

Fwd: GHG calculations

From: "Sermat-Harding, Kaili (ENERGY)" <kaili.sermat-harding@ontario.ca>
To: "Imbrogno, Serge (ENERGY)" <serge.imbrogno@ontario.ca>
Cc: "Schlaepfer, Martin (ENERGY)" <martin.schlaepfer@ontario.ca>
Date: Mon, 22 Jan 2018 17:35:54 -0500
Attachments: Picture (Device Independent Bitmap) 1.jpg (22.86 kB)

Please see below for an update from Sam. You may get this information directly from IESO as well, but I wanted to pass along to you now. Sorry I can't add any value or context as I wasn't at the meeting and am still offsite at the Affordability Fund Trust meeting. That said, let me know if you have any questions.

Sent from my iPad

Begin forwarded message:

From: "Colalillo, Sam (ENERGY)" <Sam.Colalillo@ontario.ca>
Date: January 22, 2018 at 5:18:33 PM EST
To: "Sermat-Harding, Kaili (ENERGY)" <Kaili.Sermat-Harding@ontario.ca>
Cc: "Edwards, Matthew (ENERGY)" <Matthew.Edwards@ontario.ca>
Subject: FW: GHG calculations

Hi Kaili, Tim and I met with George and Evelyn this afternoon to discuss the GHG analysis. The email below provides the IESO's proposed response to the DM's outreach. IESO suggested they preferred to use the Minister's meeting as an opportunity to speak to this analysis. I advised them of my understanding that the DM was seeking this information in advance of the discussion and that IESO should share the material directly with DMO by end of day today.

Sam

From: Brendan Callery <Brendan.Callery@ieso.ca>
Date: Monday, Jan 22, 2018, 16:39
To: Evelyn Lundhild <Evelyn.Lundhild@ieso.ca>, George Pessione <George.Pessione@ieso.ca>, Colalillo, Sam (ENERGY) <Sam.Colalillo@ontario.ca>, Christie, Tim (ENERGY) <Tim.Christie@ontario.ca>
Subject: RE: GHG calculations

Hello All,

As discussed in the meeting:

Difference between HQ and GreenON emission rates?

The HQ deal is for 2.3 TWh of hydro imports, to offset gas-fired generation in Ontario. It is targeted specifically at hours when gas is on the margin. Therefore, the 'emission factor' would be about 0.4 t/MWh, as it will only ever offset gas-fired generation and the average emission rate for our gas fleet is ~0.4 t/MWh.

The avoided emissions referred to in the GreenON solar incentive deck provided to the Ministry were calculated using emission factors based on a likely mix of marginal resources, which includes gas as well as non-emitting resources such as hydro, wind, etc. Since gas is not always on the margin,

these emission factors are lower than the 0.4 t/MWh, and fluctuate by season and by year.

Does the solar incentive program impact the HQ deal?

Yes. If solar panels are installed in 2018, this will reduce the grid demand going forward, and reduce the need for gas-fired generation. With less gas on the margin due to reduced demand (from increased solar), there will be less opportunities for the HQ deal to provide the 2.3 TWh of hydro imports. In essence, there will be two programs (GreenON solar and the HQ deal) trying to reduce the same energy from gas-fired generation.

Has a complete analysis of a solar subsidy including detailed GHG modelling been conducted yet?

Emission factors associated with the CDM program have been produced and the initial calculations for the Net Solar \$/tonne were based on these. The GreenON specific emission factors for additional reductions in grid demand are still being finalised but preliminary estimates show about 60% lower emission factors for the net solar program. This 60% reduction is reflected in the latest deck. We are in the process of finalizing these emission factors but are confident that these latest numbers are a good estimate.

How do the emission factors compare from the HQ deal, to the draft solar deck, to the new GreenON emission factors?

HQ Deal = ~0.4 tonne/MWh

Emission Factors (EFs) used in draft solar program deck = 0.2-0.35 tonne/MWh

Updated EFs for GreenON use = 0.1-0.15 tonne/MWh



-----Original Appointment-----

From: Evelyn Lundhild

Sent: January 22, 2018 12:47 PM

To: Evelyn Lundhild; George Pessione; Colalillo, Sam (ENERGY); Christie, Tim (ENERGY)

Cc: Brendan Callery

Subject: FW: GHG calculations

When: January 22, 2018 2:30 PM-3:30 PM (UTC-05:00) Eastern Time (US & Canada).

Where: 1807 Meeting Room

-----Original Appointment-----

From: Evelyn Lundhild

Sent: January 22, 2018 10:04 AM

To: Evelyn Lundhild; George Pessione; Colalillo, Sam (ENERGY); Christie, Tim (ENERGY)

Subject: GHG calculations

When: January 22, 2018 2:30 PM-3:30 PM (UTC-05:00) Eastern Time (US & Canada).

Where: 1807 Meeting Room

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