



Presentation to the Electricity OBS Meeting.

I feel like we need to take a step back and remember why this discussion is even necessary.

I think we should really start every one of these meetings with 10 minutes from a climate scientist, showing the challenges we face. And maybe everybody should have a picture of their kid, or grandkids, staring at them for the duration of the meeting.

We face a climate crisis. I don't state this as an "alarmist" but as someone who pays attention to the scientific discussion on the evolving situation. And we are reliant on our governments to take us safely out of this peril. Multiple scientific organizations have suggested that Canada needs to be fully off of fossil fuels for electricity by 2030 if we are to reach our climate obligations, not just as laid out in the Paris agreement, but also morally, for our children. And it makes sense. Of all the various wedges needed to decarbonize our world, zero-emission electricity, along with electrification of, well, everything.

The pricing of carbon is a powerful tool to drive this transition. And economists have pointed out that an output-based allocation (OBA or OBS) is an excellent way to drive change, without causing undue disruption, for emissions intensive, trade exposed industries. My first concern is the assertion that the electricity industry is trade exposed. Even though it really isn't. It seems, the argument goes, that the impact of carbon pricing on electricity, if unfettered by an OBS, would be too expensive for industry and therefore would lead to carbon leakage, hence needing an OBS.

Has this modelling been done to back this assertion? I would think (in absence of any evidence of course), that a stringent carbon price without an OBS would incent renewable builds and energy efficiency, minimize gas builds, and incent cross-border provincial electricity trading to minimize carbon emissions. Indeed, crossborder interconnectivity should, instead of being seen of as a negative effect (as leakage), be seen a positive. This is especially true in AB and SK which are relatively islanded grids. Indeed, increased trade (known as interconnectivity in the industry) is seen as a boon to an electrical system, improving resiliency and reliability. As intermittent RE comes online, interconnectivity is seen as one of the solutions to smoothing out supply. In the Maritimes, Muskrat Falls is seen as essential part of their near term transition. And in Ontario, trade with Quebec hydro offers equal benefits. Electricity is not trade exposed, but trade advantaged. If there are concerns about international leakage (to the US), then slap a border tariff on the electricity imports... this can easily be done. But I happen to know that in my province, Alberta, our neighbour Montana gets over 40% of its electricity from renewables, vs. Alberta's 10%, so I'm not too worried about dirty energy leaking over our border.

The second assumption made is that 420 t/GWh is the correct standard to base the OBS on. I suspect it is derived from the 2013 Coal-fired electricity generation regulations (although it should be pointed out that the original gazetted proposal had set the [standard at 375 t/GWh](#), and

was weakened when finally released). The point of an OBS is to base it off of a best in class standard... those less than best in class get penalized, and industry therefore strives to be best in class. The true best in class for electricity is zero t/GWh... as existing hydroelectricity, solar, wind, and geothermal are able to provide emissions free electricity today. Even if we were to base the standard on a gas plant, it would need to at least be set at 370 (the emissions rate for the Shepard gas plant in Calgary, online three years ago). To set it at 420 t/GWh, just because six long years ago another government decided that that was what was to be considered “best gas”, seems arbitrary at best, and intentionally subsidizing gas, at worst. CO2 production is an externality... by setting the limit so high, you are essentially saying it is ok to pollute, but only so much. That defies logic.

I further have concerns that there are no plans to tighten the standard over time... If we are serious about dealing with the climate crisis, we need to know where we are going. And I would say, that at minimum, our grid should be emissionless by 2043 at the latest. This would indicate that the OBS standard should drop by 4%/annum, at minimum, to achieve our pricing goals.

The third assumption I question is that natural gas is an essential next generation fuel. Multiple times during the call I heard reference to gas as a “bridge fuel”. While it is true that the CO2 emissions from natgas are much less than those from coal, it is important to note that the procurement of natgas also produces a greenhouse gas in the form of methane, with 84 times the GHG forcing of CO2 over a 20 year period. This means that natgas is equivalent to coal from a climate perspective if fugitive emissions anywhere in the system are more than 3%. And although nobody has adequately quantified the fugitive emissions from gas fields in Canada, there is [increasing evidence that it is worse than anybody imagines](#). Even with plans to decrease fugitive emissions in the country by 45%, this is still a grave concern. [Arizona](#) and [California](#), just in the last few month, have pointed out this concern as reason to revise their electricity regulations to disincentivize gas.

Finally, it is important to note that the lifespan of a new NGCC gas plant is about 35 years. Which means that a plant built in 2020 will still be expected to exist in 2055, at a time when, supposedly, we’ll have decreased our fossil fuel use by 80%. The climate crisis is rapidly worsening, and I will predict today that there is no chance that rational citizens, and therefore governments, will allow a natural gas plant to exist up to 2055. Therefore, by allowing lenient regulations today, and not adequately pricing pollution, you are setting up industry to fail, intentionally creating tomorrow’s stranded assets.

We can create an orderly transition now, through the correct economic signals of pricing pollution, or we can wait until the carbon crisis worsens to the point where we have to do massive, rapid, and disruptive change.

Thank you for allowing me to share my views on this important topic.

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