

Outcome: Dramatic reductions in energy costs were realized immediately upon installing a new HVAC programmable thermostat control purchased with Power to Change grant funds. For some periods of the year energy use dropped much as 95%! The new device was installed with other items, but it played a primary role in achieving overall 25% lower energy use over the five years from 2010 to 2015 at Bradley Hills. [PDF available with charts indicating the pattern of energy use decline upon request to Alison.bennett72@gmail.com.]

Bush Hill Presbyterian Church, Alexandria, VA

Date of application: May 17, 2016

Purpose: Overhaul lighting systems throughout the church and Christian Education building, improving lighting quality, reducing electrical costs, and reducing carbon footprint.

Grant amount requested and awarded: \$2,000

What is the likely reduction of CO2 in 12 months? Our analysis indicates potential reduction of nearly 24 metric tons of CO2, and we expect a 100% return on our investment in less than three years.

Date awarded: June 9, 2016

Outcome:

Chevy Chase Presbyterian Church, Chevy Chase, MD

Date of application: October 19, 2016

Purpose: To replace separate aging heating and cooling systems with a single, integrated environmentally responsible and energy efficient package for the sanctuary and Chadsey Hall.

What is the likely reduction of CO2 in 12 months? Total estimated annual reduction of lbs. CO2 emitted is 57,219 lbs, or an estimated 105,524 kWh or 62% of HVAC energy use. This corresponds to a yearly operational cost saving of \$6,051 at the blended utility rates of \$0.13/kWh and \$1/therm.

Date awarded: December 20, 2016

Outcome:

Earthen Hands at Dayspring, Germantown, MD

Date of application: October 14, 2019

Purpose: To further develop a small demonstration site at Dayspring called Earthen Hands. Rain barrel and native pollinator plants have been installed along the perimeter of the outbuilding. Additional funds are needed to bring off grid solar power to the site. Earthen Hands seeks to demonstrate alternatives to fossil fuel use and to be a gathering place for workshops teaching Earth Care practices such as Composting and Gardening for Wildlife.

Grant amount requested and awarded: \$2,000

What tangible change will result? Power will be generated from the sun rather than fossil fuel. Visitors coming to Dayspring retreats and conferences will see products in use that can empower them to choose alternative sources of energy. CO2 reduction achieved or other quantifiable measure: Solar Panels generated power for one potters wheel and 8 LED pendant lights.

Date awarded: October 18, 2019

Outcome: Earthen Hands at Dayspring sought to demonstrate Earth Care friendly alternatives through use of off grid solar power, water sourced from rain barrel collection and the creation of wildlife habitat by the placement of native plants around the outside perimeter.

- Planted butterfly weed and aromatic asters from ECN member Cindy Wackerbarth.
- Purchased and set up the following components from Goal Zero's off grid solar system: (1) 4 Boulder 200 Briefcase portable solar panels (2) 8 LED 350 Lumens pendant lights (3) 1 Yeti 3000 Lithium Portable Power Station

Much was learned about the cost of solar, the components needed to create a system off grid, and the start-up energy output needed to power a potter's wheel. Once the solar was set up it functioned even better than anticipated. The power stored lasted longer than expected.

Fairfax Presbyterian Church, Fairfax, VA

Date of application: June 2020

Purpose: To completely replace HVAC system. The new HVAC system will replace a plant that's over 20 years old. There will be 14 zones, each controlled by a smart thermostat that can be accessed by a mobile app. The zones and advanced features provided by the smart controllers/app will enable finer

grained control of the HVAC system and better heating and cooling efficiencies. This helps us regulating room temperatures and meeting the needs of worshipers, the counselling center, the pre-school, youth and meeting spaces. The new HVAC system also uses a refrigerant that's compliant with regulations and will be better for the environment.

Grant amount requested and awarded: \$2,000

What tangible change will result? It's been estimated that the new HVAC system is at least 25% more energy efficient than the old plant. That's 25% less energy use and less pollution generated.

Date awarded: August 5, 2020

Outcome:

Fairlington Presbyterian Church, Alexandria, VA

Date of application: September 12, 2017

Purpose: Replace 22-year old rooftop air conditioning unit with new Carrier Energy Start unit, and replace existing thermostat with WiFi-enabled programmable thermostat.

Grant amount requested and awarded: \$2,000

What is the likely reduction of CO2 in 12 months? FPC will more efficiently cool the Fellowship Hall. With a thermostat programmed during off-use hours for higher temps in warm months and lower temps in cold months, FPC will further reduce electric consumption. FPC will monitor the month-to-month usage and create graphs/trends of usage and will present to the congregation during annual meetings.

Date awarded: November 9, 2017

Outcome: The new unit Energy Star and AHRI certified with a SEER rating of 11.2 Additionally, we are setting the down-time temperature at 76-78 degrees instead of 72 for when activities are scheduled. 5. CO2 reduction achieved or other quantifiable measure: We track expenses in utilities for the entire church over recent years. (We are not able to meter/measure the electric usage of the individual unit that was replaced.) We reviewed the utility use with members at a congregational meeting, and Session also reduced the budget for utilities because of the downward trend of utility use in recent years. 6. Method of calculation used: We chart actual expenses for electric, natural gas, and water (for the entire church). 7. Simply finding the grant availability has spurred us to consider more dynamic ways we can show Earth care. From a management/financial standpoint, this experience encourages us to do a reserve study to better plan for major system replacements. But in addition to receiving this grant, in the past year, we have:

- Changed all screw in light bulbs to LEDs through a Dominion Energy program,
- Become an Earth care congregation,
- Used non-disposable plates for a meal to reduce waste,
- Collected leaves with volunteer effort to retain on site,
- Planned planting of native grasses, trees and vines on our site
- Coordinating plantings and composting with our tenant (Waldorf School)
- Hosted Earth care forum on April-12

Fairlington Presbyterian Church, Alexandria, VA

Date of application: May 7, 2018

Purpose: Replacement of sanctuary air conditioner. Condenser is 20+ years old, blower is 30-40 years old. New project includes wifi programmable thermostat.

Grant amount requested and awarded: \$2,000

What is the likely reduction of CO2 in 12 months? The new system is 15 tons with R-410 refrigerant.

Date awarded: August 20, 2018

Outcome: Replaced the extremely old air conditioning system serving the sanctuary with an American Standard air conditioner unit that uses R-410A refrigerant, allowing for greater efficiency than the older system, which used R-22 refrigerant (being phased out by the industry). The new system includes a programmable thermostat, which can be used also with the heating system for the sanctuary and allows us to reduce energy use when people are not present.

Fairlington Presbyterian Church, Alexandria, VA

Date of application: September 2019

Purpose: To bring Melody Zhang, the Climate Justice Campaign Coordinator from Sojourners, to speak about climate change.

Grant amount requested and awarded: \$200

What tangible change will result? The project will hopefully impact all who are at service on Sunday, September 29, 2019, and anyone with whom our congregants may interact afterward. We usually have guests on Sunday mornings, and we hope that they will take a greater interest in caring for creation based on what they hear at the service. Our service that day will be outside, near a busy street, and we always hope that those who pass by will see that they can join us, that they can become involved in what we do, and that there are Christians who care about all of creation. We hope to see more individuals participating in our Earth Care Team or to see that those already doing the work will feel inspired to continue.

Date awarded: September 6, 2019

Outcome: FPC was able to host Melody Zhang, the Climate Justice Campaign Coordinator from Sojourners, to speak about climate change during the Sunday morning service held on September 29, 2019. The service was held outside and created an opportunity for our members and friends to hear from and be inspired by a young local activist. The church also sponsored an after-service lunch where Melody discussed her work further with interested members and friends. The event gave the church an opportunity to highlight our Earth Care Team's work to our guest and to other members of the congregation.

Falls Church Presbyterian Church, Falls Church, VA

Date of application: March 31, 2011

Purpose: to supplement its extensive efforts to improve its main building's energy performance. This grant will be applied to expenses related to obtaining an energy audit and/or engineering design services for a replacement HVAC system and/or additional lighting improvements and the HVAC replacement project itself.

Grant amount requested and awarded: \$2,000. The total geothermal project by Shenandoah System Technologies is \$185,000 up front and monthly payments for 25 years.

What is the likely reduction of CO2 in 12 months? According to the benchmarking tool, FCPC is responsible for approximately 196 tons of CO2 annually. We expect savings of at least 20% of this total is obtainable, or 40 tons of CO2 per year. If we attribute 10% of the eventual savings to the audit portion, the resultant reductions would be 100 tons over 25 years. Potential savings from the project may be much greater than this.

Date awarded: December 2011

Outcome: After studying several energy conservation proposals, including a major transformation of our heating and ventilation system from the existing gas and electric systems to a geothermal-based system, our church chose to upgrade many existing light fixtures with LED bulbs. Over the course of 2 years, we spent more than twice the amount of the grant installing LED bulbs in a variety of areas around the church. Although the cost of the LED bulbs is higher than CFL or incandescent bulbs, there is a substantial advantage with LED bulbs in terms of energy use, life span, and ease of use. LED bulbs provide instant brightness, most are dimmable and work with photocells and timers, and they are not affected by frequent on/off cycles. Our church appreciates the opportunity to explore energy conservation and environmental stewardship for our church building, a structure dating back to the 1880's that is used for many programs and ministries supported and encouraged by our congregation.

First United Presbyterian Church of Dale City, Dale City, VA

Date of application: May 21, 2020

Purpose: Transition to LED lighting to reduce annual maintenance, utility cost, and eliminate pollutants contributing to climate change

Grant amount requested and awarded: \$2,000

What tangible change will result? The benefit of retrofitting the church's florescent lighting with LeD lights would reduce the amount of energy used and realize significant cost savings. A lighting system audit was conducted and it was determined 271 light fixtures require retrofit. The existing lighting system consumes approximately 40.094 kWh per fixture. After retrofit, energy consumption is estimated to drop to 18.0 kWh. This represents an annual reduction of 52,450 kWh. This is the equivalent of removing 66,227 lbs. of CO2 or 6.3 cars removed from the road, or 3,380 gallons of gas consumed. With a utility rate of \$0.09731 kWh, FUPCDC could realize a cost avoidance exceeding \$5.1K annually.

Date awarded: 6/12/2020

Outcome:

Geneva Presbyterian Church, Potomac, MD

Date of application: 2011

Purpose: To retrofit all inefficient florescent lights and incandescent exit signs in the church building with more energy efficient models.

Grant amount requested and awarded: \$2,000, total project cost \$9,500

What is the likely reduction of CO2 in 12 months? An annual CO2 reduction equal to 33,563 lbs. The monetary investment will be paid back in less than a year and the estimated return on the investment is over 1000%.

Date awarded: 2011

Outcome: fitted all lights and added motion sensors to entire building for cost of \$5,500 from church budget, majority of funding through a PEPCO rebate program.

Knox Presbyterian Church, Falls Church, VA

Date of application: September 17, 2019

Purpose: To remove 14 old lighting fixtures at the front of the sanctuary and install new fixtures which use LED illumination.

Grant amount requested and awarded: \$2,000

What tangible change will result? Reduction in the need for electric power in our building and improvement of illumination to support worship and other activities, providing sufficient light for readers, actors, performers to see their materials, but also to improve the impact on the congregation or audience.

Date awarded: September 23, 2019

Outcome: So far, we have not achieved anything. Shortly after receiving the Contractor's quotations, one was selected for the work, but then everything was shut down in response to the rising pandemic conditions. Our church Session has approved the work in principle, but then asked that the project wait to see how the closure would impact our church finances--not only the continuing expenses; some reduced, but also the income from pledges and donation commitments. our congregation is meeting by Zoom and will continue doing so for the foreseeable future. But, not meeting in person has reduced our income, to the point that we are continuing to hold off on this and other projects. We do not wish to make a commitment with a Contractor and then find we have a real problem at the time of payment for the work. Thus, we are waiting for a formal go-ahead to authorize the start of this work.

Northwood Presbyterian Church, Silver Spring, MD

Date of application: October 2013

Purpose: Replace fluorescent bulbs with LED bulbs, and spotlights and hanging lights (spots and bulbs) in sanctuary, ceiling lights in Knox Hall. Northwood has in the sanctuary 19 spotlights and 18 bulbs, plus 18 bulbs in Knox Hall.

Grant amount requested and awarded: \$850.00; total budget \$1,743.35.

What is the likely reduction of CO2 in 12 months? It should reduce it by approximately 764 pounds/year.

Date awarded: December 2013 / January 2014

Outcome:

Oaklands Presbyterian Church, Laurel, MD

Date of application: October 23, 2014

Purpose: Replace 1970s era halogen in sanctuary and metal halide exterior lights with energy efficient LED fixtures.

Grant amount requested and awarded: \$2000; total budget \$21,000.

What is the likely reduction of CO2 in 12 months? 42 Sanctuary lights - • Replace 250W halogen fixtures (10.5 kWh) with 40W LED (1.68 kWh), total saved = 8.82 kWh. Average of 2 hours of use per day * 7 days per week * 52 weeks per year = 6,421 kWh saved per year or 4.4 metric tons of carbon dioxide saved per year.

• 10 Exterior flood lights - Replace 250W metal halide fixtures (2.5 kWh) with 40W LED (.4 kWh), total saved = 2.1 kWh. Average of 7 hours of use per day * 7 days per week * 52 weeks per year = 5,350 kWh saved per year or 3.6 metric tons of carbon dioxide saved per year.

Date awarded: January 2015

Outcome: A comprehensive energy audit of the church lighting was conducted and a recommendation was made to install occupancy sensors throughout the facility as well as replace all exterior parking lot, building flood lights, and interior sanctuary lights with LED fixtures and bulbs. Oaklands is in the process of finalizing the contract with their lighting vendor.

Oaklands Presbyterian Church, Laurel, MD

Date of application: October 15, 2016

Purpose: To implement WiFi programmable thermostats throughout our facility so energy usage can be automated, monitored, and reduced through efficiency software. To continue to replace old 1970s era halogen light fixtures in the sanctuary with energy efficient LED fixtures and bulbs.

Grant amount requested and awarded: \$2,000

What is the likely reduction of CO2 in 12 months? 8 sanctuary lights—Replace 250W halogen fixtures (10.5kWh) with 40W LED (1.68 kWh), total saved = 1.76 kWh. Average of 2 hours of use per day * 7 days per week * 52 weeks per year = 1,284 kWh saved per year or 1 metric ton of carbon dioxide saved per year. 8 WiFi programmable thermostats—Projected to reduce energy costs by 15% per year. 75,600 kWh of energy used per year * 15% reduction = 11,340 kWh saved per year or 8 metric tons of carbon dioxide saved per year.

Date awarded: December 8, 2016

Outcome: Replaced 10 existing 250W metal halide exterior flood lights with energy efficient LED fixtures. Replaced all fluorescent tube lights with energy efficient T8 bulbs and ballasts. Installed WiFi programmable thermostats throughout our facility.

Oaklands Presbyterian Church, Laurel, MD

Date of application: October 15, 2017

Purpose: Begin replacing 30-year old windows that are broken, drafty, and energy inefficient with energy efficient windows, starting with four large picture windows in the Education Wing.

Grant amount requested and awarded: \$2,000

What is the likely reduction of CO2 in 12 months? Projected to reduce energy costs by 10% per year. 75,600 kWh of energy used per year * 10% reduction = 7,560 kWh saved per year or 5 metric tons of carbon dioxide saved per year.

Date awarded: November 9, 2017

Outcome: Signed contract to replace three large picture windows and six casement windows in the church's education wing. Entire window replacement project is projected to reduce overall energy costs by 10% per year. 75,600 kWh of energy used per year 10% reduction = 7,560 kWh saved per year or 5 metric tons of carbon dioxide.

Oaklands Presbyterian Church, Laurel, MD

Date of application: March 19, 2018

Purpose: Continue replacing 30+ year old windows that are broken, drafty, and energy inefficient windows.

Grant amount requested and awarded: \$2,000

What is the likely reduction of CO2 in 12 months: Energy cost savings were estimated to equal 10% per year. 75,600 kWh of energy used per year * 10% reduction = 7,560 kWh saved per year or 5 metric tons of carbon dioxide saved per year.

Date awarded: March 27, 2018

Outcome: The grant funds received from the NCP Earth Care Power to Change fund enabled Oaklands to replace all the windows located in the Education Wing, covering 8 large classrooms and the kitchen. This project included the replacement of 9 large picture windows, 18 casement windows, and 4 awning windows. Since extensive research had already been completed and competitive quotes received, Oaklands was able to sign the contract and have the windows installed within 60 days of receiving the grant funds. The project went as expected and has resulted in the elimination of drafty and broken windows and even temperatures throughout the building while reducing overall energy costs.

Oaklands Presbyterian Church, Laurel, MD

Date of application: August 19, 2019

Purpose: Replace inefficient, failing HVAC unit with a new Energy Star unit

Grant amount requested and awarded: \$2,000

What tangible change will result? New HVAC unit is projected to reduce overall facility energy costs by 5% per year. 75,600 kWh of energy used per year * 5% reduction = 3,780 kWh saved per year or 2.5 metric tons of carbon dioxide saved per year.

Date awarded: September 16, 2019

Outcome: The grant funds received from the NCP Earth Care Power to Change fund enabled Oaklands to replace an aging HVAC unit that was 30+ years old with a high-efficient, Energy Star commercial unit that is much more reliable and energy efficient providing better interior temperature conditions while saving energy. Since extensive research had already been completed and competitive quotes received, Oaklands was able to purchase our new commercial HVAC until and have it installed within 30 days of receiving the grant funds. The project went as expected and has resulted in a more reliable system with even temperatures throughout the building while reducing overall energy costs.

Old Presbyterian Meeting House, Alexandria, VA

Date of application: October 22, 2018

Purpose: Replace current lighting in two main buildings and exterior lighting with LED lighting. In total, 132 locations will be retrofitted; in many locations, multiple lamps will be changed out, as many as 20 in each location.

Grant amount requested and awarded: \$2,000

What is the likely reduction of CO2 in 12 months: The estimated environmental impact of this project is:

- Acid Rain Emission Reduction: 10,978 lbs of Sox
- Smog Emission Reduction: 5,270 lbs of Nox
- 2,118 Barrels of Oil Not Consumed
- 197 Cars off the Road
- 103,687 Gallons of Gas Not Consumed
- Planting 759 Acres of Carbon-Reducing Pine Tree

Date awarded: October 27, 2018

Outcome: Replaced hundreds of incandescent, compact-fluorescent, and fluorescent light fixtures and bulbs with LED lighting in all four buildings on campus; improved quality of lighting in all areas; reduced overall monthly expenses for utilities by 56%; eliminated maintenance expenses; and reduced environmental impact through dramatically lowered utility use. LED light was universally praised as better than incandescent and fluorescent lighting. We reduced overall monthly expenses for utilities and maintenance:

- Overall utility expenses for previous lighting was estimated to be \$13,472 annually. (based on \$0.12/kWh). Overall maintenance expenses for lighting repair was estimated to be \$4,092 annually.
- Overall Utility Lighting expenses estimated reduction by \$7,488 per year or 56%. Lighting Maintenance costs eliminated, saving \$4,092 per year. The combined savings was estimated at \$11,581 per year or 66%.

Providence Presbyterian Church, Fairfax, VA

Date of application: October 10, 2013

Purpose: Replace incandescent light bulbs with LED and CFL bulbs and install motion light switches, to reduce energy consumption and CO2 emissions.

Grant amount requested and awarded: \$2000, total budget, \$3,999.

What is the likely reduction of CO2 in 12 months? We estimate an annual savings of 12,116kw (233kw/week x 52 weeks) = 8.5 metric tons of CO2 savings in 1 year. More significantly, because the bulbs have a longer useful life than 1 year, we calculated that their purchase and installation will save 279,500kw of electricity over their useful life, which in turn results in a reduction of 197 metric tons of CO2 emissions over the life of the replacement bulbs

Date awarded: December 2013 – January 2014

Outcome: All bulbs identified in our application, plus others not originally identified at the time of application, have been replaced with either LED or CFL bulbs. We also replaced older less efficient fluorescent fixtures with more energy efficient fixtures and bulbs. Lastly, motion sensor switches were installed in bathrooms. Our adult education committee offered a free home energy workshop to all church members conducted by Interfaith Power and Light in early 2014. We monitor the electricity usage per our

bills and have had a few months where we had an overall electricity usage reduction. For instance, our April and May 2015 electricity usage averaged about 15% less kilowatts than our April and May 2014 electricity usage.

Providence Presbyterian Church, Fairfax, VA

Date of application: March 2, 2016

Purpose: To support an interfaith advocacy group, Faith Alliance for Climate Solutions (FACS) (www.faithforclimate.org), that works to persuade Fairfax County Government to reduce its energy consumption thereby reducing its carbon footprint. We request help to defray FACS' operating expenses for calendar year 2016. Providence has donated \$300 to FACS and its members have donated over \$300 and 100 hours of volunteer work for FACS (100 hours X \$20 = \$2000).

Grant amount requested and awarded: \$2,000

What is the likely reduction of CO2 in 12 months? Increase the energy efficiency in county buildings, including schools, by 25% over the next six years, and to publicly report energy consumption of all county buildings by the end of 2016. Help the Fairfax County School Board establish a pilot project for several of its schools to install solar panels. Reach out to diverse congregations and communities, including non-English speaking, low-income and the elderly, through weatherization programs, education, and other initiatives. Enter into alliances with other organizations that either share FACS's goals or overlap in interests. FACS works in harmony with the Interfaith Power and Light, and other religious and community groups acting to avert the impacts of climate change.

Date awarded: December 20, 2016

Outcome: Project achievements for 2016:

- We taught a Church of Christ congregation how to switch its residential energy source to green power.
- We connected places of worship with free native plant and pollinator plant experts to design landscapes that honor creation.
- We collaborated with a synagogue on a year-long program of environmental study and service.
- We supported the formation of a green committee at a Mennonite church.
- We equipped an interfaith group at a retirement residence to hold an environmental movie screening and discussion.
- We convened faith leaders to discuss plans for climate solutions with Brian Moran, VA Secretary of Public Safety and Homeland Security and the VA climate czar, Pat Hynes, chair of FCPS, and John Foust, Fairfax County supervisor.

Providence Presbyterian Church, Fairfax, VA

Date of application: May 4, 2017

Purpose: To support an interfaith advocacy group, Faith Alliance for Climate Solutions (FACS) (www.faithforclimate.org), that works to persuade Fairfax County Government to reduce its energy consumption thereby reducing its carbon footprint. FACS plans to use the grant monies to help defray its operational expenses for 2017. Providence has donated \$500 to FACS and its members have donated over \$300 and 100 hours of volunteer work for FACS (100 hours X \$20 = \$2000). One of the members of the congregation serves on the FACS Board of Directors, which meets monthly. This member has also briefed members of the Board of Supervisors and testified at Board meetings.

Grant amount requested and awarded: \$2,000

What is the likely reduction of CO2 in 12 months? Increase the energy efficiency in county buildings, including schools, by 25% over the next six years, and to publicly report energy consumption of all county buildings by the end of 2017. Help the Fairfax County School Board establish a pilot project for several of its schools to install solar panels. Reach out to diverse congregations and communities, including non-English speaking, low-income and the elderly, through weatherization programs, education, and other initiatives. Enter into alliances with other organizations that either share FACS's goals or overlap in interests. FACS works in harmony with the Interfaith Power and Light, and other religious and community groups acting to avert the impacts of climate change.

Date awarded: July 19, 2017

Outcome: FACS had an extraordinarily successful year in 2017. After three years of pushing the county to publish the energy consumption of its government buildings, the county completed the final phase of this project. Now any citizen can find out how much energy county government buildings consume by consulting this web site: <https://www.fairfaxcounty.gov/energy/energydata>. FACS played a pivotal role in providing public comments on the county government's revision of its 10-year-old Environmental Vision.

The previous version did not even have a chapter on Energy and Climate Change. The 2017 version now has such a chapter and in it the county re-affirmed its commitment of 10 years ago to the Cool Counties Declaration. The Declaration pledge to reduce GHG emissions on average by 2% per year until GHG emissions are only 20% of the 2006 levels by 2050. FACS sponsored a community town hall meeting with gubernatorial candidates Ralph Northam and Ed Gillespie to ask them each pointed questions about their stand on GHG emissions. Over 200 people were in attendance. FACS provided advice to a new group in Montgomery County, MD seeking to replicate its successes.

Providence Presbyterian Church, Fairfax, VA

Date of application: May 8, 2018

Purpose: To support an interfaith advocacy group, Faith Alliance for Climate Solutions (FACS) (www.faithforclimate.org), that advocates before the Fairfax County Government to reduce the county's carbon footprint. FACS plans to use the grant monies to help defray its operational expenses for 2018. Providence has donated \$1000 to FACS and its members have donated over \$1200 and 100 hours of volunteer work for FACS (100 hours X \$20 = \$2000). Providence will contribute \$4200 during 2018.

Grant amount requested and awarded: \$2,500

What is the likely reduction of CO2 in 12 months FACS's goal is to hold the county to its pledge of reducing the county's carbon footprint by 2% per year on average so that by 2050 the county will have reduced its carbon footprint by 80% over 2006 levels. In 2006 the county's GHG emissions from all sources was about 11.8 million metric tons, so a 2% reduction would amount to about 200,000 fewer metric tons of GHG emissions per year.

Date awarded: June 11, 2018

Outcome: Persuaded the County to adopt more aggressive goals in its County Operations Energy Strategy. The county passed a budget that included \$4.5 million to fund the county's Operations Energy Strategy. Persuaded the school board to launch a pilot project where they would solarize 3 schools. Dedicate its annual Environmental fund of \$535K to energy reduction projects. Held a candidate forum that featured the two candidates for the US Senate seat. Held a symposium where two members of the Board of Supervisors and two members of the School Board were speakers. Persuaded one of the supervisors to sponsor a Green Initiative. Spoke with people of faith in Montgomery County, MD, and Monmouth County, NJ, about how they can develop a FACS-type organization in their locale.

Providence Presbyterian Church, Fairfax, VA

Date of application: March 12, 2019

Purpose: To support Faith Alliance for Climate Solutions of Fairfax County (FACS), an interfaith coalition of congregations who advocate before the county government to reduce the county's carbon footprint. Goals for 2019 are: Persuade the County to re-establish a Public-Private Sector Sustainability Coalition. Persuade the County to adopt a Community-wide Climate Action Plan. Grow the organization to 90 congregations. Hold three events that will show congregations how they can become greener.

Grant amount requested and awarded: \$2,000

What tangible change will result? If successful, FACS's efforts will result in Fairfax County reducing its carbon footprint by 2% per year on average. Because of FACS's actions over the past several years, the county now has a dashboard that shows the amount of GHGs it has emitted.

Date awarded: May 10, 2019

Outcome: In 2019, FACS:

- encouraged elected county officials to achieve county goals of its Cool Counties pledge
- encouraged Fairfax County School Board to install solar panels on schools
- provided consultants who gave practical advice, answered questions, provided resources
- supported congregations' efforts to address the impacts of climate change on vulnerable communities by installing insulation and caulking windows and doors through Rebuilding Together
- launched year two of the Fairfax to Zero Campaign calling for elected county leaders to enact policies to reduce greenhouse gas by 2% every year, reaching carbon neutrality by 2050

Providence Presbyterian Church, Fairfax, VA

Date of application: April 28, 2020

Purpose: Support for Faith Alliance for Climate Solutions, Fairfax County, VA — an interfaith coalition of congregations who advocate before the county government to reduce the county's carbon footprint.

Grant amount requested and awarded: \$2,000

What tangible change will result? If successful, FACS's efforts will result in Fairfax County reducing its carbon footprint by 2% per year on average. 2020 Plan:

- Set a county-wide goal of becoming carbon neutral by 2050 and carbon neutrality for Fairfax County and Fairfax County Public Schools by 2030.
- Develop a strong Climate Energy and Climate Action Plan (CECAP) that is an equitable, accountable roadmap for achieving the 2050 goal; implement the County Operations Energy Strategy to demonstrate leadership to meet the 2030 goal; support widespread use of solar throughout Fairfax County, including on county buildings and property, and public schools; and actively promote C-PACE.
- Support an aggressive energy and climate action strategy for the Fairfax County Public School System.
- Reduce the waste stream in the county and the resulting greenhouse gas emissions by becoming a Zero Waste jurisdiction.
- Expand and preserve the tree canopy across the county
- Ensure that all county energy and climate plans prioritize the health and well-being of all our residents—people of color, immigrants, lower-income families and other under-served populations to ensure their equitable inclusion across all policies and actions to strive for an environmentally just community.

Date awarded: June 9, 2020

Outcome:

Rockville United Church, Rockville, MD

Date of application: August 15, 2012

Purpose: RUC will hire an energy performance contractor to conduct an energy audit, which will inform long-range plans for energy-efficient improvements of the RUC building.

Grant amount requested and awarded: \$2,000, total project cost \$5,921.

What is the likely reduction of CO₂ in 12 months? The first quote received to date for our lighting retrofit project estimated that Phase 1 of a 5 phase project will reduce our annual carbon dioxide emission footprint from 16.0 tons to 3.7 tons, an annual reduction of 12.3 tons, by upgrading 114 incandescent lights to LED lights. The total wattage for the original 114 bulbs was assessed at 7,970 watts. The replacement LED lighting have a power rating of 1,860 watts. The resulting reduction in power was estimated to be 6,110 watts. This is estimated to yield an annual savings of \$1,869/year.

Date awarded: December 2012 – January 2013

Outcome: In 2013, RUC received results of our energy audit and proceeded to complete Phase I of our lighting retrofit project. RUC's 2012 Energy Star score of 37 increased to 41 by the end of 2013, as calculated through EPA's Portfolio Manager. RUC continued to implement energy audit recommendations in 2014, including upgrading additional lighting to LEDs and installing dual flush toilets.

Rockville United Church, Rockville, MD

Date of application: October 25, 2014

Purpose: Implement a set of three conservation measures recommended in the church's energy audit: programmable thermostats, occupancy sensors, and automated control of fan coil units.

Grant amount requested and awarded: \$2,000, total project cost \$7,349.

What is the likely reduction of CO₂ in 12 months? The total CO₂ reduction from these systems is estimated to be 7.972 metric tons per year.

| Energy Management System | Electricity | | Natural Gas | |
|-------------------------------|-------------------------------|--|----------------------------------|--|
| | Savings (kWh/yr) ¹ | CO ₂ Reduction (metric tons) ² | Savings (therms/yr) ¹ | CO ₂ Reduction (metric tons) ² |
| Programmable Thermostats | 7,627 | 5.3 | 44 | 0.233 |
| Occupancy Sensors | 1,802 | 1.2 | n/a | n/a |
| EMS Control of Fan Coil Units | 1,486 | 1.0 | 45 | 0.239 |

Date awarded: January 2015

Outcome: RUC installed these three energy management systems in 2015.

Rockville United Church, Rockville, MD

Date of application: July 2020

Purpose: RUC will replace old asphalt roofing on our sanctuary and fellowship hall. Our old roofing is over 20 years old and has incurred leaks and repairs. We will replace this roofing with environmentally

friendly EcoStar synthetic slate roofing tiles made from up to 80% recycled post-industrial rubber and plastic.

Grant amount requested and awarded: \$2,000

What tangible change will result? RUC's choice to replace our roof with EcoStar synthetic slate will avoid the purchase of new asphalt shingles made from fossil fuels. EcoStar synthetic slate is manufactured from up to 80% recycled postindustrial rubber and plastic, and diverts this scrap rubber and plastic from landfills. We also plan to salvage some of the old asphalt shingles removed from the roof and repurpose these to cover garden walkways.

Date awarded: August 20, 2020

Outcome:

Saint Mark Presbyterian Church

Date of application: April 1, 2017

Purpose: Replace all current exterior lighting fixtures and fluorescent lighting fixtures in the education/offices building with LED lighting.

Grant amount requested and awarded: \$2,000

What is the likely reduction of CO2 in 12 months? It is estimated this project will save 18,900 kWh per year. This translates to a savings of 13.3 CO2 equivalents! This then is the equivalent savings of 1,400 gallons of gasoline consumed, or 14,100 pounds of coals, 30.7 barrels of oil consumed, or 470 incandescent lamps switched to LED, per year!

Date awarded: April 21, 2017

Outcome: Replaced fluorescent lighting in the Education Building (176 lamps replaced, in classrooms, hallways, library, offices, entranceways) and exterior spaces of the church property (11 parking light pole lights, 18 wall sconces, and 20 recessed lamps) with LED lighting.

Warner Memorial Presbyterian Church, Kensington, MD

Date of application: 2011

Grant Amount requested and awarded: \$1,525, total project cost: \$3,050

What is the likely reduction of CO2 in 12 months? Estimated saving on exit lights to be 999 kilowatt hours per year

Date awarded: January 2012

Outcome: Exit lights replaced by electrician. Audit performed by High Performance Home.

Warner Memorial Presbyterian Church, Kensington, MD

Date of application: September 30, 2013

Purpose: Hire professional firm to seal and insulate attic space to reduce energy use by increasing the insulation factor and sealing the sanctuary attic.

Grant amount requested and awarded: \$2,000, total project cost \$6424.

What is the likely reduction of CO2 in 12 months? Insulation value from R2 to R49 is 23 times as effective. Annual therms were 6,440 with expected savings of 644 therms following improvements (estimated 20% for the sanctuary and 50% reduction in total usage.)

Date awarded: January 2014

Outcome: Insulation upgraded over the sanctuary in summer of 2014.

Warner Memorial Presbyterian Church, Kensington, MD

Date of application: February 20, 2020

Purpose: Replace the aged and failing air-conditioning in the sanctuary and 4 meeting rooms and add cooling and heat to the kitchen. The eight units that serve the sanctuary and four meeting rooms are presently 20 years or older and some have failed. The new units will be more energy efficient, quieter, and use less harmful coolant.

Grant amount requested and awarded: \$2,000

What tangible change will result? We will reduce our carbon footprint by installing the most energy efficient models we can. By controlling the use room by room, we encourage users to participate in energy conservation.

Date awarded: August 20, 2020

Outcome: