

# Aldersgate Energy Improvement Projects, 2015 - 2018

## Planning Process

Through annual updates to its one- and five-year capital facilities plan, Aldersgate UMC identifies needs and opportunities often well in advance of actually beginning a project. The planning process allows more time for identifying and evaluating different options. Energy efficiency is an example. Many times, the Board of Trustees has added an energy efficiency component to a project that is going forward to meet other needs. Each of the projects listed below illustrate this practice of spending a little more to accomplish energy efficiency.

## Accomplishments

- 2018: Replace parking lot lights with LED lamps. One light was failing. Instead of just installing a new light bulb, the Board of Trustees opted to replace both parking lot lamps with long-lasting and high efficiency LED lights.  
Cost: \$1,110 (installation donated by a member of the congregation).  
Benefits: Lower annual operating costs, longer life, better directional lighting.
- 2018: Sunshine Room HVAC, east side. This project replaced one of the two heating and cooling systems serving the Sunshine Room. The old equipment was 30 years old, and the heater was requiring frequent repairs. The project replaced an inefficient air conditioner with a heat pump rated at 15 SEER. The new resistance electrical heater is also more efficient than the original. Overall, the contractor estimated the new system would save approximately 50% of the energy for the original system.  
Cost: \$8,870  
Benefits: \$250 per year in electricity savings.
- 2016: New front entrance. The project involved replacing a double set of solid wood doors with automated glass doors, enlarging the area between the two sets of doors, and adding insulation to the enlarged space. The combination of glass doors and enlarged area created a more functional vestibule that reduces air infiltration. Before, the interior set of doors were kept open most of the time and especially during events.  
Cost: \$19,300  
Benefits: Compliance with accessibility standards, a more welcoming appearance, and greater energy efficiency.
- 2016: New roof, including an additional 1” of insulation. A major hailstorm in the spring of 2016 caused several leaks and required a new roof. The project including adding 1” of insulation to the flat roof. This increased the amount of insulation in the flat roof by 25%. The project also involved new metal siding to replace the old vinyl siding. The metal siding has a much higher rating for blocking air infiltration.  
Cost: Separate costs for the insulation is not available. New siding added about \$12,000 to the project.  
Benefits: Improved energy efficiency.
- 2016: Replace bathroom exhaust fans (\$3,110). The purpose of this project was to reduce energy consumption and provide much quieter units. The old fans were inefficient at exhausting air and provided a large diameter opening through the roof that allowed a direct

pathway for winter air. The new fans move more air with better baffles and venting that do not create a draft in winter. Timing was driven by the roof replacement project, since the new fans allowed a better penetration through the roof.

- 2015: LED lighting. In 2014/2015, Aldersgate replaced many of the interior lights with new LED lamps and high efficiency florescent ballasts and bulbs. Funding came from memorial funds, volunteer labor, and incentive payments from Lincoln Electric System.



**Sunshine Room HVAC.**

The heat pump on the left was installed in 2018 and carries a SEER rating of 15. It replaced a 30-year old AC unit like the one pictured on the right.



**Roof Insulation.** The stack of insulation in the middle of the picture, above, provided an additional 1” of insulation on the roof. This was a 25% increase.

**Bathroom Exhaust Fans.** The photo on the left shows the size of the original penetration through the roof for the exhaust fans. Air infiltration was a problem, especially in winter when cold air outside created a downdraft. The new exhaust fans utilize ductwork that prevents a downdraft. Insulation adds to the energy efficiency of the new fans.



**Entrance Doors.** The new entrance doors improve energy efficiency by creating a vestibule that prevents air infiltration.



