

# Balfour Seniors' Centre



Energy retrofits on the Balfour Seniors' Centre have dramatically reduced energy consumption in the building. Seniors now have a comfortable centre, and membership and usage is up at the facility.

## Summary

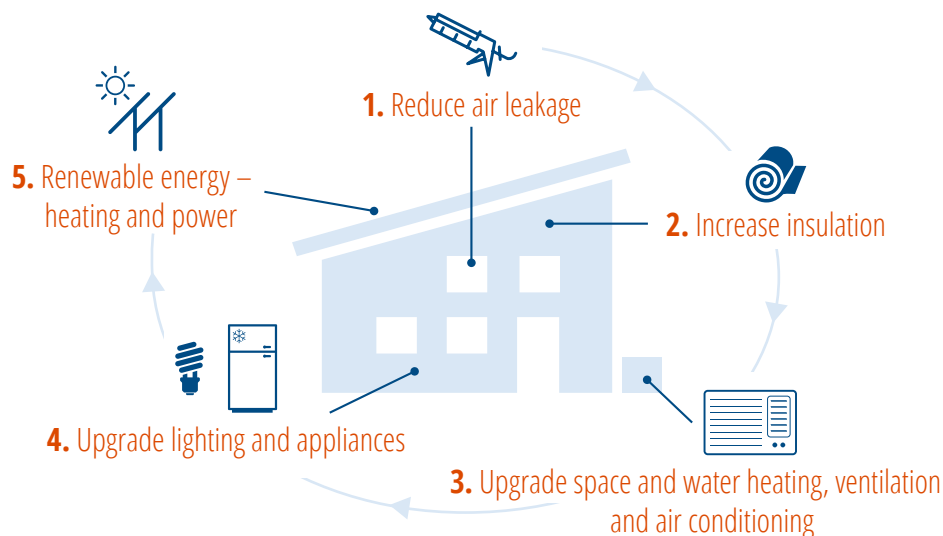
The Balfour Senior' Centre is located in Balfour, B.C. and serves as a meeting place and hall for senior citizens around Balfour.

With support from the Regional District of Central Kootenay's (RDCK) Area E Community Development Grants, a detailed energy audit was performed on the Balfour Seniors' Centre. The audit modelled the building energy consumption for space heating, ventilation, hot water use, indoor / outdoor lighting and appliance use. A prioritized list of recommended energy efficiency improvements was developed, and the Balfour Senior Association chose specific upgrades to make. The work was completed in the fall of 2015. The group is now interested in exploring solar photovoltaics on the roof so they can generate their own electricity.

## Project highlights

- Local champions are vital to support community groups.
- Very simple energy efficiency measures can drastically reduce energy consumption in an older building.
- Even without provincial and federal grants, municipal funds are available to support these non-profit societies.
- Motivation was high with the Balfour Senior Association to address their high energy use. There is now a sense of pride within the group on the work they have done to make their building more energy efficient and comfortable.
- Air-source heat pumps that work in moderate winter conditions are an excellent technology upgrade and much more efficient than electric baseboard heaters.

## Energy upgrades make financial sense



Upgrades are often prioritized using a tiered approach

Rising energy costs can be a burden to the operations and budget of a non-profit society, especially if they own or lease older buildings that suffer from structural neglect, poor energy performance and aging heating systems.

Very simple and effective energy efficiency upgrades can help reduce utility bills. Upgrades are often prioritized using a tiered approach that focuses first on improving building envelope, then heating systems and then lighting / appliance technologies, as illustrated here.

# About the Balfour Seniors' Centre



The Seniors' Centre is a small, single-story 1,200-ft<sup>2</sup> wood-framed structure that consists of a meeting place, library, kitchen and washrooms. It was built in 1977 using standard construction techniques, and the exterior has mainly remained unchanged.

## Before

- Exterior walls: standard 2x4 construction, with R12 batt insulation covered with lapped wood siding
- Roof: metal clad
- Windows and doors: original since construction and not very energy efficient
- Heating: standard electric baseboard heaters on mechanical dialed thermostats
- Lighting: mostly dual fluorescent tube light fixtures

## Energy efficiency findings

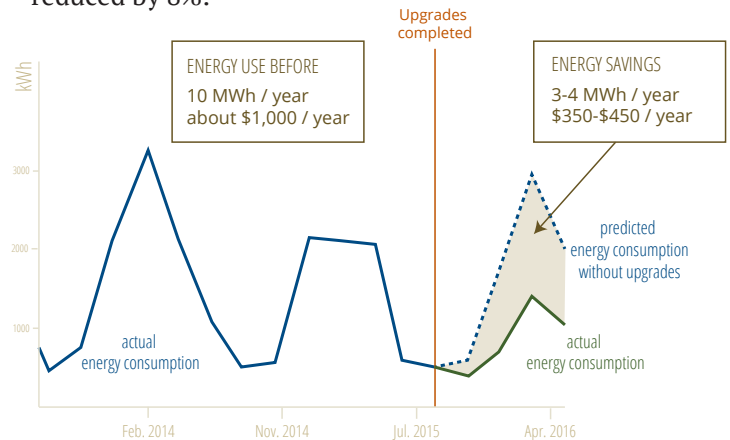
- Significant air leakage through walls, windows and doors
- Poor insulation in walls
- Inefficient older heating system
- Inefficient older lighting technology
- Old, inefficient kitchen appliances and hot water tanks

## Recommendations

Six energy efficiency recommendations were provided that could collectively save approximately 7,200 kWh / year of energy. Four of the six energy efficiency measures were implemented by the Balfour Senior Association.

## Energy profile: before and after

Based on actual utility data collected for six months after the work, the upgrades will reduce annual energy costs in the Seniors' Centre by approximately half. Air leakage was reduced by 8%.



## Funding efficiency projects

Funding for this project was key! No programs are currently available for non-profit societies or charities in the area to help improve the energy efficiency in their buildings. However, the Balfour Senior Association was able to complete the professional energy audit and to cover the capital upgrades by

leveraging grants from the RDCK Area E Community Works Fund, which was made available through the provincial Gas Tax Fund.

The assistance of local champion RDCK Area E Director Ramona Faust was greatly appreciated in this project.



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