Accelerating Change: Communities of Faith as Seedbeds of Transformation

- **Educating and inviting congregational support**
  Pat Timm – Ed.D, policy mediator

- **Developing and implementing a plan**
  Eric Burgmann retired engineer from GE

- **Tackling the big picture “becoming carbon neutral”**
  John Hancock – professor emeriti DAA School of Architecture & Design, UC

- **Our spiritual & faith journey**
  Rev. Stacey Midge – pastor
Engaging the congregation

Could sustainability be our congregation’s approach to decisions and an expression of our spiritual journey?
Policy creates action

Church governing body (the Session) unanimously agrees to new approaches to reduce our carbon footprint.

EARTH CARE POLICY

To be prophetic, to become the change we know is necessary, to do the right thing now, we will take steps toward becoming a carbon-neutral and waste-free church. We will seek new approaches to our church facilities that will help the planet rather than harm it. We will take specific steps to transform consciousness through the life practices of both the congregation as a whole and our individual households through informed commitments and faithful actions. January 25, 2017.

By a unanimous vote and acclamation, Session Elders adopted the following policy statement at the regularly scheduled meeting on January 25, 2017:

Green Faith: Our worship and discipleship will celebrate God’s grace and glory in creation and declare that God calls us to cherish, protect and restore this earth.
“Green” leadership happens in ALL church committees and activities.
Earth Care belongs to everyone

All church retreat
Keeping Earth Care front and center

Hosted activities so members and guests could explore, enjoy and learn from other life communities
Communicating with our members

Infuse our vision of Earth Care into all of our church decisions and activities
Sharing and sustaining our faith commitment during a pandemic

E-zines

We Care - Earth Care!
Mount Auburn Presbyterian Church

April 2021

The Bird Issue

— Giotto, St. Francis Preaching to the Birds

Hope is the thing with feathers
That perches in the soul
— Emily Dickinson
The nuts & bolts

1. Conduct an energy audit
2. Detail a plan of action steps
3. Secure financing
1. Engage a few firms for comparison
2. Watch for “free” audits
   o contingent on work often overpriced
3. All roads lead to replacement and regeneration
   o windows, lights, HVAC
   o solar
Big benefits with lighting changes

~300 incandescent bulbs with LEDs
20 light switches with automatic occupancy controls
Don’t wait till bulbs fail
Replacement of old to new

- 24 VRF split systems for air-conditioning and heat
- Variable Refrigerant Flow (VRF) systems
- Super heat pumps that modulate to match the demand (old heat pumps/air-conditioners are on or off, waste a lot of energy)
- Provides room by room zoning
Replacement of old to new

- 60+ year old 50% efficient hot water boilers
- Move from natural gas to renewable energy source
- Old windows with new (50 windows, some 140 years old)
Regenerate with solar

Installed 63 KW photovoltaic solar panel system
197 panels
Multi-pronged financing

- Low interest loan from PCUSA Foundation financed $150,000 solar installation
- $40,000/year utility bill savings used to fund investment and loan payments
- Congregational buy-in with capital campaign to fund HVAC and window replacement
- Repurpose operational budget
- Utilized congregational expertise (architect, engineer, project manager)
View as a financial evaluation not time for “payback”

Most are capital investments in a permanent facility, not a depreciating asset

The investment adds to the value of the property

Compare ROI to other “market” investments

Solar investments can have yields as good as market investments

(What is your endowment ROI?)
Net metering the key with solar

- Allows the meter to turn backwards when you produce more energy than you use
- Without net metering storage (batteries) would be required which hurts the economics
- Duke makes adjustments as it calculates (no current system to track and audit)
Selecting contractors

Work with reputable, commercial grade contractors with engineering resources to properly design solutions

- Home contractors don’t have experience with large project.
- Need to know how to deal with city/Duke on permits etc.
- Inexperienced companies will pad estimates to protect from errors
- Don’t put 30-year solar panels on an old roof
- We were pleased with Solar Energy Solutions
Watch kilowatts

For “commercial users,” including nonprofits, only half of electric bill is tied to KWH usage:

- The other half is max KW usage
- If you cut your KWH usage, but not your max KW usage you will not realize expected savings

*(Fortunately solar produces max benefit in summer when highest A/C usage is occurring)*
Tax credits tricky

- Some solar vendors will offer this but we couldn’t find a good deal
- Power Purchase Agreements (PPA) can lower costs by creating a corporation that owns the system, takes the tax credits and sells power to the nonprofit
- Hard to do in small scale
Institutions have some advantages over homeowners

- Longer time frame (*not moving facilities every 7 years*)
- Higher utility costs, and therefore savings
- Scale, savings from 300 lights adds up quickly
- Lower maintenance costs (*contractor hourly rates continually climb*)
Older buildings

- Historic registry and historic neighborhoods may restrict what can be done on the exterior
- Old construction harder to insulate and modify
- Maintaining historic integrity
- Prepare emotionally for change
Our estimated energy and cost savings

- Produced 94.38 megawatt hours of power, saving 150,000 pounds of CO2 - the equivalent of planting 1,100 trees
- Reduced electrical consumption by almost 70%, from 122,000 kilowatt hours in 2019 to 39,000 kilowatt hours in the last 12 months
Becoming carbon neutral

Our Goal: Zero Carbon and Zero Waste

The Climate Crisis: Solutions we can do “at home”

Becoming Carbon Neutral: How you can stop contributing to the global catastrophes of climate change

By: John E. Hancock
Professor Emeritus of Architecture, University of Cincinnati
A carbon neutral congregation

Our facility operations (Church Household)
Why not individual households too?
Tackling big moral problems

1. Understand it
2. Do the right thing
3. Tell the world
Be the change you want to see in the world

Solve the problem in your own “household”

Then “Witness” with a “Prophetic Voice”

“repent, change your ways”

“Hope is something you need to deserve... that you’ve actually done something.”
But it’s a tough, complex global problem

So many kinds of “environmental action...”

... but are you carbon neutral?
Our “becoming carbon neutral” class

Figuring out a Net-Zero Carbon way of life
The process is easier than you think
Step 1 – understand the problem

Our carbon emissions since the 1950s
Role of the fossil-fuel industry
Step 2 – calculate your footprint
Step 3 – reduce your life’s emission

Short term and easy (light bulbs, food, laundry)

Long term and expensive (your next car or dwelling)
Step 4 – offset your carbon remainder

The key to “Being the Change – now
You can’t get to zero, so compensate
Step 5 – advocate for change

Join the Movement

“Witness” to government, commerce, community

Our solution to climate change? Democracy.
And we need you on our team.

Join Us
<table>
<thead>
<tr>
<th>Category</th>
<th>Why地球护理</th>
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<tbody>
<tr>
<td>Ecological</td>
<td>减少人类对地球生命支持系统的压力，为未来可持续发展奠定基础</td>
</tr>
<tr>
<td>Economic</td>
<td>重新发明工业资本主义，文化增长</td>
</tr>
<tr>
<td>Social</td>
<td>平等和正义</td>
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<tr>
<td>Religious/ethical</td>
<td>实践我们的价值观、信念、对人类和自然的承诺，创造</td>
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Challenges & barriers

1. Programming and operations typically siloed
   - build collaboration and integrate earth care into everything we do
   - accentuate our values of justice, hospitality and sustainability

2. Staffing limited, find your internal experts
   - architectural, engineering
   - project management
   - financial
   - communications

3. Church & facility old, historical
Take the pulse

1. Evaluate understanding environmental issues
   - what “green” behaviors are you engaging in now
     (individually, as a congregation)
2. Gauge resistance to naming earth care as a congregational value
   - political, financial, emotional
3. Where is your energy currently engaged and how can earth care
   connect to those values, actions
   - racial justice, homelessness, hunger, poverty etc.
▪ A commitment to our congregation coupled with a progressive denominational statement by creating a new pastoral residency.

▪ Support a transformative approach to break the cycle of poverty with financial and volunteer resources for Cincinnati Scholar House.

▪ A deliberate pledge to do better for our earth with meaningful changes to reduce our own carbon footprint.
Our toolkit available under Earth Care

https://www.mtauburnpresby.org/