construction of two apartment buildings for independent living seniors, this prompted the Centre to implement a comprehensive Energy and Facility Renewal Program to reduce operating costs, upgrade their building infrastructure and maximize the potential Ottawa South property that is only 900 metres from the General Campus of The Ottawa Hospital. The program was designed and implemented by Honeywell through an Energy Savings Contract, which aimed to reduce operating costs and enhance the indoor environment for residents.

The renewal program implemented a wide range of energy and infrastructure upgrades revolving around the construction of a new high efficiency central heating and cooling plant. During the fiscal year of 2012/13, the Perley Rideau introduced four dedicated high efficiency boilers, operating in such a way that if one unit can supply enough heat for the whole building just the one will run; if more are needed a second, and perhaps even a third one will start. The new high efficiency central heating and cooling plant will improve heating and cooling reliability while reducing operating costs by over $300,000 per year.

Moreover, the program facilitated the installation of a rooftop solar generation system consisting of 1,250 solar panels that have the capacity to generate approximately 250,000 kWh of electricity per year, enough to power 23 average households for an entire year. The system is connected to the grid, allowing the Centre to benefit from selling the energy generated, yielding $239,000 annually through the Feed in Tariff (FIT) program.

Figure 1: Boilers that supply the facility with heat and hot water

Figure 2: Rooftop solar installations at the Perley and Rideau

INTRODUCTION

PROJECT DETAILS
The overall project cost was $6.6 million with a payback period of just 11 years. Automation of HVAC controls such as scheduling of major fans and installing variable frequency drives on cooling towers, water pumps, and air handling units, as well as occupancy sensors to start-stop fan controls and a variety of other initiatives were also completed within the overall program.

Energy results: The Perley Rideau benefited greatly from energy savings totalling $560,000 per year, resulting from energy retrofits, facility renewals, and revenues from solar panels.

GHG reduction: The retrofits also resulted in 320 tonnes of carbon dioxide equivalent (tCO₂e) in reduced emissions per year, which is equal to 53 medium sized cars removed from the road.

Environmental stewardship is a priority for the leadership team at the Perley Rideau; they are always seeking to decrease its carbon footprint. With the implementation of their renewal program, the Centre has taken a proactive approach to environmental responsibility and energy consumption.

Today the residents and apartment tenants benefit from an improved living environment that is both financially and environmentally sustainable. Savings from these programs allow the Centre to reinvest in new capital equipment and fund the care and programming that they continue to provide to their residents.

Looking to the future, Perley Rideau leaders are looking to get LEED certification for some of the existing buildings to further maximize operational efficiency while continuing to minimize environmental impacts.

REFERENCES

[3] Meeting with Chad Haffner, Support Services Manager
[4] https://www.youtube.com/watch?v=H8j1D15tUmE and cite