



The Ontario Energy Board's Implementation Plan

In response to the Minister of Energy's Directive in respect of
the implementation of *Ontario's Long-Term Energy Plan 2017:*
Delivering Fairness and Choice



Ontario

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Message from the Chair

The Ontario Energy Board is pleased to provide its Implementation Plan (Plan) in accordance with the Minister's Directive to the OEB regarding the implementation of *Ontario's Long-Term Energy Plan 2017: Delivering Fairness and Choice* (LTEP). This Plan is the first of its kind. It describes the areas that the OEB will focus on to help meet the goals and objectives set out in the 2017 LTEP.

The LTEP outlines a vision of providing utilities the right environment to invest in innovative solutions, and looks to the OEB to identify tools to make utilities more accountable to their customers, to promote efficiencies and cost reductions and to ensure regulatory processes are streamlined. The Minister's Directive outlines specific areas for the OEB to examine.

The initiatives contained in this Plan, each designed to respond to the policy objectives outlined in LTEP and the Directive, are part of a bigger picture and integrated with work already planned by the OEB. Key among our planned work are initiatives to assess regulatory reforms to promote greater efficiency and innovation, to define a new way forward for rate-regulation, to identify barriers to the development of distributed energy resources and to review and refine approaches to the price consumers pay for electricity.

In many respects, the initiatives contained in this Plan are a natural extension of work we have already been doing. Five years ago, the OEB adopted its Renewed Regulatory Framework, an outcomes-based approach to regulation, which sharpened the focus on engaging with consumers, local and regional planning, and modernizing the system. The policies and practices put in place provide a strong foundation for the work that lies ahead.

Recently, the OEB released its *Strategic Blueprint: Keeping Pace With an Evolving Energy Sector* (Strategic Blueprint), which puts the work we have been doing into context and identifies where we are headed with regulatory reforms to come. The Strategic Blueprint outlines how the OEB will support and guide the Ontario energy sector in a way that delivers value, enables innovation and increases consumer confidence during a period of accelerating change. It also underscores the need for regulation to be capable of adapting and remain "fit for purpose" as the sector evolves.

The Strategic Blueprint and the LTEP share a focus on achieving outcomes that bring value to consumers both now and in the long term. They share the common theme of responding to change – changes that are driven by technological innovation, the emergence of new business models, heightened consumer expectations about service and affordability, and new public policy initiatives.

As we address the changes underway and support innovation in the sector to harness its value for consumers, the OEB will continue to be guided by objectives that are fundamental to the OEB's role as energy regulator to protect the interests of customers with respect to the price, reliability and quality of service.

Introduction

On October 26, 2017, the Government released *Ontario's Long-Term Energy Plan 2017: Delivering Fairness and Choice* (LTEP). The LTEP outlines the Government's commitment to make energy more affordable, give consumers more choice and ensure a reliable and innovative energy system. An Implementation Directive was issued by the Minister of Energy to the Ontario Energy Board (OEB) on the same date.

In accordance with the Directive, the OEB must submit an implementation plan (Plan) to the Minister by January 31, 2018, setting out the steps that the OEB intends to take to implement the goals and objectives set out in *Delivering Fairness and Choice* in respect of matters falling within the OEB's jurisdiction.¹

An overarching theme of the LTEP is adapting to change in the energy sector and harnessing value for consumers. There is significant alignment between the themes and intended outcomes included in the LTEP and those articulated in the OEB's *Strategic Blueprint: Keeping Pace With an Evolving Energy Sector* (Strategic Blueprint). Released on December 18, 2017, it sets out the OEB's commitment to modernize its approach to regulation in order to keep pace with an evolving energy sector. The Strategic Blueprint continues down a path the OEB commenced in 2012 with the Renewed Regulatory Framework (RRF). In developing its Strategic Blueprint the OEB has been informed by the objectives outlined in the LTEP.

This Implementation Plan describes work the OEB will undertake to enhance utility accountability to consumers; encourage optimal investment decisions, including better planning; develop more effective price signals; provide more consumer choice; help the sector adapt to the impacts of climate change; promote a culture of innovation; and enhance the OEB's capacity to regulate the sector in the public interest. Although the purpose and scope of the initiatives in this Plan vary considerably, they are connected by the common themes of value for consumers, as well as continuous improvement and adaptation to change by the utilities that serve them.

Many of the OEB's existing policies, processes, rules and requirements, as well as initiatives already planned or underway, provide a strong foundation for taking steps in response to the Minister's Directive on a timely and effective basis.

Each section of this Plan discusses what the Directive calls for, briefly summarizes OEB actions complete or underway to support change and deliver on outcomes in these areas, and describes work that the OEB will undertake in response to the Directive. A final table summarizes the timing of the initiatives.

Many policy initiatives will be carried out in parallel, and a coordinated approach is needed to address cross-cutting issues. The OEB likewise plans to conduct its stakeholder engagement in an efficient and coordinated manner. The timelines for policy development activities are set out

¹ Minister's Directive (October 25, 2017)

on a calendar-year (rather than a fiscal-year) basis; timelines will be adapted as may be needed in order to satisfy any statutory responsibility for engaging and consulting with stakeholders.

Both the LTEP and the Minister's Directive to the OEB have the electricity sector as a principal focus. Except where otherwise noted, the activities set out in this Plan relate to the electricity sector.

1. DELIVERING EFFICIENCY AND VALUE

1.1 Strengthening Utility Accountability to Customers

The LTEP Directive

The LTEP identifies reliability and quality of service as priorities in its discussion of improving service to electricity customers, and notes that an enhanced reliability framework could increase benefits for customers by:

- introducing incentives and consequences tied to utility performance;
- establishing new standards and measurements of reliability for local networks;
- ensuring that reporting is more meaningful and easier to understand; and
- setting out clear processes for resolving customer concerns about reliability and power quality.

The LTEP and the Minister's Directive look to the OEB to identify ways to make utilities more accountable to customers:

1.1 Having regard to the Board's performance-based approach to regulating electricity transmitters and distributors ("Utilities"), examine and identify steps for strengthening Utility accountability and reporting in relation to service quality issues identified by their customers, including but not limited to customer reliability and power quality. In doing this, the Board shall consider transparency, responsiveness to customers, efficiency and cost-effectiveness, in addition to such other principles as the Board considers appropriate.

OEB Actions

With its Renewed Regulatory Framework (RRF), the OEB has sought to increase utilities' focus on consumers. Quality of service, including reliability, has been a primary concern of the OEB for some time. The OEB has adopted, and continues to develop, policies that support utility accountability to consumers, and highlight their performance, such as:

- Customer service rules (which are currently under review);²
- A complaint process that obliges distributors to respond to consumers and provide a copy of the response to the OEB;³
- A distributor scorecard that customers and the OEB can use to assess performance (both over time and compared to other distributors);⁴
- Mandatory service quality standards for distributors under the Distribution System Code, which are also reported on;⁵ and

² [Distribution System Code](#); for details on review see [EB-2017-0183](#)

³ <https://www.oeb.ca/consumer-protection/make-complaint>

⁴ [2016 Consolidated Scorecard](#)

⁵ [Distribution System Code, Section 7](#)

- A requirement for utilities to engage their customers, understand their preferences, and demonstrate how feedback has informed the development of their investment plans.

Scope of Work Planned in Response to the LTEP Directive

The OEB believes more specific reporting and clearer consequences can help to address any customer concerns, increase consumer confidence, and improve accountability. Work to enhance utility accountability in relation to reliability is already underway. Leveraging the work done to date, the OEB will identify regulatory reforms to provide consumers with access to more meaningful information about reliability, restoration and power quality.

Recently, the OEB required distributors to report additional details on outages caused “upstream” (outside the distributor’s system) and those due to “major events” (large storms).⁶ As contemplated in the OEB’s 2015 report on distributor reliability measurement⁷, the OEB worked with a group of distributors to pilot the feasibility of measuring reliability on a customer-specific basis.⁸ In addition, work is underway to evaluate the reliability of supply at the point where it is delivered to transmission customers such as distributors and other large loads.⁹

These enhancements to reliability reporting will inform further approaches to providing reliability data in a manner more meaningful to customers. They will also support the assessment of appropriate incentives and consequences tied to reliability performance (including the appropriateness of current performance targets).

When assessing regulatory reforms, the OEB will remain mindful of other priorities for the sector, such as cost control, and will consider:

- How its rate-setting approach, including the implementation of fully fixed distribution rates for residential consumers, aligns with utility performance consequences;
- The value placed on reliability by each customer class (for example, tolerance for outages may be very low for industrial customers where it impacts production but many residential customers may be more willing to accept occasional interruptions than rate increases); and
- The principle that the allocation of costs should be proportional to the benefits.

The OEB also intends to look at strengthening utility accountability in relation to elements of performance other than reliability including first call resolution of issues. Work underway to

⁶ [Electricity Reporting & Record Keeping Requirements](#) (Section 2.1.4.2.10)

⁷ [Report of the Board: Electricity Distribution Reliability: Major Events, Reporting on Major Events and Customer Specific Measures](#)

⁸ Includes the following measures: Customers Experiencing Multiple Interruptions and Customers Experiencing Interruptions of Long Duration; see [System Reliability: Major Events and Customer Specific Measures \(EB-2015-0182\)](#) for more details.

⁹ [Report of the Board: Electricity System Reliability Measures and Expectations](#)

enhance utility benchmarking, refine customer service rules,¹⁰ along with the reporting requirements and performance scorecard already in place, are a strong foundation for mechanisms, such as service guarantees, that the OEB could use to ensure there are consequences tied to utility performance that are visible and easily understood by customers. The OEB will continue to monitor what areas of utility performance are most important to consumers and examine tools for enhancing accountability in relation to those areas that are best suited for implementation in Ontario.

¹⁰ See [Review of Customer Service Rules \(EB-2017-0183\)](#)

OEB Work Plan for Directive Item 1.1

Strengthen Utility Accountability to Customers

Purpose:	Intended Outcome:	LTEP Deliverable:
To enhance reporting and utility accountability to customers with respect to provision of service, including reliability.	Improved reliability for consumers and a better understanding by consumers as to what impacts reliability and service quality and how it is managed.	Identify a framework to enhance utility accountability and provision of information to customers with respect to provision of service, including reliability.

Description of Work:

The OEB will engage customers in all classes to understand their preferences and expectations with respect to reliability and service quality. At the same time, the OEB will complete work to enhance reliability reporting and analyze the results.

The OEB will also examine potential frameworks for incentives and/or consequences tied to utility performance that are meaningful to customers.

Key Milestones & Engagement Activities:

1. Complete research and analysis on reliability reporting already underway	Q3-2018
2. Engage consumers and stakeholders on proposals for enhanced reporting and accountability	Q3-2018 – Q1 2019
3. Examine incentives and consequences in relation to service quality, including reliability	Q2-2019
4. Issue report identifying new framework and/or regulatory reforms to enhance utility accountability and provision of information to customers	Q2-2020

Linkages with Other Initiatives:

The Way Forward for Adaptive Regulation (1.2); Program Level Benchmarking (2.1); IESO's work to address item 3.3 (technical criteria for reliability) of the Minister's Directive to the IESO.

1.2 Cost-Effective Modernization and 1.3 Distributed Energy Resources

The LTEP Directive

The LTEP emphasizes the need to accelerate modernization of Ontario's electricity system to keep pace with anticipated technological change and new energy products and services for consumers. Grid modernization along with distributed energy resources (DERs)¹¹ are identified throughout the LTEP as important vehicles for achieving consumer choice and control.

An environment conducive to distributor investment in "innovative solutions that make their system[s] more efficient, reliable and cost-effective, and provide more customer choice" is envisioned, noting that there is currently an "unclear and uneven level of investment in grid modernization by Ontario LDCs."¹²

The Minister's Directive looks to the OEB to support the creation of such an environment:

1.2 Examine and identify steps for pursuing opportunities to advance the cost-effective modernization of Ontario's electricity sector. Opportunities to be examined include, but are not limited to:

- *Cost-effective smart grid and non-wires solutions;*
- *Active system management and customer participation;*
- *Energy efficiency measures on distribution systems.*

In doing so, the Board shall consider the issue of the diffusion of benefits that may arise from these and other distribution-system investments.

1.3 Assess market opportunities and facilitate those that would reduce costs and provide value for customers, and identify barriers to the development of distributed energy resources, such as energy storage, at scales and locations that provide value to customers and the bulk and local distribution systems.

OEB Actions

The OEB has a statutory objective to promote economic efficiency and cost-effectiveness in the electricity sector. Other statutory objectives include promoting conservation and demand management (CDM) and the use of renewable generation, and facilitating implementation of a smart grid.¹³

¹¹ "Distributed energy resources (DERs) are electricity-producing resources or controllable loads that are directly connected to a local distribution system or connected to a host facility within the local distribution system. . . These resources are typically smaller in scale than the traditional generation facilities that serve most of Ontario demand." ([IESO website](#))

¹² LTEP p 69

¹³ Ontario Energy Board Act, 1998, section 1.

In light of these objectives, many of the OEB's current policies regarding distributors and transmitters are intended to encourage the pursuit of cost-effective and efficient investment choices – including accommodating opportunities when modernization and innovation can lower costs or secure new benefits.

The OEB's performance-based regulatory framework is designed to support grid modernization and greater use of distributed energy resources. The framework includes:

- Mandatory system planning that integrates traditional and smart grid planning;¹⁴
- Use of productivity and benchmarking to incent efficiency gains¹⁵
- Accelerated cost-recovery mechanisms and incentive mechanisms, such as a project specific ROE, to support novel investments;¹⁶
- CDM guidelines that confirm the eligibility of CDM costs to be recovered in distribution rates in the event that the CDM measure defers or displaces the need for distribution infrastructure;¹⁷
- A new licence for electricity storage facilities; and
- Shifting to fixed distribution rates for residential customers and developing a new distribution rate design for commercial and industrial customers, increasing opportunities for innovation by removing disincentives to the adoption of technologies that promote conservation and efficiency.¹⁸

Scope of Work Planned in Response to the LTEP Directive

The scope and pace of change in the sector calls for the OEB to do more to ensure that its policies continue to keep pace with a dynamic sector. The OEB will undertake two interrelated policy initiatives, described below, to advance regulatory processes in support of cost-effective grid modernization and reduce barriers to the development of distributed energy resources. In carrying out this work, the OEB expects to explore issues that are common to both, such as diffuse benefits, and the potential for distributors to look to alternative, non-traditional distribution solutions when assessing options for addressing emerging system needs.

This work will be coordinated with work in response to section 4.2 of the Directive, which calls on the OEB to examine cost-effective opportunities for distributors to facilitate access to residential smart charging. It also will consider work in response to section 2.1, which contemplates new tools to encourage sharing of services between distributors.

¹⁴[Report of the Board: Supplemental Report on Smart Grid](#)

¹⁵[Report of the Board: Renewed Regulatory Framework for Electricity Distributors – A Performance Based Approach](#)

¹⁶[Report of the Board: The Regulatory Treatment of Infrastructure Investment in connection with the Rate-regulated Activities of Distributors and Transmitters in Ontario](#)

¹⁷[Conservation and Demand Management Requirement Guidelines \(2015 CDM Guidelines\)](#)

¹⁸[Report of the Board: A New Distribution Rate Design for Residential Electricity Customers](#)

In undertaking work on grid modernization and DER development, the OEB will benefit from the expertise of stakeholders through its Advisory Committee on Innovation. Comprised of members with a diverse range of skills and experience, the Innovation Committee will help identify action items and regulatory priorities to be considered by the OEB that can encourage greater innovation by regulated utilities.

The Way Forward for Adaptive Regulation – The OEB’s performance-based approaches under the RRF are premised on conventional rate-base rate-of-return regulation. Regulators in other jurisdictions are considering new approaches to remunerating utilities, including ways of treating traditional capital investments relative to non-capital expenditures that might better encourage the adoption of innovative and least-cost solutions by utilities. In some jurisdictions, regulators offer utilities a menu of optional compensation structures, which can entail forecasting the evolution of network uses and estimating efficient system expenditures, improving efficiency incentives and ensuring appropriate sharing of risk. Some features akin to this approach, such as the use of in-service capital variance accounts, are in use by the OEB today. Given the changes underway in the sector, the OEB will assess whether similar, more holistic regulatory reforms are warranted in Ontario and how they might further enhance efficiency and innovation in the energy sector.

The result of this work is expected to include new ways of setting rates and determining allowable revenues for distributors that optimize their investment and expenditure portfolios while encouraging distributors to take advantage of new technology-- potentially securing cost-effective benefits for customers in the process. The OEB will take a comprehensive approach to develop reforms, including consideration of items identified in the LTEP such as:

- non-wires solutions; operational measures to defer capital;
- active system management and customer participation;
- energy efficiency measures on distribution systems; and
- tools that could support more shared services among distributors and shared distribution investments, where benefits extend beyond an individual distributor’s service territory.

Enabling Distributed Energy Resources – Ontario has added significant amounts of new generating capacity at the distribution level over the last decade. The current approach has worked well for attracting investments, especially in small and micro-scale solar generating capacity. With this success, and in the context of supporting cost-effective and innovative solutions for distributors and consumers in Ontario, there is an opportunity to focus on driving investments in locations where they are of greater value and on attracting investments in more diverse types of DERs.

The OEB will examine alternative ways to encourage the efficient placement and operation of DERs, particularly when DERs can supplant traditional distribution system investments, while still ensuring that solutions with greatest long-term value are implemented. The scope of this work will include both DERs that are installed specifically to provide electricity services and those that primarily serve another function but can be aggregated to provide system benefits, such as residential electric vehicle (EV) smart chargers (another focus area for the OEB under section 4.2 of the Directive). The result of this work is expected to be a compensation framework that enables innovative investments to move forward when it is economic to do so.

In identifying opportunities for regulatory reforms, the OEB will consider:

- frameworks for assessing and allocating the benefits and costs of DER investments;
- how to encourage DER deployment and operation that can provide incremental value to consumers and the system, including the distinct characteristics of storage;
- how diffuse benefits and multiple value streams can be appropriately recognized, taking into account seams between wholesale and retail markets; and
- the roles of distributors and other solution providers, including the potential for customer involvement.

Grid modernization and DERs both have the potential to deliver value to consumers, but can also have significant cost consequences for them. Achieving an appropriate balance calls for a strategic approach, targeting investments that cost-effectively advance goals such as customer participation, choice and control, de-carbonization and system resiliency. At a time when energy affordability and accessibility are top of mind for consumers, the OEB must consider how best to ensure that investments offering the greatest value to consumers move forward and are thoughtfully paced. Where investments may deliver multiple value streams and diffuse benefits, the OEB will consider how best to ensure that the value and benefits are appropriately measured and compensated, and that associated costs are allocated fairly among Ontario electricity consumers.

The Way Forward for Adaptive Regulation

Purpose:	Intended Outcome:	LTEP Deliverable:
To support cost-effective modernization and innovation in the Ontario energy sector.	Utilities are investing in innovative solutions that make their systems more efficient, reliable and cost-effective, and provide more customer choice.	Identify regulatory reforms to advance cost-effective innovation and modernization of Ontario's electricity sector.

Description of Work:

This work will focus on reforms to the ways utilities are remunerated to encourage utilities to pursue optimal, least-cost investment decisions, including those enabled by grid modernization, during a period of accelerated change.

Changes to the compensation framework can strengthen utilities' focus on long-term value, stimulate innovation and encourage them to integrate solutions such as non-wires investments and other measures when it is cost effective to do so. Engagement with stakeholders through the policy development process will help to support an approach appropriate for the Ontario context.

Key Milestones & Engagement Activities:

- | | |
|--|------------|
| 1. Meetings with OEB Advisory Committee on Innovation to obtain advice on alternatives to utility remuneration that encourage cost-effective innovation and strengthen utility focus on long-term value and least-cost solutions | Q1-Q4 2018 |
| 2. Issue scoping paper on key issues and priority areas to be addressed in developing an approach to remuneration that encourages needed investment while promoting innovation and protecting the interests of ratepayers | Q4 2018 |
| 3. Draft Report including comprehensive set of regulatory reforms for stakeholder comment | Q3 2019 |
| 4. Final Report issued on preferred approach for implementation | Q1 2020 |

Linkages with Other Initiatives:

Enabling Distributed Energy Resources; Continuous Improvement in Regional Planning; and Encouraging Innovation

OEB Work Plan for LTEP Directive Item 1.3

Enabling Distributed Energy Resources		
Purpose:	Intended Outcome:	LTEP Deliverable:
To facilitate DER investments that can benefit consumers.	Benefits and value streams are appropriately recognized, supporting efficient DER deployment.	Identify regulatory reforms needed to facilitate DER adoption in a manner that enhances value to consumers and the system.
Description of Work:		
The OEB will leverage the considerable resources available, including studies and reports from Ontario and other jurisdictions to understand, define, and address regulatory barriers to the development of DERs. The OEB will also consider the IESO’s initiative to identify obstacles to energy storage. The measurement and value of “diffuse benefits” will be considered in conjunction with The Way Forward for Adaptive Regulation given the potential linkage to network operators’ asset investment decisions. In addition, OEB work to revise rules for net-metering in support of government policy will be taken into account.		
Key Milestones & Engagement Activities:		
1. Meetings with the OEB’s Advisory Committee on Innovation		Q1-Q4 2018
2. Scoping paper and stakeholder engagement, including stakeholder meetings as necessary		Q2 2019
3. Issue draft report for stakeholder comment, including implementation considerations		Q4 2019
4. Issue final report on new framework/regulatory reforms		Q3 2020
Linkages with Other Initiatives:		
The Way Forward for Adaptive Regulation(1.2); Continuous Improvement in Regional Planning(1.4); Facilitating Smart EV Charging (4.2); Encouraging Innovation (5.1); and IESO’s work to address items 2.1 (distributed generation and virtual net-metering) and 2.2 (electricity storage) of the Minister’s Directive to the IESO.		

1.4 Improving the Regional Planning Process

The LTEP Directive

As noted in the LTEP, the OEB has required utilities to participate in a formalized regional planning process¹⁹ since 2013, giving “communities the opportunity to consider all the cost-effective resources for meeting their regional needs.”²⁰ As part of the LTEP process, the IESO has been directed to review the regional planning process and report back with options and recommendations to enhance it. The OEB has also been called upon to take steps to enhance regional planning:

1.4. On receipt of recommendations from the Independent Electricity System Operator (IESO) regarding its review of the regional planning process provided further to the Minister's Directive to the IESO dated October 26, 2017, the OEB shall identify steps to implement such changes as may be appropriate to improve utility regional planning processes.

- *Examine and identify steps for encouraging coordinated, long-term approaches amongst asset owners with respect to the replacement of transmission and distribution assets at the end of their service life.*

OEB Actions

The OEB facilitated the development of a formalized regional planning process as part of its RRF to encourage better asset management and optimal investment decisions by:

- Establishing an industry working group to develop a more structured, efficient and transparent planning process;²¹
- Amending its Codes – for distributors and transmitters – and the IESO’s (then the Ontario Power Authority) licence to ensure planning timelines are met, the necessary information is shared and all reports are publicly available; and
- Establishing the Regional Planning Process Advisory Group (participants include the IESO, communities/municipalities, and utilities) to monitor and continuously improve the regional planning process.

¹⁹ The broader regional planning process is comprised of two sub-processes – Integrated Regional Resource Planning (IRRP) and Regional Infrastructure Planning (RIP). The IESO is responsible for the IRRP process which identifies the appropriate mix of “non-wires” and “wires” solutions. The transmitter leads the RIP process which involves a more detailed assessment of the “wires” solutions identified in the IRRP. The OEB only has full oversight over “wires” investments. The more formal process has therefore focused primarily on the RIP process to date.

²⁰ LTEP p 139

²¹ [Final Planning Process Working Group Report to the Board](#)

Scope of Work to Implement the LTEP Directive

The OEB has already initiated work to improve the regional planning process and achieve a more coordinated and cost effective long-term approach with respect to asset investment, including the replacement of assets at the end of their service life.

With the first regional planning cycle complete, the OEB has proposed and is currently consulting on amendments to its Transmission System Code and Distribution System Code to facilitate the implementation of regional plans. The Code amendments are intended to allocate the costs of transmission and distribution connection investments more fairly, with beneficiary pays as the guiding principle. To help address perceived cost barriers, the OEB has also proposed new funding mechanisms that would mitigate the rate impacts where large capital contributions are required from distributors.

The Directive identifies the regional planning process as an opportunity to facilitate optimal end-of-life asset replacement decisions. Based on its review of regional plans and associated processes, the Regional Planning Process Advisory Group has proposed options to better address end-of-life asset replacement decisions, which may not have been adequately addressed in previous Needs Assessment and Regional Infrastructure Plan reports. The Advisory Group is developing guidance on the information that the lead transmitter should provide to the other members of the Study Team (i.e., IESO, applicable distributors). The proposed guidance also identifies replacement options for assets at end-of-life. For all assets at end-of-life, the underlying goal would be to “right size” the replacement equipment or eliminate the need for it. As is the case with all elements of regional planning, non-wires options (e.g., CDM and DERs) must be considered first.

As part of the current TSC and DSC cost responsibility initiative, the OEB has also proposed broadening the scope of scenarios addressed in the Codes to include “right-sizing” assets (e.g., lowering capacity) in order to facilitate implementation of optimal end-of-life investments.

While some work has been initiated as noted above, the OEB will also participate in the IESO’s review of regional planning and its initiative to ensure a coordinated, cost-effective, long-term approach to transmission asset replacement at end-of-life. The OEB will adopt further measures, as appropriate, once the IESO’s review is complete and recommendations have been received.

OEB Work Plan for Directive Item 1.4

Continuous Improvement in Regional Planning								
Purpose:	Intended Outcome:	LTEP Deliverable:						
To improve the regional planning processes in order to maintain a cost-effective electricity network.	Reduced infrastructure costs over the long term while maintaining reliability of supply.	Adoption of appropriate reforms as needed to improve the regional planning process.						
Description of Work: The OEB has proposed Code amendments to allocate costs arising from regional plans more fairly and to support efficient end-of-life asset replacement decisions. Under the proposed approach, responsibility for costs for transmission connection investments would be apportioned to transmission and distribution customers based on proportional benefit. The intent of these proposed amendments is to facilitate the implementation of regional plans. The OEB will participate in the IESO’s regional planning review to ensure the OEB understands the issues, barriers and opportunities and can subsequently take appropriate steps to improve the process.								
Key Milestones & Engagement Activities: <table><tr><td>1. Complete the Code amendment process underway</td><td>Q2-2018</td></tr><tr><td>2. Participate in the IESO’s regional planning review process</td><td>Q1-Q4 2018²²</td></tr><tr><td>3. Based on the results of the IESO’s review, identify appropriate next steps for improving the regional planning process</td><td>Q4 2019²³</td></tr></table>			1. Complete the Code amendment process underway	Q2-2018	2. Participate in the IESO’s regional planning review process	Q1-Q4 2018 ²²	3. Based on the results of the IESO’s review, identify appropriate next steps for improving the regional planning process	Q4 2019 ²³
1. Complete the Code amendment process underway	Q2-2018							
2. Participate in the IESO’s regional planning review process	Q1-Q4 2018 ²²							
3. Based on the results of the IESO’s review, identify appropriate next steps for improving the regional planning process	Q4 2019 ²³							
Linkages with Other Initiatives: The Way Forward for Adaptive Regulation (1.2); Enabling Distributed Energy Resources (1.3); IESO’s Regional Planning Review (item 3.3 of the IESO’s LTEP Implementation Directive).								

²² Timelines based on OEB's understanding of IESO's timeline, timing will not be confirmed until the IESO's Implementation Plan is approved by the Minister.

²³ Ibid footnote 20

2. ENSURING AFFORDABLE AND ACCESSIBLE ENERGY

2.1 Enhancing OEB Capacity to Regulate in the Public Interest

The LTEP Directive

Protecting the interests of consumers is a key theme in the LTEP. The LTEP recognizes that this theme is multi-faceted, and that the OEB may need new tools and authorities to ensure that it can continue to regulate in the public interest in a time of sector evolution. To that end, item 2.1 of the Directive calls on the OEB to identify areas where additional authorities or tools would be desirable:

2.1 Identify areas where additional authorities or more effective tools would enhance the Board's capacity to regulate the sector in the public interest, including capacity to:

- Mitigate costs for ratepayers, whether directly or indirectly by, for example, enabling more efficient and proportionate review of utility applications;*
- Protect consumers in the natural gas sector;*
- Reduce costs and find efficiencies in the distribution sector, such as shared services amongst local distribution companies.*

OEB Actions

The OEB has long been focused on ensuring that its regulatory processes are both effective and efficient in delivering on its public interest mandate and mitigating costs for consumers by encouraging greater efficiency among the utilities that we regulate.

With the RRF, the OEB moved to a more performance-based approach that drives continuous improvement, increases the focus on value for consumers, and provides rate-setting options that proportionally accommodate different investment requirements of distributors:

- by offering different rate-setting mechanisms, regulatory review is better aligned with utility circumstances;
- by extending the rate-setting term, the frequency and costs associated with major rate applications are reduced; and
- by using econometric productivity measures benchmarked to utility performance and an industry specific inflationary factor, utilities are held to account for their performance.

The OEB has also supported increased efficiency in other areas. For example, the OEB released its *Handbook to Electricity Distributor and Transmitter Consolidations* in January 2016 to support efficiencies of scale and scope that can result from consolidation. As another example,

the OEB is piloting the use of video technology to enable consumers in affected communities to participate in hearings in a cost-effective manner, potentially further lowering costs.

The OEB is also taking steps to more closely align its regulatory approach to the natural gas sector with that applicable to the electricity sector, by extending the core RRF principles to natural gas utilities and reviewing the sufficiency of consumer protections applicable to natural gas customers.

To meet the challenges ahead, new approaches are warranted to ensure that the OEB can continue to deliver on its mandate through regulatory processes and approaches that are effective, efficient, and fit for purpose.

Scope of Work Planned in Response to the LTEP Directive

Driving Efficiencies and Cost Reductions – Leveraging performance-based regulation under the RRF, the OEB is now pursuing more proportionate and efficient reviews of rate applications. This initiative is designed to establish a stronger link between regulatory reviews and utility performance by reducing the regulatory process for utilities that perform well against the OEB's financial, operational, organizational and customer service performance criteria. The OEB is currently in the early phases of developing and assessing its proportionate review process.

Robust benchmarking is an important tool by which the OEB drives efficiencies among distributors and mitigates cost for consumers. While substantial advances in benchmarking have already been made and incorporated into the OEB's regulatory processes, there remains further opportunity for additional analysis and comparisons of input costs to be more formalized and put to greater use in the rate-setting process. To that end, the OEB has identified the need to work towards the introduction of program-level benchmarking that will allow for enhanced comparisons with peers and the overall sector, as well as a better assessment of year-over-year continuous improvements by individual utilities. The use of program-level benchmarking in the assessment of utility applications for cost recovery and rates is expected to result in greater cost discipline and increased efficiency, and to ultimately reduce costs for consumers.

The Ontario electricity sector will likely continue to be characterized by considerable diversity among electricity distributors. While some may choose consolidation, others have formed strategic alliances or associations to share services or resources. Yet others may be considering engaging in non-utility businesses to leverage their resources and reduce costs, an option that has been facilitated by recent amendments to the *Ontario Energy Board Act, 1998* but that no utility has yet applied to pursue. Electricity distributors have long advocated that these kinds of new alliances or business arrangements can achieve efficiencies of scope and scale and provide demonstrable value to consumers.

The OEB is committed to facilitating the consideration of such innovative proposals as electricity distributors may wish to make, and to addressing regulatory barriers to implementation as appropriate. The “innovation sandbox” mechanism referred to in section 5.1 is one of the processes that will further this end. Regulatory requirements that are identified as potentially inhibiting new and efficient business arrangements or activities will be reviewed, and on a more proactive basis the OEB intends to review its *Affiliate Relationships Code for Electricity Distributors and Transmitters* through this same lens. Tools that could facilitate the sharing of services and other strategic business arrangements will also be examined (see also section 1.2 the Way Forward for Adaptive Regulation).

The OEB has in the past been instrumental in identifying reforms that would strengthen oversight in the sector, and a number of these have made their way into legislation.²⁴ As work in furtherance of this Plan progresses, the OEB will continue to highlight potential areas for reform where beneficial in enhancing the OEB’s capacity to protect the interests of consumers, improve consumer confidence, reduce costs and increase efficiency in both the electricity and natural gas sectors.

Protecting Natural Gas Consumers - The face of Ontario’s natural gas sector is changing. A new entrant has acquired the facilities of Ontario’s smaller rate-regulated gas distributor, and there is currently an application before the OEB seeking approval to amalgamate the two large ones.

The expansion of gas service to new service areas, the potential entry of additional new service providers, coupled with the increased roles for gas utilities with respect to climate change mitigation, has prompted the OEB to consider the sufficiency of the protections in place for natural gas consumers. According to a recent OEB survey, consumers expect the same quality of customer service from their utility regardless of the form of energy provided. From the customer’s perspective, both gas and electricity are essential services and should be subject to the same requirements when it comes to consumer protection.

The OEB’s review of customer service rules is an important first step in the OEB’s examination of additional measures to optimize outcomes for natural gas customers. This review is designed to ensure that customer service rules continue to be relevant and serve the needs of consumers, and that they maintain an appropriate balance between customer protection and the ongoing operational needs of utilities.

To ensure that consumers are getting value for money, the OEB is also developing a framework for the assessment of gas distributor supply plans. The framework is intended to increase transparency, accountability and measurement in the gas supply planning process, including

²⁴ See, for example, the May 2015 Report to the Minister of Energy *Consumers Come First: A Report of the Ontario Energy Board on the Effectiveness of Part II of the Energy Consumer Protection Act, 2010*

consideration of public policy objectives such as the inclusion of renewable natural gas as a component of gas supply.

There have been legislative amendments that strengthen the OEB's oversight of electricity utilities in recent years,²⁵ but that generally do not apply in relation to gas utilities. As the above-noted changes in the natural gas sector occur, the need for reform to further enhance the OEB's capacity to protect the interests of natural gas consumers may crystallize.

²⁵ See in particular the *Strengthening Consumer Protection and Electricity System Oversight Act, 2015*

OEB Work Plan for Directive Item 2.1

Tools & Authority to Enhance OEB Capacity to Regulate in the Public Interest																				
Purpose:	Intended Outcome:	LTEP Deliverable:																		
To enhance OEB's ability to effectively deliver on its legislated mandate and remain flexible to respond to the needs of an evolving energy sector.	A strengthened, more flexible regulator benefits consumers and supports outcomes that are in the public interest.	Deploy new initiatives to support efficient reviews and unlock efficiencies in the distribution sector; report on opportunities for reform and enhanced authorities.																		
Description of Work: The OEB will undertake initiatives aimed at identifying, adopting or recommending regulatory reforms that enable more efficient, effective and flexible regulatory processes. The OEB will complete a review of the consumer protection regime in the natural gas sector in conjunction with the customer service rules review and the gas supply planning initiative, and will identify, adopt or recommend regulatory reform to support, as appropriate, enhancements to the OEB's capacity to regulate in the public interest.																				
Key Milestones & Engagement Activities: <table> <tr> <td colspan="2">Driving Efficiencies and Cost Reductions:</td><td>Q2 2017- Q3 2019</td></tr> <tr> <td>1. Pilot, develop and implement approaches for proportional review of applications</td><td></td><td></td></tr> <tr> <td>2. Develop and implement program level benchmarking in the assessment of electricity distributor performance</td><td></td><td>Q2 2018- Q2 2019</td></tr> <tr> <td colspan="2">Protecting Natural Gas Consumers:</td><td></td></tr> <tr> <td>1. Complete review of customer service rules and develop a framework to assess gas supply plans</td><td></td><td>Q4 2018</td></tr> <tr> <td>2. As work in furtherance of this Plan progresses, the OEB will continue to highlight potential areas for reform where beneficial in enhancing the OEB's capacity to protect the interests of consumers</td><td></td><td>As warranted</td></tr> </table>			Driving Efficiencies and Cost Reductions:		Q2 2017- Q3 2019	1. Pilot, develop and implement approaches for proportional review of applications			2. Develop and implement program level benchmarking in the assessment of electricity distributor performance		Q2 2018- Q2 2019	Protecting Natural Gas Consumers:			1. Complete review of customer service rules and develop a framework to assess gas supply plans		Q4 2018	2. As work in furtherance of this Plan progresses, the OEB will continue to highlight potential areas for reform where beneficial in enhancing the OEB's capacity to protect the interests of consumers		As warranted
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1. Complete review of customer service rules and develop a framework to assess gas supply plans		Q4 2018																		
2. As work in furtherance of this Plan progresses, the OEB will continue to highlight potential areas for reform where beneficial in enhancing the OEB's capacity to protect the interests of consumers		As warranted																		
Linkages with Other Initiatives: Strengthen Utility Accountability to Customers (1.1); The Way Forward for Adaptive Regulation (1.2); and Encouraging Innovation (5.1 & 5.2).																				

2.2 Strengthening Protection for Customers of Unit Sub-Meter Providers

The LTEP Directive

The LTEP identifies consumers' concerns that they would like to know more about USMP service arrangements and the charges they pay. The LTEP identifies as a priority the examination of issues relating to unit sub-meter providers (USMPs), notably in relation to clarity about prices, practices regarding disconnections and processes to resolve issues with service quality.²⁶ To that end, item 2.2 of the Minister's Directive to the OEB deals with identifying steps to strengthen consumer protection in relation to the activities of USMPs:

2.2 Examine and identify steps to strengthen consumer protection in relation to the activities of unit sub-meter providers.

OEB Actions

With many multi-residential buildings opting to be served by USMPs, today there are more than 200,000 individually-metered residential and small commercial customers of USMPs in Ontario. Like distributors, USMPs are licensed by the OEB and are required to provide many of the same OEB-mandated customer service rules and assistance programs (LEAP and OESP) as distributors. They are also, like distributors, expected to follow the same customer complaints resolution process.

USMPs however are not yet required to seek OEB approval for their charges, nor are they required to report the same level of information as distributors, and they are subject to different rules in relation to disconnection processes. This creates a potential gap in the consumer protection regime afforded to USMP customers that should be addressed.

Scope of Work Planned in Response to the LTEP Directive

As noted above, one distinct difference between distributors and USMPs is that their charges have not been subject to OEB oversight. However, that will change as of April 1, 2018, when amendments to section 78 (3) of OEB Act take effect and USMPs will require OEB approval of their charges. In anticipation of this change, the OEB has initiated work to develop an appropriate methodology and approach to consider the reasonableness of USMP charges that will enhance customer protection.

With respect to disconnections, the OEB is exploring whether and how the mandated disconnection rules in place can be further aligned with those in place for distributors as part of the customer service rules review.

In addition, given the expected continued growth in the number of USMP customers, the OEB intends to adopt a comprehensive performance monitoring framework for USMPs, similar to the ones in place for distributors and retailers. Enhanced reporting from USMPs will support

²⁶ LTEP p 31

both the oversight of the sector and ensure customers have adequate information to understand how their USMP is performing in terms of customer service.

In carrying out this work the OEB will remain mindful of the fact that these entities are different from other regulated entities. Property owners can choose between competing USMPs to contract services, but once the service provider is selected those who live in the premises cannot choose to get service by any other means; in this sense the customer-USMP relationship is akin to the monopoly relationship that exists between customers and distributors.

In developing its approach to enhancing protections for customers of USMPs, the OEB will balance the merits of different methods against their respective administrative and regulatory costs, which will ultimately be recovered from customers. As with all of its policy initiatives, the OEB will consider transition measures and timing, and the importance of regulatory predictability as a factor in investment and other decisions by firms.

OEB Work Plan in Response to LTEP Directive Item 2.2

Strengthen Protection for Customers of Unit Sub-Meter Providers		
Purpose:	Intended Outcome:	LTEP Deliverable:
To provide a comprehensive consumer protection regime for all electricity customers, regardless of service provider.	Customers of USMPs benefit from greater OEB protection.	Framework for protection of USMP customers including regulating USMP charges, service standards and monitoring performance.
Description of Work: Examine and identify steps to strengthen consumer protection in relation to the activities of unit sub-meter providers		
Key Milestones & Engagement Activities: Method for Setting USMP Charges:		
1. Complete foundational work, including consumer research, data gathering and jurisdictional research		Q1-2018
2. Engage with consumers and stakeholders		Q2-2018
3. Issue policy Report on framework for regulation of USMP charges		Q4-2018
USMP Performance Monitoring Framework		
1. Complete review of customer service rules and analysis of USMP customer service standards		Q4-2018-
2. Engage with consumers and stakeholders in review of proposed performance reporting framework		Q1-2019
3. Develop a performance monitoring framework, to provide customers with information to understand the services and value they receive from USMPs		Q3-2019
Linkages with Other Initiatives: N/A		

3. COMMITMENT TO ENERGY CONSERVATION AND EFFICIENCY

3.1 Implement the Regulated Price Plan Roadmap

The LTEP Directive

Providing consumers more choice, more information and more tools to help them manage their energy costs is identified as a priority in the LTEP. The LTEP acknowledges the work the OEB has identified and initiated through its Roadmap to enhance the Regulated Price Plan (RPP). The Directive calls for the OEB to:

3.1 Move forward with the implementation of the vision embedded in the OEB's Regulated Price Plan Roadmap, including consideration of:

- *New pricing structures that give greater consumer control, make it easier for consumers to respond to pricing signals and incent consumers to do so;*
- *Tools to enhance energy literacy and consumer understanding of the energy sector.*

OEB Actions

Released in 2015, the OEB's RPP Roadmap sets out a multi-year plan to redesign the RPP to better respond to policy objectives, improve system efficiency, enhance consumer literacy and understanding to better empower customers and give them greater control.

In preparing its Roadmap, the OEB undertook analytical research, consumer research and a jurisdictional review to explore how the RPP has performed, how it is serving consumers and how others have managed similar challenges. To help determine future policy directions, the OEB commissioned studies that looked backward – to explore how the RPP has performed and how consumers perceived the RPP; and studies that looked forward – exploring potential changes in pricing information and options that have helped determine future policy objectives for RPP.

Informed by this work, the OEB laid out a multi-year plan for the redesign of RPP to achieve optimal results for Ontario's electricity system and energy consumers. A key element of the plan is evaluating how to improve pricing structures, and a significant step toward this end is the implementation of pilot programs for residential customers to test various price and non-price options to achieve the RPP objectives.

The OEB has already identified and approved a number of pilot projects by distributors that will test variations of time-of-use, critical peak, real-time and flat-rate pricing approaches. These pilots will also test a variety of non-price features that will allow the OEB to assess various forms of communication and automation technologies and their impact on energy literacy. Pilot participants are currently being recruited and the pilots are expected to commence in the first half of 2018 and run for at least a year.

Scope of Work Planned in Response to the LTEP Directive

A key element of the RPP Roadmap is the implementation of RPP pilot projects described above. The results of these pilots will provide real-world feedback on which implementations were most effective in achieving the policy goals of the RPP Roadmap and will be published in a comprehensive report.

The OEB will also look at the way in which all Class B customers²⁷ are charged for electricity in Ontario. This means looking at the price design for Class B customers as a whole, including larger customers who currently pay for power on the basis of prices established in the wholesale market and the Global Adjustment charge. This research will be described in a discussion paper on Class B pricing alternatives to be published before the end of 2018.

Other elements of the plan include working closely with customers, especially businesses, some of whom also pay time of use prices under the RPP. Prior studies that informed the OEB's Roadmap indicate that a significant proportion of these customers are not satisfied with the current time-of-use pricing and have not taken measures to respond to time-of-use prices, in many cases because core business hours limit their ability to shift consumption to a lower-priced period. However, quantitative studies of these customers were inconclusive due to geographic limitations and the diversity of the general service class. Accordingly, the OEB intends to engage further with small business customers, and the organizations that represent their interests, to obtain customer input and ensure appropriate data is used to inform development of future price plans. Such engagement and quantitative information are necessary to build a solid framework for future price plans for all Class B customers.

All of these research and engagement activities will culminate in a comprehensive framework for a future price plan (or plans) that will be informed by quantitative analysis as well as in-depth stakeholder input. Such a framework is expected to include new pricing plans for customers eligible for the RPP. Potential also exists for a proposal for a revised pricing framework for other class B customers. Additional measures may include recommendations on communication and technology to support adoption of new pricing plans and to help customers take advantage of new features that may be incorporated with the price plan, such as critical peak pricing.

²⁷ Class B customers are all electricity customers who are not in Class A. Class Information on Class A eligibility is available on the IESO website: <http://www.ieso.ca/sector-participants/settlements/global-adjustment-class-a-eligibility>.

OEB Work Plan for Directive Item 3.1

Implement the RPP Roadmap												
Purpose:	Intended Outcome:	LTEP Deliverable:										
To improve price signals and price structures to promote efficient consumption choices and behaviours.	Consumers have access to revamped or expanded pricing plans, and the information, literacy and supporting tools to take advantage of them.	Report on price and non-price options for residential and small business electricity consumers informed by research and pilot results.										
Description of Work: The various streams of work under the RPP Roadmap will support the development of a new RPP Framework for residential and small business consumers, and may result in a new pricing framework for consumers who are not eligible for the RPP. Work to support the development of future commodity price plans will include assessments of pilot results, examination of options for the pricing of power for non-RPP customers in Class B, extensive engagements, particularly with small and medium sized businesses, and identification of legislative or regulatory barriers.												
Key Milestones & Engagement Activities: <table><tr><td>1. Distributors launch pilots</td><td>Q2 2018</td></tr><tr><td>2. Publish paper on pricing alternatives for Class B customers</td><td>Q4 2018</td></tr><tr><td>3. Publish report on results from RPP pilots</td><td>Q1 2020</td></tr><tr><td>4. Ongoing stakeholder engagement, including activities with small and medium sized businesses</td><td>Q2 2018 - Q3 2020</td></tr><tr><td>5. Report on framework for future price plan(s) and associated communication tools</td><td>Q4 2020</td></tr></table>			1. Distributors launch pilots	Q2 2018	2. Publish paper on pricing alternatives for Class B customers	Q4 2018	3. Publish report on results from RPP pilots	Q1 2020	4. Ongoing stakeholder engagement, including activities with small and medium sized businesses	Q2 2018 - Q3 2020	5. Report on framework for future price plan(s) and associated communication tools	Q4 2020
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4. Ongoing stakeholder engagement, including activities with small and medium sized businesses	Q2 2018 - Q3 2020											
5. Report on framework for future price plan(s) and associated communication tools	Q4 2020											
Linkages with Other Initiatives: N/A												

4. RESPONDING TO CLIMATE CHANGE

4.1 Climate Change Adaptation

The LTEP Directive

The LTEP discusses the need to support Ontario's efforts to mitigate and adapt to climate change and the role that electricity will play in enabling the transition to a low-carbon economy. Ensuring that the electricity system is sufficiently resilient goes hand in hand with the OEB's legislated mandate to ensure quality and reliability of service for customers. To that end, the Minister's Directive includes:

4.1 In concert with the examination conducted under section 1, examine and provide guidance to utilities as appropriate on approaches for integrating cost-effective opportunities for climate change adaptation into their planning processes and operations.

OEB Actions

Ensuring that utilities adopt good utility practice in the long-term management of their assets is an essential component of the OEB's mandate as regulator. The expectation that distributors follow good utility practice is embedded in the OEB's distribution system code. The OEB requires distributors and transmitters to develop and file detailed distribution system plans as well as asset management plans that address changing conditions and their potential impacts on their systems. Changes in reliability performance, due to the impacts of climate change, are expected to prompt utilities to consider whether new investment or operational strategies are warranted.

In the normal course, distributors' operational activities include consideration of proactive measures to mitigate outages caused by adverse weather, such as asset condition assessment and vegetation management. They also include provisions for reactive measures, such as outage responses, emergency management, and mutual aid agreements in the event of storms.

Scope of Work Planned in Response to the LTEP Directive

While expectations of good utility practice have already been embedded in regulatory tools, the OEB acknowledges that the electricity network is highly integrated and only as strong as its weakest link. The LTEP noted that, according to the IESO's vulnerability assessment, the transmission system is able to withstand most extreme weather scenarios.²⁸ It is timely to also ensure that the distribution network is sufficiently resilient and that distributors are considering appropriate action to adapt to the future challenges of climate change.

²⁸ LTEP p 118

To support more consistent and timely consideration among all distributors, the OEB will update its filing requirements to explicitly articulate an existing expectation that the effects of climate change should be considered in planning and operations.

The OEB understands that further data is forthcoming to assist with distributors' risk assessments. LTEP indicates the Government will help develop a vulnerability assessment of the energy distribution sector so that utilities can develop strategies to manage climate risk. Once the vulnerability assessment is available, the OEB will consider the need for further guidance to distributors regarding cost-effective integration of climate change adaptation into planning and operations.

While it is important to plan for the effects of climate change, investments to mitigate climate change impacts must provide commensurate value to customers who bear the cost. The rate impacts of such investments must be considered, and it is expected that the value customers place on reliability (also discussed in section 1.1) will inform the OEB's assessment of distributors' proposed investments in system resiliency.

OEB Work Plan for Directive Item 4.1

Climate Change Adaptation								
Purpose:	Intended Outcome:	LTEP Deliverable:						
To ensure impacts of climate change are appropriately considered and addressed by utilities.	Utilities undertake cost-effective investment and operational measures to maintain an appropriate level of system resiliency.	Update filing requirements and develop further guidance, as may be required, regarding appropriate climate change adaptation.						
Description of Work: Filing Requirements will be updated to explicitly articulate the OEB’s existing expectation that distributors and transmitters consider the effects of climate change when planning and operating their systems. Once the results of the Government’s distribution sector vulnerability assessment (as set out in the LTEP) are available, the OEB will examine and provide further guidance on incorporating cost-effective climate change adaptation into planning and operations.								
Key Milestones & Engagement Activities: <table><tr><td>1. Update Filing Requirements</td><td>Q3 2018</td></tr><tr><td>2. Upon completion of province’s vulnerability assessment, consider the need for further guidance on cost-effective climate change adaptation, reflecting stakeholder input as necessary</td><td>Q1-Q2 2019</td></tr><tr><td>3. Develop further guidance as may be required</td><td>Q3-Q4 2019</td></tr></table>			1. Update Filing Requirements	Q3 2018	2. Upon completion of province’s vulnerability assessment, consider the need for further guidance on cost-effective climate change adaptation, reflecting stakeholder input as necessary	Q1-Q2 2019	3. Develop further guidance as may be required	Q3-Q4 2019
1. Update Filing Requirements	Q3 2018							
2. Upon completion of province’s vulnerability assessment, consider the need for further guidance on cost-effective climate change adaptation, reflecting stakeholder input as necessary	Q1-Q2 2019							
3. Develop further guidance as may be required	Q3-Q4 2019							
Linkages with Other Initiatives: The Way Forward for Adaptive Regulation(1.2); Continuous Improvement in Regional Planning (1.4); Government-led vulnerability assessment of Ontario’s distribution sector; and Ministry of Environment and Climate Change data about how climate change may impact Ontario.								

4.2 Facilitating Access to EV Smart Charging

The LTEP Directive

Electrification of transportation is a key feature of the Province's Climate Change Action Plan. LTEP acknowledges the significant impact that wide spread EV adoption can have on Ontario's electricity system. In particular, LTEP highlights the potential strain on the distribution system if too many electric vehicles (EV) are charging in the same area at the same time. As such, "[t]he government wants to provide LDCs with more options for integrating EVs into their networks at the lowest cost."²⁹ In furtherance of this expectation, the Minister's Directive calls on the OEB to:

4.2 Examine and identify steps for pursuing cost-effective opportunities for electricity distributors to facilitate access to residential and smart charging for electric vehicles.

OEB Actions

The OEB recognizes the importance attributed to electrified transportation as a means of achieving significant reductions in GHG emissions envisioned by the Climate Change Action Plan. The OEB also recognizes that there are significant challenges to be addressed to enable greater penetration of EVs in the market, including ease of charging, and that the OEB has an important role in helping to remove some of those constraints.

The OEB has taken a first step with the issuance of a staff Bulletin in 2016 to provide guidance on the regulatory treatment of EV charging services.³⁰ The Bulletin expresses staff's view that providing EV charging services is not a licensable activity, but distributors may engage in it so long as the equipment provides for the management of load in keeping with the Government's goals for electricity conservation. Residential smart charging has not yet been addressed from a regulatory policy perspective.

Similar to a programmable thermostat, smart charging can make it easier for consumers to respond to time of use prices. Smart charging can also allow consumers to participate in demand management programs which could give distributors a certain degree of control over charging, allowing them to minimize impacts on the distribution system. Like other CDM activities, the costs of an EV demand management program could be eligible for recovery through rates under section 4.1 of the 2015 CDM Guidelines, if it defers or displaces investment in distribution infrastructure.

²⁹ LTEP p 61

³⁰ [July 7, 2016 Bulletin](#)

Scope of Work Planned in Response to the LTEP Directive

Electrification of transportation is expected to have a significant impact on the electricity system. Planning for EVs is a challenge because the pace and location of EV uptake is difficult to predict. EV charging can add significant load to the distribution system, depending on the size of the battery in the car, the pace of charging and overall penetration levels. In areas where the grid is already congested even the presence of just a few EVs could trigger the need to upgrade distribution assets, whereas in other areas impacts may not be apparent until EV adoption has reached higher penetration. Both scenarios would impact distribution rates and raises questions about how the costs of these investments should be allocated. Encouraging charging in periods where demand on the distribution system is lower can mitigate the need for network investment.

Working with stakeholders the OEB will undertake a review to identify and better understand the challenges of EV residential charging for both EVs and distributors. In conjunction with the advisory committee on innovation, the OEB will undertake further analysis and jurisdictional research to inform the development of regulatory approaches that will facilitate the development of the distribution network to integrate residential EV charging on a cost effective basis. The OEB will consider implications for distribution planning, cost allocation and rate design.

OEB Work Plan for Directive Item 4.2

Facilitating Access to EV Smart Charging		
Purpose:	Intended Outcome:	LTEP Deliverable:
To facilitate access to residential smart charging for electric vehicles.	Greater use of smart charging enables better management of loads on the distribution system and reduces the need for investment.	Identify regulatory reforms needed to facilitate access to residential smart charging for electric vehicles, in concert with broader work to enable DERs.
Description of Work:		
Examine and identify steps for pursuing cost-effective opportunities for electricity distributors to facilitate access to residential smart charging for electric vehicles.		
Key Milestones & Engagement Activities:		
1. Engage distributors where higher levels of EV penetration are expected.		Q2 2018
2. Foundational research and jurisdictional review on EV charging facilitation.		Q4 2018
3. Consider implications for distribution planning, cost allocation and rate design		Q1-2 2019
4. Develop and implement regulatory reforms as needed in concert with initiative to Enable Distributed Energy Resources		Q3 2020
Linkages with Other Initiatives:		
The Way Forward for Adaptive Regulation (1.2); Enabling Distributed Energy Resources (1.3).		

5. ENCOURAGING AN INNOVATIVE SECTOR

5.1 & 5.2 Encouraging a Culture of Innovation

The LTEP Directive

Harnessing innovation and modernization to deliver value to ratepayers is at the heart of the LTEP. Innovation and value for ratepayers is also at the heart of the work the OEB has been undertaking. In developing regulatory reforms, the RRF acknowledges the importance for the regulator to be forward looking and incent innovation and continuous improvement. Throughout the development of the LTEP, stakeholders have called for modernization of regulation to enable greater innovation in the sector. The OEB has embraced this call to action, in developing its own Strategic Blueprint to identify how it can best enable, and support innovation within its existing mandate.

The Minister's Directive underscores the priority given to innovation in its instruction to the OEB to consider further opportunities for encouraging a culture of innovation in the electricity distribution sector:

5.1 In taking the steps referred to in sections 1 to 4, consider further opportunities for encouraging a culture of innovation in the electricity distribution sector.

5.2 Examine and identify opportunities for utilities to raise the profile of their modernization/innovation plans, while continuing to plan their systems consistent with the Board's expectations for cost-effective and rigorous asset management.

OEB Actions

Encouraging innovation in the electricity sector is not a new task for the OEB. As discussed in section 1.2 and 1.3, the OEB has already adopted, and continues to develop, policies to support innovation in the electricity sector including:

- Mandatory system planning that integrates traditional and smart grid planning;³¹
- CDM guidelines that confirm the eligibility of CDM costs to be recovered in distribution rates in the event that the CDM measure defers or displaces the need for distribution infrastructure;³²
- Piloting of innovative price plans and approaches to send price signals to consumers, including in-home devices, as contemplated in the RPP Roadmap; and
- Shifting to fixed distribution rates for residential customers and developing a new distribution rate design for commercial and industrial customers, increasing

³¹ Ibid footnote 14

³² Ibid footnote 17

opportunities for innovation by removing disincentives to the adoption of technologies that promote conservation and efficiency.³³

Scope of Work Planned in Response to the LTEP Directive

A key theme of the LTEP is removing barriers to innovation that prevent distributors – and their customers – from benefitting from the efficiencies that can be realized through innovation.

While distributors have always been encouraged to identify elements of the regulatory framework that they see as a barrier to their innovative activities, whether through specific applications or one of the many existing OEB stakeholder forums, the prevalence of this concern calls for a more systematic approach.

With the release of its Strategic Blueprint, the OEB will be establishing an Advisory Committee on Innovation to specifically assist in defining regulatory responses that support the transformation of the sector in a time of change. This Committee will bring a broad range of perspectives and experiences to bear on actions that can and must be taken to encourage and entrench a culture of innovation within the electricity distribution sector.

As a first step, the OEB will also look to the experience of other jurisdictions in adopting specific approaches and measures that more directly promote a culture of innovation in the province, including consideration of a more formal mechanism would be more effective at encouraging distributors to propose innovative initiatives.

The OEB will be informed by Ofgem’s regulatory sandbox, which was introduced early in 2017 in the United Kingdom, as well as practices in other jurisdictions. Experience from Ontario’s Smart Grid Fund and the IESO’s Smart Grid Forum will also assist with the selection of an approach.

Inviting distributors to identify specific concerns and illustrate the potential benefits if a perceived regulatory barrier were addressed (whether temporarily or under certain conditions) will help identify any unintended consequences of the regulatory regime and allow them to be addressed appropriately.

It is expected that creating a formal dialogue between distributors and the OEB will enable the pursuit of initiatives that explore greater uptake of activities by distributors such as more active system operation, local demand management or connecting consumers with new energy products and services. It is also expected that this forum, coupled with work to renew the regulatory framework, will raise the profile of distributors’ modernization plans.

Over the longer term, greater understanding of the concerns identified is expected to inform assessment of the types of changes to regulatory requirements are warranted. They may also inform the OEB’s determination of special circumstances that warrant carrying out novel

³³ Ibid footnote 18

activities as part of the regulated distribution or transmission business (as contemplated under section 71(4) of the OEB Act).

As always, the OEB will be mindful of cost consequences and the need to balance all of its statutory and strategic objectives when considering how best to advance innovation in the distribution sector.

OEB Work Plan for Directive Items 5.1 & 5.2

Encouraging Innovation		
Purpose:	Intended Outcome:	LTEP Deliverable:
To encourage integration of innovation approaches in utility investment planning and operations, and to grow innovation within the utility sector.	Innovation becomes normalized within the everyday operation of the utility.	Design a formal mechanism to support structured engagement with distributors on ways to address barriers to innovation.
Description of Work: The OEB will develop a formal mechanism for identifying barriers to innovative activities by considering approaches in other jurisdictions and soliciting feedback from stakeholders and the Advisory Committee on Innovation..		
Key Milestones & Engagement Activities: 1. Meetings with the Advisory Committee on Innovation Q1-Q4 2018 2. In parallel, conduct foundational research on encouraging innovation, including Ofgem’s ‘sandbox’ model; consult with stakeholders. Q2 2018 3. Finalize design of an ‘innovation sandbox’ appropriate for Ontario Q4 2018 4. Revise codes or other regulatory provisions based on issues that distributors raise, as may be needed. Q1 2019		
Linkages with Other Initiatives: The Way Forward for Adaptive Regulation (1.2); Enabling Distributed Energy Resources (1.3); Tolls and Authority to Enhance the OEB’s Capacity to Regulate in the Public Interest (2.1); Facilitating EV Smart Charging (4.2); IESO’s work to address items under section 2 of its LTEP implementation Directive.		

Timing of Initiatives

Directive Item	Initiative	2018				2019				2020			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.1	Strengthen Utility Accountability to Customers												
1.2	The Way Forward for Adaptive Regulation												
1.3	Enabling Distributed Energy Resources												
1.4	Improve Regional Planning Process – Enhancements Underway												
1.4	Improve Regional Planning Process – Following IESO Review												
2.1	Enhancing OEB Capacity – Drive Efficiencies & Cost Reductions												
2.1	Enhancing OEB Capacity – Protect Natural Gas Consumers												
2.2	Protect Customers of USMPs – Setting Charges												
2.2	Protect Customers of USMPs – Performance Monitoring												
3.1	Implement the RPP Roadmap												
4.1	Guidance on Climate Change Adaptation												
4.2	Facilitate Access to EV Smart Charging												
5.1 & 5.2	Encourage a Culture of Innovation												

	External Dependency		Regulatory Reforms Under Development
	Foundational Work (e.g. research and analysis)		Initiative Complete
	Engagement Activities		Work Plan to be Determined

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