

Second Annual Energy Audit
A Report to the St. James Episcopal Church Vestry
From
The Creation Care Committee
April, 2024

The first St. James Energy Audit was completed in April, 2023. This audit tracked the changes and improvements St. James made since 2016 to conserve energy and, as a result, conserve financial resources. Additionally, the 2023 Energy Audit acknowledged all past work and promised future annual audits to track progress on ongoing projects as well as prioritize future work. The 2023 report can be located by contacting the St. James office.

Our special thanks to Junior Warden Danny Blair, a tireless advocate for conserving our precious resources.

2024 Updates

Since the last Energy Audit, Junior Warden Danny Blair oversaw the installation of a new boiler. The boiler is now performing at peak efficiency. The use of Variable Frequency Drives on the new boilers reduces power consumption, helps mitigate the increase in cost when demand peak charges occur and reduces the power factor penalty.

A Variable Frequency Drive was installed in the Guild Hall. This VFD can change the speed of the fan depending on what is needed, saving energy. The VFD also saves on maintenance cost.

As suggested last year, carbon monoxide detectors were installed in the Guild Hall.

Lighting in the kitchen and storage area were replaced with LED.

Volunteers watered the planting on the Yale side of the church reducing the time sprinklers had to be used. Their continued attention to the system helped identify times and locations when it was necessary to use the sprinklers or lose the plants. The sprinkler system for the lawn areas were not utilized in 2023 to conserve water and even though there were drought conditions the lawns stayed in good shape.

Goals for 2024

Weather stripping: There are several doors that have obvious air leaks. Proper weather stripping cannot be done until the doors are fully operational. The goal is to repair all doors and reapply weatherstripping for a clean seal. In some cases, there has never been weather stripping.

Lighting: We will continue to replace old bulbs with LED continues as the older bulbs burn out. Areas that are scheduled next to be replaced are the offices and bathrooms. The lowest priority is upstairs as those rooms are used the least.

Water: The sprinkler system needs a thorough inspect to detect any sprinkler heads that are not functioning properly. A goal would be to move to drip sprinklers to save water usage.

Planting: The Creation Care Committee plans to convert a small area on the Yale side to a Monarch Waystation, using native plants that use less water but still provide an interesting and beneficial landscape.

Future goals

HVAC System: St. James has both “lead and lag” chillers. The lead chillers work until we have a need for greater capacity and then the lag chillers are engaged. The lead 30-ton chiller is only 5 years old and is of a reasonably high efficiency design. The lag chiller is approximately 25 years old and will be replaced with a high efficiency unit when financially possible. The lag chillers need to be replaced.

Electricity: St. James is currently on a demand meter that measures the surges in energy usage. We can work to make the surges lessen by replacing any equipment that has a fast start on an as-needed basis.

Solar energy: The Creation Care Committee continues to investigate newer technologies including the use of solar energy, wind energy and special programs that might impact energy usage. Creation Care members regularly attend Zoom meetings sponsored by the Department of Energy and monitor state and national legislation that might assist churches and non-profits in financing such improvements.

St. James continues to value the natural resources we have been given by conserving where possible. This conservation can also save on financial resources. The Creation Care Committee understands that the weather extremes will impact our work. However, we believe the it is important to continue to maintain and enhance our beautiful building and grounds as well as reduce our carbon footprint whenever and wherever we can.

Graphs follow.

Submitted by,

Pat Butin and Claudette Johns

Creation Care Co-Chairs

