

Electricity Supply & Pricing Updates

PowerLogic Users Group (PLUG) Conference 2022

November 8, 2022

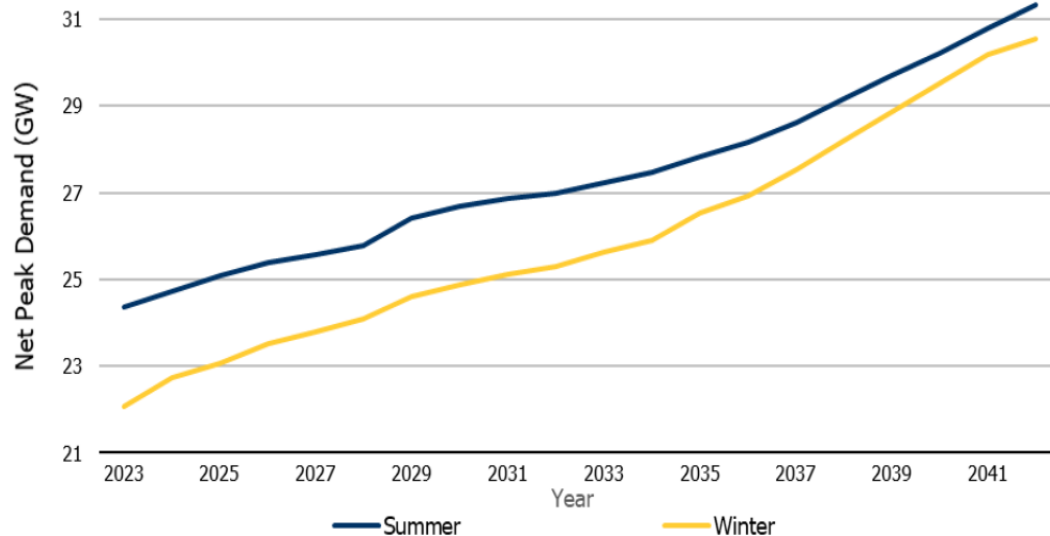
Agenda

- Update on Electricity Needs and Procurement of Resources
- ICI Administrative Review
- Comprehensive Electricity Plan and Interruptible Rate Pilot

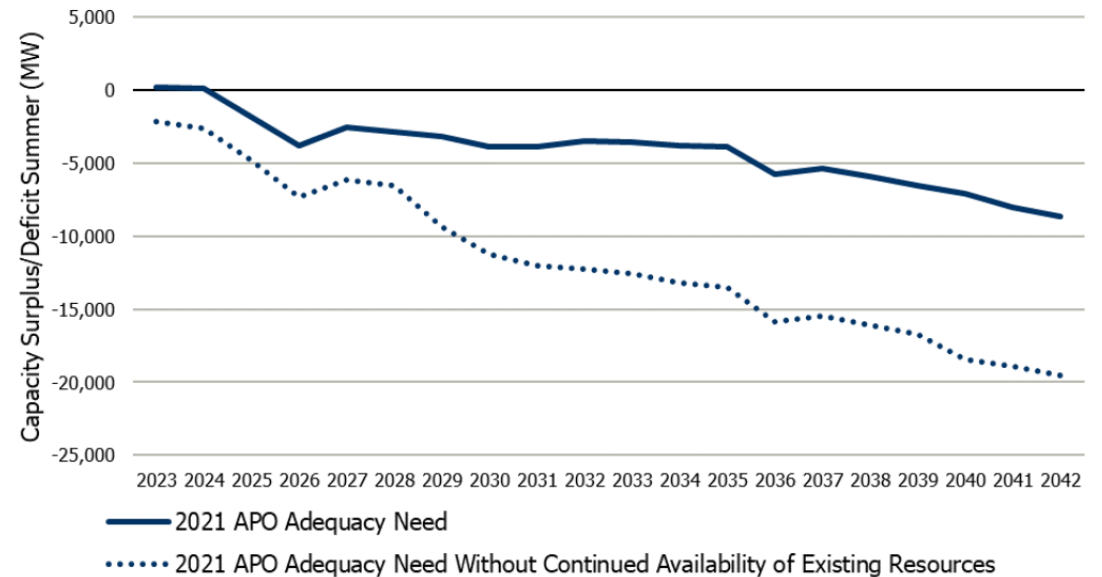
Supply Needs are Emerging

- IESO’s 2021 Annual Planning Outlook (APO) has forecasted that electricity demand is forecasted to grow higher than previous outlooks, primarily driven by economic development, expanding electrification and increasing business investment in the province.
- Fulfilling this forecasted need will require IESO to procure electricity products and services from both existing and new resources. Starting in 2025, Ontario will see a need for new electricity resources.

Peak Demand Forecast (2023 - 42)



Forecasted Electricity Needs (2023 - 42)

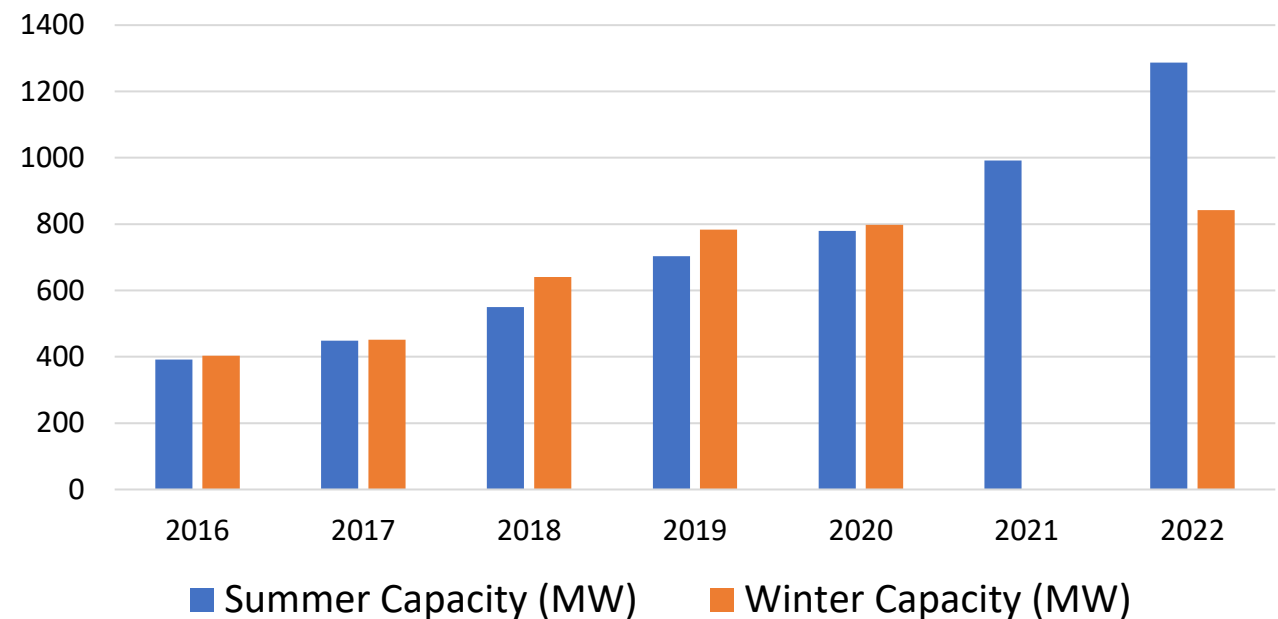


Source: IESO, 2021 APO

Procurement of Supply

- From 2015 to 2019, IESO ran a Demand Response (DR) Auction to secure capacity from residential, commercial and industrial consumers who made themselves available to reduce their electricity consumption as needed.
- In 2020, IESO transitioned and expanded the DR Auction into the Capacity Auction to help Ontario meet its short-term reliability needs moving forward.
 - Eligible resources for the Capacity Auction included demand response resources, generators, imports and energy storage.
- In 2020, IESO also launched the “Resource Adequacy Framework” which sets out a long-term competitive strategy to acquire electricity resources while balancing ratepayer and supplier risks and recognizing the unique characteristics and contributions of different resource types.
- In 2022, the Minister of Energy issued three directives to IESO on designing and undertaking multiple procurements for electricity resources under the Resource Adequacy Framework

Capacity Acquired from DR and Capacity Auctions (MW)*



* Note: IESO did not procure any capacity for the 2021 – 22 Winter Obligation Period of the 2021 Capacity Auction

Procurement Mechanisms (Existing Resources)

Mechanism	Objective	Proposed Commitment Period	Target Capacity Proposed to be Acquired	Key Features
Capacity Auction	Acquire capacity for short – term	2 commitment periods of 6 months each	1,000 – 1,800 MW with a minimum of 500 MW	<ul style="list-style-type: none"> To be used primarily as a balancing mechanism to satisfy capacity needs remaining after acquisitions under other mechanisms
Medium - Term RFP	Reacquire existing resources	5 years	750 MW	<ul style="list-style-type: none"> First Medium – Term RFP (MT1 RFP) launched in January 2022 and concluded in August 2022. MT1 RFP procured ~750 MW capacity from existing resources; providing a 5-year contract at a cost that is 30% lower than the cost of the resources’ previous contracts Subsequent MT RFPs to acquire electricity products and services as required for ensuring reliability
Bilateral Contracts	Reliability and other government policies	Dependent on bilateral negotiations	2,100 MW + Unsolicited Proposals	<ul style="list-style-type: none"> Bilateral contracts with resources that are essential to meeting reliability needs (e.g., Lennox GS, Brighton Beach GS), and those that are covered under other government policies (e.g., Unsolicited Proposals and Biomass Strategy) Primarily meant to support transition to competitive procurements
Program(s) for existing hydro	Reacquire existing hydroelectric resources	Maximum 20 years	TBD	<ul style="list-style-type: none"> A special program meant to reacquire existing hydroelectric resources, recognizing that such facilities provide co-benefits such as recreational opportunities, flood control, irrigation, tourism and facilitating local employment and economic development.
Enhanced Capacity Auction	Secure capacity for 2024 - 26	2024 - 2026	TBD	<ul style="list-style-type: none"> A proposed additional auction in 2023 that would commit capacity for three one-year periods from 2024 to 2026

Procurement Mechanisms and Target Capacity (New – Build)

Mechanism	Objective	Proposed Commitment Period	Target Capacity Proposed to be Acquired*	Key Features
Same-technology Upgrades Solicitation	Incentivize technological upgrades to existing resources	Until the end of the facility's current contract OR April 30, 2035, for facilities whose existing contract ends before Jan 1, 2033.	~300 MW	<ul style="list-style-type: none"> • Targets acquiring additional capacity from existing electricity resources that invest in technological upgrades to increase their capacity. • The upgrade must be the same fuel type and substantially the same technology as the existing resource and able to achieve commercial operation in 2025/26 • IESO has proposed to launch the procurement on November 1, 2022
Expedited Process	Expedited procurement for resources that can enter into service by 2025/26	Contracts for gas-fired generation expire by April 30, 2040. All other contracts expire by April 30, 2047	1,500 MW	<ul style="list-style-type: none"> • Technology agnostic procurement that targets new-build resources at greenfield sites or separately metered expansions at existing sites; Resources must achieve commercial operation by 2025/26. • IESO has proposed to launch the procurement on November 1, 2022
First Long – Term Request For Proposal (LT1 RFP)	Acquire new – build resources that can enter into service by 2027	20 years	2,200 MW	<ul style="list-style-type: none"> • Technology agnostic procurement that targets new-build resources at greenfield sites, that are able to achieve commercial operation by May 2027. • IESO plans to launch the procurement (subject to Government approval) on January 30, 2023

* The Expedited Process, Same Technology Upgrades Solicitation, and LT1 RFP have a combined procurement target of approximately 4,000 MW, out of which standalone energy storage projects must account for at least 1,500 MW and natural gas-fired generation shall account for no more than 1,500 MW.

Industrial Conservation Initiative (ICI) Review

Industrial Conservation Initiative (ICI) Review – Overview

- On April 1, 2022, the government filed amendments to Ontario Regulation 429/04 under the *Electricity Act, 1998*, following consultation with stakeholders.
 - O. Reg. 429/04 is the regulation that allocates Global Adjustment (GA) costs to electricity consumers and establishes the framework for the Industrial Conservation Initiative (ICI).
- The amendments took effect May 1, 2022 and are largely aimed at reducing the regulatory burden and preserving the policy intent of ICI.
- A notable change to the regulation is the determination of peak demand hours. The regulation now uses real-time Ontario demand as the basis for determining the five peak hours under ICI, which improves cost visibility for ICI participants.
- The slides in this section review the changes to the determination of peak hours and as well as the other amendments to O. Reg. 429/04.

Determining Peak Demand Hours

“peak hours” means, in respect of a base period, the following five one-hour periods in the base period, determined in accordance with the rules set out in subsection 9 (4):

1. The one-hour period in the base period in which the greatest volume of electricity was dispatched through the IESO-administered markets for the purpose of supplying Ontario demand.

- Effective May 1, 2022, the five peak hours under ICI are determined based on real-time Ontario demand.
 - Class A customers can track in real-time the measurement of demand that is used to identify peaks instead of having to wait 20 business days for coincident adjusted AQEW values to be posted.
- Several stakeholders, in commenting on the proposal, indicated a preference for the use of real-time Ontario demand.
- Overall, the shift to the use of real-time hours in the regulation is expected to result in reduced regulatory burden for Class A customers as well as represent an improvement in overall fairness and transparency.

Update – Peak Hours in 2022

- For the current base period to date, the use of Ontario demand to determine the five peak demand hours has resulted in a different outcome compared to if the prior method were still in use today (the sixth-ranked hour would have been the fifth-ranked hour under the prior system). The hours ranked 6th and 7th are shown in the table for reference.
- Under the former approach, consumers had to wait for final AQEW to confirm the ranking of hours as it currently appears in the table.

Rank	Date	Hour Ending	ICI Ontario Demand (MW)	Coincident Adjusted AQEW (MWh)	Status of AQEW
1	July 19, 2022	18	22,607	22,127	Final
2	June 22, 2022	17	21,954	21,340	Final
3	August 29, 2022	17	21,871	21,170	Final
4	July 20, 2022	16	21,850	21,394	Final
5	August 7, 2022	17	21,778	21,073	Final
6	<i>August 6, 2022</i>	<i>18</i>	<i>21,761</i>	<i>21,153</i>	<i>Final</i>
7	<i>August 8, 2022</i>	<i>15</i>	<i>21,560</i>	<i>20,901</i>	<i>Final</i>

Source: IESO Peak Tracker webpage (accessed October 21, 2022)

Other Amendments

- **Publication of Ontario demand data** – The IESO is now required to publish Ontario demand data each hour, within 60 minutes after the end of the hour.
 - The IESO is also required to publish the peak hours in each base period as well as the value of “W” (i.e., the denominator for the purposes of determining Class A customers’ peak demand factors) on the third business day following the end of the base period.
- **Partial ownership changes** – Amendments to the regulation address partial changes of ownership. (e.g., a Class A consumer that owns two large buildings at its facility and sells one to another business). Under the amended regulation, once several conditions are met, the two portions of the facility will be billed separately as Class A consumers.
- **Administration of changes of ownership** – Since May 1, LDCs administer transfer of ownership requests instead of the Minister of Energy. The new owner must provide the LDC with a written notice of the transfer, the legal names of the transferor and transferee, the date of the transfer, and any other information as the LDC requests.

Other Amendments – Cont'd

- **Conservation and demand management (CDM)** – Updates that continue to allow customers that fall below the ICI eligibility threshold following participation in eligible CDM programs to retain eligibility.
- **Requirement to provide information** – On an annual basis, Class A customers are required to provide information related to their load facilities to the Ministry of Energy (note items a to c would be collected on an anonymized basis):
 - a. Consumption;
 - b. Average maximum monthly demand;
 - c. Peak demand factor; and
 - d. North American Industry Classification System (NAICS) code.
- **Administrative amendments** – A handful of amendments that have no impact on consumers, made for housekeeping purposes, e.g., all instances of “net volume” changed to “volume”

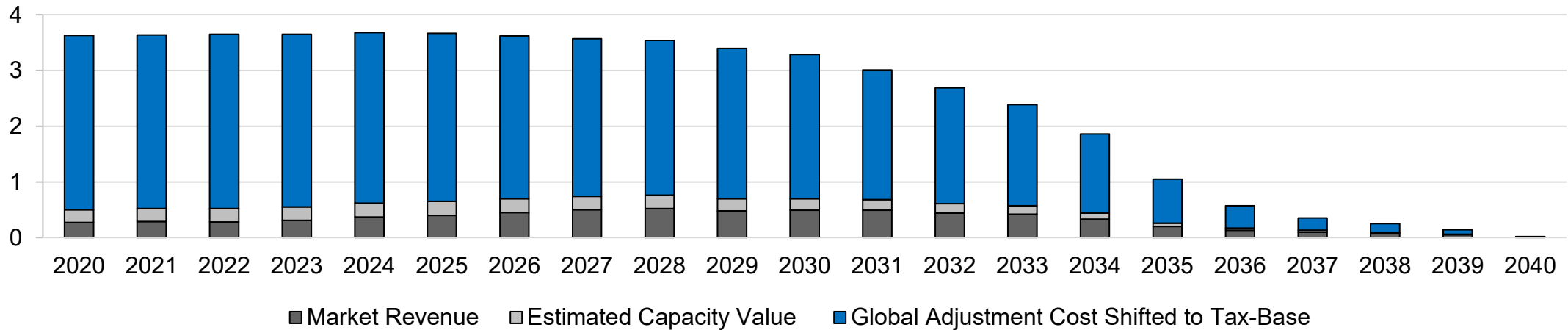
Comprehensive Electricity Plan (CEP) and Interruptible Rate Pilot (IRP)

Comprehensive Electricity Plan (CEP)

- As of January 1, 2021, the Province is funding a portion of non-hydro renewable energy contract costs, so they are no longer being paid by electricity consumers.
- Large and mid-sized industrial and commercial consumers are automatically benefitting from lower global adjustment charges on their electricity bills. In 2022, large industrial consumers could see savings of about 15% on their bills, while small industrial consumers could see savings of about 17% on their bills. Actual savings depend on location and consumption.
- The chart below shows the cost of renewable generation, which decreases over time as contracts expire.

Forecast Cost of Non-Hydro Renewables

\$B



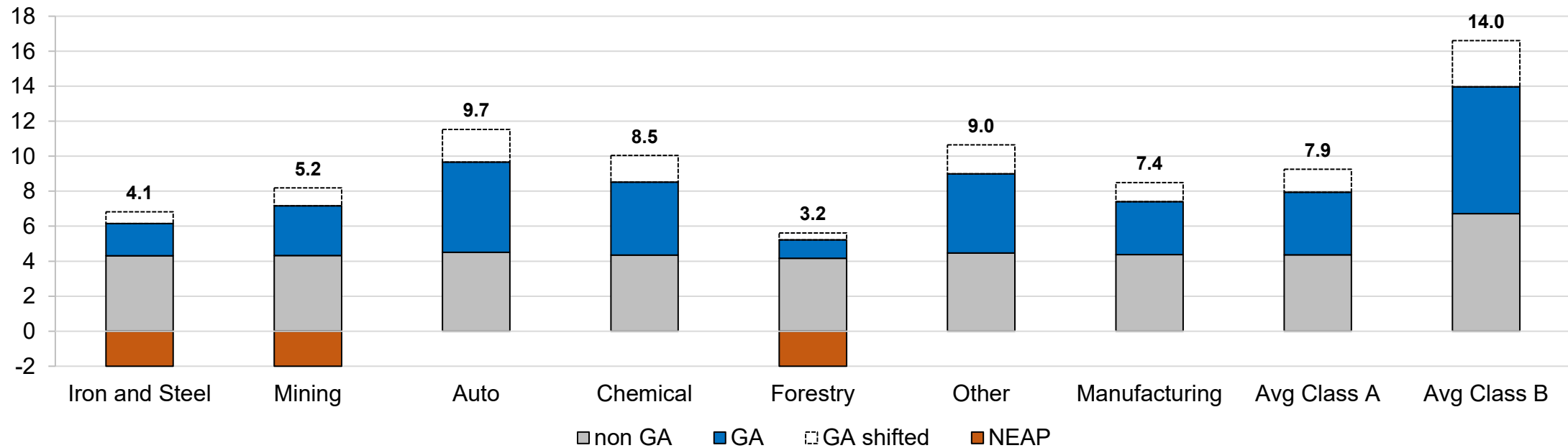
Source: IESO, ENERGY

All-in Prices by Consumer and Sector

- Since Class A consumers are charged GA according to their share of demand at peak each consumer would be charged a different GA rate based on their ability to avoid peaks. The chart below compares the average all-in rate by sector and Class in 2021.

All-in Prices by Sector

¢/kWh



Note: Prices do not reflect GA Deferral Recovery.
Source: IESO, ENERGY

Interruptible Rate Pilot (IRP)

- The Ministry is working with the IESO to develop a high-level design of an interruptible rate pilot.
- The IRP would be targeted towards large electricity consumers connected to the transmission network and hydrogen projects. Participants would be charged GA at an agreed upon rate in exchange for reducing consumption during system or local reliability events, as identified by the IESO.
- In October, the IESO and the Ministry consulted with stakeholders to help inform the detailed design of the pilot. The pilot is expected to be rolled out in Spring 2023, subject to the approval of any potential regulatory amendments.
 - Elements of the pilot including eligibility, size of offering, design of competitive selection process, GA rate offering and activation process are to be informed through consultation with stakeholders.

Questions



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