Message

From: Kim.Marshall@ieso.ca [Kim.Marshall@ieso.ca]
Sent: 2017-11-20 7:37:21 AM
To: Jeannette Briggs [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=148095610f7242f48a5a9da24b1a8a87-Jeannette B]
CC: Leonard Kula [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4621532d1b5d4c539f6ccefe5979e389-Leonard Kul]; Terry Young [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=872fa3f6e61a48709b11458c0c3b6ca6-Terry Young]; George Pessione [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fe1264f59cb3428a90a73766e96ea517-George Pess]; Michael Boll [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4811917e15054407b665fe16d12ff415-Michael Bol]; Anthony Martinello [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3fb7d76317b34780b15d96309b995c31-Anthony Mar]
Subject: Re: EXTERNAL – RE: "In Ontario, hydro's future gets murkier as costs of leaving the grid decline"

Georgia and Jeannette, you folks have the detailed knowledge. Leonard and I are happy to have the two of you speak to this request. I spoke with OPG Friday afternoon. They would like a prep call with IESO to discuss response and roles sometime today. If you are comfortable I can connect them with you. Thanks.

Sent from my iPad

On Nov 17, 2017, at 12:12 PM, Jeannette Briggs <jeannette.briggs@ieso.ca> wrote:

> Kim,
>
> I agree with Leonard, in the article in question, the IESO did not talk to electricity demand decreases due to technology but rather expected challenges of the system operator because the future is likely to be more complicated than in the past due to technology change.
>
> What both DBRS and Moody's is looking for specifically, is how potential electricity demand decreases from technology change what will be modelled in future years in our demand forecast for specified consumers and what are the strategies we plan to undertake if the specified consumer base diminishes such that the rate becomes unreasonable, requiring some sort of negative political response that puts investor recovery at jeopardy. In other words, they want to model rate requirements if kWh vanish (sensitivity analysis) and how and when we will inform of the necessary government and regulatory bodies if the sensitivity analysis becomes the reality. The rating agency want a lot of data now (historical forecast to actual outcomes) and confidence that we are thinking through the model and potential risks and impacts for the next 15 to 30 years (sensitivity and strategies).
>
> The IESO has committed to develop a forecast model to be provided to the OEB and with Fair Hydro Trust four years from now. The forecast will be used to set the Clean Energy Adjustment rate. I have been keeping Leonard's long-term Planning folks apprised of what the general modelling requirements are in the MTSA. And they have kept me in the loop on what they have been providing to OPG too. OPG has been requesting more data from Settlements, because we have details on RPP. We have not done this exact demand forecasting for prescribed consumers before as this was the responsibility of the OEB. Yet I am sure we can do it and we have some time to develop the modelling given it is four years out. I am not sure

what the Planning group has done in the past to influence and advise on public policy when we know one of our sensitivity analysis (scenarios) is likely to be the actual outcome. But this is what we are being asked.

Regards,

Jeannette Briggs Director, Settlements - Corporate Services
Independent Electricity System Operator (IESO)| T: 905-855-6364 | C: 416-997-6364
Station A, Box 4474, Toronto, ON, M5W 4E5
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Corporate Services collaborates with you to deliver solutions and expertise that enable the IESO to achieve its goals

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From: Leonard Kula
Sent: November 16, 2017 7:55 PM
To: Kim Marshall; Terry Young; Michael Lyle; Peter Gregg; George Pessione
Cc: Michael Boll; Anthony Martinello; Jeannette Briggs
Subject: RE: EXTERNAL – RE: "In Ontario, hydro's future gets murkier as costs of leaving the grid decline"

Planning has previously provided load forecast data to OPG related to this. George – can you comment?

To be clear, I said ""In the past, the job of a system operator was simple and straightforward," said Leonard Kula, the chief operating officer of Ontario's Independent Electricity System Operator, the agency that controls the power system. Those easy days are now gone and the future promises to be ever more complicated. "

Leonard

From: Jeannette Briggs
Sent: November 16, 2017 7:27 PM
To: Kim Marshall; Leonard Kula; Terry Young; Michael Lyle; Peter Gregg
Cc: Michael Boll; Anthony Martinello
Subject: Re: EXTERNAL – RE: "In Ontario, hydro's future gets murkier as costs of leaving the grid decline"

I have just provided OPG details on historical RPP MWs too because Moody 's wants confidence in the numbers used in OPG modelling for similar reasons. They want sensitivity analysis to reflect what happens if prescribed consumers are significantly reduced in the future.

Regards

Jeannette Briggs
416 997-6364

From: Kim.Marshall@ieso.ca
Sent: November 16, 2017 7:14 PM
To: leonard.kula@ieso.ca; terry.young@ieso.ca; Michael.Lyle@ieso.ca; Peter.Gregg@ieso.ca
Cc: Michael.Boll@ieso.ca; jeannette.briggs@ieso.ca; Anthony.Martinello@ieso.ca
Subject: Fw: EXTERNAL – RE: "In Ontario, hydro's future gets murkier as costs of leaving the grid decline"

for ELT consideration on how and when to respond. Leonard I can reach out to you for first consideration of next steps. Will have to get back re timing and how.

From: LADAK Lubna -TREASURY <lubna.ladak@opg.com>
Sent: November 16, 2017 6:01 PM
To: Kim Marshall
Cc: Jeannette Briggs; Michael Boll; RYFA Ken -TREASURY
Subject: FW: EXTERNAL – RE: "In Ontario, hydro's future gets murkier as costs of leaving the grid decline"

Welcome back Kim. Please spread some of the Bahamas' sunshine in TO!

I don't know if you've seen the email below from DBRS, but they are asking for OPG and the IESO's strategies for collecting the CEA if electricity demand decreases. They're referencing comments made by Leonard Kula and a Senior Advisor at EY regarding the impact of technology on electricity demand. Do you know the context around Leonard's comments? How is the IESO treating the impact of technological changes on its demand forecast?

Lubna Ladak | VP Treasury | Ontario Power Generation
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lubna.ladak@opg.com

From: Tim O'Neil [mailto:toneil@dbrs.com]
Sent: Thursday, November 16, 2017 10:15 AM
To: Benaiah, Ian <ian.benaiah@rbccm.com>; Khan, Nur <nur.khan@rbccm.com>; Taylor, Brent R <brent.r.taylor@rbccm.com>; Malhi, Harman <harman.malhi@rbccm.com>; Katrina Niehaus (Katrina.Niehaus@gs.com) <Katrina.Niehaus@gs.com>; Brian Delaney (brian.delaney@gs.com) <brian.delaney@gs.com>; Donnie Persaud (Donnie.Persaud@cibc.com) <Donnie.Persaud@cibc.com>; Adalja, Sunil (Sunil.Adalja@cibc.com) <Sunil.Adalja@cibc.com>; Maciel, Andrew (Andrew.Maciel@cibc.com) <Andrew.Maciel@cibc.com>; LEE John -TREASURY <john.s.lee@opg.com>; RYFA Ken -TREASURY <ken.ryfa@opg.com>; LADAK Lubna -TREASURY <lubna.ladak@opg.com>; GO Matthew -TREASURY <matthew.go@opg.com>; Chen, Zhidang <Zhidang.Chen@rbccm.com>; Papp, David <david.papp@rbccm.com>; Green, Lesley <lesley.green@rbccm.com>; Jamie Feehely <jfeehely@dbrs.com>; King Lam <KLam@dbrs.com>; Justin Tsang <JTsang@dbrs.com>; Arthi Sambasivan <ASambasivan@dbrs.com>; Dal Bello, David <david.dalbello@rbccm.com>

Cc: WONG Leslie -LAWDIV <leslie.wong@opg.com>; Anthony Martinello <Anthony.Martinello@ieso.ca>; Michael Boll <Michael.Boll@ieso.ca>; Jeannette Briggs <jeannette.briggs@ieso.ca>; Antonios, Paul <Paul.Antonios@gs.com>; Sabri, Salina <Salina.Sabri@gs.com>
Subject: EXTERNAL – RE: "In Ontario, hydro's future gets murkier as costs of leaving the grid decline"

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Good morning,
Once again, thank you to IESO representatives for the opportunity to understand your role in the Ontario Hydro market and specifically as it relates to the Fair Hydro Act. Prior to the meeting I mentioned to some of you an article that was published (attached) earlier Tuesday morning discussing the future of hydro in Ontario.
Follow up question for IESO and OPG:
While we recognize that the semi-annual true-up is a significant mitigant to demand forecast error our sensitivity and stress analysis needs to incorporate the potential for a loss of ratepayers which will potentially over-burden any remaining ratepayers. Of particular interest is the rapid technological changes that are anticipated (including by Leonard Kula, Chief Operating Officer of IESO) and the potential for a significant loss of ratepayers as the article's title suggests "costs of leaving the grid decline".
Given the timing of the transaction which contemplates all of the borrowing up front, our stress needs to incorporate the potential changes to the market as the bonds are issued. This results in a significant exposure to technological change (and consequently rate payers leaving the grid) given the very long repayment horizon which needs to be considered as part of our initial rating analysis.
Request: Please provide additional information on IESO and OPG strategies to manage the technological changes with respect to maintaining an acceptable scale of ratepayers over the repayment period and how these risks are incorporated into the repayment (demand) forecast in the financial modeling. And the impact on the LDC's.

https://www.theglobeandmail.com/news/national/in-ontario-hydros-future-gets-murkier-as-costs-of-leaving-the-grid-decline/article36962354/

Once an idea limited to isolated cottages and the environmentally zealous, making your own electricity and storing it in your garage could be cheaper than the traditional way of buying power within a decade. Benoit Laclau, Ernst and Young's adviser on power and utilities, has guidance for politicians and utility leaders around the world who employ the accounting firm: Exercise caution on any big projects that will require more than a decade to pay off.
On a piece of paper, he can draw a graph with two lines. One starts low and represents the slowly increasing cost of electricity provided by a traditional electricity company; the second starts higher but is going down "really rapidly" and reflects the cost of people producing power on their own roof. "Those two lines cross, and they are going to cross soon, a lot sooner than we had expected," he said.

Tim O'Neil
Senior Vice President, CDN ABS
Global Structured Finance

<image001.jpg>

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-----Original Appointment-----
From: Benaiah, Ian [mailto:ian.benaiah@rbccm.com]
Sent: Friday, November 10, 2017 4:30 PM
To: Benaiah, Ian; Khan, Nur; Taylor, Brent R; Malhi, Harman; Katrina Niehaus (Katrina.Niehaus@gs.com); Brian Delaney (brian.delaney@gs.com); Donnie Persaud (Donnie.Persaud@cibc.com); Adalja, Sunil (Sunil.Adalja@cibc.com); Maciel, Andrew (Andrew.Maciel@cibc.com); John Lee (john.s.lee@opg.com); Ken Ryfa (ken.ryfa@opg.com); 'LADAK Lubna -TREASURY'; GO Matthew -TREASURY; Chen, Zhidang; Papp, David; Green, Lesley; Tim O'Neil; Jamie Feehely; King Lam; Justin Tsang; Arthi Sambasivan; Dal Bello, David
Cc: WONG Leslie -LAWDIV; Anthony Martinello; Michael Boll; Jeannette Briggs; Antonios, Paul; Sabri, Salina
Subject: OPG/IESO Servicing Review (DBRS) *** Presentation Attached, Dial-in Available ***
When: Tuesday, November 14, 2017 1:00 PM-4:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Royal Bank Plaza (200 Bay Street), South Tower, 2nd Floor, Room S1

When you arrive on the 2nd Floor, please contact Lesley Green at 416-842-4810. Lesley will take you through the security doors and to the meeting room.

Conference Call Details:

[redacted]
