

# Committed to Climate Action: Retrofitting Church Buildings with Minimal Resources

Our student host, Harry Bazos will begin the meeting promptly at 7:00 a.m..

March 20th, 2023

Social and Ecological Justice Commission



Boozhoo  
Bienvenue  
Welcome



A visual symbol indicates to others that climate action is happening.

This symbol indicates that the user is working with the air, soil, and water to increase the life by decreasing the heat. Feel free to use it!

# Sustainability of the Land

*Think about the land, the soil, the water...*

*Think about those who walked here before us....*

- [Chippewas of Georgina Island](#)
- other [Anishinabek](#) Nations,
- [Huron-Wendat](#),
- [Mississaugas of the Credit River First Nation](#).

*Think about the processes that occurred to remove those people...*

- [Toronto Purchase](#)
- [Williams Treaties](#)

*Think about what we need to do for reconciliation...*

Chippewas of Georgina Island:

- Anishinaabe Nation located on the southern shores of Lake Simcoe.
- the first community in Canada to ratify [The Framework Agreement on First Nation Lands Management](#) to reclaim stolen lands, and preserve our inherent rights to hunt, fish, and gather

Environmental/  
By-Law  
Coordinator –  
Brandon Stiles





# Agenda for the Evening

- 7:00 - 7:10    Welcome and Introduction
- 7:10 - 7:30    Stephen Collette, Building Audit Manager for Faith and the Common Good
- 7:30 - 8:15    Group Networking
- 8:15 - 8:25    Consolidation of Ideas
- 8:25 - 8:30    Next Steps and Closing



# Current Climate Situation

Cyclone Freddy Breaks Records in Malawi, Madagascar, and Mozambique ([Reuters](#))

Devastating Drought in the Horn of Africa ([European Commission Science Hub](#))

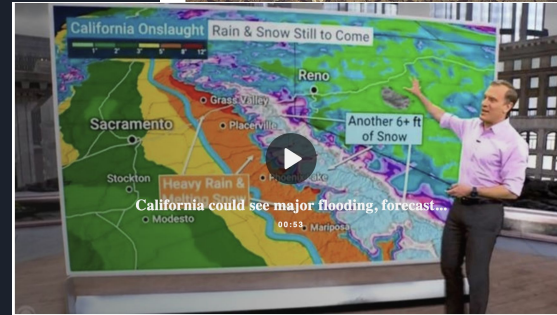
Atmospheric Rivers on the North American West Coast ([CBS News](#))

Cyclone Gabrielle in New Zealand ([CNN News](#))



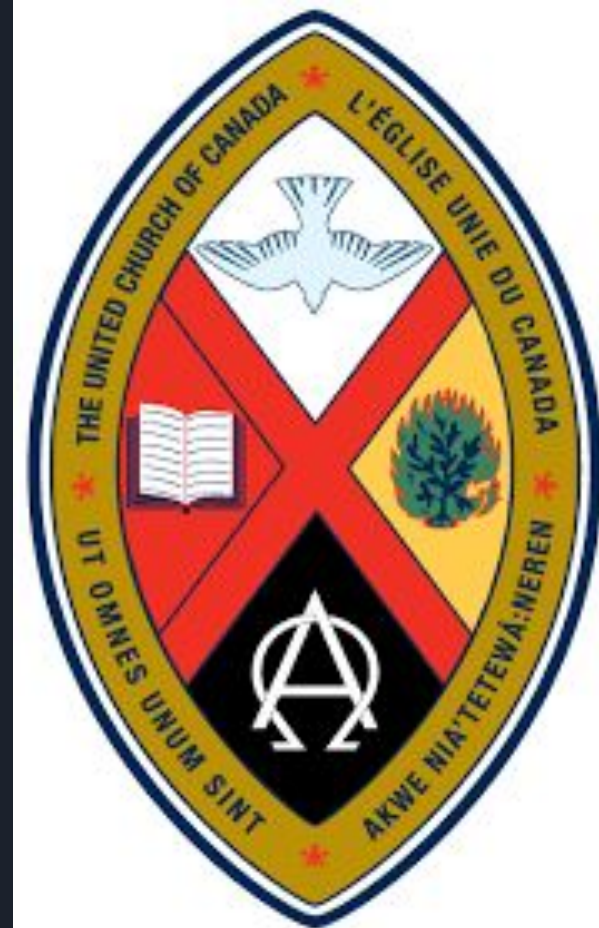
## Negative outlook in the Maghreb due to drought

The February edition of the JRC MARS Bulletin - Global outlook for North Africa - describes a cereal season marked by drought in large parts of the Maghreb, where cereal yield potentials have been negatively impacted.



## February - August, 2022, 44th General Council Adopts Climate Objective

- climate strategy that accelerates reductions towards the goal of an 80% decrease in emissions by 2030
- with a commitment to measure, report and adjust based on learnings.





## Situation in 2022 - IPCC: CLIMATE CHANGE 2022

- **Climate change is a threat to human well-being ...**
- **Any further delay ... will miss a brief and rapidly closing window ... (very high confidence)**
- **...pathways are still possible by which communities...can pursue climate resilient development...**



# Crowd-sourcing

## Definition:

Crowdsourcing is the practice of turning to a body of people to obtain needed knowledge, goods or services.





# Goals for the Meeting

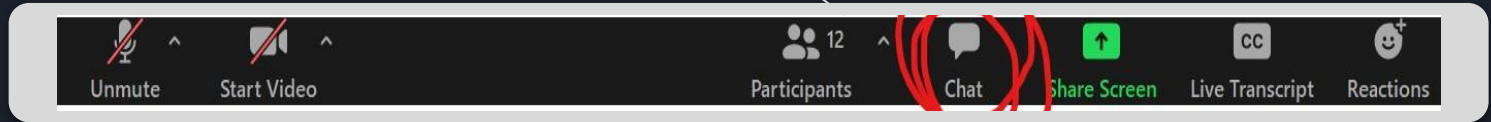
Shining Waters Region Churches will be better-equipped to meet the GC44 goal because:

- Shared expertise will resolve many of the issues hindering progress
- Connections and a means of ongoing communication will be shared to allow for the continued flow of information within the Region

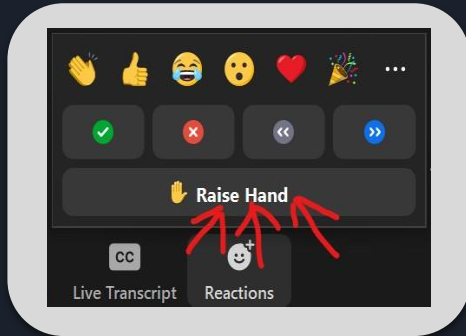
# Your voice is welcomed!

How to ask a question:

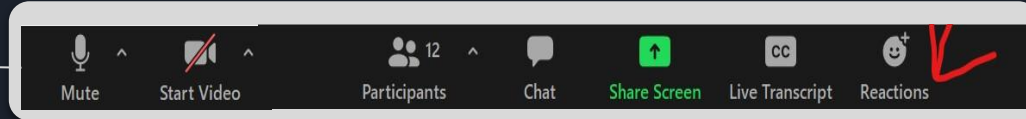
1. During the presentation, please ask via the chat



2. During networking, you can also raise a hand to ask to speak.

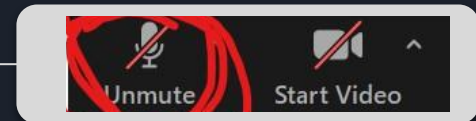


1. Click on Reactions



2. Click 'Raise Hand'

3. Unmute when asked to speak





Your voice is welcomed!

In the chat please share with Jeffrey or Susan:

- Your full name
- The name of your faith community
- Your contact information



## Stephen Collette

Building Manager for Faith and the Common Good

- Co-created the Green Audit
- Managing the United Church of Canada's Faithful Footprints decarbonizing grant
- Certified Building Biology Environmental Consultant
- Leadership in Energy and Environmental Design Accredited Professional
- Building Science Specialist
- Accredited Heritage Professional





# Consolidation of Ideas from Networking

*Slide show will  
be on website  
after meeting.*

## Key Ideas (Stephen Collette's Presentation):

- Pyramid of Conservation
  - Work your way up to the large projects by working on the less complex tasks that require less investment but can significantly lower emissions (such as efficient appliances, a sealed envelope, ...)
- Start by taking a 'Do-It-Yourself' Audit and there is an Energy Star Action Workbook
- Other resources: Treasure Maps (is a quick walk-through), Keeping the Heat In by Natural Resources Canada (easy to understand)
- Audits: free (DIY); Virtual Green Audit (via Zoom) you get the recording and 1 page summary for a couple of hundred dollars; Green Audit from Faith and the Common Good (30-40 pages, under \$2000), Energy Audits (give you a report that can help with payback), full-blown engineering audit (very detailed level)

## • Funding

- Faithful Footprints Grant (1/3:2/3 split faith community: UCC and other grants count as your contribution) up to \$30 000
- Check with energy providers for any funds they can contribute (grants or rebates) and also with political leaders at the provincial, federal, and municipal levels

## Key Ideas (Stephen Dixon's presentation from Knowenergy)

- People are the foundation for lower carbon: their behaviour and the way they organize their lives and use technology
  - Becoming more aware of our habits, new technology, working together efficiently and wisely
  - Learn what in your building is producing the most emissions (it is not just about energy)
  - Make sure you are meeting your needs without compromising
  - Path: Understand present usage (when and where and back to point of supply to waste) and find ways to save



# Consolidation of Ideas from Networking

## Key Ideas:

- In my congregation I have been helping people to see the importance of lowering emission by turning things off or down.
- In a boiler, where do you lose the efficiency in the lifetime of a boiler? Answer: combustion can corrode or build up soot. Maintenance is REALLY important to avoid wearing down the system.
- Have your heating contractor come out to the building and answer two questions: what is best guess current operational efficiency and current life expectancy? 80% of operational systems are replaced after the old one dies, sometimes it is better and more cost efficient to replace it before the old ones die.
- Boilers - as you raise water temperature the calcium carbonate comes out of the solution and can reduce efficiency hugely and make the valves stick. This needs to be cleared. Hard to afford a professional cleaner - may be better to get a different appliance...

## Key Ideas:

- Older boilers can be working at 40% efficiency.
- Heat transfer or combustion tests can tell you some of what you need to know about boiler efficiency.
- Consider changing the boiler to a different form of heating - forced air will eventually be needed as we switch from gas boilers/furnaces to heat pumps. This has been done and can be cheaper over the long-haul.
- Company in Quebec will take old RADS and turn them into electric boiler systems.
- To access faithful footprint grants - need expression of interest filled out right away as it starts the clock on the process. Anything purchased after the conversation counts, anything purchased before does not count.
- Stone-walled buildings - best is to knock it all down and put up new but sometimes this can't happen. Thermal massive buildings perform differently and they can actually benefit from boilers (better than forced air) as it charges the thermal 'battery' as long as we keep it at a steady temperature. It may be good to go to an electric boiler in this case. Sealing cracks and windows and ceiling is more important for these buildings. There can be other issues (insulation can actually add moisture to the foundation and cause it to crumble, for example).





# Consolidation of Ideas from Networking

## Key Ideas:

- When running two motors to circulate air, run them 70/30 so they don't both run out at the same time.
- Single-pane stained glass windows. Caulking is really important for the stained glass (air leakage and wood details and water will get into the unpainted wood which expands, swells, allows more water, stained glass will fall out - check outside windows and look at the state of the caulking after winter to check for this!!)
- Plexiglas or other clear coverings on inside or outside: watch for heating as it will melt the lead when the UV comes in and warms up the chamber - there are solutions but double-check. Depends if the low-E coating (stops UV light) is on the stained-glass.

## Key Ideas:

- Weather strip the windows that open and close as well (peel and stick) to decrease heat loss
- Windows - storm windows over our stained glass thermal bridging past the sills?
- Caulk up your attic hatch and with removable caulking, put a string in the catch and you pull the ends of the string to remove caulking as needed when accessing the attic (and then recaulk after).
- Stained glass moves so caulking added needs to be super flexible - caulk the mullions first and foremost.
- The way the window is facing changes things as well - direct sun on south and west/east windows - make sure you can avoid extreme heat build-up. Make sure what goes on the outside is easily removable. Allow for some ventilation. North side no problem.



# Networking Document

Click on the link to be taken to the [Shared Document](#).

Look for it in your Google Drive once it is opened.

Google Drive is a free app on the Internet and is linked to a gmail account.

Be careful about sharing personal information in this shared document but feel free to comment or respond to other's thoughts.

# OUR ASK

We would like you to commit to...

...holding a building retrofit networking meeting in your church to which you invite

- Your mayor
- Your Councillors
- Your MPP
- Your MP
- Local
  - Engineers/Scientists
  - Contractors
  - Residents



Photo by [Brooke Cagle](#) on [Unsplash](#)

# Changing the Narrative:

## What does “80% decrease in emissions by 2030” mean?

General Assumption:  
“80% decrease in  
**CHURCH BUILDING**  
emissions by 2030”



New Narrative:  
“80% decrease in  
**CHURCH COMMUNITY**  
emissions by 2030”





# Your voice is welcomed!

*Thank you for  
talking about  
climate!*

Please email us at with input or question or answers:

- Susan Eagle at [eagle.susan@ymail.com](mailto:eagle.susan@ymail.com) or
- Jeffrey Dale at [jdale@united-church.ca](mailto:jdale@united-church.ca) or
- Esther Collier at [targetclimatechange@gmail.com](mailto:targetclimatechange@gmail.com)
- Stephen Collette at [scollette@faithcommongood.org](mailto:scollette@faithcommongood.org)

This slideshow, Stephen's slide show, and the chat notes will be shared on the Justice tab in the Shining Waters Region website, under Ecological Justice.



# Next Sessions - June and November, 2023

## **Near Net Zero by 2030?: Green Design for a Sustainable Future**

Wednesday, June 21, 2023 at 7 p.m. on Zoom

- Network with other churches as you access expertise on ecologically-friendly ways to redesign our lives. Topics may include: power, transportation and waste reduction.
- NOTE: please inform your congregation of this opportunity as information will be transferable to homes and apartments.
- Registration will be available by May 15th.

## **Near Net Zero by 2030?: Harnessing Community Resources**

Saturday, November 4, 2023 at 1 p.m. on Zoom





# Thank you and Farewell

Link for youth looking for hosting opportunities:

- Esther Collier at [targetclimatechange@gmail.com](mailto:targetclimatechange@gmail.com)