

OEB Question 1

(i) The steps taken by the SME to date to enhance the value of Meter Data Management and Repository (MDM/R) data

SME Response to Question 1

The SME was established under Ontario's smart metering framework to develop and operate the MDM/R, a centralized provincial platform for collecting, storing, processing, validating, retrieving and managing information and data derived from smart meters, including data related to consumers' consumption of electricity ("smart meter data," also referred to as "MDM/R data"). Since its establishment, the MDM/R has evolved from primarily supporting Regulated Price Plan billing into a provincial electricity data asset that delivers value to distributors, regulators, policymakers, the IESO and approved third parties. The SME has undertaken several initiatives, many in response to OEB directives and evolving sector needs, to enhance the value and utility of smart meter data while maintaining the privacy and security protections upon which the system was designed. These initiatives include:

i. Expansion of the Data Repository and Data Capabilities

The SME has continuously expanded the scope and utility of information available through the MDM/R. Today, the MDM/R supports more than 5.5 million smart meters across Ontario and processes and adds approximately 50 billion meter data records annually. The centralized repository provides a standardized platform for the collection, validation, estimation, and editing of meter data across more than 50 local electricity distribution companies (LDCs), regardless of the metering technologies they use.

In response to OEB directives and evolving market requirements, the SME has implemented enhancements to support additional data elements and emerging regulatory needs, including Customer Choice (EB-2020-0152), net metering and new electricity pricing structures such as Tiered and Ultra-Low Overnight pricing.

ii. Development of Advanced Data Analytics Capabilities

The SME established the Advanced Data and Analytics Platform (ADAP), an in-house analytics environment that enables aggregation, analysis, and visualization of smart meter data. The ADAP has improved the SME's ability to respond to data requests, enhanced collaboration among users and enabled integration of smart meter data with other datasets to generate actionable insights. The ADAP platform also provides geographic representations of datasets through interactive maps, enhancing data usability and enabling users to more effectively visualize, interpret, and analyze geographic trends and patterns. The ADAP also includes AI-assisted analytical capabilities that support data exploration and analysis.

These capabilities support a growing range of applications, including:

- Electricity consumption forecasting;
- Price plan evaluation and design;
- Customer behaviour analysis;
- Weather sensitivity studies;
- Distributed Energy Resource (DER) planning;
- Community energy and net-zero planning initiatives;
- Storm and outage impact analysis; and
- Electrification assessments, including electric vehicle adoption trends.

iii. Establishment and Expansion of the Third-Party Access Program (TPA Program)

A significant enhancement to the value of smart meter data has been the implementation of the TPA Program.

Following OEB direction, the SME developed a privacy-preserving framework that allows non-personal, de-identified and aggregated smart meter data to be made available to eligible third parties. Initially available to Canadian governmental entities, the OEB approved the expansion of the TPA Program in 2026 to include eligible Canadian non-governmental entities as well as non-Canadian entities where necessary to support government or OEB directed initiatives and activities, further broadening potential public-interest uses of the data.

Examples of uses include:

- Municipal energy and climate action planning;
- Community energy plans;
- Consumption trend analysis;
- Infrastructure and electrification planning;
- Academic and policy research;
- Outage impact assessments; and
- Energy market and customer behaviour studies.

The program has received growing market interest (36 requests to date) and has operated without any privacy incidents or customer/LDCs complaints. The SME continues to apply rigorous de-identification methodologies developed with expert input and informed by ongoing engagement with the Information and Privacy Commissioner of Ontario.

iv. Enhanced Support for Provincial Policy, Regulatory and Planning Activities

The SME has increasingly leveraged smart meter data to support the OEB, the Ministry of Energy and Mines, the IESO and distributors through both recurring and ad hoc analysis.

Examples include:

- Supporting the evaluation and design of Time-of-Use, Tiered and Ultra-Low Overnight pricing plans;
- Providing analytical support for regulated price plan reviews and policy development;
- Supporting net metering implementation and analysis;
- Supplying data for electricity system forecasting and planning activities;
- Supporting conservation, affordability initiatives, and electrification; and
- Providing analysis related to major system events, such as the May 2022 Derecho storm.

v. Leadership in Data Governance, Privacy, and Innovation

The SME has maintained a strong focus on data quality, governance, ethics, and privacy. The MDM/R was designed using Privacy by Design® principles and has achieved sixteen consecutive clean CSAE 3416 audits.

The SME has also contributed to the IESO's broader data strategy initiatives and continues to promote responsible data governance, advanced analytics, and innovative uses of energy data across the organization and the electricity sector.

vi. Enabling Provincial Data Visibility and Sector Coordination

As Ontario's electricity system evolves through electrification, DER adoption and deployment of AMI 2.0 technologies, the SME has increasingly focused on creating value through province-wide visibility and coordination.

The SME provides a common provincial data platform that applies consistent standards across distributors and aggregates information from millions of grid-edge endpoints. This creates a dataset that is significantly larger, higher granularity, and more representative than could be achieved through individual distributor systems and supports planning, forecasting, operational analysis, policy development, and emerging artificial intelligence applications.

The SME is also contributing to broader sector discussions regarding DER integration, transmission-distribution coordination, electrification planning, and future Distribution System Operator models.

Through these activities, the SME has enhanced the value of smart meter data beyond customer billing and settlement and into broader system planning, policy, and operational applications.

OEB Question 2

(ii) To what extent has the SME achieved the value inherent in a single provincial repository of electricity consumption data and what steps will be taken in the future?

SME Response to Question 2

The SME submits that Ontario has realized substantial value by creating a single provincial repository of electricity consumption data and this value continues to grow alongside the evolving electricity sector.

Value Achieved to Date

The MDM/R has delivered the principal benefits that motivated the creation of a centralized smart metering platform, as follows:

i. Operational Efficiency and Cost Avoidance

The centralized MDM/R model has enabled Ontario distributors to avoid developing and maintaining separate meter data management systems, reducing duplication of technology investments, and supporting consistent provincial standards for meter data processing and management.

These efficiencies are reflected in successive reductions in the SME fee approved by the OEB, which decreased from \$0.79 per meter per month in the first budget period, to \$0.57, and subsequently to \$0.42 per meter per month in the current budget period.

ii. Creation of a Provincial Data Asset

The MDM/R has established a trusted, centralized province-wide source of electricity consumption information, providing consistent data quality, business rules, and governance regardless of distributor size or technology platform.

This provincial view has enabled analyses and insights that would not be practical through fragmented distributor-level repositories, including province-wide pricing analysis, electrification trend assessments, consumption studies, outage analysis, and policy evaluation.

iii. Support for Regulatory and Policy Decision-Making

Ontario's energy regulators and policymakers now have access to a trusted source of consumption information to support evidence-based decision-making.

Smart meter data has supported the design and evaluation of regulated price plans, implementation of net metering, assessment of customer response to pricing structures, provincial energy policy development, and broader electricity system planning activities.

iv. Foundation for Innovation and Data Sharing

The establishment and expansion of the TPA Program illustrates that the MDM/R has become an enabling platform for innovation while maintaining robust privacy protections.

Municipalities, researchers, and other eligible organizations can access valuable insights from aggregated electricity consumption data to support energy transition initiatives, climate planning, infrastructure planning, and economic development activities.

v. Provincial Visibility and Coordination

One of the most significant benefits realized through the MDM/R is the creation of province-wide visibility into electricity consumption patterns.

While distributors naturally maintain visibility into their own service territories, Ontario's centralized repository provides a common integration layer that enables insights and analysis at a provincial scale. This capability is increasingly important as the sector addresses electrification, DER integration, large-load growth, transmission-distribution coordination, and emerging local flexibility markets.

Future Opportunities

While substantial value has already been realized, the SME believes there remains significant additional value to be unlocked. Key future opportunities include:

i. Expanded Third Party Access and Data Utilization

The recent OEB approval expanding access to eligible Canadian non-governmental entities is expected to increase the range of beneficial public-interest uses of smart meter data, supporting innovation, research, infrastructure planning, and electrification initiatives.

ii. Leveraging AMI 2.0 and Enhancing System Visibility

As distributors continue deployment of AMI 2.0 technologies, the electricity sector will be able to access increasingly more granular system data. Building on the MDM/R foundation could support certain aspects of enhanced situational awareness, improved transmission-distribution coordination, and DERs integration, while maintaining consistent provincial standards for governance, privacy, and security.

iii. Moving Towards a More Comprehensive Provincial Electricity Data Hub

The SME sees opportunities to further evolve the MDM/R into a broader provincial electricity data platform.

Potential future enhancements include:

- Integration of additional customer classes, including Commercial and Industrial customers, which represent approximately half of provincial electricity consumption;
- Incorporation of additional AMI 2.0 datasets and operational information;
- Support for dynamic pricing and DER initiatives;
- Improved transmission-distribution coordination; and
- Broader data-sharing and analytics capabilities across the electricity sector.

Such evolution could support improved planning, electrification, grid modernization, economic growth, and system reliability.

iv. Advanced Analytics and Artificial Intelligence

The SME will continue to expand advanced analytics capabilities through initiatives such as ADAP and related data platforms. These capabilities can improve the efficiency, accessibility and usefulness of insights derived from provincial electricity consumption data while maintaining appropriate governance and privacy protections.

In conclusion, the SME submits that the value of a single provincial repository extends well beyond the efficient processing of smart meter data for billing purposes.

The MDM/R has delivered operational efficiencies, reduced costs, enabled evidence-based regulatory and policy decision-making, supported innovation, and provided Ontario with a trusted province-wide view of electricity consumption. As Ontario's electricity system continues to evolve through electrification, DER adoption, AMI modernization and increasing transmission-distribution coordination requirements, the value of a secure, centralized and privacy-protected provincial data platform is expected to increase further. The SME therefore believes that the MDM/R has delivered significant value since its establishment and provides a strong foundation for continued modernization of Ontario's electricity sector.