

# CHEMAINUS CLIMATE SOLUTIONS

Education | Engagement | Action

## This Issue

### The Little Church That Could

The stewardship of creation is fundamental to the teaching of the Christian faith. What impact is our church having on our environment? How can we reduce that impact?

The church building was originally heated with an oil furnace. Seven years ago a major repair was needed to the church foundation. Included in the upgrade was the replacement of the oil heater with heat-pumps with a gas backup.

The church hall is a separate building. It was built in the 60's and through a major renovation was doubled in size in the 1980s. It had two gas furnaces up until last year. In 2020 these two gas furnaces were replaced with heat-pumps with gas backup.

To help reduce our electrical costs we have replaced all lightbulbs in both buildings with LED bulbs.

The table on the right shows the difference between November to November for 2019-2020 year, and 2020-2021, showing the differences in cost and GHG emissions. Our total emissions dropped from 9,342kg per year to 3,408kg. While our hydro cost rose, our natural gas cost more than compensated.

## Saint Peter Quamichan

Saint Peter Quamichan is a 150 year old church located near Duncan British Columbia. The church is situated on 5.7 hectares of land, consisting of a well kept graveyard, with large trees, Garry oaks, and lawns. In the spring and early summer wildflowers thrive, including chocolate lilies, and BC wild orchids. The property has four buildings, the church, the hall, the rectors residence and a workshop.



Photo: Bill Anderson

	2019-2020	2020-2021	Difference
<b>Church</b>			
<b>GJ</b>	32	43	10
<b>GHG kg</b>	1,814	2,380	566
<b>kWh</b>	14,864	11,296	(3,568)
<b>GHG kg</b>	164	124	(39)
<b>Hall</b>			
<b>GJ</b>	126	8	(118)
<b>GHG kg</b>	7,039	487	(6,552)
<b>kWh</b>	29,516	37,925	8,409
<b>GHG kg</b>	325	417	92
<b>Cost Hydro`</b>	\$ 6,213.20	\$ 6,890.97	\$ 677.78
<b>Cost Gas</b>	\$ 2,273.38	\$ 1,385.23	\$ (888.15)

These numbers are still preliminary because of the affects of COVID. Our building usage is only just approaching our pre- COVID levels. We will need to recalculate next year.

## Renewable Natural Gas (RNG)

Although we have drastically reduced our natural gas use the church has chosen to do more. One item is that the church building's heat pumps seem to rely on natural gas much more than the heat-pumps in the hall. Can this be adjusted? Another step the church has taken is to sign up for RNG. While RNG will raise our costs by 10% for gas it will reduce our GHG emissions by 90% from our current levels. We are re-applying for RNG and if successful we will reduce our current GHG emissions to 830kg per year. This exercise shows how individuals and groups can significantly reduce their carbon footprint. Can you make a difference? Can you reduce your gasoline by 5% per year, how about your natural gas? Can you reduce your meat and dairy? Can you reduce your spending on STUFF? 5% per year is what we need.

## COP26 Climate Summit

Pronouncing that this is our very, very last chance to act, the COP26 Climate Summit kicked off in Glasgow Scotland. As our planet heats up and our carbon emissions continue to rise our politicians arrive from around the world by air. This year no delegations from China, Russia and Brazil, three of the biggest emitters, attended the talks.

Insights fro Prof. Johan Rockstrom

<https://youtu.be/iW4fPXzX1S0>

10 new insights that every climate negotiator must have to be effective in negotiating with their individual governments.

1. Stabilizing temperature at 1.5°C is still possible, but immediate and drastic global action is required. This will require a 2 Gigaton CO<sub>2</sub> reduction per year or 5% per year, or for a 2/3 chance of success we really need 4GT per year.
2. Rapid growth in methane and nitrous oxide emissions put us on track for 2.7°C of warming. We cannot just reduce our CO<sub>2</sub>. Methane and nitrous oxide must be reduce at the same rate 5-10%.
3. We have entered the phase of intensified Mega Fires. These have massive cultural and social impacts on humans and also impacts on global warming.
4. Climate tipping elements incur high-impact risks. The tipping point risk is now between 1.5° and 2°C. At this point the chance of feedback loops are very high. The worry is cascading interactions between climate systems.

## RNG a biofuel

Renewable Natural Gas is created by processing food, garden, farming, and sewage waste and extracting the methane that would normally go into the atmosphere. This methane is added to the gas supply. RNG acts like an offset. We are reducing the overall amount of "Natural Gas" being extracted from wells or fracking and using carbon from the biosphere instead.

## Speakers at GOP26

Justin Trudeau

[https://youtu.be/Tn\\_4vwAJERs](https://youtu.be/Tn_4vwAJERs)

David Attenborough:

<https://youtu.be/MTkm19hvHio>

Prince Charles

[https://youtu.be/fuTzaCd\\_Suo](https://youtu.be/fuTzaCd_Suo)

Mark Carney

<https://youtu.be/Zw5lkLCFFj8>

5. Global climate action must be just. The richest 1% must reduce emissions by a factor of 30! while the poorest 50% of the world can increase emissions by a factor of 3 for the world to stay within a carbon budget in a fair way.
6. Household behaviour changes are critical but an overlooked opportunity for climate action. We need to adopt 1.5°C lifestyles. Status quo consumerism and growth will not take us to the 1.5°C target.
7. Political challenges impede the effectiveness of carbon pricing. There is so much evidence that carbon pricing can accelerate the scale of transition. Sixty one countries have a price on carbon, however this only covers 22% of global emissions. China has a higher carbon price than Canada on transportation. EU is the most successful at €60 per ton.
8. Nature-based solutions are critical for achieving a 1.5°C limit. These must not replace or delay decarbonization efforts in other sectors. We must not fool ourselves in using offsetting mechanisms, these are already being used in the calculations for our carbon budget. We need to invest in Nature Based solutions now as long term carbon sinks.
9. The ocean is a huge climate modifier. Building resilience of marine ecosystems is achievable by climate-adaptive conservation. Expand marine protected areas around the world from the existing 7.7% to 30%.
10. Costs of climate change mitigation justifies by benefits to the health of humans and nature. What is the affects of climate change and the costs to society. We need to correct the economic market failure to figure in the true cost of climate damage. Today 7,000,000 per year die prematurely because of air pollutants, the true cost of our risky journey on climate change.

## Glasgow Financial Alliance for Net Zero (GFANZ)

Mark Carney, former governor of the bank of Canada and Bank of England has brought together financial institutions from around the world worth \$130 Trillion of capital to be deployed. These groups have committed \$500 Billion to climate mitigation projects. The UK committed £100million to set up a system to assist 3rd world countries in the application process.

Few countries had net zero plans. Too many thought climate change was someone else's problem. The goal of GFANZ is to build a system where every decision made by financial institutions is based first on climate. This means Mandatory climate disclosure. Widespread climate stress testing, including stranded assets. Best practice transition plans for companies and financial institutions. Portfolio alignment with net zero projects. Developing frameworks to wind down these stranded assets. Only the financial system can fund the \$100 Trillion needed to transform the world over the next 3 decades. Two years ago there were about \$5 Trillion in assets committed to net zero. Now 450 financial institutions from 45 countries are committing their \$130 Trillion in assets to the net zero framework. "Make no mistake, the money is here, if the world wants to use it." Mark Carney.

Members of GFANZ have committed to reducing the footprint to net zero by 2050. They have also committed to reducing their footprint by 50% by 2030 and reporting annually on their progress. An expert panel at GFANZ will be checking the progress of the member financial institutions to verify that they are meeting their commitments.

## Covid, the real numbers.

<https://youtu.be/hdmb5NFIEW0>

During the 1918-1919 Spanish flu pandemic there were approximately 50-80 million deaths. The world population was much less but there were no antibiotics. The numbers from the Spanish Flu are complete estimates. How do they compare to what is happening today with COVID-19. One source of information is Johns Hopkins, they gather data from all published sources and in their data the current numbers are; 5,018,949 deaths, 247,833,004 cases, and 7,129,732,439 vaccine doses.

If we look at the World Health Organization (WHO), they have numbers based on excess mortality. How many more people have died compared to annual averages. The WHO numbers try to characterize how many deaths are reported that are either caused directly by COVID or caused because of the pandemic, such as hospital overloading, other forms of stress such as mental anguish, or pre-existing conditions. The WHO also describes that not all countries report their deaths very accurately. For instance European countries record 98% of the deaths while African countries only about 10%. In 2020 the WHO reported 1.8 million deaths but they estimate that the actual deaths were at least 3 million.

The Economist magazine has done a lot of work on data collecting and have some complicate criteria that they have developed. They estimate that 16.8 million people have died due to COVID and related issues. Their statistical analysis shows a 95% probability that the true number lies between 10.3 and 19.5 million with their best estimate at 16.8 million.

The table shows the reported number of deaths by country compared to the "Economist" calculated values.

Country	Reported	Minimum	Maximum
US	745,274	860,000	1,000,000
China	4,600	150,000	1,700,000
India	458,000	1,200,000	7,200,000
Russia	236,462	870,000	910,000
Indonesia	143,457	300,000	1,200,000
Pakistan	28,477	300,000	910,000
Bangladesh	27,873	200,000	720,000
Turkey	71,052	130,000	420,000
Mexico	288,464	560,000	600,000
Brazil	608,071	660,000	740,000
UK	141,390	130,000	130,000

With a realistic death toll of 16.8 million and an estimated that 10% of people who have COVID also develop long lasting symptoms. If we project this out across the world this is in the order of 84 million people who have long term affects of COVID.

It has been stated that one of the reasons that people are not returning to work is that they are getting government assistance and therefore they can make more money by staying at home. I question this logic because, at least for the last few months with the critical labour shortage fit people would

be able to demand a higher wage than they could make previously. Would it not be a great time to look for a job. Another reason for the labour shortage might be the long term affects of COVID and the number of caregivers who are looking after the sick. Could this have a dramatic impact on the labour market?