

MC-2017-493

⊖ 741

DeFreitas, Shelley (ENERGY)

From: gthibeault.mpp.co@liberal.ola.org
Sent: March 7, 2017 4:27 PM
To: Write2us (ENERGY)
Cc: Den Heijer, Kevin (ENERGY)
Subject: FW: nuclear power - the elephant in the room

PC: Previous writer
copies Minister & MPPs
on email to Premier
re: nuclear
S: Nuclear.

From: wshore@xplornet.com [mailto:wshore@xplornet.com]

Sent: Tuesday, March 07, 2017 3:50 PM

To: Albanese, Laura MPP; Anderson, Granville MPP CO; Baker, Yvan MPP CO; Ballard, Chris MPP CO; Berardinetti, Lorenzo MPP; Bradley, James MPP; Chan, Michael MPP; Chiarelli, Bob MPP CO; Colle, Mike MPP; Coteau, Michael MPP; Crack, Grant MPP; Damerla, Dipika MPP; Del Duca, Steven MPP CO; Delaney, Bob MPP; Dhillon, Vic MPP CO; Dickson, Joe MPP; Dong, Han MPP CO; Duguid, Brad MPP; Flynn, Kevin MPP; Fraser, John MPP CO; Gravelle, Michael MPP CO; Hoggarth, Ann MPP CO; Hoskins, Eric MPP; Hunter, Mitzie-MPP-CO; Jaczek, Helena MPP; Kiwala, Sophie MPP CO; Kwinter, Monte MPP; Lalonde, Marie-France MPP CO; Leal, Jeff MPP; Levac, Dave MPP; MacCharles, Tracy MPP CO; Malhi, Harinder MPP CO; Mangat, Amrit MPP CO; Martins, Cristina MPP CO; Matthews, Deborah MPP; Mauro, Bill MPP CO; McGarry, Kathryn MPP CO; McMahon, Eleanor MPP CO; McMeekin, Ted MPP; Milczyn, Peter MPP CO; Moridi, Reza MPP; Glen Murray; Naidoo-Harris, Indira MPP CO; Naqvi, Yasir MPP; Oraziatti, David; Potts, Arthur MPP CO; Qaadri, Shafiq MPP; Rinaldi, Lou MPP CO; Sandals, Liz MPP; Sousa, Charles MPP; Takhar, Harinder MPP; Thibeault, Glenn MPP CO; Vernile, Daiene MPP CO; Wong, Soo MPP CO; Zimmer, David MPP

Subject: nuclear power - the elephant in the room

Dear MPPs,

I just sent this below to the Premier. Can you help convince her and our Energy Minister to listen to better advice?

Thanks, WS

Dear Premier Wynne,

I want to help you with your Hydro crisis. Dropping the Hydro rates by 25% may well help, but the main problem is that nuclear power is too expensive - not just the nuclear generation of electricity but also the ever - growing expense of waste disposal. ***This is the elephant in our affairs that no one wants to discuss.***

Of course many are blaming green energy, but Environmental Defence reports the costs of renewable electricity have been dramatically overstated.² For myself, I am very happy that the Liberals introduced green electricity to Ontario. We must persevere with wind and sun, and therefore I don't want to see the Conservatives take over from you next year!

According to the Clean Air Alliance the cost of electricity has increased by 71% since 2002, and the rising cost of nuclear is the largest single cause of this - nuclear electricity jumped 60% (per Kwh) between 2002 & 2016).¹ However, hydroelectric costs per kwh have remained at about 1 cent per kwh through this period, natural gas costs have dropped, (presumably also per kwh) and of course the small amounts of wind & solar generation have also dropped radically since 2010. So nuclear is a major culprit and shares the blame only with the major upgrading of infrastructure which was left to us from 2 previous

governments who froze rates and stopped necessary maintenance. Your 25% rebate also pushes the costs on to future citizens, admittedly with some other real help.

I believe that Ontario must phase out the use of Nuclear power. There are several new persuasive reasons for doing so.

Research, in 2009, by Professor Mark Jacobson (Stanford University) and colleagues has shown three things: ³

1. Nuclear generation is too slow, too polluting, and too expensive, and completely impractical to help with the current global warming crisis.
2. Nuclear is not carbon free and emits 6-24 times more carbon-dioxide equivalent emissions than wind per unit energy produced over the same 100-year period. Such emissions include those during (a) planning, permitting, constructing, operating, refurbishing and decommissioning a nuclear plant versus a wind turbine and (b) the emissions associated with reducing carbon sequestration in soil by covering the soil with impermeable material or by mining.
3. His statement 2 applies also to hydroelectric power and solar power.

We must start work on reducing fossil fuels now **and not wait while, for the next 15? years we use tons of fossil fuel to rebuild our reactors.**

Consider other signals that nuclear is too expensive:

All countries have relied on taxpayers to fund Nuclear. No insurer will offer insurance. After 60 years of building nuclear generation plants in Ontario, our province is still in debt (\$20 billion) because of nuclear subsidies, and a 2006 report by **Energy Probe** claims \$74.9 billion of the then current federal debt can be attributed to subsidies provided to Atomic Energy of Canada Limited (AECL).

For 60 years, the world has tried to make use of Nuclear generated electricity, but no country has found a way to keep the waste out of the environment.

In Ontario, the Nuclear Waste Management Organisation is thumbing its nose at the public who have asked for specific sites -- other than the shores of Lake Huron -- where the waste could be safely buried. The NWMO answers that other sites might be found but other sites will be very expensive to discover and use. NWMO still hasn't tested much ground elsewhere.

Every day the piles of radioactive nuclear waste grow bigger -- both from the reactors and from the mining of uranium. This is how we are pushing nuclear costs on to future generations. Thus, every day our environment becomes more radioactive; more citizens contract lung cancer from radon, (doctors are now saying that radon is the leading cause of lung cancer among those who have never smoked). Research also shows that nuclear reactors likely cause more cases of leukemia. The daily releases of radioactive hydrogen and radioactive carbon mean that more human beings drink radioactive water and breathe radioactive water vapour; every day we eat radioactive vegetables, every day we get other cancers. At the moment we are told that this intake of radioactive water & carbon is too small to cause much damage, but no one yet can prove it is safe. It is agreed that these radioactive bursts of energy take place all day long inside our bodies.

The cost of green energy is expected to continue falling while the nuclear division has asked for and expects that your government will agree to roughly triple the payments to the nuclear generators **to at least 20 cents/kwh !** These nuclear proponents know that nuclear costs more than they currently get.

Recent news, this year, from the Ontario Clean Air Alliance and Environmental Defence makes it clear that there is a real solution to the hydro crisis: **Stop rebuilding Darlington, decommission Pickering, and buy more clean hydro from Quebec. (5 cents per kilowatthour!)**

Your government has been feeling so short of money that you have the whole province mad at you because you followed the foolish advice to sell the goose that lays our golden eggs! Nuclear costs are too high!

Ontario needs the money, saved from phasing out nuclear power, for many items: more affordable housing, more day care, more senior residences, more jobs, more health care (dental & pharmacare), more help making all buildings super-insulated and airtight– all far more important than continuing to waste money rebuilding more nuclear generated electricity. I believe that the billions of dollars saved could help start an Ontario program of reinsulating the houses of low income earners. Mitigating global warming will need **all** our houses refurbished, and we need to start **now**!

Ontario needs the workers, who lose jobs in nuclear, to work on the nuclear waste management job, which is large. More workers will be needed in the very large field of global warming mitigation; of course also in energy storage, and in adding to wind and solar generated electricity. New reports from the U.S. Energy Department say that the solar power industry alone employed almost twice as many people in electric power generation in 2016 as coal, oil and gas combined — 43 per cent compared to 22 per cent for fossil fuels.

To get started, here are some first steps, which, for the sake of future generations, and because of global warming, need to be taken:

Negotiate further long term supply contracts with Hydro Quebec. The cost savings will be in the billions.

1. Do not extend the licence for Pickering. The electricity output is not needed. The cost savings will be significant.
2. Start up the decommissioning of Pickering. Experience in Great Britain shows that many nuclear workers will get jobs in this project, which will minimize nuclear job losses. The cost savings will be significant.
3. Do not spend any more money rebuilding Darlington. The electricity is too expensive and the waste only grows.
4. Later, take \$2 billion of the savings from not rebuilding Darlington and Bruce and build another transmission line from Quebec to Ontario.

¹ <http://www.cleanairalliance.org/wp-content/uploads/2017/02/prices.pdf>

² <http://environmentaldefence.ca/2017/02/01/shining-light-true-costs-renewable-energy-ontario/>

³ <http://ecowatch.com/2016/01/04/mark-jacobson-james-hansen/>

Appendix A

Average Ontario residential bill in 2016:²

Delivery+Regulatory+Conservation+HST	\$84 or 49% of the bill
Nuclear	\$40 or 24% of the bill
Wind+Solar+Bioenergy	\$21 or 12% of the bill
Natural gas	\$13 or 8% of the bill
Hydro	\$12 or 7% of the bill

Appendix B

Nuclear Power: Past its Peak

Number of Nuclear Plants world wide:

1954 –Zero, 2002- 438, 2016- 402

Further closures foreshadowed.

BBC News reports in 2011:

Citizens in countries with the most nuclear experience show increasing opposition to expanding the use of nuclear.

Percentage opposed:

Germany 90%, Japan 84%, France 83%, Mexico 82%, Russia 80%, UK 63%, USA 61%, China 58%

Thanks for reading,

Sincerely, William Shore, PO Box 846, Sutton, Ontario