

# Green Committee Annual Reports:

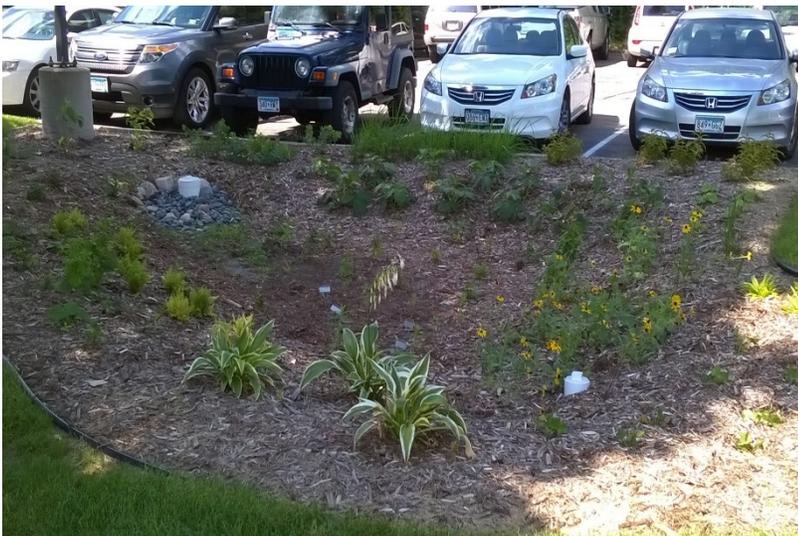
The following annual reports present what was accomplished in the previous year as well as identifying goals for the future. At the end of the annual reports is a list of projects planned or being implemented for this coming year by a number of the Church's committees.

Oak Grove Presbyterian Church, Bloomington, MN created a Green Committee in 2012. Our annual reports summarized our goals and progress.

## 2014 Green Committee Report

The Oak Grove Green team in 2014, studied and presented to the congregation informative programs about the rapid pace of climate change and its worldwide destabilization of all earth systems including extreme weather, rising ocean levels, desertification, species extinction, acidification of the ocean, and rapid warming of the oceans. As priority one, we focused on moving to net zero (no fossil fuel) for Oak Grove's electricity and offering members of our congregation some practical ways that they can go to net zero for their own electricity through community solar gardens. In 2015, we expect to offer Oak Grove and its members a plan where they can switch to 100% clean, renewable energy and perhaps save money on their electrical bills at the same time.

We worked with Building and Ops and Center for Energy and Environment to do an audit of Oak Grove's lighting to retrofit all the outside lighting and many of the interior lights to LEDs. This will cut our carbon emissions by 30%, our electrical consumption by 35% with a payback of 5-6 years on lights that are rated at 25 years or more.



We applied for and were awarded a cost-share grant from Nine Mile Creek Watershed District (WSD) to build a rain garden in the north parking lot island to capture approximately 15% of the storm water that we generate on our property. The cost was approximately \$30,000 with \$20,000 of it paid for by the watershed. Construction of the rain garden was done in the summer of 2014, planting will be done in May 2015 and dedication will be in September 2015.

Thanks to all the volunteers who worked on this project.

In addition, we are joining with the City of Bloomington and Nine Mile Creek WSD to offer rain garden education to our members and the community (Feb. 14, 2015), and also a workshop on pollinators in cooperation with the Bush Lake Chapter of the Izaak Walton League of America sometime in May 2015.

Oak Grove has been a founding member of the Green Congregations Coalition, a group of 5 Bloomington churches and also the Bloomington Sustainability Coalition. We have advocated for a new solid waste master plan for Bloomington that will provide the full range of curbside recycling including organics along with organized collection, again to significantly cut our carbon emissions

We developed and delivered a number of Adult Faith Formation programs in 2014 including programs on “Update on Climate Change,” “Fracking in the Bakken (ND)” “Fracking in the Marcellus Shale Region” (PA, and Ohio); “Keystone XL Pipeline;” “Water Smart Landscaping,” “Recycling and Climate Change;” “Carbon Tax;” “Community Solar Gardens,” and “Climate Parents and Grandparents,” examining the world we are leaving for future generations.

### **2015 Green Committee Report**

We developed and delivered a number of educational programs in 2015, including programs on:

- **Rain Garden workshop** put on by Metro Blooms in February.
- **Introduction to Community Solar Gardens** put on for Adult Faith Formation in April.
- **Protect Pollinators Workshop** put on by the Bush Lake Izaak Walton League and Wild Ones in May.

We built relationships with a group of Unitarian/Universalist (UU) churches who were also exploring opportunities to reduce their carbon footprints through community solar gardens. Our Chairman spent hundreds of hours working with a consortium of UU churches and Oak Grove to develop a community solar garden to which the church and its members could subscribe. This included vetting solar developers, negotiating subscription and partnership agreements and developing a sign up campaign. The initial agreements were approved by the Session. However, the solar developer, under pressure from its financiers, changed the subscription agreement negatively in late November. So we are basically back to square one in terms of getting to net zero electricity for the church and its members. The good news however, is that the Investment Tax Credit has been extended by 2 years, so there will be other options available.

The Green team worked with Building and Ops in converting most of the church's interior lighting to LEDs. Together the committees developed a plan and project managed a contractor to retrofit the interior of the church with LED lights cutting Oak Grove's electrical consumption by 12% and overall greenhouse gas emissions by 6%. The projected payback on this project is 8-9 years and the LED lamps will last from 25-40 years. Hats off to Glenn Pettit, Bob Sorenson, Bob Gerdes and Don Alman.



The rain garden built with a cost-share grant from Nine Mile Creek WSD was completed with the assistance of the gardening committee. The rain garden is designed to capture approximately 15% of the storm water that we generate on our property. The cost was approximately \$30,000 with \$20,000 of it paid for by the watershed. Construction of the rain garden was done in the summer of 2014, planting was done in May 2015, and dedication was in Sept. Over 40 Oak Grove members were involved in the construction, planting and maintenance

of the rain garden, which infiltrates and cleans over 50,000 gals of rain water per year that would have otherwise polluted Nine Mile Creek. Hats off to Dan Christianson, Erin Anderson-Wenz, Dawn Acker and Jane Horn.

We joined with the City of Bloomington and Nine Mile Creek WSD in offering rain garden education to our members and the community (Feb. 14, 2015), and a workshop on pollinators in cooperation with the Bush Lake Chapter of the Izaak Walton League of America in May.

Oak Grove has been a founding member of the Green Congregations Coalition, a group of 5 Bloomington churches and also the Bloomington Sustainability Coalition. Several Oak Grove members advocated to the Bloomington City Council for passage of the organized trash collection and organics recycling master plan that will significantly cut Bloomington's greenhouse gas emissions related to trash collection and reduced landfill methane emissions.

## **2016 Green Committee Report**

### **OVERALL MISSION:**

Reduce carbon footprint of and conserve water at Oak Grove Presbyterian, it's members and our overall community, in order to prevent catastrophic climate change from destroying the livability of God's creation in the next 30 years.

We delivered a number of educational programs in 2016, including programs on:

“Electric Cars and the Coming Transportation Revolution”

“Getting to Net Zero Electricity Without Breaking the Bank”

“The Challenge of Food Production in the 21st Century” with Elizabeth Alonzi

“Bicycle Commuting and Multi-Modal Mass Transit” with Jeff Hainlein of the Bloomington Bicycle Alliance. [L]  
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The Green Committee contracted with Premiere Lighting to convert all the outside lights and parking lot lights to LED lights. For our 16 parking lot lights, this meant a reduction from 360 watt halogen lamps to 90 watt LED lights... a 75% reduction. 11 of the 16 LED lights operate on motion detectors

that cut the power usage further to 45 watts when there is no activity in the parking lot, an 88% reduction for long periods of the night when our lights are on and nothing is going on. It also operates as a valuable security feature.

The LEDs provide better quality lighting and last 5 times longer than the halogen lamps. The energy reduction is 23,000 kwh per year. Coupled with our interior LED lighting retrofit project of 2015, Oak Grove has cut its electrical energy consumption by 30% over the past two years with payback periods of 6-8 year. Thanks to John Crampton, Bob Crum and Bob Gerdes for managing this very difficult retrofit project.

Oak Grove joined Xcel's Wind Source in 2016, using a donation to the church of \$2,000. This is a program where we get 100% of our electrical power from wind for approx. \$.01/kwh more on our bill, through the use of RECs (Renewable Energy Credits). So as long as we participate in this program, we will no longer be using any fossil fuels for our electricity = net zero. This represents a carbon emissions reduction of 90,000 kwh/year - the same as if we planted and grew 1,650 tree seedlings and grew them for 10 years. We will continue this program in 2017, and beyond.

In 2016, the Green Committee initiated a **cut your carbon emissions pledge** campaign in which Oak Grove members could pledge a number of actions to significantly cut their household carbon emissions, from joining Wind Source/Wellspring to driving less to eating a greener diet. We had 50 households pledge to cut their carbon emissions, and 32 members pledged to join Wind Source/Well Spring for 100% renewable energy electricity. This represents 250,000 kwh per year, switched from dirty fossil fuel energy to clean energy. This is equivalent to growing 166 acres of forest for one year - quite a mission project! Thanks to Bob Crum, Al Frechette, Janet Pine, Jane Propsom and John Crampton for leading in this pledge campaign. We will run this pledge campaign in 2017, with the pledges and content online.

The Green Committee approved a project to install porous pavers at the north end of the upper parking lot to capture and infiltrate hundreds of thousands of gallons of the storm water run-off during rain events. The pavers would divert the water from the upper parking lot into the ground rather than letting it flow into the storm water sewer flowing into Nine Mile Creek - same as our rain garden except that that the porous pavers wouldn't offer any biological treatment of the storm water. The Session rejected this project because of concerns about its efficacy and cost. Thanks to Dawn Acker for developing the proposal and carrying it forward to the Session.

In 2017, we have hired a consultant and formed subcommittees to develop a 3-5 year plan for getting to net zero in terms of all our energy use - electricity, natural gas, water conservation. This includes solar, green energy pricing programs, energy efficiency and the use of offsets to pay for our carbon emissions when they cannot be avoided.

The Green Committee gave \$1,000 to MN350.org to help in their work with the native Dakota people of Standing Rock in their opposition to the DAPL. We will continue to collect funds and warm clothes for the Water Protectors.

Oak Grove has been a founding and very active member of the Bloomington Sustainability Coalition

which in 2016, was successful in creating a Bloomington Sustainability Commission in the city government. We host the Bloomington chapter meetings for the Citizens Climate Lobby, a national, bipartisan effort to pass a national carbon fee and dividend program. We are active members of the Alliance for Sustainability and the South Metro Interfaith Creation Care committee that includes churches in Dakota, Scott and south Hennepin County.

The Green Committee is seeking new members to be part of our committee, as there is much work to do and few hands to do it. In 2017, our work will be structured a lot around small subcommittees with research work and phone conferences, so we will be able to accommodate people's varied schedules. If you are not involved in doing what you can to help curb and mitigate climate change, what are you waiting for? Do you have another planet in mind for your children and grandchildren and God's creatures to live on?

## 2017 Annual Report of the Green Committee

John Crampton, Chair

2017 was the year that showed the world that unabated climate change is beginning to impact people worldwide in a deadly way. A section of Antarctica the size of Delaware broke off in July, thus raising sea levels around the world. Here in the U.S., we witnessed a number of once-in-a-lifetime (now once-every-few-years) extreme weather events exacerbated by rapid climate change - three major hurricanes: Harvey, Irma and Maria, major fires nationwide during the summer and the devastating fall and winter fires in northern and southern California, followed in 2018, by deadly mudslides.

Meanwhile, President Trump and his cabinet (Pruitt, Zinke, Perry, Tillerson) proudly parade our country around as the world's number one polluter and the only country on Earth that is no longer part of the Paris Climate Agreement. Their lying and denial and our complicity with them are dangerous to the future livability of the earth for our children, grandchildren and future generations. And the excuses for inaction are long gone.

The Green Committee continued in 2017, with our goal of making Oak Grove net zero - carbon neutral (produce more clean energy than we consume). We did this through continuing **conservation**, **purchasing/producing clean energy** for 100% or more of our electricity, and finding creative ways to **offset the** carbon emissions of our natural gas and other fossil fuel use.

**Conservation** For the past 3 years we have replaced all incandescent and CFL lights with LED lights throughout the interior of the church (2015) and the parking lot (2016). In 2017, and 2018, we are experimenting with different off-the-shelf LED lights for the sanctuary. The sanctuary lights consume a lot of energy over a short period of time, thus driving high demand charges, which are 50% of our electric bill. By going from incandescents to LEDs we can reduce the energy consumption to 1/6<sup>th</sup> to 1/8<sup>th</sup> of what we are presently using, which will dramatically cut our demand charges and reduce the heat that the incandescents are now producing. Bob Gerdes, Eric Jensen, Jacques Chasse, Gordon Goodwin, and Al Greimel are leading this work. If you walk into the sanctuary some weekday morning and it looks like a high school physics lab, that's because they are using Bob Gerdes' old high school electrical bases to test the lights without going up in the lift. The trick is finding bulbs that can dim well enough to work with our dimmer controls. Expect LEDS to cut our electrical usage and emissions in the sanctuary in 2018.

The other big area of usage is in the HVAC needed to keep the sanctuary cool on the hot summer days. Working with the Building and Ops Committee, we recommended the purchase of ultra high efficiency HVAC units for the church (to replace the 17 year old units that were at the end of their life and had some major repair problems). These units were installed in November 2017. The ultra high efficiency units cost more, but most of the additional cost was covered by rebates from Xcel Energy. And these units will save thousands of dollars and many tons of CO2 emissions over the next 20 years by using less energy and producing far fewer spikes in the energy consumption resulting in much lower demand charges.



The result of conservation through LED lights so far has been a significant reduction in the church's energy consumption from 130,000 kWh to 90,000 kWh - 30% reduction.

**Purchasing/producing clean energy** Since August 2016, Oak Grove has paid for 100% of all its electricity to come from WindSource - an Xcel program that provides wind power generated in Western Minnesota to customers in urban areas via the grid. We are now net zero for electricity. This costs approximately \$1,100 more per year than conventional electricity (7% of our total bill), and has been covered by a gift from a donor. In 2018, the donated amount will run out, so we are budgeting to provide this from normal church operating funds.

In addition we reviewed and narrowed down proposals to put 20kw of solar panels on the education wing of the church through a program called Solar Rewards. This would involve putting up the array on the roof segment that faces directly at Old Shakopee Road and Penn Avenue, re-shingling the 19 year old roof that will be under the array and cutting down two trees that block the array (to be replaced by a rain garden and natural plants).

The benefit of this on-site solar would be that we will be getting more clean energy and showing the world that, as a congregation, we walk the talk in terms of acting to address climate change.

Another option that appeared at the end of the year is joining a community solar garden for up to 120% of our electricity. The panels would be off site in a rural setting. We would not own the panels but would subscribe to buy the power for a period of 25 years. The benefit of the community solar garden approach is that it is no money down and cheaper than owning panels. We could continue to subscribe to WindSource to produce the equivalent of 220% of our annual electrical consumption, which could greatly offset the carbon emissions from our natural gas use.

More details will be available as we develop these possible paths, including a cost/benefit comparison of on-site solar vs. community solar. Sunny Snyder, Eric Jensen, Bob Gerdes and other members of the Green Committee will be developing these cost/benefit comparisons, working with Budget and Finance and Building and Ops.

**Offsets and carbon credits** One way to help curb unabated climate change is to purchase products and services that help decrease the carbon we put in the air or increase the carbon we put/keep in the

ground. If you need to take an airplane trip (which produces a lot of CO2 emissions), you can pay to have acres and acres of trees grown, which will sequester an equivalent amount of carbon or buy solar panels or LED lights for villagers in Haiti that will produce an equivalent amount of clean energy. With that in mind, we will begin to evaluate possible mission projects or microloans to help people worldwide invest in clean energy. This is a project we hope to get going with the Mission Committee on a small scale in 2018, to offset our natural gas use and other fossil fuel consumption - all with the goal of being “net zero” in our stewardship of Oak Grove Church and God’s Creation.

You can do your part. Sign up for Xcel’s WindSource for 100% clean energy for your home (Wellspring in Dakota County). Switch to LEDs throughout your house. Test-drive an EV or PHEV car. Eat less meat. Walk and bike more and drive less. Take the bus and light rail whenever possible. Work for candidates who consider climate change an existential threat to our future and offer plans to mitigate its effects. Work to overturn Citizen’s United and the terrible destruction it has had on our democracy.