Revised for resubmission, May 9th 2023
See original text

Included:

Section One - revised resolution
Section Two - estimated fiscal impact/staffing statement
Section Three - supporting documentation

Net-Zero Greenhouse Gas Emissions

Conference and Local Church Commitment

In memory of Elizabeth Williams and her service to creation within the United Women of Faith and the PNW Annual Conference.

BE IT RESOLVED, that The Pacific Northwest Annual Conference of The United Methodist Church **pledges to achieve net-zero emissions by 2050** across ministries, facilities, operations, and investments, to leverage the gifts of our connection putting equity and justice at the center as we build a net-zero emission economy by 2050, and to encourage local churches to pledge to increase the energy efficiency of their church buildings and parsonages by 30% by 2030.

Section Two - Estimated Fiscal Impact / staffing

Estimated Fiscal Impact Statement

Initial impact will be the cost of assessment and resulting conversations as to how to begin the process of achieving net-zero.

The cost of implementation will be specific to assessment results and contextual needs and challenges. In general, costs of remedy to reduce greenhouse gas emissions might include improving building insulation or installing solar panels, heat pumps, use of EV church vehicles instead of gas vehicles, attention to airplane travel emissions, and more. These issues/costs must be weighed against the urgency of achieving rapid drawdown of emissions before 2030. Full implementation of the 'pledge' is set for 30 years from now, and the global economy, incentives and rebates, policy and rulemaking, theological openness, innovation and practices will influence implementation.

Costs of *not* implementing net-zero planning and action will be opportunity costs, should incentives and rebates expire and other organizations proactively work at partnerships and drawdown and be awarded available grant money; mission cost, as a lack of witness to care of creation in our communities will continue to alienate young people and people of conscience; worsening billion dollar disasters such as storms, fires, and floods impacting and damaging our churches and communities; and more.

Current federal incentives for nonprofit solar installations pay as much as 70% of solar installation in some areas with qualifying systems. More cost savings may be available by city, state, and county. More cost savings could occur through a utility contract where churches/conferences sell excess energy back to the utility provider. Or, no cost installation may be available through a qualified contractor as a lease option. Or, no cost clean energy could be provided to the church through a cooperative or community renewable project with a power purchase agreement.

Costs then for solar installations rolling out in 2023-2024 for efficiency upgrades, and electrification on the journey to net-zero are written to cover 30% or more of the cost of an installation and potentially no cost at all factoring in rebates, credits, location and energy savings.

Possible Line Item	Description	Ballpark Cost
Energy Audit for Conference staff building(s)	Staff time needed administrator: book an audit, greet auditor and arrange walk through. 2-4 hours. Treasurer time needed: review audit with trustees and publish to conference/congregations 1-2 hours	Admin time: 2-4 hours Treasurer time: 1-2 hours Assessor costs vary, some utilities will provide assessments free of charge. See Executive Summary of audit with recommendations from the North Carolina Annual Conference, attached.
Reviewing investments and audit assessments	TBD	

Section Three - Supporting Documentation

Theological and Justice considerations:

WHEREAS God created Earth and charged humankind with its stewardship (Genesis 1–2);

WHEREAS we have failed in that task by despoiling our planet, degrading its environment, altering its climate, and destroying its inhabitants;

WHEREAS "without God, we cannot remedy the problem" and "without us, God will not solve it" (St Augustine);

WHEREAS the Council of Bishops in their 2009 Pastoral Letter [*God's Renewed Creation: Call to Hope and Action*] recognized that "our neglect, selfishness, and pride have fostered environmental degradation" and that "we cannot help the world until we change our way of being in it";

WHEREAS in twelve Boards and Agencies of the United Methodist Church have pledged to achieve net-zero emissions of greenhouse gasses by 2050 across ministries, facilities, operations, and investments and to leverage the gifts of our connection putting equity and justice at the center as we build a net-zero emission economy by 2050, stating:

> *We, the agencies of The United Methodist Church, pledge to achieve net-zero emissions by 2050 across ministries, facilities, operations, and investments and to leverage the gifts of our connection putting equity and justice at the center as we build a net-zero emission economy by 2050.*

WHEREAS the Council of Bishops has joined in that pledge, urging annual conferences to:

> *"Encourage and support the action on climate change at the Annual Conference level, including support for passing the Net Zero Resolution and moving toward net-zero emissions."*

We encourage the Pacific Northwest Annual Conference to pass this resolution.

Executive Summary of Energy Audit with Recommendations from North Carolina Annual Conference

I. Executive Summary

This summary presents the results of an energy assessment conducted by Waste Reduction Partners (WRP) at Headquarters Building of the NC Conference of the United Methodist Church.

Recommendations

- Upgrade fluorescent and compact fluorescent lighting to LED technology.
- Implement the HVAC recommendations for deadband settings, setback modes, VAV boxes, economizer mode, energy recovery ventilator (ERV), supply air pressure, and cooling coil discharge temperature.
- Install an electric heat pump water heater in place of the standard electric water heater.
- Install a 100 kW solar photovoltaic system to generate renewable electric power and reduce the carbon footprint of the building.

Summary of Energy Savings and Environmental Benefits

The following table summarizes the energy and cost benefits of the recommended energy conservation measures and renewable energy generation. Typical of similar facilities, HVAC and lighting consume the most energy and therefore offer the greatest opportunities for energy and cost savings. In both areas, technology developments by equipment manufacturers continue to result in improved efficiency.

A 100 kW roof mounted solar photovoltaic system will produce approximately half of the estimated energy and cost savings. The installed cost of $116,310 takes into account the Duke Energy rebate of $75,000. Another option is a lease arrangement. Under a lease option, there will be no up-front costs. The for-profit leasing company would be able to take advantage of the Federal 26% tax rebate, reducing the total cost to the Conference. WRP can investigate this option further if the Conference wants to pursue it.

No.	Energy Conservation Measure (ECM)	Electricity Savings (kWh/yr)	Total Equiv. MMBtu	Cost Savings ($/yr)	Installed Cost ($)	Payback Period (yrs)
1	LED Lighting Upgrades	21,046	72	$1,852	$22,925	12.4
2	Recommended HVAC Upgrades	100,000	342	$8,000	$35,000	4.4
3	Heat Pump Water Heater	6,750	23	$540	$4,000	7.4
	Total for ECMs	**127,796**	**436**	**$10,224**	**$61,925**	**6.1**
	Renewable Energy Generation					
4	Solar PV on Roof - Purchase Option	129,474	442	$10,358	$116,310	11.2
	Total for All Energy Savings	**257,270**	**879**	**$20,582**	**$178,235**	**8.7**

The following table shows emissions reductions from the upgrades based on the current mix of electrical generation in North Carolina. ***Reduction of CO_2 emissions is the critical factor*** in slowing the devastating effects of climate change.

Current Air Emissions	Annual Energy	CO_2	CO_2e	SO_2	NO_X
Electricity	**kWh/yr**	**lb/yr**	**lb/yr**	**lb/yr**	**lb/yr**
Building Emissions	555,300	444,002	415,094	242.67	146.04
Outdoor lighting Emissions	650	520	486	0.28	0.17
Total Current Emissions	**555,950**	**444,522**	**415,580**	**243**	**146.21**

Reductions in Air Emissions Resulting from ECMs	Annual Energy Savings	CO_2	CO_2e	SO_2	NO_X
Electricity	**kWh/yr**	**lb/yr**	**lb/yr**	**lb/yr**	**lb/yr**
LED Lighting Upgrades	**21,046**	16,828	15,732	9.20	5.54
Recommended HVAC Upgrades	100,000	79,957	74,751	43.70	26.30
Heat Pump Water Heater	6,750	5,397	5,046	2.95	1.78
Solar PV on Roof	129,474	103,524	96,783	56.58	34.05
Total Emissions Savings	**257,270**	**205,706**	**192,313**	**112.43**	**67.66**

Links

https://www.resourceumc.org/-/media/umc-media/2021/04/20/18/22/net_zero_commitment.ashx?
https://www.umnews.org/-/media/UMC%20Media/2021/11/10/15/34/council-of-bishops-climate-crisis-response-nov-2021
https://www.energy.gov/energysaver/professional-home-energy-assessments
https://www.netzeroassetmanagers.org/
https://www.resourceumc.org/en/topics/creation-care/net-zero-commitment
https://www.youtube.com/watch?v=2sZZI8V-Zpc&t=59s