

Getting UUSA to Nearly Carbon Neutral

A few months ago, the Green Sanctuary Committee invited members of the congregation to join us during a zoom social hour. We asked for input on how our congregation can address the oncoming climate crisis. We are working on several of those ideas, but the one that is the focus of this article is bringing our meetinghouse building as close to carbon neutral as possible.

We have already done several upgrades to the meeting house including adding cellulose insulation to the walls and attic above the sanctuary, sealing up leaky holes in the buildings, and installing a solar photovoltaic system. To get to carbon neutral, our next step would be to stop bringing natural gas into the building to energize five furnaces and a large hot water tank and replace that with electricity from our solar system to power heat pumps for heat and eventually hot water.

Reducing Natural Gas Usage

We invited Sam Pomeroy, our current HVAC contractor, to talk to us about possibilities and costs. Sam explained that there are two ways to reduce our gas consumption. One option is to totally replace the furnaces with heat pumps, which would be extremely expensive over \$80,000 per furnace and might not even be completely feasible. The second option is to add heat pumps to each furnace to offset 50-75% of gas usage. That would cost about \$10,000 per furnace and could be done incrementally, such as one a year for five years. The Green Sanctuary Committee proposes this alternative and would seek the guidance of the congregation as to when to begin this process.

Unfortunately, there is not a feasible electric alternative to our large gas heated water heater at this time.

Increasing Solar Power Generation

Given that our electric use would increase with the addition of the heat pumps, we also have asked a professional architectural engineer to evaluate whether additional solar electric photovoltaic panels could be added to the south roof of the sanctuary building. We contacted David Vreeland PE (Professional Engineer), who has offered to do that evaluation pro bono (a very generous offer). We do not have the results yet, but we hope that will allow us to design and add enough solar generation to our south roof to cover the increase in required electric demand, as well as much of the existing use.

More details will be coming on these alternatives. Both projects will need to be a capital campaign to cover the costs. Given the horrendous fires, hurricanes, and floods that so many parts of the United States have experienced this past summer due to the climate crisis, we are hopeful the congregation will help us move forward in decreasing our dependency on fossil fuels.

Brief Intro

The Green Sanctuary Committee is investigating how we get our physical church to “nearly carbon neutral” as our contribution to staving off a climate crisis. The impetus was input from the congregation during our Appreciative Inquiry coffee hour discussion last spring. We are looking at both reducing our natural gas consumption using heat pumps and expanding our solar power production. [Click here](#) to learn more, and we'll report back on our findings.