

STATEMENT OF PURPOSE:

Measure the progress of the development of the smart grid in the province of Ontario and ensure that the intended benefits yielded from it are realized by consumers, industry and society in general.

Success Metrics

Customers using smart meter information to make usage decisions

Customers using smart grid through associated technology and services offerings

Overall performance of the smart grid and support for new products and services such as electric vehicles

Contribution of the broader electricity sector to the Ontario economy

Associated Smart Grid Principles

General Principles:

Security, Privacy, Customer Value and Environmental Benefits

Customer Control:

Access, Control, Participation in renewable generation, customer choice, Visibility

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Utility Flexibility:

Distributed renewable generation

General Principles:

Interoperability, Safety, Security and Privacy, Environmental Benefits, Efficiency, Reliability

Adaptive Infrastructure:

Flexibility and Forward Compatibility, Innovation

Utility Flexibility:

Control and Automation, Quality

General Principles:

Economic Development

Adaptive Infrastructure:

Flexibility and Forward Compatibility, Encourage Innovation

Development Path

Near-term

- Percentage of premises capable of receiving information from their smart meter - **Source OEB**
- Percentage of customers opting to make decisions based on their smart meter data - **Source LDCs**
- Measurable electricity savings by customer class by region - **Source OPA**

- Demand side management program participation by number of participants and load - **Source LDCs and OPA**
- Number of different ancillary services in which customers participate -**Source IESO**
- Number of active participants in distributed generation and megawatts generated -**Source LDCs & OPA**

- Outages by duration, frequency and customers affected - **Source OEB**
- Carbon content of electricity by hour - **Source IESO**
- Transmission and distribution load factors -**Source LDCs and Hydro One**
- Plug-in electric vehicle penetration - **Source MTO**

- Number and quality of green jobs created - **Source MEDT**

Longer-term

- Evidence of load shifting (peak reduction)

- Power quality (VAR control, voltage regulation, etc.) - **Source LDCs and Hydro One**
- Number of days from initial request to energization of charging stations at level 2 or higher - **Source: LDCs, ESA & MTO**

- Exports of products and technology beyond Ontario - **Source: MEDT**
- Percentage of rate regulated investment and government grants and incentives to private investment -**Source Provincial and Federal governments**

Desired Long-term Performance Targets

- Customers benefit from the tools, technology and knowledge resulting in their efficient use of energy.
- Customers understand how and why investments are made for the long term stability of the power system.

- Conservation and demand management program (CDM) participation is maximized, reducing the requirement for marginal generation.
- Customers are permitted and encouraged to participate more fully in the management of the power system.
- Customer-driven investment in distributed generation increases so as to improve the flexibility, choice and reliability of the power system.

- The reliability, efficiency and safety of the power system is sustained and improved through the smart grid.
- Environmental benefits are derived from the propagation of clean energy.
- Customer choice for electric vehicle adoption is supported and encouraged by the power system.

- Clear demonstration that the smart grid is contributing to Ontario's GDP both directly and indirectly.
- Self-sustaining growth with minimal or no public subsidy.