

Green Audits 2013

Anglican Church of Canada
and
Greening Sacred Spaces





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Introduction

Nine Anglican parishes across Canada conducted a Greening Sacred Spaces (GSS) Green Audit in their churches in 2013, facilitated and paid in part by the Anglican Church of Canada (ACC).

All nine audits were completed between October 22 and December 2 of 2013, with seven in Ontario, one in Quebec, and one in Nova Scotia.

Participating ACC parishes committed to the following:

- a. Paying one-third of the cost of the audit.
- b. Providing the previous year's data to GSS on parish energy consumption, gas, electricity, water, etc, with both the dollar figures and the consumption figures (m3, kWh, L, etc).
- c. Summarizing the parish's response to the Green Audit findings to help document energy saving actions and achievements. Summaries are due approximately 36 months following the audit, after the parish has had time to implement Green Audit recommendations.
- d. Hosting a public information seminar with GSS on energy efficiency. This should take place within a year of the audit date, at a time mutually convenient to the parish and GSS.
- e. Collecting energy consumption data for at least two consecutive years following the audit. This data will help establish a baseline against which parishes can measure environmental performance improvements year over year.

This report provides a summary of the experiences, main audit findings and the work that has been completed thus far in response to the 2013 audits for each of these nine parishes.

Report written by

Beatrice Ekwa Ekoko, Faith and the Common Good/Greening Sacred Spaces

Edited by

Sonia Hsiung, Anglican Church of Canada

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1. Christ Church Shelburne (Diocese of Nova Scotia and Prince Edward Island)

This project taught me and the parish leadership a lot and gave us some wonderful insight into what it is going to take to continue improve and restore the health of this parish. - Rev. Ed Trevors

Audit Report: December 18, 2013

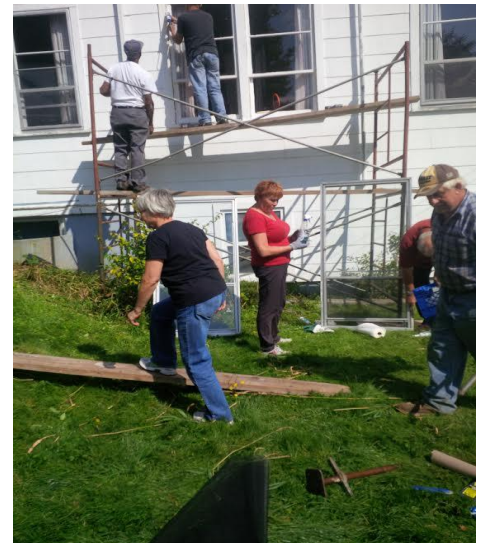
Key Recommendations and Actions

- Parish council approved a work project to make almost two dozen recommendations to improve the energy efficiency of the church hall.
- A new small group that meets each Thursday morning for fellowship took an initiative to make environmentally friendly and natural cleaning products. They are selling these products at the local farmers market to increase awareness among the community of natural alternatives to chemical cleaners.
- Parish is exploring the possibility of replacing older model furnaces with heat pumps.
- Parish is exploring the creation of a cooperative to help families and businesses switch to home-grown energy sources like solar.
- The Treasurer is gathering energy consumption for the past three years to be used as a baseline for the parish to examine the financial ramifications of the changes they are making.

Community Follow-up

The parish is planning on the following initiatives to promote their work within their community:

- Track progress online on the parish's new webpage as part of a project to assist families to make their homes healthier and more efficient.
- Host a community event to demonstrate their work, and the reasons for it, to people inside and outside of the church.
- Present their work to the Regional Council in the fall sitting. The Region consists of a dozen or so parishes, and the Regional Council is comprised of clergy and lay persons from those parishes.



2. Church of the Ascension (Diocese of Algoma)

Greening our sacred spaces and our personal experience has been so far reaching and profound, that we will be hosting another, separate public event. - Jane Cox, Greening Committee.

Audit Report: October 28, 2013

Key Recommendations and Actions

- Replaced boiler
- Took apart the cold storage area in preparation for replacing it with a better unit, and replaced the brick on the front of the church.
- Corking around the church.
- Lamps in exit signs replaced by LEDs, which will pay for themselves through reduced consumption in about 15 months.
- Motion sensors installed in janitor's cupboard and one bathroom.



Community Follow-up

Webinar and PPT

A Powerpoint webinar presentation on the Green Audit was held on June 12th, with the goal of promoting the idea of a Green Audit amongst other congregations.

Guided Tour (Open House)

We ended our evening an hour later than budgeted, with a fully engaged group. We could have gone on and on.... - Jane Cox



An Open House was held on Wednesday, October 8 from 6:30 to 8:30 pm. Despite timely advertising in the local papers, there was no external public attendance. However, the event had a keen group of 30 or so parishioners.

The event started in the Church sanctuary with a looped, silent Power Point describing the parish's "green journey", with before and after slides. A handout was distributed with links to resources for greening. Tour guide and parish warden Harley then led an outside/inside building tour describing major and not so major physical changes related to the Green Audit, and invited questions from the tour group. Non-toxic cleaning products were also on display.

Jane's daughter, Erica, facilitated a discussion with graphics on climate change and world socio-environmental problems. The group linked these issues on paper, and continued with the concept of sustainability, its meaning and barriers. Some of the discussion was uncomfortable. Much of the discussion reflected Christian commitment.





3. Quebec City Cathedral of the Holy Trinity (Diocese of Quebec)

Our primary motivation in implementing Stephen's recommendations has always been to save money. Our objective is to lower substantially our overall energy costs, which amounted to \$23,300 in 2013. - Peter Clibbon, Warden

Audit Report: November 22, 2013

Note: This parish has very specific challenges because they are a heritage-designated building.

Key Recommendations and Actions

- The cathedral began implementing recommendations in May 2014.
- Replaced the church hall's Emergency Exit doors on rue des Jardins, which were 118 years old. The cost of the new doors was shared equally with the Cathedral Foundation.
- New energy efficient lights were installed as a Capital expenditure. Every light bulb in the Cathedral was replaced with low-energy LED (Light-Emitting Diode) bulbs, around 220 bulbs in all.
- Replaced a leaky boiler.
- Replaced the pump for the Cathedral's hot water boiler, and also installed a new water entry and regulator. The new system will be more energy-efficient and much less wasteful of water.
- Brought new energy efficient appliances, including purchase of a new fridge and microwave for the small kitchen in the basement of the Cathedral.
- Replaced the electric hand dryers in the Church bathrooms with paper towel dispensers.
- Weatherproofed a number of windows and doors in both buildings.
- To date, the Cathedral has spent more than \$20,000 in their efforts to lower the overall energy costs. They note, "We have every expectation that these expenditures will produce good results."



4. St. Barnabas, Apostle and Martyr (Diocese of Ottawa)

The extra hot water tank! That was the major revelation. We didn't realize we had two. - Fr. Murray

Audit Report: November 12, 2013

Key Recommendations and Actions

Insulation

- Check status of church roof insulation and upgrade it.
- Check that vents in church ceiling are properly sealed off.
- Renew weather-stripping on doors and windows.
- Check sealing of basement windows and duct/piping penetrations.

General energy efficiency recommendations

- Eliminate second water heater under the church, and replace it with small on-demand heaters for sacristy and church washroom.
- Finish upgrading lighting to LEDs or fluorescents.
- Make thermostats tamper-proof, set appropriate programs for heating and cooling, and install special faucets to cut water use.
- Changing the stove and fridge location, and remove the small fridge in the parish hall.

Other “green” recommendations

- The report contains a number of suggestions about substitute cleansers, the best furnace filters to use, use of garden chemicals, management of water runoff, and recycling.

The great thing about the audit is that now we have a template to work on. - Fr. Murray



5. St. Christopher's Burlington (Diocese of Niagara)

Audit Report: December 2, 2013

Key Recommendations and Actions

- Installed storm (double-paned) windows in the sanctuary and altar area of the Church, and sealed up another.
- Purchased energy efficient freezers and fridge.
- Upgraded the lights in the parish centre, and replaced the halogen and CFC lights in the sanctuary with LED lights (127 bulbs).
- All neon lights have been converted from T12s to T8s. With the newer T8 lights, Burlington Hydro estimate that the parish can save over \$300.00 per month.
- Install new window and Make Up Air Unit in the sanctuary. The Unit is mandatory in commercial kitchens. It also balances the large exhaust fan in the kitchen so that the warm/ cool air is not evacuated from the rest of the building, thereby saving heating and cooling costs.



Community Follow-up



The parish held a public event on September 28 with an Eco Team Display. Over 300 people attended, most of whom took a tour through the displays. While participants were mainly parishioners, several external visitors were very impressed with the range of ministry undertaken.

6. St. James the Apostle (Diocese of Ottawa)

One of the most important learnings from the audit was the recognition that our Parish has made several commitments to sustainability but we weren't talking about it! We realized through the audit that we should always be thinking about our commitment to creation in all that we do; strengthening what we have done and creating new opportunities when we can. - Rev. Monique Stone

Audit Report: December 5, 2013

Key Recommendations and Actions

- Audit recommended that the overhead fans in the church be kept on at all times to maintain a better temperature in the church and better air circulation. The parish reports that this made a significant difference throughout the summer, and they will continue to keep the fans on to ensure that there is circulation of heat.
- The parish plans to install ceiling fans as well as more efficient lighting in the parish hall in spring 2015.
- The Green Team is acquiring some funding to install new windows in spring 2015.
- The parish notes that the infrared camera was particularly helpful, especially for people who are not well versed in audit lingo. Seeing pictures of the heat escaping out made it more tangible.

Community Follow-up

Daily Bread Garden

In light of the audit recommendations, the parish installed a rain barrel to help cut water consumption, and also installed a composter. The parish further strengthened their partnerships with Just Foods Ottawa, The Community Garden Network, and the Western Ottawa Community Resource Centre to ensure that many different organizations are involved. With these partners, the parish held a very successful workshop for the children from the Early Years Centre and the Carp Co-operative Nursery School to promote gardening and the environment.



Solar Panels

The auditor reminded the parish that their commitment to the Micro-Fit program was worth promoting. The parish added a page to their website that allows the congregation and others to see their solar production on a day-to-day basis.

The parish's Return-on-Investment on the panels is currently above what was expected. As such, the Green Team is looking at how the eventual income from the panels (in approximately 3 to 4 years) can be utilized for some of the more substantial projects outlined in the audit.

Other Parish Buildings

The Anglican Parish of Huntley has two other points in the Carp area. Although these church buildings were not included in the audit, the audit inspired them to consider any efficiencies they could make. They accepted a grant from the utility provider to update lights in the larger building, and have noticed a marked decrease in costs over the same period in the year prior to the renovation.

Promoting Sustainability Efforts

During the Labour Day weekend in 2014, the parish hosted a Back to School Open House at the church to promote the garden, their sustainability efforts, and their community as a whole. They provided take home packages for each of the attendees that included information on cooking with local produce, creating healthy snacks, and being involved in the community.



Other Actions

In addition to the activities mentioned above, the following has also been implemented:

- Started a Green Team with members from all three church communities.
- Purchased a beeswax paschal candle to replace the fuel candle that had been used for years.
- Upgraded the vacuum with a HEPA filter vacuum.
- Chose three events that typically used compostable disposables and used china instead.
- Purchased a Brita jug to discourage use of bottled water.
- Added a 'paper recycling' basket in the sacristy for left-over bulletins.

7. St. John the Evangelist (Diocese of Ottawa)

We have a list that we can check against the recommendations! Having the list has given us an impetus rather than knowing it in the back of our minds. - Gay Richardson

Audit Report: November 22, 2013

Key Recommendations and Actions

- The Building Committee reviewed the audit report. A “Green Team” was established in March 2014.
- Replaced windows for the two ground floor washrooms and the nursery.
- Performed deep level cleaning of one of the boilers and the hot water heating coil.
- Installed motion sensors and remote control lighting, as well as programmable thermostats.
- Completed a number of smaller, energy-saving actions, including: replaced exit sign lights with LED, installed low-flow water aerators on taps, upgraded lights throughout the building, and weather stripping and caulking.
- Further items to be investigated by the Building Committee include a review of the HVAC controls for the church, parish hall and administration facilities, as well as improvements to recycling throughout the premise.
- Major renovations are underway which, in addition to important benefits to the congregation and the community, should result in energy savings due to replacement of leaky doors, increased insulation, and so forth.



Community Follow-up

St. John will be participating in Ottawa’s Open Doors program in June 2015. They plan to profile what the parish has done in terms of greening, and provide information about Greening Sacred Spaces and the Green Audit program at the same time.

8. St. Saviours (Diocese of Toronto)

We referenced the Fifth Mark of Mission to place a context for this work and our Social Justice Framework: "To strive to safeguard the integrity of creation, and sustain and renew the life of the earth." - Rev. Stan Squire

Audit Report: January 14, 2014

Key Recommendations and Actions

- Purchased new energy efficient furnace, which was the key action from the audit.
- Implemented Blue Box and Green Bin.
- Purchased and installed new energy efficient freezer.

Community Follow-up

Book Club

Throughout Lent the Bookworms Book Club read *Exiles: Living Missionally in a Post-Christian Culture* by Michael Frost. The Club decided to concentrate on the environmental highlights from the book, which merge well with the audit recommendations.

The Book Club continues to provide "green" support materials to the congregation and is in the process of developing materials for a public event. The Club is also selecting new readings for the Fifth Mark of Mission.

Rogation Sunday, May 25

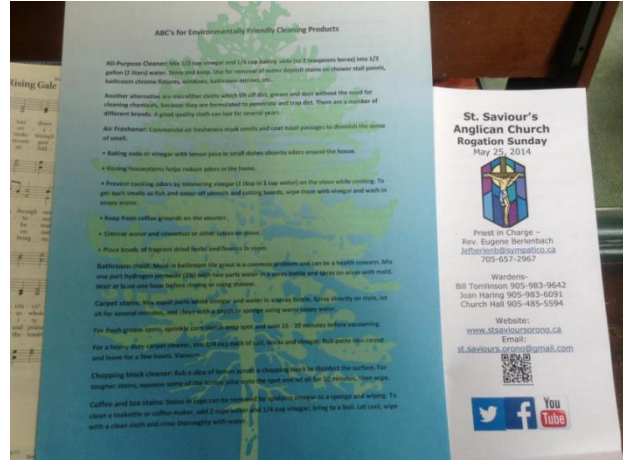
The youth group presented individual tomato plants to all members of the congregation. The crops were donated back into the community.

Following the morning service on May 25, the parish engaged in community clean up to link the environmental mission to community ministry. The parish cleaned up the parade route from the church to the local cemetery and back. Members of the congregation received garbage bags and worked as a group.



Promotional Materials

- Weekly Leaflet containing different quotes each week provides constant reminders to the congregation.
- The parish intends to produce additional information sheets throughout the year which reflect the Fifth Mark of Mission. The Book Club members have agreed to spearhead this initiative.
- A member of the congregation produced a handout on environmentally friendly home cleaning materials.
- Environmental actions will be promoted on social media, including the parish's Twitter, Facebook accounts. Video of the cleanup will be available on St. Saviours Orono YouTube as well as the website.



Public Event

A public event for the Green Audit will be done in the New Year, along with some statistics on the initial savings. The parish will likely time the display with the Annual Vestry meeting at the end of January.



9. St. Thomas the Apostle (Diocese of Ottawa)

The auditor helped us understand that there were a number of opportunities to align our renovations with the audit findings—not just the obvious, like energy efficient appliances but also, re-insulating the ceiling, which is more cost efficient than say, changing the single pane windows. - Derwyn Sangster, Stewardship Chair

Audit Report: November 22, 2013

Key Recommendations and Actions

- Replace all inefficient lighting, focusing on upgrading exit lights with LEDs and improving sanctuary lighting.
- Reduced heating requirements by air sealing, focusing on leaky doors, windows, exhaust vents and air conditioning window vents.
- Continue to set back temperatures at night or when spaces are not occupied for extended periods of times (already in place).
- Ensure fans in the Sanctuary are always on in the winter months.
- Continue to use recycling bins and ensure they are used in all areas.
- Continue to use washable dishes for parish events, and encourage outside users of the kitchen to do the same.
- Use more generic and environmental cleaning products.
- Consulted with the contractor renovating the parish's Trinity Room to ensure that environmental materials and energy saving appliances are used in the new premises. Opportunities to improve insulation and air conditioning efficiency will also be pursued in the renovations.
- As finances permit, the parish will consider replacing the three old refrigerators with energy-efficient ones and purchase HEPA filter vacuums.
- The parish plans to replace older exterior doors and windows in the long term, and air seal them with weather stripping in the short term.
- The parish will assess the level of insulation throughout building and look at opportunities to add more if required, and ensure accessible hot water pipes are insulated for both the boiler and potable water.





The parish also proposes the following changes to their current practices:

- In the spring, parish will review the number and operating sequence of boilers to ensure that the most efficient one is used first. The pipes will be insulated.
- The parish will consider timers or motion sensors in areas that do not require continuous lighting, such as the washrooms and hallways.
- The parish will monitor air conditioning to ensure it is not used unnecessarily in the hot months.
- The parish plans to adopt the practice of dusting and vacuuming radiators at least once a year.
- As required, the parish will replace the remaining 13 litre toilets and urinals.
- The parish will reduce water consumption with low flow faucet aerators, and monitor outside watering.



Conclusion

There is generally a sense of satisfaction and appreciation for the Green Audit experience. Even those who felt they knew what actions were needed prior to the audit were surprised by the range of additional actions that can be undertaken. They felt that having the information packaged in a concrete ways, like a “to-do list”, benefited their parishes.

Improving the Audit

As the Green Audit is a pilot program that has been newly implemented, participants are invited to engage in constructive, critical feedback to help improve the program.

A common challenge experienced across the parishes was the expectation that actions would be completed within the timeframe proposed by the program. Many parishes note that they needed more time and financial resources to get things done. The program request that parishes have their follow-up events by April 2014 was deemed to be unrealistic, and all the parishes had to request extensions. Some participants suggested the audit process include a five-year evaluation tool following the initial report, a tool parish councils can use to extend the importance of the audit and its recommendations.

Urban, suburban, rural differences were noted. “This project has taught me a lot about church maintenance and improvement – especially in a small rural setting. While the report and subsequent help was great, pulling together what is needed to make the recommended improvements was not at all easy. In the rural environment, resources (cash, time, talent, labor, etc) were difficult to come by. The suggestions were considered valuable and important to the future health of the parish and its buildings, but we struggled to make them happen. Even trying to recruit folks from outside of the parish to help with the actual labor was hindered by the amount those people were already doing in the community.”

Participants held the missional call for creation care at the heart of the work. “God saw everything that God had made, and indeed, it was very good.” (Genesis 1:31) And, in the words of the 5th Mark of Mission, we are reminded of our task:

To strive to safeguard the integrity of creation and sustain and renew the life of the Earth.