



**Written submission from  
Gordon McDowell**

**Mémoire de  
Gordon McDowell**

In the Matter of the

À l'égard de la

**New Brunswick Power Corporation,  
Point Lepreau Nuclear Generating Station**

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**Société d'Énergie du Nouveau-Brunswick,  
centrale nucléaire de Point Lepreau**

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Application for the renewal of NB Power's  
licence for the Point Lepreau Nuclear  
Generating Station

Demande de renouvellement du permis  
d'Énergie NB pour la centrale nucléaire de  
Point Lepreau

**Commission Public Hearing  
Part 2**

**Audience publique de la Commission  
Partie 2**

**May 11 and 12, 2022**

**11 et 12 mai 2022**

## SUMMARY

I support NB Power's request for a 25-year license extension for Point Lepreau Nuclear Generating Station.

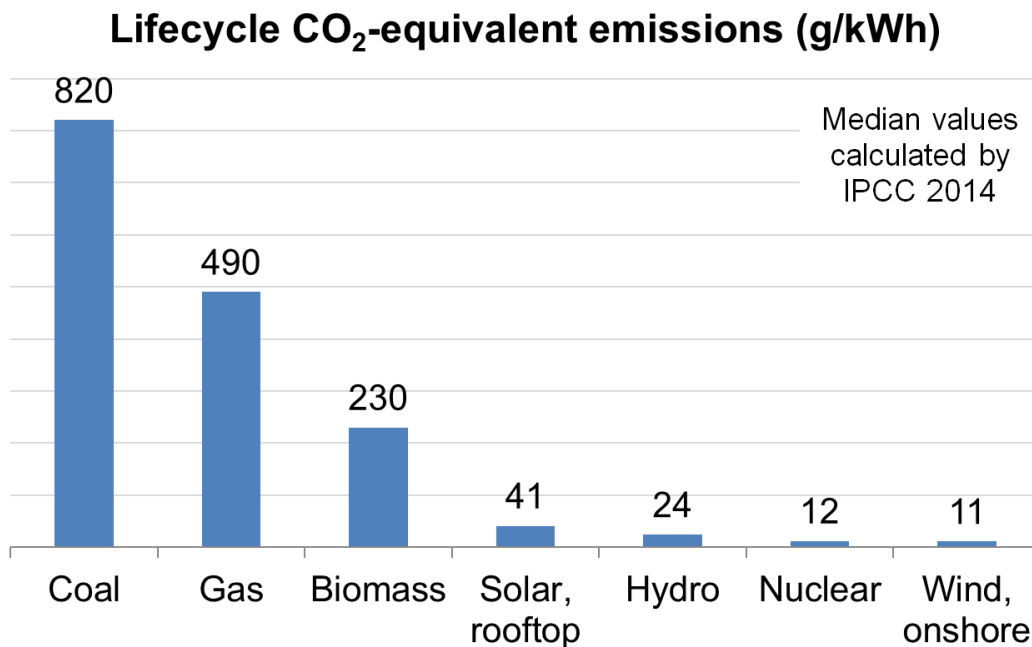
## ENVIRONMENTAL

CANDU lifecycle emissions are calculated to be 3.2g CO<sub>2</sub>eq /kWh.

[https://www.researchgate.net/figure/Carbon-Dioxide-Emission-attributable-to-the-CANDU-Fuel-Cycle\\_tbl1\\_267374799](https://www.researchgate.net/figure/Carbon-Dioxide-Emission-attributable-to-the-CANDU-Fuel-Cycle_tbl1_267374799)

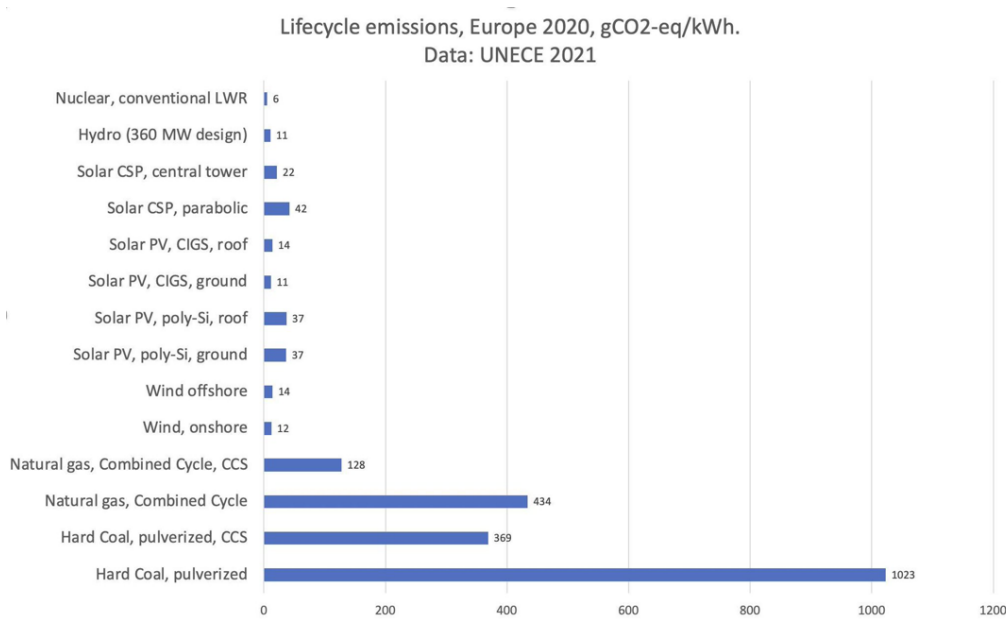
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Here are IPCC's world-wide median values for lifecycle emissions for various energy sources:



[https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc\\_wg3\\_ar5\\_annex-iii.pdf#page=7](https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_annex-iii.pdf#page=7)

Here are UN ECE's lifecycle estimates for various energy sources:



[https://unece.org/sites/default/files/2022-01/LCA\\_final-FD\\_0.pdf](https://unece.org/sites/default/files/2022-01/LCA_final-FD_0.pdf)

Canada's CANDU lifecycle emissions are extremely low, even among technologies considered "renewable" or "green".

## ECONOMIC

Point Lepreau (indirectly) provides 2,700 jobs, and its reliable output helps keep New Brunswick electricity rates among the lowest in Atlantic Canada.

Long-term license extensions facilitate investment in hardware. Low-cost electricity requires planning and maintenance.

Germany is an example of what happens when world-class reactors have no future: A sudden need for reliable energy comes into conflict with expected decommissioning.

***Elon Musk: "It is very important that Germany will not shut down its nuclear power stations. I think this is extremely crazy. ... I want to be super clear. You should not only not shut down the nuclear power plants, but you should also reopen the ones that have already shut down. Those are the fastest to produce energy. It is crazy to shut down nuclear power plants now, especially if you are in a place where there are no natural disasters. ... I think long term, most of civilization's energy is going to come from solar, and then you need to store it with battery because obviously the sun only shines during the day, and sometimes it is very cloudy. So you need solar batteries. That will be the main long-term way that civilization is powered. But between now and then, we need to maintain nuclear. I can't emphasize that enough. This is total madness to shut them down. I want to be clear, total madness. ... I would say this is a national security risk."***

<https://www.businessinsider.com/elon-musk-interview-axel-springer-tesla-war-in-ukraine-2022-3>

Musk's assessment of Germany's need to not-decommission currently operating reactors is in stark contrast to German officials who argue that continuing reactor operation is a significant legal and technical challenge.

***German officials will not recommend keeping nuclear power plants on the grid beyond their long-awaited December switch-off date despite the energy crisis exacerbated by Russia's invasion of Ukraine. ... Unlike the UK and US, Germany has not announced an embargo on Russian energy but the risk that Moscow will turn off the tap has hung over Europe's response to the crisis in Ukraine.***

<https://www.thenationalnews.com/world/europe/2022/03/14/germany-rules-out-delaying-nuclear-power-switch-off-despite-energy-crisis/>

In the future, Point Lepreau might find itself competing with Canadian fusion (by way of General Fusion). Or advanced geothermal. Or perhaps CCS (carbon capture) will give hydrocarbon combustion a new lease on life.

Renewing Point Lepreau's lease does not prohibit NB Power from decommissioning Point Lepreau Nuclear Generating Station if less expensive alternatives arise during the next 25 years. It is merely keeps NB's energy options open.

## **DEMAND**

As Canadians transition to EVs our electricity consumption will skyrocket.

While new builds at Point Lepreau will require new licensing, the best way to ensure New Brunswick's energy needs can be met in the future is to first extend the existing license.

## **POTENTIAL**

SMR have the potential to deliver high-temperature process heat. To recycle used fuel into additional clean energy while reducing the volume of waste to be stored. To create new nuclear medicines. To desalinate ocean water.

## **CLOSING**

I'm writing from Alberta where we have yet to directly benefit from nuclear power. We explored nuclear power a decade ago, and were paid visits by anti-nuclear activists from around the world who spread misinformation and fear.

Alberta's decarbonization challenge will be harder because we don't yet have an operating reactor, nor a licensed site which can be extended.

Please appreciate the flexibility that a license renewal for Point Lepreau gives New Brunswick in meeting your anticipated energy challenges, and unexpected ones which might arise.

-Gordon McDowell

About myself:

I work in I.T. at a Montessori school. I have taken an interest in nuclear power for 10 years, after first learning of its not-yet-fully tapped potential. I create educational videos about nuclear power on YouTube, and have received 10 million views on my YouTube channel.

I'm married, with 2 children. Nuclear power and hydro appear to be the best energy choices for meeting my kid's needs for their future. Unfortunately, hydropower is something that impacts other (northern) Albertans rather than myself. Unlike hydro power, I might actually get to live near a nuclear power plant. That would be fine.