



Submitted electronically to:

Ministry of Energy, Northern Development and Mines
Conservation and Renewable Energy Division
77 Grenville St., 5th Floor
Toronto, ON M7A 2C1
Attn: Mr. M. Edwards

November 20, 2020

Dear Mr. Edwards

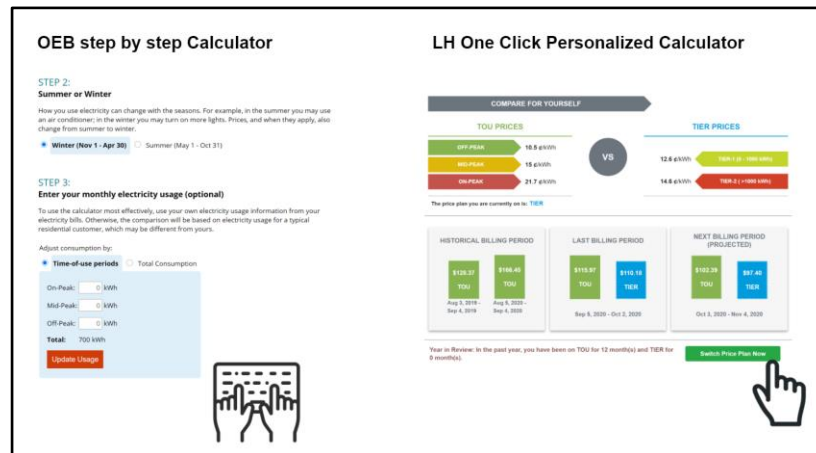
RE: ERO number 019-2564, Regulatory proposal for province-wide implementation of Green Button

As requested by November 22nd, 2020, London Hydro is providing formal feedback with respect to the proposal for Province-Wide Implementation of Green Button Download My Data (DMD) and Connect My Data (CMD) for electricity and natural gas utilities.

As a Local Distribution Company (LDC) that services the City of London, Ontario, Canada we deliver a safe and reliable supply of electricity to over 159,000 customers. Our commitment to customer engagement has been delivering top customer satisfaction results and overall ratings year after year. **Green Button open and secure data standard has been an instrumental enabler for our digital customer transformation to date.**

London Hydro's Green Button Platform currently supports **over 420K Ontario meters** across 4 distinct utilities (includes electricity and water data). London Hydro wants to take this opportunity to highlight the key benefits of Green Button:

- Utilities have justified Green Button based on increase in customer self-service (less customer calls and more customer choice) and sign-ups for paperless billing
- Involving tenant/consumers to take part in energy management, even though they don't pay for energy directly, enabled by third party access to energy data
- Commercial & Industrial customers have a streamlined process to benchmark energy use across facilities energy that span utilities and borders
- Being used for DER visibility (e.g. solar generation behind net meters) and tracking environmental benefits (e.g. EV kilometers driven and corresponding carbon reduction)
- Opportunity to deploy a more personalized and "one click" calculator for TOU/Tiered Pricing Option. If Green Button had been deployed across Ontario, all residential customer consumption would have been automatically accessed into OEB or LDC calculators.



As requested, here are the answers to your questions:

1. *Is the proposed timeline of two years reasonable for energy providers to implement Green Button?*

Yes, London Hydro firmly believes that the proposed implementation timelines are both achievable and reasonable given our experience in both GB DMD & CMD development and software as a service (SaaS). For example:

- Certified London Hydro DMD/CMD/TestLab Platform and development of data translation interfaces for Meter and Customer contextual data was completed during a **20 month project** for 159,000 electricity and 110,000 water meters
- *Enwin Utilities: 7 months* for 88,000 electricity meters
- *Elexicon Energy - Whitby Hydro: 8 months* for 43,000 meters
- *Festival Hydro: 6 months* for 23,000 meters
- Progressing towards deployment of one additional Ontario utility GB platform for ~55,000 customers in early 2021

2. *Would there be opportunity for coordinating the implementation of Green Button with other planned IT system upgrades?*



Yes, aligning the Green Button as part of Customer Engagement IT projects lowers the cost of implementation and on-going support. For example:

- *Enwin Utilities*: MyAccount Self Service + GB CMD & DMD
- *Elexicon Energy - Whitby Hydro*: MyAccount Self Service + Corporate Website refresh + GB CMD & DMD
- *Festival Hydro*: MyAccount Self Service+ Corporate Website refresh + GB CMD & DMD
- London Hydro: Extended Green Button to support in-home technology for OEB RPP pilot, and DERs for Sidewalk Lab and Power Forward Challenge pilots

3. How can we enable opportunities for joint or coordinated procurements to drive down costs and ensure that Green Button is implemented in a cost effective manner?

London Hydro recommends other LDCs to consider “buy” versus “make” Green Button platforms. This will avoid the ramp up time to acquire the knowledge or build up the internal expertise by each LDCs. We believe once the Ministry mandates the Green Button across the province, it will result in multiple platform providers entering the Ontario marketplace providing LDC deployment options.

LDCs (small to medium size) may want to jointly issue RFP with goal to eliminate duplication and streamline work for common backend system required updates (e.g. Harris NS, Oracle, SAP, Metersense, Savage Data, MV90)

4. *Acknowledging the importance of customer privacy and security, are there particular issues that the Ministry should be aware of based on your experience with implementing IT projects such as this may involve customer data.*

Certification and Dataguard principles. Having gone through the certification process and Data Guard assessment, London Hydro can confirm that Green Button Privacy by Design principles align with OEB’s cybersecurity framework and initiatives.

London Hydro has additionally completed third party vulnerability assessments and can share experience and findings in support of Green Button mandate.

London Hydro is a member of the Electricity Distributors Association (EDA) and as such we contributed to the submission presented by them. As the EDA submission is a collection of



opinions from our industry, therefore we don't concur with all points submitted. Please see the attachment for London Hydro perspective on points raised in the EDA submission.

In closing, London Hydro being a founding board member of Green Button Alliance, we strongly believe Green Button can play a significant role in promoting **Energy Data Value Creation** by facilitating the energy ecosystem to provide **affordable energy, enable economic development and reduce carbon**. Moving forward with the Ministry proposed mandate will make Ontario a leader across Canada by being the first province to adopt a secure open data standard.

A handwritten signature in blue ink, appearing to be "Syed Mir".

Yours truly,

Syed Mir, VP Corporate Services and CIO

LONDON HYDRO INC.



Attachment

London Hydro's Journey

Over the past 6 years London Hydro has been contributing to both standard development and enhancements, taking Ontario customer & LDC's interest, requirements and use cases to the forefront of the Green Button initiatives. This includes following achievements and highlights:

- Participated in Ontario MOE and MaRS Pilot Program and supported its **EM&V** study developed by Frontier Energy
- Developed and incorporated Green Button CMD platform as part of our utility customer engagement offering
- Developed and supported third party integration via **Green Button Test Lab** (sandbox for third party onboarding and testing)
- Actively participating in Green Button standard development and evolution. This delivered completion of two major milestones: 1. **Version II publication** (incorporates Ontario's requirements for Retail Schema APIs and 2. Establishment of a robust **certification process**.
- **Certified** our platform for electricity, water and gas
- Delivered successful Pilot Program demonstrating application engagement powered by Green Button data in partnership with **Enbridge/Union Gas**
- Supported Ontario's Green Button **EM&V study delivered by Dunsky Energy Consulting**
- Delivered a successful report in support of **OEB's RPP** program for both energy efficiency and most importantly customer engagement and literacy achievements.
- **Deployed Green Button CMD platform to three Ontario** utilities along with customer engagement applications.
- Supporting NRCAN's Power Forward initiative through Green Button open data platform (**enabling** growth of **DER's, EV's** and new business models for green energy)



Recommendations

London Hydro recommends inclusion of the following components as part of Ontario implementation model:

- **Establishment of Ontario implementation guideline**

This document would clearly identify the implementation approach and the minimum required building blocks that all LDC's and data custodians would be required to implement. This approach directly links system requirements with certification functions, leaving utilities with no room to guess. London Hydro and/or GBA can offer expertise and support the Ministry's effort in this area. This approach eliminates any need for a phased implementation approach and delivers clear and achievable targets for data custodians in the Ontario energy sector.

- **Roles and Responsibilities**

Green Button Standard is designed to streamline secure utilization of customer owned data. Green Button customer authorization workflows empower customers with methods to enable the flow of data to third parties based on their relationships and contractual agreements. It is important to state that Green Button does not introduce additional support and system overhead for utilities, it delivers efficiency and removes the overhead of paper based and archaic utility authorization processes. Ontario has an opportunity to tie in utilization of **Green Button Directory Services** (GBA Offering) to eliminate individual utility effort for third party registration and platform onboarding. London Hydro and/or GBA can offer support and expertise in this area.

- **Certification and Dataguard principles**

Having gone through the certification process and Data Guard assessment, London Hydro can confirm that Green Button Privacy by Design principles align with OEB's cybersecurity framework and initiatives. London Hydro has additionally completed third party vulnerability assessments and can share experience and findings in support of the Ministry's proposal.



London Hydro's perspective on topics raised by the EDA

The Ministry may want to consider an awareness campaign for LDCs as part of the mandate to alleviate concerns identified in EDA feedback. It seems many LDCs need a "GB 101" from Green Button Alliance and "lessons learned" from other utilities who have implemented Green Button (London Hydro would be happy to participate).

EDA Comment	LH View
<p>LDCs are the front line of Ontario's electricity sector and will be a consumer's first point of contact should inappropriate data sharing occur. LDCs need the tools that will safeguard against inappropriate or unauthorized data sharing and at the earliest opportunity so that they can plan and operationalize the integration of their confidential consumer data with the Green Button's data sharing infrastructure.</p>	<p>Green Button standard principles include safeguards for customer data sharing. Privacy by design - anonymized data building blocks approach and OAuth2 driven, implicit customer authorization flow delivers both security safeguards and clear steps required for data sharing to occur.</p>
<p>All our members are acutely aware of cyber security threats and risks and note that they are increasing in number and sophistication. Some LDCs are concerned that engaging in the Green Button initiative contributes to those risks.</p>	<p>For the past 6 years London Hydro's GB platform has not experienced any cyber security threats. Our understanding is that none of the US utilities (since 2011) have assessed an increase of cyber security risk based on the Green Button initiative.</p> <p>In our opinion, Green Button will reduce cyber security risks for utilities as some of the existing, obsolete techniques will be able to be phased out and replaced with secure sharing steps. For example simple CSV, plain text files are part of most utilities download options at the current time and screen scraping apps that get data when customers share their utility password to access energy consumption data.</p>
<p>By participating in the Green Button initiative meter data will be shared again, this time upon customer authorization and using a secure protocol.</p>	<p>Data will not be shared again. Data and data sharing mechanisms will be in place for customers to use when required and needed.</p>

<p>The consultation materials provide clarity on some aspects of the adoption of the Green Button initiative (e.g., timeline) and are silent on others (e.g., who is responsible for handling consumer complaints of unauthorized access) and further details will be required on still others (e.g., the LDC's role to ensure secure data authorization and protection).</p>	<p>Clarity and EM&V leveraging learnings and experience from London Hydro and other Green Button Alliance members and overall standard adopters (with over 36 million meters data being shared with third parties) have been shared and addressed on multiple occasions.</p> <p>Two main Green Button principles address the data authorization process:</p> <ol style="list-style-type: none"> 1. Data requires customer implicit authorization actions 2. Data is anonymized and requires establishment of customer to third party relationships in order to make use of GB data streams.
<p>LDCs do not expect that the recovery of the costs they incur to depend on whether the costs are material. We wish to point out that some LDCs will incur the costs to participate in the Green Button while continuing to serve customers under pandemic conditions</p>	<p>We do not see any links with Green Button cost implementation and pandemic conditions.</p> <p>On the contrary, Green Button will enable growth of digital customers and data utilization overall, which significantly helps in conditions such as pandemic. LH's cloud adoption and self-service options have greatly contributed to our pandemic readiness and have enabled our employees and customers with minimal or no impact while operating from home/remotely.</p>
<p>Not all LDCs may be able to achieve the proposed two year timeline (e.g., if the LDC's Board of Directors previously approved a 'competing' project such as the replacement of a major system) regardless of whether testing was successful or the LDC identified the need for additional work. There is also a concern that some LDCs could incur greater costs if they are obliged to conform to a predetermined period.</p>	<p>London Hydro believes a two year timeline is sufficient if LDCs acquire or collaborate on GB platforms and utilize Software-as-a-Service model and not build their own.</p> <p>LDCs may link Green Button platform deployment with MyAccount or Customer portals upgrades/refreshes over the next 2 years and potentially "white label" 3rd party apps to provide more customer choice to enable customers to manage their consumption and lower their carbon footprint.</p>

<p>We request that the government permit phased timelines. Some LDCs will achieve Download My Data (DMD) status and Connect My Data (CMD) status through a single deployment while others may be better served by achieving DMD first and CMD status second through two discrete deployments.</p>	<p>In the past, 60% of Ontario LDCs have implemented Green Button DMD therefore a phased approach would work for them to refresh DMD implementation at same time as deploying CMD.</p> <p>Other LDCs already have implemented DMD and CMD together to gain efficiencies given the common components and single certification process.</p>
<p>An additional benefit of the proposed flexibility of timeline is that it will support the LDC in learning about the initiative and its capabilities, and to plan and test its deployment. Both these outcomes will benefit consumers because they will enhance the LDC's ability to succeed the first time and will avoid costly rework. All of these concerns are heightened because this initiative raises cyber security issues that must be identified, planned for, mitigated and coordinated with the LDC's overall cyber security preparedness.</p>	<p>Green Button CMD and DMD data custodian implementation prescribes a set of steps and building blocks that is supported by Green Button Alliance, Certification and OpenADE working group.</p> <p>Based on utility approach, they might consider joining GBA and utilize some of the member benefits such as consulting hours, access to data library and other related information. For example, access to OpenADE working group is open to the public and any utility can use this channel to obtain updates on Green Button Standard.</p>
<p>LDCs anticipate that their customers will want to understand the merits of their LDC participating in the Green Button initiative, that Green Button will appropriately protect their information at all times, whether participation is cost effective, and how risks have been mitigated (e.g., that the Green Button standard is support by North American Energy Standard Board and NIST). The consultation materials do not provide this information or analysis.</p>	<p>LDC customers would see more customer apps for energy management and carbon reduction that will be powered by Green Button (it is a back-end system for data sharing and enablement of customer consent to provide data to 3rd parties apps)</p> <p>Ontario LDCs will benefit from lessons learned and investments already made by the USA utilities that have resulted in consumption data from 100 million meters (using DMD) and 35 million meters (using CMD) being shared with third parties using Green Button.</p> <p>Ontario will also benefit from standard licencing by North American Energy Standard</p>



	<p>Board (NAESB) and NIST funding to GBA to evolve the standard.</p>
<p>We also trust that the business case has considered that some customers will not be willing to participate in a data sharing proposition such as Green Button (e.g., customers who are uncomfortable with technology).</p>	<p>Green Button Standard prescribes data sharing as part of customer's choice and action. The previous Dunsky's business case highlighted the key driver and benefits would be for 85% of Commercial and Industrial customers.</p> <p>Enablement of Green Button DMD and CMD does not mean that data is open and shared by default. On the contrary, it assures customers that data will not be shared unless they authorize it.</p>
<p>Testing will concern all aspects of participating in the Green Button including among other things the format of the file to be shared (e.g., whether as a spreadsheet or in XML format), compliance with the suite of Green Button tools, the process for appropriately onboard third parties for the first time, leveraging Green Button enhancements.</p>	<p>Our implementation suggestion section provides additional background on this answer.</p> <p>London Hydro recommends publication of Ontario Green Button Guidance document which will link requirements to certification functions.</p>