

1 Executive summary

The Christ Congregational Church consists of 28,000 ft². The original building was built in 1949, the education wing was built in 1960 and significant renovations were made approximately ten years ago. The church has formed a “green team” which has a goal of spending less money on energy and more on the community. In addition to spending less on energy, the green team would like to reduce the church’s greenhouse gas emissions.

This audit is based on:

- lighting inventory provided to Baumann Consulting on October 22, 2016
- a completed data request form provided in an email to Jon Lemmond (Baumann) by Jim Conklin (Christ Congregational Church) on December 7, 2016
- the walkthrough conducted January 23, 2017
- monthly energy bills usage data shared with Jon Lemmond of Baumann through Christ Congregational Church’s ENERGY STAR Portfolio Manager profile
- architectural and engineering drawings of Christ Congregational Church provided to Baumann Consulting during the January 23, 2017 walkthrough

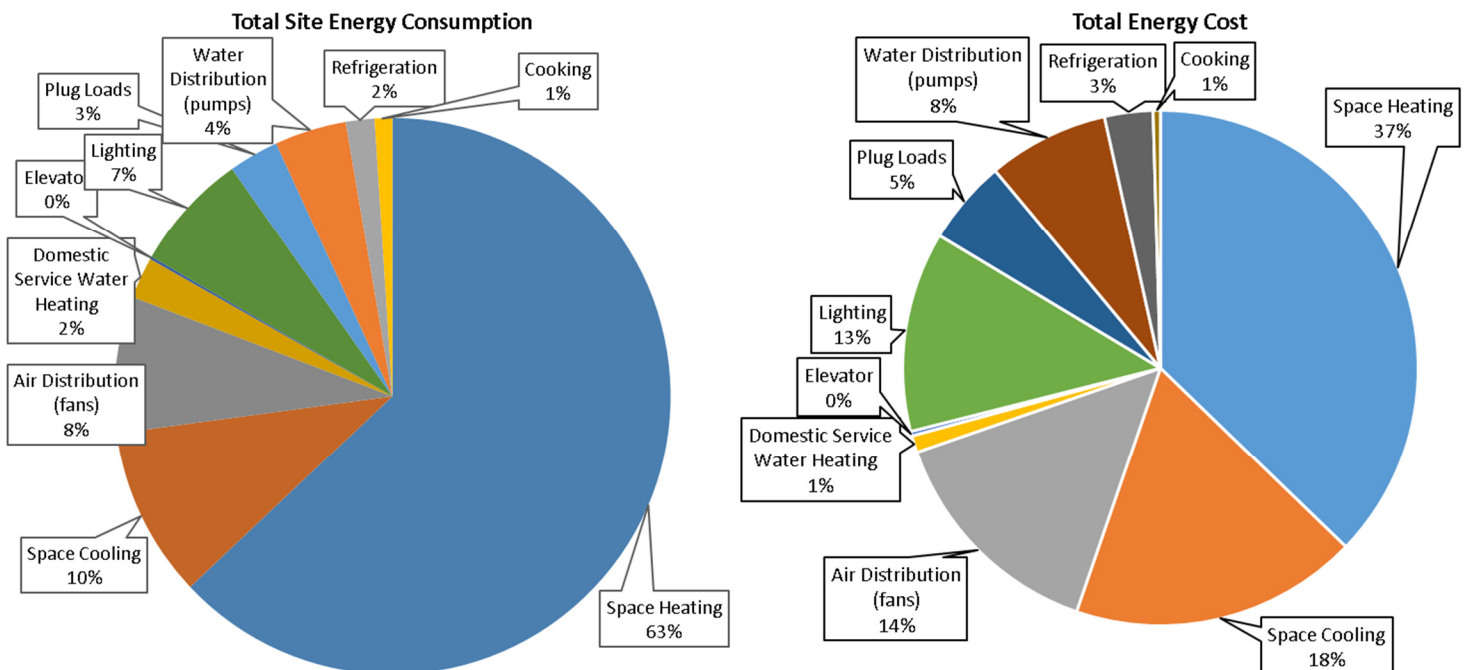


Figure 1. Total Site Energy Consumption by End Use (left) and Total Energy Cost by End Use (right).

Baumann Consulting has identified a number of possible no-cost, low cost and capital improvement Energy Conservation Measures (ECMs). Additional recommendations are also provided.

“No Cost” measures:

- Turn off plug loads such as commercial dishwasher and copy machines at night
- Remove furniture in front of heating elements

“Low Cost” measures:

- Attic hatch air-sealing and insulation
- Upgrade bathroom faucet aerators
- Fix damaged or install missing pipe insulation

Capital improvements

- Add Cellulose Insulation in the Attic
- Upgrade lighting
- Install variable frequency drives on pumps
- Replace boiler and upgrade heating system
- Retrofit ventilation system

Additional Recommendations:

- Utilize sanctuary ceiling fans to avoid temperature stratification and improve thermal comfort.
- Decide upon energy conservation measures to implement and conduct focused scoping study to build on completed ASHRAE Level I.

It is recommended to strategically consider the inclusion of the energy conservation measures (ECMs) suggested in this report.