

Preparing for reaching NetZero Goals

Diocese of Virginia

Creation Care Task Force

Thank you for joining the journey towards NetZero. This is the beginning of that journey. The goal is to provide you pointers for preparing your congregation and your community for becoming a NetZero parish. No two churches are at the same place and not all will need to do the same things. This is for all churches to use as a tool towards measuring and evaluating the tools and projects that enable them to meet this goal.

The items in the Checklist have been chosen from other similar documents used by the public, including the Church of England's Net Zero Check and the USGBC's Leadership in Energy and Environmental Design (LEED) program. New line items can be added in the future as the CCTF receives feedback from individual parishes as to the effectiveness of this documents. A yearly update will be reviewed and line items added or deleted as determined by the Task Force Leadership team.

What is NetZero

There are many definitions that exist. Our goal is to help communities within our churches, schools, and other Diocesan institutions to meet one important goal – for their buildings to become what is defined as “carbon neutral.” In other words, achieving a level of energy usage whereby your carbon emissions reach zero. There are many ways to achieve this. There are three distinct parts to achieving NetZero.

I. Building and Grounds

We have developed a self-guided Net Zero Checklist that identifies a number of actions our communities can take to move towards Net Zero. The Checklist includes four levels of actions from easy to harder to work towards a more sustainable and fiscally responsible site and grounds; consider water efficiency; examine HVAC, energy, and lighting use; and approaches to stewardship and associated useful policies.

I. Household Choices

The way we power our homes, transport ourselves on the ground and by air, nourish our bodies, and recycle and compost our waste all can be part of achieving Net Zero. To help us understand this, The Episcopal Church has committed to using the Carbon Tracker found at sustainislandhome.org. This tool allows each of us to measure our carbon footprint, take individual action, aggregate impacts church-wide, and advocate for climate protection

I. Sustainable Nature-based Land Management Solutions

Are you considering a garden? Are you looking at getting a bird sanctuary designation (if that is a certification available in your community or state), do you use herbicides and pesticides for your gardens and surrounding land? Have you or are you planning to build at least one garden – food, native or something like a Monarch Waystation garden? Do you have trees that are contributing to carbon sequestration? Do you have room to plant more? The Episcopal Church has committed to the Communion Forest Initiative to plant trees in honor of each person being confirmed

These three distinct categories ultimately affect one another. Before you move forward you may want to consider what you are currently doing, evaluate costs of your current patterns of consumption and complete surveys of your land. Using the Net Zero Checklist, the Carbon Tracker, and considering sustainable nature-based land management solutions will help you design a strategic plan for NetZero.

The most important goal is meeting the NetZero “carbon neutral” goal. One way to think about this is that you want your property to be an example of God’s dream for our stewardship and Earth-saving measures. Once you have completed an assessment, you will then be ready to build your strategic plan using this checklist.

NEXT STEPS – Sharing progress with the Diocese

The Creation Care Task Force is inviting any and all diocesan community members from our parishes to our institutions to help us design a way to track and reward progress. This is not an initiative to punish churches but to encourage, reward and offer networking and learning between all members of our Diocese. When an institution or a parish meets Netzero goals, there will be a plaque and a service to commemorate and celebrate that community’s commitment and accomplishment.

NEXT STEPS – Creation Care Task Force there to help

We will engage the Diocese in designing a time frame and measuring system to help churches meet goals.

THE EPISCOPAL DIOCESE OF VIRGINIA NET ZERO CHECKLIST

Creation Care Task Force Net Zero Self-Guided Checklist

Revision 9-21-22

Part A - First Steps (The Low Hanging Fruit)		Already done / up-to-date	Not applicable	Not a priority right now	Explore further / get advice	Priority
These are actions that nearly all churches can benefit from, even those primarily used only on a Sunday. They are relatively easy and are a good place for churches to start, when trying to move towards 'net zero'.						
Sustainable Site and Grounds						
A1	Maintain the roof and gutters, to prevent water from entering the building and warm air escaping.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A2	Provide secure bicycle racks for staff and congregants.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A3	Provide easily accessible containers in areas that serve the entire building for collecting recyclables. Create a Collections & Storage Recycling Plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A4	Reduce Night Sky light pollution per the Standards of the Internatioinal Dark-Sky Association. Avoid installing flood lights that throw light beyond the building façade or signage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Efficiency						
A5	Reduce Garden potable water consumption by the following options: 1) Avoid installing a permanent irrigation system. Use Drip systems only. 2) Plant only native species of vegetation. 3) Use captured rainwater or recycled waste water for irrigation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC, Energy, Lighting						
A6	Insulate all heating/cooling pipes and ducts to deliver ttemperature where you want it; this will allow other sources of heating and cooling to be reduced in these areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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A7	Use a smoke test to determine if air is infiltrating around doors and windows. Apply insulation and weather stripping at doors and windows as needed. Make sure all windows close tightly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A8	If you have water-filled radiators, try turning off the heating 15 minutes before the service ends; for most churches this allows the heating system to continue to radiate residual warmth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A9	When replacing in-kind or installing new HVAC equipment, complete a comprehensive CFC (Chlorofluorocarbon) phase-out conversion prior to installation. Eliminate R22 refrigerants, now banned by the EPA.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A10	Clean the backs of refrigerators annually to maximize efficiency & reduce energy consumption.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A11	Replace old, inefficient appliances with high-rated Energy Star appliances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A13	Fix any broken windows and make sure operable windows shut tightly, to reduce heat or cool loss.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A14	If you have an uninsulated, easy-to-access attic or steeple, consult with your Facilities team about insulating these areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stewardship and Policies						
A15	Create a Green Team with a "Champion" who monitors the sustainable efforts, advises the Finance Committee and encourages the congregation to Reduce, Restore, Recycle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A16	Consider zoom Committee meetings during cold months, rather than heating large rooms in the church for one or two hours.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A17	Institute a policy to reduce Plastics at your church. Discontinue use of plastic water bottles, cutlery, plates, etc. See Diocesan Resolution #1 of the 225th Convention, 2019. https://www.thediocese.net/who-we-are/governance/annual-convention/225th-annual-convention-2019-/resolutions/#R1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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A18	For everyday operations, purchase those products and materials with the highest recycled content.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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** If interiors are of historic, architectural or artistic interest, seek professional and advice from the Diocese of VA Administration first.*

<h2>Part B - Next Best Options</h2>		Already done / up-to-date	Not applicable	Not a priority right now	Explore further / get advice	Priority
Sustainable Site and Grounds						
B1	Create a Rainwater Management Plan for capturing and recycling water runoff for gardens or other use.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B2	Protect and Restore Natural Habitats. Perhaps create a Cetified Bird Sanctuary or Butterfly Garden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B3	For any new construction project create an onsite waste management plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Efficiency						
B4	Reduce potable water consumption by installing water-conserving fixtures in kitchens and bathrooms. Consider composting toilets where feasible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC, Energy, Lighting						
B5	For all parts of the building that have an exterior wall and are regularly used, such as a church hall, install appropriate cavity insulation. Vapor barriers need to be part of this effort. Consult a local architect or engineer for propoer location.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B6	Review how your building heats/cools and the links to comfort. Have a robust Maintenance Check List plan for all equipment to be reviewed and/or serviced yearly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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B7	Install thermostats in meeting rooms and offices, to allow you to control them individually when in use. Create separate zones in the building for maximum control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B8	Consider thermal and/or motion sensors to automatically light the church when staff or visitors come in, for security lights, and for kitchens and bathrooms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B9	Install an energy-saving device such as https://www.androidcentral.com/which-smart-plugs-are-best-monitoring-energy-usage on your fridge or other commercial appliances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B10	Replace all light bulbs, interior and exterior, with new LED bulbs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stewardship and Policies						
B11	Write an energy efficiency procurement policy; commit to renewable electricity and Energy Star rated appliances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B12	Vary service and meeting times with the seasons, so during winter meetings (services?) are held early afternoon when the building is warmer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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<h2>Part C - Pushing the Envelope</h2>		Already done / up-to-date	Not applicable	Not a priority right now	Explore further / get advice	Priority
These are bigger, more complex actions, which only churches with high energy use are likely to consider. They could reduce energy use significantly, but require substantial work (which itself has a carbon cost) and have a longer payback.						
Sustainable Site and Grounds						
C1	Think about your church grounds. Is there an area where you could start a vegetable or flower garden grow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC, Energy, Lighting						
C2	Install new energy efficient windows and storefronts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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C3	Internally insulate walls in well-used areas such as offices, vestries and halls*.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C4	Install a new LED lighting system, including all harder-to- reach lights, new fittings and controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C5	If you have problematic drafts from your entry door(s) create an airlock with glazed doors within your Main Entry Lobby.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C6	Use on-site renewable energy systems to offset building energy costs. Geothermal and Photovoltaics are immediate sources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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<h2>Part D - If Possible</h2>		Already done / up-to-date	Not applicable	Not a priority right now	Explore further / get advice	Priority
These are actions which a church might undertake at specific times (such as when reordering is happening) or in very specific circumstances. They nearly all require professional advice.						
Sustainable Site and Grounds						
D1	If you have car parking that is sufficiently used, EV charging points for electric cars can work out cost-neutral or earn a small amount of income for the church. Note, they will increase the church's own energy use, but will support the uptake of electric cars. They could be used in combination with solar PV panels.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Efficiency						
D2	If you are reroofing anyway, perhaps re-insulate the roof if required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D3	Use rapidly renewable building materials and products (made from plants that are typically harvested within a 10-year cycle or shorter).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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D4	Use wood-based materials and products which are certified in accordance with the Forest Stewardship Council (FSC) principles and Criteria.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC, Energy, Lighting						
D5	If there's no alternative that does not run on fossil-fuels, then replace an old gas boiler or an oil boiler with a new efficient gas boiler.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D6	If yours is a well-used church which you want to keep warm throughout the week, then consider an air or ground source heat pump. Ground source heat pumps are more expensive and invasive to install than air source heat pumps, but run more efficiently once installed, depending on ground conditions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D7	If you are doing a major renovation to your floor system consider under-floor heating systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D8	Maximize the use of Daylight during service and working hours. Install new windows or solar tubes in any room that does not have natural light access.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D9	Install building automatic control systems (BAS). Match temperature settings to actual usage; only run the HVAC systems when necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D10	Consider creating one or more smaller (separately heated) spaces for smaller events.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D11	Install solar PV panels if you have an appropriate roof area. Consider combining with Geothermal wells for maximum net zero opportunity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D12	If your older church has radiators, install a magnetic sediment 'sludge' filter to extend the life of the system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stewardship and Policies						
D13	To reduce transportation costs (gas/fuel use) purchase products that are attainable within a 200 mile radius.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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D14	For most low usage 'Sunday' churches, once they have taken steps like these, their remaining non-renewable energy use will be very small. For the majority, all you need to do now to be 'net zero' is offset the small remaining amount of energy through Cool Effect at https://www.cooleffect.org/ or other reputable schemes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D15	Provide 25-35% of the building's electricity from renewable sources by engaging in a renewable energy contract with your local supplier.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D16	Review the program Sustaining Earth, Our Island Home, through this link https://www.diocal.org/resource/eco-justice/carbon-tracker/ and learn more about how our diocese can begin tracking our combined efforts. Or this: https://sustainislandhome.org/					
D17	Consider how the trees and green space contribute to Net Zero. Learn more here: https://www.ghginsight.com/environment/planting-trees-and-net-zero/ and help us develop a landscaping Net Zero Checklist.					

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Useful Websites

W1	Creation Care Task Force: http://www.thediocese.net/resources/organizations/committees-and-commissions/committee-on-stewardship-of-creation/	
W2	2021 Resolution R-6: https://www.thediocese.net/Customer-Content/www/CMS/files/Annual_Convention_2021/R-6_Care_of_Creation_docx.pdf	
W3	2019 Resolution R-1: https://www.thediocese.net/who-we-are/governance/annual-convention/225th-annual-convention-2019-/resolutions/#R1	
W4	Sustainable Island Home: https://sustainableislandhome.org	
W5		

IDENTIFYING NEXT STEPS

checklist results will be

Checklist completed by: _____ **Date of the GT meeting** _____
Date completed: _____ **reported to?** _____

A) Actions we have marked as 'Already done' which have positively impacted our carbon footprint are:

1	
2	

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3	
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B) Priority Actions:
Identify the next step for those actions which you have marked as a priority. Who will be responsible for taking these forward. By when?

Action	Who's responsible?	Target date for completion	Date of review by GT
1			
2			
3			
4			

C) Further Actions
Identify any actions which you have marked as 'explore further'. Who will be responsible for exploring these. By when?

Action	Who's responsible?	Target date for completion	Date of review by GT
1			
2			
3			

If more space is required for creating your 'Next steps action plan', please use additional sheets or your own document template.