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ONTARIO ENERGY BOARD'S LTEP IMPLEMENTATION PLAN

Foreword

The Ontario Energy Board is pleased to provide its Implementation 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 LTEP Implementation Plan is the first of its kind. It describes the initiatives that the OEB will undertake to develop and implement regulatory reforms needed to meet the goals and objectives set out in the 2017 LTEP.

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.

The Minister's Directive outlines specific areas for the OEB to examine. The initiatives contained in this Plan, designed to respond to one or more items in 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. This Plan describes how each initiative fits within the context of the Strategic Blueprint and includes many initiatives that also appear in the OEB's 2018-2021 Business Plan.

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: provide reliable energy supply at a reasonable cost, provide predictable rates, maintain a financially viable and competitive sector, and plan for the future.

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.

Implementation Directives were issued by the Minister of Energy to the Ontario Energy Board (OEB) and the Independent Electricity System Operator (IESO) on the same date. The Minister of Energy's Directive to the OEB (Directive) is available on the OEB's website and reproduced in Attachment A.

In accordance with the Directive, the OEB must submit an implementation plan (Plan) to the Minister by January 31, 2018. The Plan must outline "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

The role of Long Term Energy Plans as vehicles for giving effect to the Government's energy policy objectives was codified through amendments to the *Electricity Act, 1998* (Electricity Act) that came into force in 2016. Under section 25.30 (2) of the Electricity Act, the Minister may issue Directives to the OEB (and the IESO) setting out requirements in relation to the implementation of a Long Term Energy Plan approved by the Lieutenant Governor in Council. In response to such a Directive, the OEB must file an implementation plan for the Minister's approval. Following approval of an implementation plan, the OEB must, in exercising its powers and performing its duties, be guided by the objective of facilitating the implementation of the Minister's Directive in accordance with the approved implementation plan. This is the OEB's first implementation plan under the new legislative framework.

The Directive sets out 11 items to be covered by the OEB's Plan:

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| 1.1 Strengthen utility accountability to customers | 2.2 Strengthen protection for unit sub-meter provider customers |
| 1.2 Pursue opportunities for cost-effective grid modernization | 3.1 Carry out the RPP Roadmap |
| 1.3 Identify barriers to distributed energy resources | 4.1 Provide guidance on climate change adaptation |
| 1.4 Improve regional planning | 4.2 Facilitate smart EV charging |
| 2.1 Enhance OEB capacity to regulate in the public interest | 5.1 Encourage a culture of innovation |
| | 5.2 Raise the profile of distributors' modernization/innovative initiatives |

¹ Minister's Directive (October 26, 2017)

This 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.

Foundations of the Response to the Directive

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 and furthering the OEB's strategic direction.

An overarching theme of the 2017 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). Developed and released in 2017, it sets out the OEB's commitment to modernize its approach to regulation in order to keep pace with an evolving energy sector in light of the significant changes brought about by technological innovation, the emergence of new business models, heightened consumer expectations, and new public policy initiatives, such as tackling climate change. The Strategic Blueprint continues down a path the OEB commenced in 2012 with the Renewed Regulatory Framework (RRF).

Table 1 illustrates the alignment between the themes and intended outcomes articulated in the Strategic Blueprint and those included in the LTEP.

The direction set out in the Strategic Blueprint is organized around the following four interconnected strategic challenges, with accompanying strategic goals and objectives to meet those challenges:

- Transformation & Customer Value: Ensuring evolution of the sector brings a stronger focus on demonstrable value for consumers
- Innovation & Consumer Choice: Incenting and enabling innovation that enhances consumer choice and control
- Consumer Confidence: Strengthening and sustaining consumer confidence during a period of accelerating change
- Regulation "Fit for Purpose": Ensuring that regulation meets the challenges of sector transformation

The OEB's response to the LTEP directive has been informed by the Strategic Blueprint. This Plan describes how initiatives responsive to the LTEP Directive will be carried out in the context of related work to achieve the OEB's strategic objectives.

The OEB is convening an Innovation Task Force, comprised of members with a diverse range of skills and experience, to assist the OEB in defining regulatory changes needed to effectively deliver on objectives outlined in the OEB's strategic agenda, focussing primarily on two of the Blueprint's strategic challenges: Transformation and Consumer Value, and Innovation and Consumer Choice. In doing so, the Innovation Task Force will consider topics raised in the Directive and will thus have an important role in defining the path forward for certain initiatives to be undertaken in response to the Directive – namely, work to advance cost effective grid modernization, facilitating the deployment of distributed energy resources, and innovation.

Table 1: Alignment between LTEP and the Strategic Blueprint

LTEP: DIRECTIVE ITEMS	1.2 Pursue grid modernization 1.3 Identify barriers to DERs 1.4 Improve regional planning 4.1 Provide guidance on climate change adaptation 4.2 Facilitate EV smart charging	1.2 Pursue grid modernization 1.3 Identify barriers to DERs 3.1 Carry out the RPP Roadmap 5.1 Encourage a culture of innovation	1.1 Strengthen utility accountability to consumers 2.1 Enhance OEB capacity to regulate in the public interest 2.2 Strengthen protection for USMP customers	2.1 Enhance OEB capacity to regulate in the public interest
BLUEPRINT: STRATEGIC CHALLENGES	Transformation & Consumer Value	Innovation & Consumer Choice	Consumer Confidence	Regulation “Fit for Purpose”
BLUEPRINT: STRATEGIC GOALS	Utilities are delivering value to consumers in a changing environment	Utilities and other market participants are embracing innovation in their operations and the products they offer consumers	Consumers have confidence in the oversight of the sector and in their ability to make choices about products and services	The OEB has the resources and processes appropriate for the changing environment
BLUEPRINT: STRATEGIC OBJECTIVES	The regulatory framework incents utilities to focus on long-term value for money and least-cost solutions Regional and utility system planning reflect the continuing evolution of the sector Utility infrastructure is optimized during the shift to a low carbon economy	The regulatory framework incents and enables utilities to adopt innovative solutions The design of network rates and commodity prices support the efficient use of infrastructure and enable greater customer choice and control Our codes and rules reflect the needs of an evolving sector	Consumers understand their rights and choices Consumers are treated fairly by utilities and other service providers Consumer perspectives are welcomed, respected and addressed in all regulatory processes The benefits of innovation and sector transformation are realized by all types of consumers	We have the expertise needed to address sector evolution Our own organization and processes remain flexible and are adapted to changing needs Our work is supported by effective engagement and collaboration

Organization of the OEB's Implementation Plan

The OEB has organized its Implementation Plan as follows:

- 1.1 Strengthening Utility Accountability to Customers
- 1.2 Grid Modernization & 1.3 Distributed Energy Resources
- 1.4 Improving Regional Planning
- 2.1 Tools and Authority to Enhance OEB Capacity to Regulate in the Public Interest
- 2.2 Strengthening Protection for Customers of Unit Sub-Meter Providers
- 3.1 Carry out the RPP Roadmap
- 4.1 Climate Change Adaptation
- 4.2 Facilitating Access to Smart Charging
- 5.1 & 5.2 Encouraging a Culture of Innovation

Each section discusses what the Directive calls for, actions the OEB has already carried out to support change and deliver on outcomes in these areas, and work that the OEB will undertake in response to the Directive. A final table summarizes the timing of the initiatives.

The level of detail in the work plans for each initiative varies in proportion to the extent of relevant work undertaken to date. Where foundational work is relatively more advanced, work plans are discussed in greater detail. The same level of detail is not feasible for other initiatives, such as those that will be led by the Innovation Task Force, or have significant external dependencies (such as 4.1 Climate Change Adaptation).

All of the initiatives in this Plan will involve stakeholder consultation. Given high levels of overlap between some initiatives, the OEB commits that its work will be informed by activities occurring in other initiatives and consultations will be coordinated where possible.

Furthermore, while specific stakeholder engagement activities are noted, the OEB intends to engage stakeholders in a variety of ways at any stage of an initiative, in accordance with our usual practices and legislative requirements, even if not explicitly stated in this Plan.

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.

1.1 Strengthening Utility Accountability to Customers

The LTEP Directive

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.

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 OEB's Work to Date

The LTEP objectives in relation to utility accountability align with the direction set out in the OEB's Strategic Blueprint, whose strategic goals include ensuring that utilities continue to deliver value to consumers in a changing environment and ensuring that consumers have confidence in the oversight of the sector and in their ability to make choices about products and services. Providing meaningful information about service and demonstrating that utilities are responsive and face potential consequences for poor performance are the types of actions that can be expected to sustain and strengthen consumer confidence.

The OEB has been focusing on strengthening utility accountability to customers for some time. The RRF emphasizes the need to engage customers in a meaningful way, to reflect their reasonable preferences in investment plans, and to demonstrate continuous improvement in service delivery. Among other things, the OEB developed distributor scorecards to allow consumers to clearly see how their utility is performing and to compare results against previous years and other utilities. The new Consumer Charter also helps customers understand their

rights and responsibilities about energy services, and where to go for help if a utility does not respect their rights.²

Work specific to reliability has also been a focus in recent years. Distributors have long reported the average frequency and duration of interruptions under the OEB's *Electricity Reporting and Recordkeeping Requirements*; these results feature prominently in distributors' scorecards and help to inform and prioritize capital planning. Currently, scorecard performance targets are distributor-specific, recognizing that effective performance targets are realistic and will reflect distributors' varying circumstances. As stated in a 2015 Report of the Board, province-wide, regional, or peer-group targets would simply not be reflective of today's reality.³

Recently, the OEB required distributors to report the average frequency and duration of interruptions excluding outages caused 'upstream' – that is, outside the distributor's system and excluding major events such as large storms. After a major event is over, distributors must also file reports with details such as whether and how they communicated expected restoration times to customers and how long it took to restore service to 90% of customers.⁴ This additional information provides increased insight into outages for which distributors are responsible and how distributors respond to outages outside of their control, i.e. restoration

The OEB also worked with a group of distributors to pilot the feasibility of measuring reliability on a customer-specific basis⁵ and has initiated related work on evaluating the reliability of supply at the point where it is delivered to transmission customers such as distributors and other large loads.

Implementing the LTEP Directive

An enhanced approach to aspects of reliability performance, including clearer consequences and more specific reporting, can help to address any customer concerns and increase consumer confidence. Such measures must also be taken with due regard for the potential cost consequences if utility responses to any enhancements to the regulatory framework result in investments whose associated costs are disproportionate to the incremental value of gains in reliability performance. A sequential approach to this work is required in order to ensure that incentive structures are properly calibrated.

First, the OEB will complete work in relation to reliability reporting that is already underway: it will prepare a final report on the customer-specific reliability pilot, and complete its

² [Consumer Charter](#)

³ [Report of the Board: Electricity Distribution System Reliability Measures \(EB-2014-0189\)](#)

⁴ [Electricity Reporting and Recordkeeping Requirements](#) (Section 2.1.4.2.10)

⁵ 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.

examination of customer 'delivery point' performance. Analyzing reliability data at the delivery point level will, on a case-by-case basis, help identify instances where reliability improvement is of greater priority and promote coordinated and cost-effective solutions by multiple distributors and/or transmitters. This work will also inform understanding of utility service restoration timelines and activities that may support development of outage response timelines for utilities.

Analysis of this data will allow the OEB to assess the appropriateness of current reliability metrics. This work will also inform approaches to providing reliability data in a manner more meaningful to customers and development of approaches to outage notification. The OEB will identify regulatory reforms to provide consumers with access to more meaningful information about reliability, as well as other priorities such as restoration and power quality.

The above work will also provide a foundation for the next phase in which the OEB will assess appropriate incentives and consequences tied to utility performance in relation to reliability. The OEB will consider how its rate-setting approach, including the implementation of fully fixed rates for residential consumers, aligns with utility performance consequences. When assessing appropriate regulatory reforms, the OEB will remain mindful of other priorities for the sector, such as cost control. The value placed on reliability by each customer class and the principle that the allocation of costs should be proportional to the benefits will inform this work. For example, tolerance for outages may be very low for industrial customers where it impacts production, while who have critical needs and few alternatives. But many residential customers may be more willing to accept occasional interruptions than rate increases. The OEB will engage consumers across the different classes to understand the impacts of reliability and restoration times in order to understand their views on this.

The OEB also intends to look at strengthening utility accountability in relation to elements of performance other than reliability. First call resolution of issues, punctuality for appointments, and billing accuracy are examples of other elements of service that are important to consumers. Work underway to enhance utility benchmarking, refine customer service rules,⁶ along with the 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.

⁶ See [Review of Customer Service Rules \(EB-2017-0183\)](#)

OEB Work Plan in Response to Directive Item 1.1

Strengthen Utility Accountability to Customers		
<i>Purpose</i>	<i>Intended Outcome</i>	<i>LTEP Deliverable</i>
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 to customers with respect to provision of service, including reliability
<i>Description of Work:</i>	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. Next, the OEB will identify how the quality, relevance, and accessibility of reliability and service quality data for consumers could be improved. In the next phase, the OEB will examine potential frameworks for incentives and/or consequences tied to utility performance levels that are meaningful to customers. This work will be informed by the value placed on reliability and other aspects of service by different customers or customer classes, as well as the cost consequences and appropriate allocation of costs.	
<i>Key Milestones & Engagement Activities:</i>	1. Complete work on reliability reporting already underway 2. Engage stakeholders, particularly consumers 3. Issue proposal for stakeholder comment 4. Refine proposal, re-engage consumers and stakeholders as may be appropriate 5. Identify new framework and/or regulatory reforms to enhance utility accountability and provision of information to customers	
<i>Linkages with Other Initiatives:</i>	The Way Forward for Adaptive Regulation; IESO's review of technical criteria used to assess customer reliability.	

1.2 Grid Modernization & 1.3 Distributed Energy Resources

The LTEP Directive

The LTEP discusses 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. It also discusses the value that distributed energy resources (DERs)⁷ may provide to Ontarians. Grid modernization is identified throughout the LTEP as a vehicle 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."⁸

To facilitate the creation of such an environment, the Minister's Directive looks to the OEB to consider further opportunities for grid modernization and the development of DERs:

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.

⁷ "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](#))

⁸LTEP p 69

The OEB's Work to Date

The OEB's Strategic Blueprint also acknowledges the need to keep up with technological innovation and ensure investments deliver long-term value to consumers. The OEB anticipates the next five years will be characterized by accelerating change and transformation in the sector. As stated in its Strategic Blueprint, "[t]he OEB will support and guide the sector it regulates through the evolution underway: support – by helping prepare utilities, other market participants and consumers for the change that lies ahead; and guide – by working to secure the benefits and mitigate any adverse consequences of that change and uncertainty." Supporting cost-effective grid modernization and DER integration will contribute to the achievement of two identified strategic goals: "[u]tilities are delivering value to consumers in a changing environment" and "[u]tilities and other market participants are embracing innovation in their operations and the products they offer consumers."

The Strategic Blueprint builds on work that the OEB has already undertaken to facilitate cost-effective modernization of Ontario's electricity grid, in furtherance of the OEB's statutory objectives to facilitate implementation of a smart grid and promote the use of renewable generation in Ontario.⁹

The OEB's RRF is designed to facilitate the evolution of planning and operations in ways that support ongoing, timely and well-paced grid modernization.¹⁰

The OEB required distributors to integrate smart grid investments into their distribution system plans,¹¹ prompting them to consider grid modernization as an activity integrated with, rather than distinct from, the normal business of planning and operating the distribution system. Acknowledging need for a regulatory framework that provides additional flexibility which distributors may need to make these investments, the OEB provided for accelerated cost recovery mechanisms (e.g. allowing costs associated with construction work in progress to be included in ratebase, or adjusting depreciation) and other incentive mechanisms (e.g. project specific ROE that is more commensurate to risk).¹²

Recognizing the importance of facilitating integration of distributed energy resources the OEB established a new license for storage operators and a streamlined licensing process for renewable generators. In light of the contribution to the overall provincial energy supply associated with connecting renewable generation to the distribution system, the OEB also provided guidance on the portion of those connection costs that should be recovered from all

⁹Ontario Energy Board Act, 1998, section 1.

¹⁰ [Report of the Board: Renewed Regulatory Framework for Electricity Distributors – A Performance Based Approach](#)

¹¹ [Report of the Board: Supplemental Report on Smart Grid](#)

¹² [Report of the Board: The Regulatory Treatment of Infrastructure Investment in connection with the Rate-regulated Activities of Distributors and Transmitters in Ontario](#)

Ontario customers. This is in keeping with the regulatory principle that beneficiaries bear the costs of these investments in proportion to the benefits they derive from them.¹³

The OEB's current *Conservation and Demand Management Requirement Guidelines* (2015 CDM Guidelines) support distributor implementation of non-wires solutions by confirming that the costs of conservation and demand management (CDM) programs may be eligible for recovery in distribution rates when such programs replace or defer investment(s) in traditional distribution infrastructure.

The OEB is redesigning distribution rates to better position the sector for technological changes and enable innovation while maintaining fairness among consumers. The transition to fully fixed distribution rates for residential consumers is already well under way and expected to be complete for the majority of distributors in 2019.¹⁴ A new approach for commercial and industrial consumers is under development. Improving the link between the distribution cost drivers attributable to consumers and what they pay for distribution services is not merely fairer; it is also expected to facilitate innovation and the deployment of DERs by highlighting for certain customers the opportunity for pursuing economically efficient alternatives based on their demand and consumption levels.

The OEB is also examining revised rules for net metering to support the Government's policy of expanding net metering, prepare the sector for greater net metering activity and ensure that consumer interests are protected. Enhanced reporting, standardized contracts for net metering services, and requirements to ensure customers have access to information to support decision-making are among the issues under consideration. In addition, the OEB expects to consider whether any further steps are required to protect consumers in response to third-party participation in net-metering arrangements as indicated in the LTEP.¹⁵

Implementing the LTEP Directive

Work to address items 1.2 and 1.3 of the Minister's Directive will be included in two interrelated policy initiatives, described below: The Way Forward for Adaptive Regulation; and Enabling 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.

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

¹³ [Framework for Determining the Direct Benefits Accruing to Customers of a Distributor under Ontario Regulation 330/09](#)

¹⁴ [Report of the Board: A New Distribution Rate Design for Residential Electricity Customers](#)

¹⁵ LTEP p 58

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.

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, and the time is now ripe for increasing the 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.

Grid modernization and DERs both have the potential to deliver value to consumers, but can also have significant cost consequences for them. This 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 for, and that associated costs are allocated fairly among Ontario energy consumers.

To support work to achieve the goals and objectives outlined in the Strategic Blueprint, the OEB will harness the expertise of its Innovation Task Force to help the OEB identify action items and priorities to better enable and leverage innovation by regulated utilities. This Innovation Task Force is expected to establish the framework, sequence and pacing of inquiry to inform the initiatives under 1.2 and 1.3 of the directive.

OEB Work Plan in Response to LTEP Directive Items 1.2 & 1.3

The Way Forward for Adaptive Regulation		
<i>Purpose</i>	<i>Intended Outcome</i>	<i>LTEP Deliverable</i>
To support cost-effective modernization and innovation in the Ontario energy sector	Distributors 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
<i>Description of Work:</i>	This work will focus on encouraging optimal investment decisions by utilities during a period of accelerated change by: ▪ remunerating utilities in ways that strengthen their focus on long-term value and least-cost solutions; and ▪ supporting regional planning and cost-sharing among utilities. When examining potential regulatory reforms, the OEB will consider the topics highlighted in the LTEP such as smart grid and non-wires solutions; operational measures to defer capital; asset end-of-life decisions; active system management and customer participation; energy efficiency measures on distribution systems; shared services among distributors; and shared distribution investments, where benefits extend beyond an individual distributor's service territory. The regulatory treatment of "diffuse benefits" will be considered in conjunction with the Enabling Distributed Energy Resources initiative.	
<i>Key Milestones & Engagement Activities:</i>	1. Engage the OEB's Innovation Task Force to isolate barriers to innovation and grid modernization and identify opportunities for regulatory reform 2. Pursue next steps identified by the OEB based on the work of the Innovation Task Force	
<i>Linkages with Other Initiatives:</i>	Enabling Distributed Energy Resources; Continuous Improvement in Regional Planning; and Encouraging Innovation	

Enabling Distributed Energy Resources		
<i>Purpose</i>	<i>Intended Outcome</i>	<i>LTEP Deliverable</i>
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
<i>Description of Work</i>	Considerable work is available to support the work of the OEB and its Innovation Task Force toward understanding, defining, and addressing barriers to the development of distributed energy resources. This work will be leveraged wherever possible. Regulatory reforms to enable DERs may involve adopting a framework for assessing and allocating the benefits and costs of DER investments. Accordingly, this initiative is expected to consider the benefits and beneficiaries of DERs in Ontario; how to encourage DER deployment and operation that can provide incremental value to consumers and the system; and how diffuse benefits and multiple value streams can be appropriately recognized. 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. Work may also involve consideration of solutions that take into account the structure of the electricity market, including the seams between the wholesale and retail level of electricity service, and the roles of distributors and other solution providers. In addition, OEB work to revise rules for net-metering in support of government policy will be taken into account. Item 4.2 of the Directive is about how distributors can facilitate access to smart charging for electric vehicles. Since managing electric vehicle charging through smart devices is a form of DER, the OEB will address item 4.2 of the Directive as part of its work to enable DERs.	
<i>Key Milestones & Engagement Activities:</i>	1. Engage the OEB’s Innovation Task Force to define barriers to innovation and DERs and identify opportunities for regulatory reform 2. Pursue next steps identified by the OEB based on the work of the Innovation Task Force	
<i>Linkages with Other Initiatives:</i>	The Way Forward for Adaptive Regulation; Continuous Improvement in Regional Planning; Encouraging Innovation; and IESO’s work to address items 2.1 (distributed generation and virtual net-metering) and 2.2 (electricity storage) of the Directive it received from the Minister in relation to LTEP implementation.	

1.4 Improving Regional Planning

The LTEP Directive

As noted in the LTEP, the OEB has required utilities to participate in a formalized regional planning process¹⁶ since 2013, giving “communities the opportunity to consider all the cost-effective resources for meeting their regional needs.”¹⁷ 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.*

The OEB's Work to Date

An objective in the OEB's Strategic Blueprint is for “regional and utility system planning [to] reflect the continuing evolution of the sector” as utilities work to deliver value in a changing environment. This objective will be achieved by “supporting regional planning and cost-sharing arrangements among utilities, particularly electricity distributors, that offer long term value for consumers.”

The OEB has long supported robust, integrated planning and facilitated the development of a formalized regional planning process as part of its RRF to encourage better asset management and optimal investment decisions. The OEB struck an industry working group to develop a more structured, efficient and transparent planning process¹⁸ and then amended its Codes – for distributors and transmitters – and the IESO's (then the Ontario Power Authority) licence, to

¹⁶ 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.

¹⁷ LTEP p 139

¹⁸ [Final Planning Process Working Group Report to the Board](#)

ensure planning timelines are met, the necessary information is shared and all reports are publicly available.

With the first planning cycle complete, the OEB recently proposed further 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, while also ensuring distributors and transmitters are appropriately considering the optimal end-of-life asset replacement strategy. To help address perceived cost barriers, the OEB also proposed new funding mechanisms that would mitigate the rate impacts where large capital contributions are required from distributors.

The OEB remains of the view that industry should have ownership of the regional planning process. The Regional Planning Process Advisory Group, established by the OEB and including representatives from communities/municipalities, utilities and the IESO, is responsible for monitoring and continuously improving the regional planning process. This group has made a number of refinements since 2013, and further enhancements are currently under development, based on lessons learned.

The first enhancement will formalize the determination of when a “local” planning process (i.e., no regional coordination) is appropriate; currently these decisions are based largely on judgment rather than a consistent set of documented criteria. Since it is quicker and easier, there is a concern that local planning may be relied upon too much as an “off-ramp” from the formal regional planning process. Consequently, the Advisory Group is developing guiding principles / criteria to ensure “local”, rather than regional, planning is implemented only where it is appropriate to do so. Going forward, decisions to use a “local” planning process will require a documented rationale.

The second enhancement addresses 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 therefore developing such guidance related to the necessary 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 will 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.

Implementing the LTEP Directive

The OEB remains committed to working with the Regional Planning Process Advisory Group to support continuous improvement of the regional planning process. The OEB will participate in

the IESO's review of regional planning and will take appropriate steps to further improve the regional planning process once the review is complete.

As contemplated in the Directive, the regional planning review is an appropriate venue to identify steps to further encourage optimal end-of-life asset replacement decisions. In fact, as part of the current TSC and DSC cost responsibility initiative, the OEB has already 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. The OEB also expects to consider this issue in its initiative on the Way Forward for Adaptive Regulation.

OEB Work Plan in Response to LTEP Directive Item 1.4

Continuous Improvement in Regional Planning		
<i>Purpose</i>	<i>Intended Outcome</i>	<i>LTEP Deliverable</i>
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
<i>Description of Work:</i>	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.	
<i>Key Milestones & Engagement Activities:</i>	1. Complete the current Code amendment process to address cost responsibility associated with investments arising from regional plans 2. Support implementation of enhancements to the regional planning process currently under development by the Regional Planning Process Advisory Group 3. Participate in the IESO's regional planning review process 4. Based on the results of the IESO's review, identify appropriate next steps for improving the regional planning process	
<i>Linkages with Other Initiatives:</i>	The Way Forward for Adaptive Regulation; Enabling Distributed Energy Resources; IESO's Regional Planning Review (item 3.3 of the IESO's LTEP implementation Directive).	

2.1 Tools and Authority to Enhance 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.*

The OEB's Work to Date

Two of the strategic goals set out in the OEB's Strategic Blueprint are particularly relevant here:

- regulation that is “fit for purpose”, which recognizes the need for the OEB to have “the resources and processes appropriate for the changing environment;” and
- sustaining consumer confidence in the oversight of the sector.

With the RRE, the OEB has already moved to a more performance-based approach that enhances the accountability of utilities to their customers, demands excellence and continuous improvement from utilities, recognizes high performing utilities and allows consumers to have a more meaningful voice in decisions that affect them by providing quantifiable and comparable information about services and costs.

The OEB has been instrumental in identifying reforms that would strengthen oversight in the sector, and a number of these have made their way into legislation.¹⁹ While the OEB is continuing to evolve its approach to regulation and oversight within the limits set by legislation, it welcomes this opportunity to identify where additional legislative reform efforts may be

¹⁹ [Report to the Minister of Energy - Consumers Come First: A Report of the Ontario Energy Board on the Effectiveness of the Energy](#)

beneficial in driving efficiencies and cost reductions in the electricity sector to help consumers manage costs, and in protecting natural gas consumers. Each of these two areas is discussed in turn below.

Driving Efficiencies and Cost Reductions

Robust benchmarking is an important tool by which the OEB drives efficiencies among distributors and mitigates costs for consumers. It is also a key input in the design of an approach to rate-setting that is more proportionate and efficient, which the OEB has also been working toward for some time.

Finding Further Efficiencies in Electricity Distribution - Current filing requirements call for significant detail pertaining to OM&A expenses and capital spending and utilities are expected to provide both internal and external benchmarking information in their rate applications.²⁰ Electricity distributors' total cost performance is also rigorously benchmarked by the OEB on an empirical basis each year; these results inform both incentive-rate setting adjustments as well as cost performance assessment in major rate applications. In addition, scorecards and yearbooks currently have broad indicators on the financial and operational performance of distributors.

There remains further opportunity for additional analysis and comparisons of input costs to be more formalized. To that end, the OEB is already working towards the determination of program-level benchmarking that drills down to more detailed levels of electricity distributors' cost performance. This will allow for enhanced comparisons with peers and the overall sector, as well as a better assessment of year-over-year continuous improvements. The work is expected drive greater cost discipline among distributors, incent greater efficiency and ultimately reduce costs for consumers. As discussed below, enhanced benchmarking will also support a more efficient and proportionate rate-setting process.

Efficient and Proportionate Rate-Setting - The OEB has already taken a number of steps within its existing authority to make regulation more efficient. Incentive regulation, long a pillar of the OEB's approach to rate-setting, has helped to drive efficiency and productivity, as well as expanded the time between major rate applications. As part of the RRF, the OEB created more rate-setting options to suit distributors' varying circumstances. In addition, over time the OEB has expanded the use of its power to delegate decision-making to senior staff for a variety of different types of applications, resulting in more streamlined processes.

²⁰External benchmarking analyzes specific measures or specific programs by comparing year over year performance against key metrics and/or comparing unit costs (or other measures) against best practice benchmarks amongst a comparator group. Internal benchmarking assesses continuous improvement by the utility over time.

The move to performance-based regulation under the RRF has put in place a solid foundation on which to pursue more proportionate and efficient reviews of major rate applications. The OEB's current initiative in that regard leverages performance-based regulation. It is designed to incent better utility performance by reducing the regulatory process for high performing utilities where the OEB is satisfied that the financial, operational, organizational and customer service performance of the utility warrants a lighter-handed review, and by focusing resources on utilities and issues that will benefit from more detailed review. Enhanced benchmarking data will support this effort.

This new model is expected to further improve utility efficiency, good governance and customer focus. The OEB is now piloting an assessment process intended to guide the choice of the level of regulatory review.

Protecting Natural Gas Consumers

In the 2013 Long Term Energy Plan, the government signaled its commitment to the pursuit of opportunities to expand natural gas service within the province to areas that are not currently served. The OEB took a number of steps to support that policy objective, and in 2016 established an equitable funding process for natural gas expansion projects.²¹ Among other things, gas utilities approved by the OEB to expand to new communities must provide a long-term commitment (for example, 10 years) to maintain rate stability to ensure that rates reflect long-term costs.

The face of Ontario's natural gas sector is changing. Applications to expand natural gas services to unserved communities are under review. 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.

Expansion of gas service to new service areas, the potential entry of 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, starting with the review of customer service rules. According to a recent OEB survey of consumers, people 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.

²¹ November 17, 2016 Decision with Reasons (EB-2016-0004)

Implementing the LTEP Directive

The OEB has long recognized that its legislative underpinnings must be sufficiently flexible to enable it to keep pace with and, get ahead of, evolution in the sector and growing expectations from consumers and stakeholders. While some legislative reforms have been made over the past few years, changes in the sector, and insights gained from the work described above, are highlighting further opportunities to enhance the OEB's capacity to regulate in the public interest.

The OEB's current adjudicative model is based on legislative requirements and a foundation of procedural fairness and natural justice. It has served the OEB well, but additional tools may be needed which in concert with the current model, would provide more flexibility to allow the OEB to pursue greater regulatory efficiency where appropriate. In tandem with work described above to enhance the adjudicative process within the existing legislative framework, the OEB will consider and propose legislative reforms that would give the OEB more flexibility in the processes it can use to make decisions.

While the work to date is expected to enhance the use of benchmarking in the determination of appropriate costs for utilities, the OEB will also consider whether legislative reforms could provide additional opportunities to leverage enhanced benchmarking in rate-setting to help drive further cost reductions for consumers.

The OEB is examining additional measures to optimize outcomes for natural gas customers; the review of customer service rules is an important first step.

However, the OEB's legislative authority in relation to natural gas utilities is comparatively more limited than is the case with electricity utilities. For example, there have been legislative amendments that strengthen the OEB's oversight of electricity utilities in recent years,²² but that generally do not apply in relation to gas utilities. And while the OEB's enforcement authority covers virtually all relevant legislative requirements applicable uniquely to electricity utilities, the same is not in all respects true for requirements applicable to natural gas utilities.

As the above-noted changes in the natural gas sector evolve, the OEB will examine whether legislative reforms could further enhance the OEB's capacity to protect the interests of natural gas consumers.

While the OEB's plan in response to the Directive focusses on the areas described above, the OEB will continue to highlight legislative reform in other areas of work where beneficial in protecting the interests of consumers, improving consumer confidence and increasing efficiency and cost containment in the sector.

²²In particular, the *Strengthening Consumer Protection and Electricity System Oversight Act, 2015*

OEB Work Plan in Response to Directive Item 2.1

Tools & Authority to Enhance OEB Capacity to Regulate in the Public Interest		
<i>Purpose</i>	<i>Intended Outcome</i>	<i>LTEP Deliverable</i>
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	Proposal(s) for legislative reforms
<i>Description of Work:</i>	Identify areas of legislative reform to enhance the OEB's capacity to regulate the energy sector in the public interest.	
<i>Key Milestones & Engagement Activities:</i>	Building on insights already gained through the OEB's process reform work, the OEB will develop a proposal for legislative reform to enhance flexibility in processes for decision-making. As work on enhanced benchmarking evolves, and further insights are gained through stakeholder engagement, the OEB will examine whether and how legislative change could enhance the OEB's ability to leverage tools that drive distribution efficiencies and reduce costs in the rate-setting process. Proposals for legislative change to optimize outcomes for natural gas consumers by more closely aligning the legislative framework as between the natural gas and electricity sectors will build on stakeholder and consumer engagement taking place through the current customer service rule review, and be informed by applications that are currently under review by the OEB.	
<i>Linkages with Other Initiatives:</i>	N/A	

2.2 Strengthening Protection for Customers of Unit Sub-Meter Providers

The LTEP Directive

The LTEP states that the Minister of Energy will request that the OEB make it a priority to look at 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. 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.

The OEB's Work to Date

This item of the Minister's Directive aligns with one of the strategic goals in the OEB's Strategic Blueprint; namely, increasing consumer confidence in the oversight of the sector and in their ability to make choices about products and services. As noted in the LTEP, with new legislative supports, the OEB has increased protections for electricity consumers, particularly in relation to the activities of energy retailers.²³ In turning its focus to the activities of USMPs, the OEB is mindful of the transformation occurring in the sector and will continue to assess whether adequate consumer protections are in place in light of additional products, services, and service providers that may arise.

Customers of USMPs currently benefit from many of the same OEB-mandated customer service rules as those applicable to customers of electricity distributors. Customers of USMPs are also eligible for the Low-Income Emergency Assistance Program and the Ontario Electricity Support Program. As such, electricity consumers enjoy much the same protections regardless of where they live or who provides their electricity service. The OEB is currently reviewing its customer service rules for USMPs as part of a broad review of customer service rules and related charges for all utilities.

In some respects, the ability of the OEB to protect customers served by a USMP has been limited by virtue of the fact that USMP's 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. The OEB is engaged in work to develop an appropriate methodology and approach to the review and approval of USMP charges that will enhance customer protection. As part of that work we are engaging with

²³ LTEP p 30

USMP customers to better understand their expectations and preferences for service from USMPs.

Responding to the LTEP Directive

As noted above, the OEB is proceeding with its review of customer service rules, including rules that apply to customers of USMPs.

In addition, and in light of the OEB's new legislative authority, the OEB is developing an approach for regulating USMP charges. In developing its approach, the OEB will balance the merits of different methods against their respective administrative and regulatory costs, which will ultimately be recovered from customers.

The OEB has also identified the need to develop enhanced reporting from USMPs to support both the oversight of the sector and to ensure customers have adequate information to understand how their USMP is performing in terms of customer service.

OEB Work Plan in Response to LTEP Directive Item 2.2

Strengthen Protection for Customers of Unit Sub-Meter Providers		
<i>Purpose</i>	<i>Intended Outcome</i>	<i>LTEP Deliverable</i>
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
<i>Description of Work:</i>	Develop an appropriate methodology for setting USMP charges levied on their customers and on third parties on whose behalf the USMP provides services. Establish appropriate performance and service level reporting for the USMP sector that will enhance customer protection as well as consumer awareness.	
<i>Key Milestones & Engagement Activities:</i>	1. Complete review of customer service rules 2. Jurisdictional review 3. Gather information from USMPs, customers of USMPs and other interested parties 4. Issue proposal for stakeholder comment 5. Implement a framework for setting just and reasonable USMP charges 6. Identify next steps to develop and implement a service standards and a performance monitoring framework, to provide customers with information to understand the services and value they receive from USMPs	
<i>Linkages with Other Initiatives:</i>	N/A	

3.1 Carry out the RPP Roadmap

The LTEP Directive

Giving consumers more choice, more information, and more tools to help them control their energy costs is a priority for the Government. The LTEP describes a number of initiatives to provide consumers with greater control including the OEB's work to enhance the Regulated Price Plan (RPP). The Minister has directed 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.*

The OEB's Work to Date

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 and give customers greater control. Continuing the work in the RPP Roadmap is called out in the Strategic Blueprint as a means of advancing innovation and customer choice. This work supports the OEB's strategic objective for "the design of network and commodity prices [to] support the efficient use of infrastructure and enable greater customer choice and control."

A key element of the RPP Roadmap is the implementation of pilot programs for residential customers to test various price and non-price options to achieve the objectives noted above. The OEB has approved distributor pilots 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. The OEB is monitoring the pilots closely and distributors must submit detailed interim and final reports, together with accompanying data. Pilot results are expected before the end of 2019 and will be essential in informing the future structure of the RPP.

Another component of the RPP Roadmap is engaging with 'general service' or small business consumers. Qualitative studies on small business electricity customers indicate that a significant proportion 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 small business

customers were inconclusive due to geographic limitations in the sample and the diversity of the general service customer base. The RPP Roadmap identified the need to better understand and collect better data from non-residential customers.

While the RPP Roadmap contemplates enhancing the information provided to consumers about commodity prices (including through the use of in home devices), the OEB is taking a range of other steps to enhance consumer understanding of the energy sector. The OEB is connecting with consumers through community meetings, literacy events, consumer research, a standing consumer panel, online engagement tools, social media, videos, and earned media.

Responding to the LTEP Directive

As part of the vision embedded in the RPP Roadmap, the OEB will look at the way in which all Class B customers are charged for electricity in Ontario – not just low volume customers, but also larger customers who currently pay for power on the basis of prices established in the wholesale market and the Global Adjustment.

In addition to supporting distributors' pilots and assessing the results, the OEB also 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. As noted in the LTEP, this work will include consideration of how the Global Adjustment is charged to these consumers.

The information gained through the residential pilot programs as well as the engagement activities with small business consumers described above will serve to inform the selection of a new approach to commodity pricing. The desired approach would be expected to take into account outcomes such as increased system efficiency, the fidelity between prices and the cost of supply at the times at which those prices apply, and incenting certain kinds of customer behavior. This work will also take into consideration the changes in commodity pricing delivered through the Fair Hydro Plan and the expected expiry of the period during which bill increases for eligible customers will be limited to inflation.

OEB Work Plan in Response to LTEP Directive Item 3.1

Carry Out RPP Roadmap		
<i>Purpose</i>	<i>Intended Outcome</i>	<i>LTEP Deliverable</i>
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
<i>Description of Work:</i>	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 small and medium sized business consumers who are not eligible for the RPP. Work to support the development of future commodity price plans will include: • A staff paper examining options for the pricing of power that achieves desired policy objectives while also addressing the misalignment of Global Adjustment recovery that is described in the RPP Roadmap; • Analyzing results of distributor pilots, including the effects of not just different pricing but also different or enhanced information to them; and • Gathering and analyzing data and feedback from small and medium sized business consumers. As part of this work, the OEB may identify opportunities to enhance commodity price plans that would require amendments to legislation or regulation. For example, the current legislative regime mandates certain time-of-use periods and also mandates how the Global Adjustment is recovered from customers. The OEB will work with Government and other parties as appropriate.	
<i>Key Milestones & Engagement Activities:</i>	1. Monitor pilots (ongoing) 2. Review options of commodity pricing alternatives 3. Analyze data on small and medium sized business customers 4. Engage business consumers 5. Pursue communication and literacy-enhancing activities as they arise 6. Issue proposal(s) for stakeholder comment 7. Framework for future price plan(s)	
<i>Linkages with Other Initiatives:</i>	N/A	

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. The Minister's Directive includes two items related to the Government's objective of responding to the climate change challenge, the first of which is the following:

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.

The OEB's Work to Date

The OEB's Strategic Blueprint discusses how climate change mitigation and adaptation are driving technological innovation in the sector. To ensure that "[u]tilities are delivering value to consumers in a changing environment" the OEB has set optimization of utility infrastructure during the shift to a low-carbon economy as a strategic objective.

Climate change *mitigation* is concerned with reducing greenhouse gas emissions through actions such as conservation, more efficient use of energy, electrification of transportation, and cap and trade. The OEB has supported mitigation activities through frameworks and guidelines for electricity conservation and demand management (CDM) and natural gas demand side management (DSM),²⁴ clarifying the regulatory treatment of electric vehicle charging (discussed in section 4.2), and the adoption of a framework for assessing the costs of natural gas utilities' cap and trade activities.²⁵

Climate change *adaptation* is about ensuring that the province's energy system is resilient enough to withstand the effects of a changing climate. This is the focus of item 4.1 of the LTEP Directive to the OEB. The OEB already expects distributors and transmitters to consider the impacts of extreme weather when planning and operating their systems. This is simply good utility practice. As a further measure, Distribution System Plans must explain how reliability performance trends have informed asset management and investment plans.²⁶ Changes in

²⁴ [Guidelines for Electricity Distributor Conservation and Demand Management \(EB-2014-0278\)](#); [Demand Side Management \(DSM\) Framework for Natural Gas Distributors \(EB-2014-0134\)](#)

²⁵ [Report of the Board: Regulatory Framework for the Assessment of Costs of Natural Gas Utilities' Cap and Trade Activities \(EB-2015-0363\)](#)

²⁶ [Filing Requirements for Electricity Transmission and Distribution Applications Chapter 5 Consolidated Distribution System Plans](#), p 11

reliability performance would be expected to prompt utilities to consider whether new investment or operational strategies are warranted.

Implementing the LTEP Directive

The LTEP noted that, according to the IESO's vulnerability assessment, the transmission system is able to withstand most extreme weather scenarios.²⁷ It is important to ensure that distributors are also thinking about climate change adaptation.

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 and transmitters 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.

²⁷ LTEP p 118

OEB Work Plan in Response to LTEP Directive Item 4.1

Climate Change Adaptation		
<i>Purpose</i>	<i>Intended Outcomes</i>	<i>LTEP Deliverable</i>
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	Develop further guidance, as may be required, regarding appropriate climate change adaptation
<i>Description of Work:</i>	The OEB will monitor the development of: • The results of the Government's distribution sector vulnerability assessment (as set out in the LTEP); and • Data from the Ministry of Environment and Climate Change (MOECC) regarding anticipated impacts of climate change in Ontario (promised in the Climate Change Action Plan). Once these resources are available, the OEB will assess the need for further guidance on incorporating cost-effective climate change adaptation into planning and operations.	
<i>Key Milestones & Engagement Activities:</i>	1. Upon completion of province's vulnerability assessment/and or availability of MOECC data on provincial climate change impacts, consider the need for further guidance on cost-effective climate change adaptation 2. Develop guidance as may be required	
<i>Linkages with Other Initiatives:</i>	The Way Forward for Adaptive Regulation; Continuous Improvement in Regional Planning; Government-led vulnerability assessment of Ontario's distribution sector; and MOECC data about how climate change may impact Ontario.	

4.2 Facilitating Access to Smart Charging

The LTEP Directive

Electrification of transportation is a key feature of the Province's Climate Change Action Plan. LTEP acknowledges that this will affect the 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. The OEB will support this goal by looking at how LDCs can facilitate investments in technologies such as residential smart chargers that would avoid more costly system upgrades."²⁸ In furtherance of this expectation, the Minister's Directive calls on the OEB to do the following:

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.

Work in response to this Directive item will be undertaken as part of the OEB's initiative to Enable Distributed Energy Resources.

The OEB's Work to Date

The OEB recognizes the importance attributed to electrified transportation. In 2016, the OEB issued a staff Bulletin to provide guidance on the regulatory treatment of EV charging services. The Bulletin expresses staff's view that providing EV charging services is not a licensable activity. It goes on to identify the potential demand management benefits of EV charging and the role that distributors can play in that regard:

OEB staff believes that EV charging can help distributors optimize the use of assets by, among other things, having more demand response tools at their disposal and by promoting off peak charging. The participation of distributors in owning and operating EV charging facilities stations may help facilitate electricity load management and the efficient use of electricity. In OEB staff's view, it then follows that licensed electricity distributors are not precluded from owning and operating EV charging stations so long as the equipment provides for the management of load in keeping with the Government's goals for electricity conservation.

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

²⁸ LTEP p 61

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 upgrading distribution capacity. While consumers responding to price signals can yield bulk system benefits, distributor-managed EV charging has the flexibility to provide local system benefits as well.

Smart charging technology can allow consumers to control energy costs by programming charging to take place during off-peak hours. Through the RPP Roadmap pilots, one distributor is testing a price structure with a low overnight rate that may appeal to EV owners (enrolment is open to customers regardless of whether or not they own an EV).

Implementing the LTEP Directive

Managing EV charging falls into the broad category of distributed energy resources. As such, the OEB will consider opportunities for distributors to facilitate access to residential smart charging as part of its Enabling Distributed Energy Resources initiative, discussed in section 1.2 and 1.3.

5.1 & 5.2 Encouraging a Culture of Innovation

The LTEP Directive

The LTEP discusses the need to encourage innovation in Ontario's electricity system. Items 5.1 and 5.2 of the Minister's Directive instruct 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.

The OEB's Work to Date

The Strategic Blueprint recognizes that technological innovation will continue to be a feature of the landscape in which utilities operate. The emergence of new business models, and changing consumer expectations, among other things, have the potential to drive further change in the energy sector. As discussed in section 1.2 and 1.3, the OEB has set the following strategic goals in relation to innovation: "[u]tilities are delivering value to consumers in a changing environment" and "[u]tilities and other market participants are embracing innovation in their operations and the products they offer consumers."

One of the OEB's statutory objectives is to facilitate the implementation of smart grid. 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. Cornerstones of this approach include:

- Performance based regulation under the RRF;
- The extension of the rate term to five years;
- Mandatory system planning that integrates traditional and smart grid planning;
- CDM guidelines that enables the recovery of CDM costs in rates in the event that the CDM measure defers or displaces the need for distribution infrastructure;
- Piloting of innovative price plans and approaches to send price signals to consumers, including in home devices; and
- Shifting to fixed distribution rates, which increases opportunities for innovation by removing disincentives to the adoption of technologies that promote conservation and efficiency.

Furthermore, legislation has provided the OEB with enhanced flexibility to support innovative initiatives and business arrangements proposed by utilities. Section 71(4) of the OEB Act allows the OEB to authorize a transmitter or distributor to carry on a business activity other than transmitting or distributing electricity in special circumstances. This provision is expected to enable distributors to consider and adopt novel business arrangements.

Implementing the LTEP Directive

The OEB's initiative on The Way Forward for Adaptive Regulation, described in section 1.2 and 1.3, is intended to identify regulatory reforms that will support innovation in the longer term. This work will be guided by the OEB's Innovation Task Force.

The OEB expects that its engagement with the Innovation Task Force will lead to increased dialogue and exchange of perspectives, which may unveil unanticipated avenues for inquiry. The OEB will pursue these when they arise.

One particular domain that may begin to emerge as a point of discussion is the benefit of increased exchange of information and perspectives on regulatory issues between utilities and regulators. The OEB is aware of Ofgem's regulatory sandbox, which offers utilities the opportunity to receive feedback and advice on perceived barriers to innovative service options. The OEB anticipates that a mechanism to support structured engagement with the Ontario distribution sector on perceived barriers may help to alleviate impediments to innovative proposals. The OEB expects that its work with the Innovation Task Force could lead to consideration of the value of enhanced communication and similar tools that such a mechanism may require. This opportunity and others will be pursued as their value is confirmed and as the feasibility of addressing these issues efficiently and effectively becomes more apparent.

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.

Furthermore, in taking the steps described above, and elsewhere in this plan, the OEB expects that, as a natural consequence of focus on innovative opportunities and regulatory reforms, the prominence and awareness of distributors' innovative and grid modernizing projects will increase within businesses and across the sector.

OEB Work Plan in Response to LTEP Items 5.1 & 5.2

Encouraging Innovation		
<i>Purpose</i>	<i>Intended Outcomes</i>	<i>LTEP Deliverable(s)</i>
To encourage integration of innovation approaches in utility investment planning and operations	Innovation becomes normalized within the everyday operation of the utility	Consideration of additional opportunities for enabling innovation, as they arise in pursuit of work under the implementation plan
<i>Description of Work:</i>	The Innovation Task Force will guide work to encourage innovation over the long-term, including through the initiative on The Way Forward for Adaptive Regulation. Additional opportunities will be pursued as they arise; the value of increased dialogue between OEB and regulated entities is expected to be one possible domain that may prove productive.	
<i>Key Milestones & Engagement Activities:</i>	1. The OEB will adopt an open and receptive stance toward new opportunities in the course of its work with the Innovation Task Force 2. As necessary, stakeholder engagement will be pursued in the course of development of potential further measures to spur innovation	
<i>Linkages with Other Initiatives:</i>	The Way Forward for Adaptive Regulation, Enabling Distributed Energy Resources, IESO's work to address items under section 2 of its LTEP implementation Directive.	

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Timing of Initiatives

Directive #	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 & 1.3	The Way Forward for Adaptive Regulation												
1.2 & 1.3	Enabling Distributed Energy Resources												
1.4	Regional Planning Process Enhancements (underway)												
1.4	Regional Planning Process Enhancements (following IESO Review)												
2.1	Proposal for New OEB Tools & Authorities												
2.2	Strengthen Protection for Customers of USMPs												
3.1	Carry out the Vision in the RPP Roadmap												
3.1	RPP Pilots												
3.1	Research on Small Business Consumers												
4.1	Guidance on Climate Change Adaptation (following distribution vulnerability assessment)												
5.1 & 5.2	Encourage a culture of innovation												

	External Dependency		Framework/Regulatory Reforms Under Development
	Foundational Work (e.g. research and analysis)		Initiative Complete
	Engagement Activities (may include data collection & analysis)		Work Plan to be Determined