



# OEB Green Button - IWG

Independent (Industry-led) Working Group for the implementation of Green Button in Ontario

Co-Chairs: Eddie, Gary, Jeremy



# IWG - Agenda for Today

- OEB Staff Greeting
- Co Chairs - Eddie, Gary, Jeremy
- Administrative (how is this going to work) – 5 minutes
  
- Update ITWG - Sub Working Group - Mondays - 10 min Present / 10 min Q&A
- Update IUXWG Sub - Working Group - Mondays - 10 min Present / 10 min Q&A
- Update IUWG Sub - Working Group - 10 min Present / 10 min Q&A

## Administrative - General

- Our meetings are weekly for one hr. June Bi-Weekly, July / Aug Monthly
- Etiquette. Be respectful and Asking Questions state company & name
- Best Practices - (at end of slide deck) represents the recommendation that the IWG will be making to the OEB. Any iterum conversations with the OEB does not represent approval/rejection of the “best practice”
- Next Month : Sub Working Group updates and Other priority items.
- IWG document was targeted to be delivered to OEB by end of May ( to include FAQ’s and Best Practices). **IWG Chairs will hold off on delivery until IWG Team reviews ( Goal - June 9th)**
- Use of information with IWG - Public material - Under OEB Review

# Technical Sub-Working Group (ITWG) — (Mondays)

---

- Co-Chairs Ryan / Don
- Separate Agenda / Discussion from Co-Chairs
  - Discuss / Provide Best Practices recommendations, Q&A, Issues list



# Independent Utility only (IUWG) Sub - Working Group

---

- Co-Chairs Steve / Carrie / Warwick
- Separate Agenda / Discussion from Chair
  - Discuss / Provide Best Practices recommendations, Q&A, Issues list

# For Discussion at IWG by IUWG

The IUWG asked questions, which the IWG co-chairs discussed with the OEB on Monday. Would these be appropriate to add to the FAQs?

1. Can a utility deny a third party because they don't meet the requirements of their Terms and Conditions?
  - OEB response: Yes. If T&C were overly restrictive or unduly punitive 3rd parties can escalate to OEB through IRE system.
2. What happens if Utility A accepts a 3rd party and Utility B rejects them? Can the OEB or Ministry provide some rules for consistency, around what Utilities can and cannot do.
  - OEB response: Utilities can accept or reject a third party based on their individual terms and conditions. If the third party has concerns they can go through IRE system to engage the OEB.
3. Utilities go to great lengths to store data in Canada to meet privacy and cybersecurity requirements. Is the same expected of Green Button third parties? How would the Ministry monitor and enforce this
  - OEB response: Customer protection is a core priority for the OEB and, while the OEB may not have regulatory oversight of third parties that are authorized to receive the data, OEB staff notes that such third parties would be subject to their own obligations under the applicable privacy legislation.



# User Experience Sub-Working Group (IUXWG) (Mondays)

---

- Co-Chairs Michael / Karen
- Separate Agenda / Discussion from Co-Chairs
  - Discuss / Provide Best Practices recommendations, Q&A, Issues list

# Best Practices Recommendation #7 IUWG:

## Original Version

**Recommendation #7: Alternative authentication methods.** The Utility should provide an alternative digital process wherein a customer visiting their website will have the ability to identify themselves without requiring registering their account in the Utility's online customer portal. A secondary process should be implemented for customers only without Internet access. Utility staff will have the means to assist the customer to meet the authentication requirements.

### Why?

- Some customers who wish to share their data in Green Button format with a third party will not have an online account (My Account portal), nor a desire to register for one.
- A digital processes can be designed to accommodate this, for example a registration link on the Utility website that is independent of the customer portal. This process would be accurate, timesaving, and not require additional paperwork.
- Green Button is a digital tool; however, we anticipate a small number of customers who do not have Internet access, will want to share their data with third parties. To ensure confidentiality and accountability in the registration process, this is best handled by the Utility staff, who have access to the customer's information.



# Best Practices Recommendation #7.1: alternate authentication **For Discussion**

**Recommendation #71:** The Utility should provide an alternative digital process wherein a customer visiting the website will have the ability to identify themselves without requiring creation of an online account in the Utility’s customer portal. The personal information required to establish identity should be consistent with the Utility’s standard practices.

## Why?

- Some customers who wish to share their data in Green Button format with a third party will not have an online account (My Account portal), nor a desire to register for one.
- Digital processes can be designed to accommodate this, for example “guest login” or “one-time login.”
- Establishing identity in this manner should not be more onerous than establishing identity in creating an online account, i.e. the personal information required should be consistent between these two methods

The screenshot shows a utility website login interface. At the top, there are two tabs: "SIGN IN" and "ONE-TIME ACCESS". The "ONE-TIME ACCESS" tab is selected. Below the tabs, there are two radio buttons: "Residential" (selected) and "Business".

Under "Residential", the form asks for "ACCOUNT NUMBER" with a subtext "Enter a valid 11-digit account number [e.g., 1234567890-2]" and a text input field. Below that is "LAST 4 DIGITS OF SOCIAL SECURITY NUMBER" with a text input field. Then "METER NUMBER" with a text input field and a "FIND METER ID >" link. An "OR" separator is below.

Under "Business", the form asks for "LAST NAME" with a subtext "Do not include apostrophes, hyphens or special characters." and a text input field. Then "ZIP CODE OF SERVICE ADDRESS" with a text input field. Then "LAST 4 DIGITS OF SOCIAL SECURITY NUMBER" with a text input field. Then "METER NUMBER" with a text input field and a "FIND METER ID >" link.

At the bottom, there is a yellow "SIGN IN" button.

# Best Practices #7.2: offline authorization - For Discussion

## Next step: Send to ITWG for technical implementation

**Recommendation #7.2:** For customers without internet access, the Utility should establish both telephone and paper form-based processes whereby a customer can grant a data-sharing authorization. In the case of paper forms, Utilities should standardize the form to the maximum extent possible. In the case of telephone authorizations, Utility staff should assist the customer to meet the authentication and authorization requirements.

### Why?

- Green Button is a digital tool; however, we anticipate a small number of customers who do not have Internet access, will want to share their data with third parties. To ensure confidentiality and accountability in a telephone call, this is best handled by the Utility staff, who have access to the customer's information.
- Business customers may want to use paper forms to ensure that internal approvals are correctly obtained.

## ITWG-led FAQs (Technical)



- FAQs are provided to the Working Groups and Public for reference.
- FAQs are not an exhaustive list but are there to assist the industry.
- FAQs will be expanded on, added to, or changed from time to time as information evolves.
- FAQs are outputs from the IWG and should be considered as guidelines from the Industry.
- If a party sees that the FAQs are not correct or need revision, please contact the Co-Leads of the IWG.



# Technical-Subgroup FAQs

## Should the UUID be something common for all utilities?

- UUID values should be unique (to maintain anonymity) and MUST comply with [RFC 4122] *version 3* or *5* formatting requirements . Each ESPI resource (UsagePoint, ReadingType, Customer, etc.) is assigned a UUID value, which must always remain the same so vendors can match datasets.

## Will we get handholding to understand the ESPI standard?

- Yes. It is the intent of the Technical Working Group to assist in understanding the ESPI standard.

## Files we received are .xsd files. How can they be opened?

- .XSD files can be viewed using a browser or open-source XML file viewing tool (Notepad++, Code Browser, Microsoft XML Notepad, XmlPad).

## Is there a privacy concern regarding 3rd parties having access to whether a customer is on OESP as presented on the bill? Does it need explicit consent?

- This should be addressed by the utility's privacy policy and explained as part of the authorization process.



# Technical-Subgroup FAQs

**Do we need only the REQ.21 standard or the entire 3.3 version?**

- *Version 3.3* refers to the latest available version of the NAESB REQ.21 ESPI (a.k.a. Green Button) standard.

**What are we looking to solve in these meetings when we're mostly going to be engaging third parties to implement Green Button?**

- As the utility, you should understand the technical elements of the standard such that if your implementation vendor has questions, you can help clarify the requirement.

**How do we report loss adjusted data?**

- The NAESB ESPI standard provides a means to report loss adjusted data. The Technical Subgroup will provide guidance.

**Must utilities include deposit information on-hand on the bill?**

- Not unless it is commonly provided to the customer on the bill or online portals. See ITWG recommendation #1.



# Technical-Subgroup FAQs

For bundled charges on the bill, the regulation states that we may provide a breakout where possible. Do we have to provide this or just provide what is on the bill (summed up)?

- The breakout is not a requirement, unless the distributor provides this information today in the normal course of business. If you can supply it, the standard supports it. See Technical-Subgroup Recommendation #1.

How far back in time do we need to provide historical data?

- 24 months from the time of request, or as much account and usage history is available at time of request if less than 24 months

# Overall Independent Industry-led FAQs



- FAQs are provided to the Working Groups and Public for reference.
- FAQs are not an exhaustive list but are there to assist the industry.
- FAQs will be expanded on, added to, or changed from time to time as information evolves.
- FAQs are outputs from the IWG and should be considered as guidelines from the Industry.
- If a party sees that the FAQs are not correct or need revision, please contact the Co-Leads of the IWG.



# General FAQs

## Do I need to Buy the Standard?

- If you are an Ontario Electric or Natural Gas Utility or a vendor using the standard. YES. Also see [NAESB Copyright](#)

## Where Can I find the Ontario Regulation?

- [O. Reg. 633/21: ENERGY DATA](#)

## Can we do Bulk Registration?

- For a single utility YES GB -related. Across utilities NO not part of the Standard or Regulation

## Where can I find OEB staff guidance related to Green Button implementation in Ontario?

- [OEB Green Button Implementation](#)





# FAQs

## When Do the Utilities have to have their systems Operational and Certified by GBA?

- Regulation states November 1, 2023

## Does the ESPI (GB) standard handle Line Losses?

- Yes, there are fields for Line Losses.

## Who needs to get Certified by the Green Button Alliance?

- All Ontario Utilities within the Regulation. Completed by November 1, 2023

## How many options are there for Reading Quality (for the metered intervals)?

- There are 14 options and more can be proposed, if needed. This FAQ has been corrected (April 28) from the 19 originally stated (incorrectly).



# FAQs

## Is historical data required for former customers of a Utility?

- Utilities are not required to pass data on to previous customers even if they move within the Utility.

## How Many times do I as a Utility need to certify?

- If they are separate platforms or tested separately you will have to pay separately (same time and using the same engine).

## What is the cost of GBA Certification?

- DMD Cert+Test is US\$3,000.
- CMD Cert+Test is US\$3,200.
- The cost of DMD+CMD Cert+Cert+Test is US\$3,700.

## What consumption data will be made available by Utilities through GB: *e.g. unadjusted (metered) or adjusted (after application of Total Loss factor)?*

- The Standard does hold these data sets. Each Utility is required to determine what data is available .



# FAQs

**Is DMD different than existing Green Button download available to customers right now?**

- Most legacy Ontario GB DMD was not certified by Green Button Alliance. Likely, it will not be complaint. Reminder: the Ontario Government requires version 3.3 of NAESB ESPI.

**How much time do utilities have before sending responses to a third party for the request of data?**

- The IWG is setting out Best Practices. These will be worked on through industry engagement and activities through Sub Working Groups.

**What is involved in GBA certification testing?**

- Look on the GBA website <https://www.greenbuttonalliance.org/testing> for more information. It is part of Ontario's regulation requirement.

**Do I need the NAESB v3.3 ESPI Standard to take part in the IWG or sub working Groups?**

- No but you may need to purchase the Standard as required by regulation, law and or copyright requirements. The IWG is not the NAESB. We need to conform to the same rules as others (as required by laws and or Regulations).



# FAQs

**How will market wide “Best Practices” be produced and managed?**

- The IWG will provide best practices. The outcomes of these best practices will be a result of a joint effort between the IWG and the Sub-Groups.

**How do we deal with Privacy and Cyber Security as a Vendor or third party?**

- Your requirements are unchanged. Please refer to Government policies, regulations and guidelines.

**How do we deal with Privacy and Cyber Security as a Utility?**

- The Standard is capable of managing interaction between the Utility and the Green Button User. Utilities still take on responsibilities as normally required.

**For bundled charges on the bill, do Utilities have to provide this or just provide what is on the bill (summed up)?**

- Breakout is not a requirement, unless the Utility provides this information today in the normal course of business. Providing the breakout in an one-off discussion with a customer, is not considered normal course of business.



# FAQs

## Can Vendors be GBA Certified?

- The GBA certification process is for Utilities. A Vendor to a Utility can be GBA Certified but Utilities using their products must still get certified.

## Where can I get Best Practices for Ontario Green Button implementation?

- The IWG is setting out Best Practices. These will be worked on through industry engagement and activities through Sub Working Groups.

## When Can Utilities become GBA Certified?


- Utility implementations can enter the queue now; testing is live and being performed to ESPI v.3.3 with both Usage and Retail Customer Data components.



# FAQs

Besides Utilities and Vendors to Utilities, what's NAESB's rule on when to obtain the standard?

- See the next Slide...



**Besides Utilities and Vendors to Utilities, what's NAESB's rule on when to obtain the standard?**

*' The NAESB copyright most definitely extends to third parties/vendors that would need access to the standard to produce Green Button / ESPI streams or files.*

*We have segments in each of our quadrants for service companies and many member service companies that provide support [to] the utilities, transmission providers, pipelines, local distribution companies, etc.*

*At the very least, if a company/ individual is offering a "product/service" that conforms to the standard, then we expect the company/individual to have valid legal access to the standard. '*

— Jonathan Booe, North American Energy Standards Board

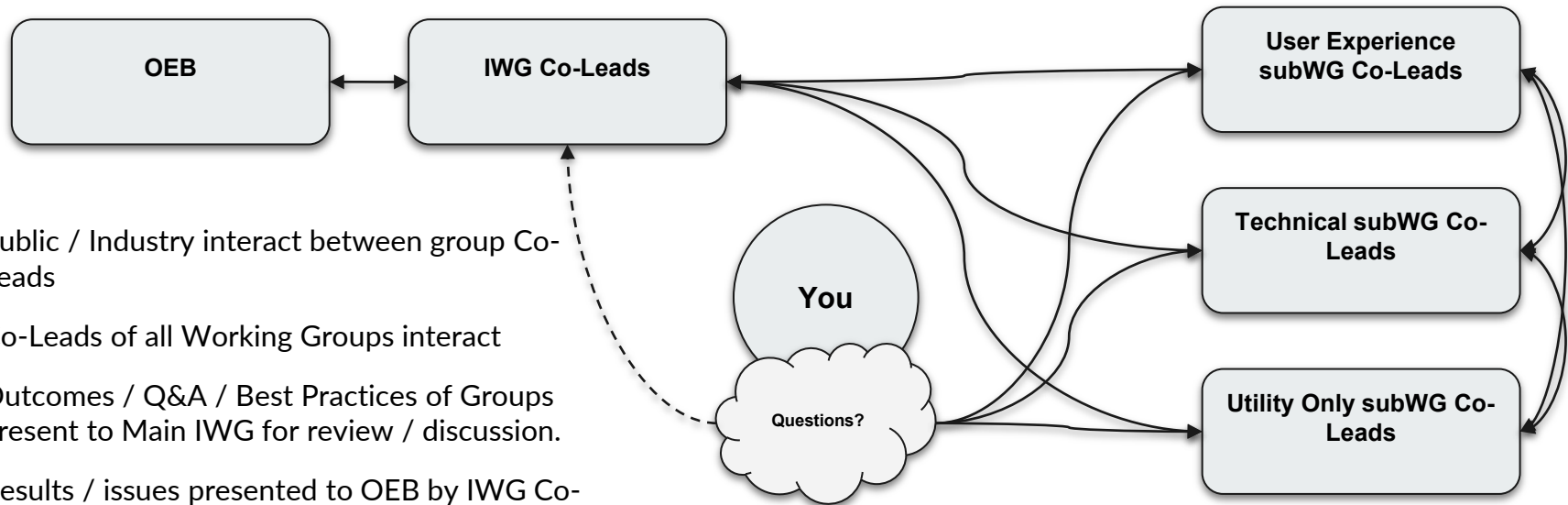
## IWG - Best Practices

- The Following
  - Are Best Practices that have been reviewed by the IWG
  - Will be recommended to the OEB as IWG Best Practices





# Inter-Working group Communications



- Public / Industry interact between group Co-Leads
- Co-Leads of all Working Groups interact
- Outcomes / Q&A / Best Practices of Groups present to Main IWG for review / discussion.
- Results / issues presented to OEB by IWG Co-Leads

# Best Practice Template (Sub Group ID)- No Consensus: - For Sub working Group Co- Chairs to use for IWG Non agreement

Recommendation: 'XXXX

Why?

1. XXX
2. XXX
3. XXX

Reason for no Consensus:

Note: It is preferred that all Best Practices be discussed at this IWG first and the Sub Group Co-Chairs attempt to get unanimous agreement first. Before submitting a No Consensus Best Practice

# Best Practice is Defined

## Consensus - IWG

A guideline that is known (as shown by research and/or experience) to produce good or optimal outcomes if followed. A course of action that represents the most efficient or prudent course of action in a given business situation.

As this is the first iteration of Green Button in Ontario, these best practices draw from previous experience with similar systems or lessons learned from other jurisdictions.

The GB IWG will recommend the implementation of these best practices where LDCs are able to do so without undue burden or interfering with their other legislative/regulatory responsibilities, or where it contradicts other Utility Best Practices.

# Best Practices Recommendation #1 IUWG

## Consensus - IWG

Recommendation: Utility Grid work / Service Outage information Requirements is not within scope of the Ontario Green Button implementation.

Why?

1. Outage information varies from one utility to the next, and not all utilities have software systems dedicated to the automated management of outage notifications
2. Outage information is provided to customers via existing channels, for example My Account customer portals and through social media.
3. Outage information is not identified within the NAESB ESPI standard

# Best Practices Recommendation #2 IUWG

## Consensus - IWG

**Recommendation: Providing Weather Data in Green Button format for Electric or Gas Utilities is not within scope of the Ontario Green Button implementation.**

### Why?

1. Weather data is provided on some customer portals, but the utility is not the source of this data, and it is not stored in the Utility systems. It is generally a real time API interface with Pelmorex (The Weather Network).
2. Providing weather data would add complexity and cost to the Green Button solution.

# Best Practices Recommendation #3 IUWG

## Not Required

Recommendation: Providing TOU to Tiered comparison in Green Button format is not within scope of the Ontario Green Button implementation.

### Why?

1. Bill comparison between Tiered and TOU rates is a complex data analysis process. The algorithm calculates the cost differential based on a customer's historical usage at the current Tiered and TOU rates.
2. Green Button data being provided will allow a third party to develop the same features in their application if this is something that would add value to their product.
3. Consumers have existing tools to see a bill comparison, through the OEB rate comparison tool, or via existing Utility customer portals

# Best Practices Recommendation #2 ITWG

## Consensus - IWG

**Recommendation:** ‘With respect to data request performance, the consensus is that “Historical Requests” would be processed by utilities as soon as possible based on current processing load. This means that it is expected that requests would be fulfilled near real-time or within a few hours if the request came at a peak time (precluding outage windows).’

### Why?

1. There is a mechanism to alert 3rd parties to new data being available from a utility; therefore, it is expected that large data requests are not needed on a regular basis
2. Most utility systems utilize a batch cycle process, which means that data does not change, or is not made available on a continuous basis and therefore, does not require real-time response
3. Data integration methods for some utilities may be predicated on other 3rd parties (e.g. IESO MDM/R)

# Best Practices Recommendation #4 IUWG:

## Consensus - IWG

**Recommendation #4:** Under the Green Button Regulation, distributors are required to make energy usage and account holder information available in Green Button format. As a general principle, the information to be made available is information identified in the NAESB ESPI standard, and where the utility is the authoritative source of the data that is collected and made available to its customers in the normal course of its operations

### Why?

1. Data requirements that are outside of the scope of Green Button could necessitate a utility having to make changes to their operational practices, with limited or no cost recovery.
2. Data that is not identified in the NAESB ESPI standard, cannot be provided within the context of the NAESB standard XML schemas.
3. Aside from commodity costs that Distributors bill and collect from consumers on behalf of Electricity Retailers, providing any third-party charges that appear on the bill but do not originate from the utility should not be considered within scope of the Ontario Green Button implementation.



# Best Practices Recommendation #6 IUWG:

## Consensus - IWG

**Recommendation #6: Maintenance windows. Utilities should make best efforts to notify external parties of regularly scheduled maintenance windows, that would impact the ability of apps to retrieve data. Unscheduled emergency maintenance is not included in the notification process.**

### Why?

1. Will allow third parties to schedule routine maintenance to coincide with Utility maintenance windows, minimizing impact to consumers.
2. Third party vendors can communicate with consumers if the schedule is known in advance
3. The priority during emergency outages or outages outside of the Utility's control is on returning systems to normal operations.

# Best Practices Recommendation #5 IUWG:

## Consensus - IWG

**Recommendation #5: Customer Notifications.** Where the account holder has provided a valid email address, Utilities should send an initial authorization confirmation by email, but thereafter are not required to send periodic reminders to customers about the third parties they have authorized.

### Why?

- The authorization form should advise the customer that third parties will have access to their data until such time as the customer revokes the authorization and advise the customer that they can revoke the authorization at any time.
- Customers should receive a confirmation by email after a successful authentication and authorization. This communication will allow the customer to review and validate their actions.
- Customers should be able to see which third parties they have authorized via the existing online customer portal, with links to documentation on how to amend or rescind an authorization.
- Notifications should align with utility current best practices to avoid customer confusion.

# Best Practices Recommendation #6 IUWG:

## Consensus - IWG

**Recommendation #6:** Real-time account balance information is not within scope of the Ontario Green Button Implementation.

Why?

- Utility CIS systems do not store a running account balance. The customer's current balance is calculated 'on the fly'.
- It is sufficient to provide the information that shows on the last published bill, i.e., Amount Owing.

# Best Practices Recommendation ITWG

## Consensus - IWG

Recommendation #3 : Electric consumption in IntervalBlocks should be reported as per the definition in the Retail Settlement Code, section 11.3

### Why?

- This will provide consistency for all users of the data and ensure they do not have to adjust different periods of time or between data sets
- It will ensure consistency in how data is supplied by Green Button as compared to EBT purposes.

# Best Practices recommendations from ITWG

## Consensus - IWG

**Recommendation #4:** Pre-printed/pre-formatted information that is supplied as part of the utility bill but is static or mandatory in nature (e.g. HST registrant number, bill terminology definitions, E&OE terms, etc.) does not have to be supplied within the Green Button data loads.

### Why?

- This information is standard for all of the customers in a given utility and may not be in electronic form (e.g. may be on pre-printed paper stock or pre-formatted design templates for e-bills)
- The information is not specific to each customer's account or energy usage
- The information is not relevant to 3rd parties consuming energy or account data for analytics purposes
- The information is available publicly through other means (e.g. "What does my bill mean" examples on utility websites) or to the customer directly through their regular bill

# Best Practices recommendations approved by IUXWG

## Non Consensus

**Recommendation #1:** A best practice is for LDCs to prevent inadvertent termination of data flows due to meter changeouts and "legitimate" account number changes (e.g. CIS upgrades).

### Why?

- In the past, some commercial customers with hundreds/thousands of meters have experienced revocations of data-sharing without their knowledge
- Several LDCs are planning imminent upgrades to their CIS, and customers want to ensure their data-sharing is as seamless as possible

### **Non- Consensus Reason**

- GB users also want the best practice to apply to utility mergers. Their rationale is that the administrative burden of ensuring continuity of consumption data should be the LDC's responsibility, not the customers'.
- LDCs disagreed, saying it is not always technically possible.

# Best Practices recommendation from IUXWG & ITWG

## Consensus - IWG

**Recommendation # 2:** In Green Button Connect My Data, the customer experience begins at the third party's website. Then the user is redirected to the utility. If the customer is not already logged in to the utility, the customer must first authenticate, using the utility's standard procedure(s). Once authentication is successful, then the authorization screen should be one web page. Finally the user is redirected to the third party's website to complete the transaction.

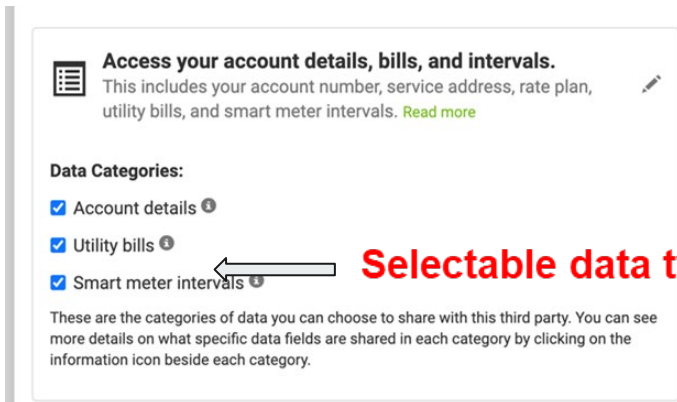
### Why?

- In other jurisdictions, utilities designed very different user journeys without standardization
- Failing to be specific at the outset about the customer “flow” can result in customer confusion and wasted effort
- The latest GBCMD standard requires that customers begin the journey on the third party site

# Best Practices recommendations from IUXWG

## Consensus - IWG

### Recommendation #3: Take it or Leave it.



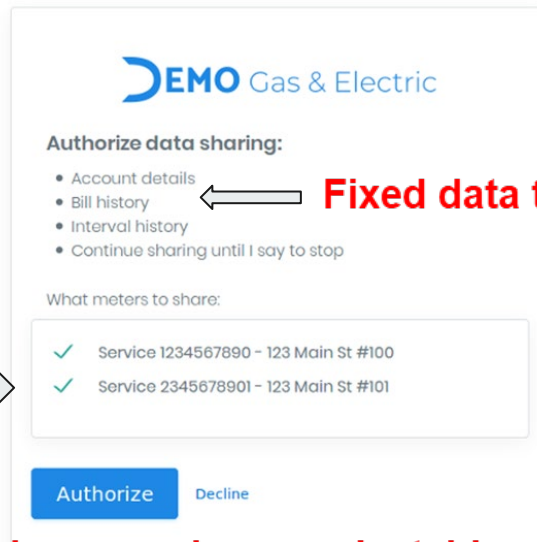
**Access your account details, bills, and intervals.**  
This includes your account number, service address, rate plan, utility bills, and smart meter intervals. [Read more](#)

**Data Categories:**

- Account details ⓘ
- Utility bills ⓘ
- Smart meter intervals ⓘ

These are the categories of data you can choose to share with this third party. You can see more details on what specific data fields are shared in each category by clicking on the information icon beside each category.

**Selectable data types**



**DEMO Gas & Electric**

**Authorize data sharing:**

- Account details
- Bill history
- Interval history
- Continue sharing until I say to stop

What meters to share:

- Service 1234567890 - 123 Main St #100
- Service 2345678901 - 123 Main St #101

**Authorize** Decline

**Fixed data types**

**Meters/services are always selectable**



# Best Practices recommendations – approved by IUXWG & ITWG

## Consensus - IWG

**Recommendation #3: General description:** LDCs should support the concept of “take it or leave it” scopes of authorization that are presented to customers. Data types should be selectable or unselectable by the customer depending upon the third party’s dynamic selection. (Note: This would not apply to meter/service selection, which must always be chosen by the customer.) See examples in previous slide.

**Technical description:** LDCs should support “noedit” as a parameter in “AdditionalScope.” The third party may or may not include “AdditionalScope” in its authorization request, but if included, LDCs should honor it, making the data types fixed and unchangeable by the customer.

### Why?

- If a third party requires, for example, 24 months of usage history to deliver their product, it doesn’t make sense for the customer to unknowingly reduce the history to 3 months, rendering the product non-functional. (Note: if the customer moved in only 2 weeks ago, then only 2 weeks of history will be provided regardless.)
- A frustrating user experience would result in a back-and-forth between LDC and third party if the authorized scope is not sufficient for particular product being offered


Other jurisdictions (California, New York) have adopted “noedit” as a best practice for this reason

# Recommendation #4: Vocabulary of scope selection

## Consensus - IWG

**Recommendation #4:** The presentation of data elements included in the customer authorization screen should be consolidated and standardized into the following categories:

- “Electric usage”
- “Gas usage”
- “Billing”
- “Account information, which contains personally identifiable information”

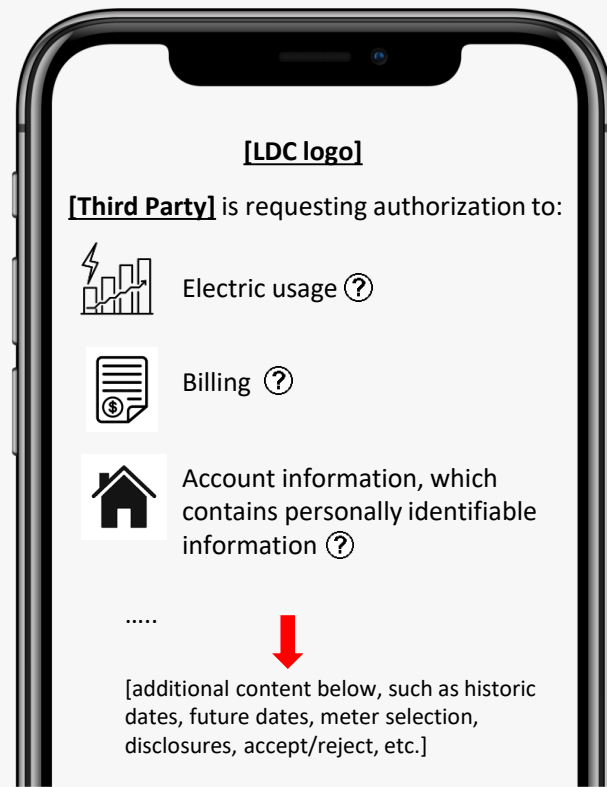
Additional explanation should be available with a  icon, beside each item named above, with a more detail.

Note: Only the categories requested by the third party will appear. E.g., if “Billing” is not requested, it will not appear.

### Why?

- Reflects identified best practices in other jurisdictions
- This will allow standardization in terminology between different utilities across the province
- Provides clear, concise, consistent verbiage for customer authorization process in defining the data being shared

Example of electric-only utility:



## List of Questions for Future Discussion ( Not part of existing roll out )

- Would it be helpful to have a centralized authorization/ authentication solution, where there is a single place for all utility customers / third parties in Ontario?
  - Not a requirement at this time





**IWG**

**Thank you for your participation**

**To reach out to the Co-Chairs - Email us**

