Ontario

MINISTRY OF
ENERGY

LTEP Update

Minister's Briefing
March 27, 2016

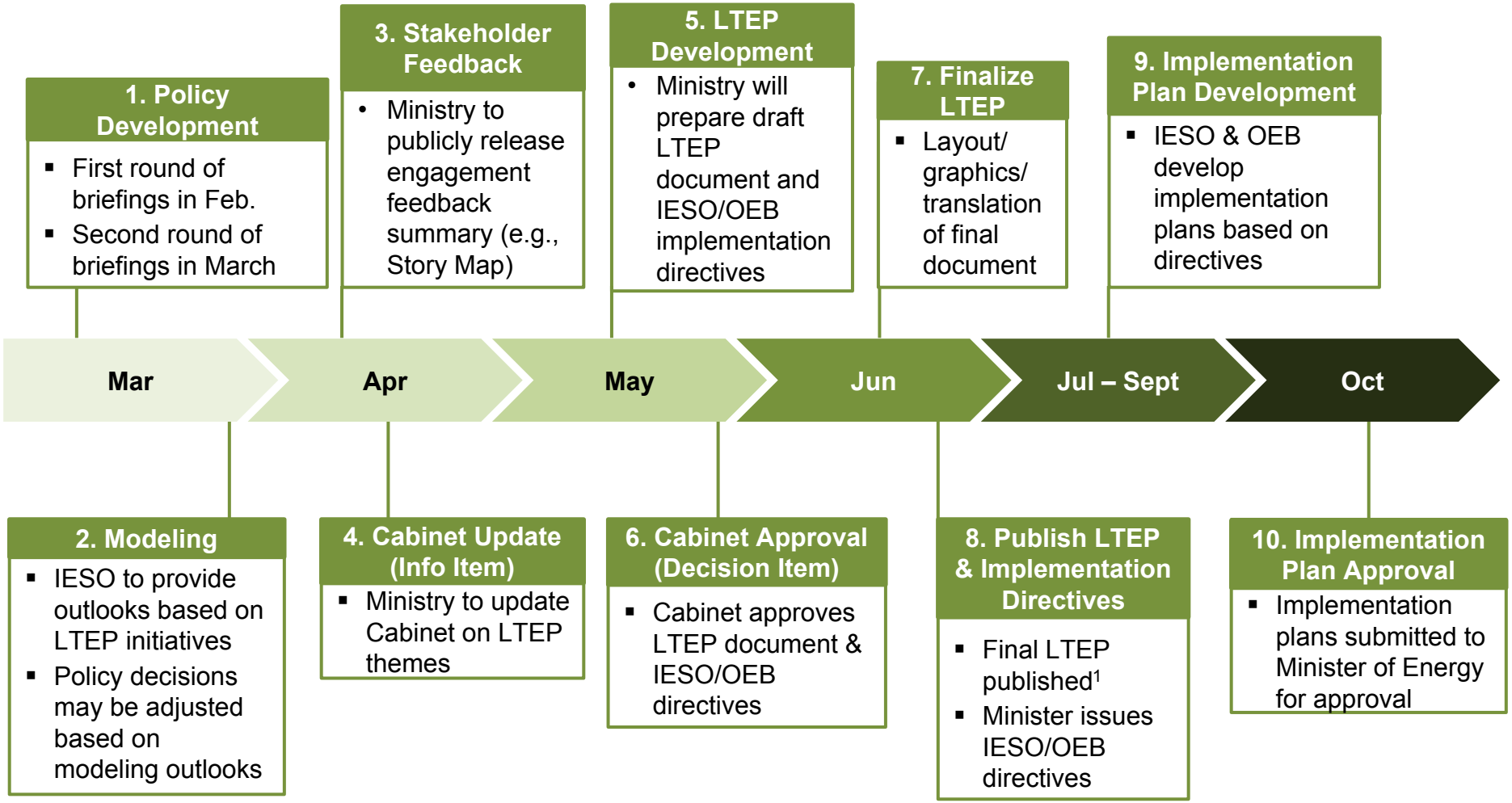
Purpose

- The Ministry of Energy is continuing to develop the next Long-Term Energy Plan (LTEP). This presentation provides an update on the following:

  1. Process overview and timeline
  2. Review of engagement feedback
  3. Key Policy Updates
  4. Preliminary theme possibilities
  5. Next steps

1. Process Overview and Timeline

LTEP Process Overview and Timeline



[1] The final release date is dependent on Cabinet approval and finalization of the production schedule.

2. Review of Engagement Feedback

2. LTEP Engagement Process

- The LTEP engagement process took place from October to January 2017. The process yielded feedback from three channels:

In-person sessions

Stakeholder sessions
Public open houses
Indigenous sessions

17 communities visited

~730 stakeholder attendees

~550 open house attendees

17 Indigenous sessions

~100 Indigenous communities & organizations represented

Written submissions

Environmental Registry
LTEP@ontario.ca
Hardcopies (mail, drop-off)

~1,500 Environmental Registry submissions

~200 letters, emails and paper submissions

Talks Tool

Online survey and comments on an online forum

2,835 online comments and submissions

2,285 users

2. Where we went: General and Indigenous Sessions

2. Who We Heard from

Public	**~500** attendees at the 17 public open houses **1,340** submissions from individuals through the environmental registry/mail
Municipalities	**57** representatives from 39 different municipalities attended a session **28** submissions through the environmental registry/mail
Indigenous Groups	**200** participants from nearly 100 Indigenous communities & organizations **11** submissions through the environmental registry/mail
Other Public Sector *NGOs; unions; environmental groups; not-for-profits; academics*	**71** representatives from 39 different organizations attended a session **110** submissions through the environmental registry/mail
Energy Supply Groups	**170** representatives from 51 different organizations attended a session **64** submissions through the environmental registry/mail
Transmission/ Distribution *LDCs; transmitters; gas utilities*	**100** representatives from 45 different organizations attended a session **12** submissions through the environmental registry/mail
Other Private Sector *Manufacturers; building; automotive; mining; chemical sectors*	**136** representatives from 88 different organizations attended a session **96** submissions through the environmental registry/mail

3. Key Policy Updates

Context

- The energy sector has witnessed several regulatory, market and technical developments over the past year.

- Accordingly, the twenty-year outlooks described in the two technical reports as well as ongoing policy proposals considered for LTEP will need to be updated to reflect these developments.

- The following slides describe the updates below:
  1. Alignment between LTEP and CCAP;
  2. Range of outcomes;
  3. Ontario's Fair Hydro Plan (OFHP);
  4. LTEP scope for the fuels sector;
  5. Technology-neutral energy planning;
  6. Electricity Conservation Target; and
  7. Customer Choice (Pricing Plans and Net Metering).

1. Alignment Between LTEP and CCAP

Description

- In 2016 Ontario released the Climate Change Action Plan (CCAP) which sets out a series of policy measures to enable the province to meet emission reduction targets.
- Ahead of the 2017 LTEP process, two technical reports were released to provide twenty-year outlooks on the electricity and fuels sector in Ontario. The reports also explored the implications of applying the measures outlined in CCAP to provincial energy supply and demand.
- ENERGY will need to work with MOECC so that electricity savings from CCAP initiatives count towards the Province's long-term electricity savings target.
- Explore expanding conservation to other fossil fuels via work with MOECC on establishing GreenON and its programs.

Considerations

- ENERGY analysis of the technical reports indicates that significant, fundamental and rapid change would be required for the energy sector to meet the measures described in CCAP, as well as the long-term greenhouse gas (GHG) emissions reductions outlined in the Climate Change Strategy.
- These changes would also substantially increase costs in the energy system and may not be aligned to recent announcements including Ontario's Fair Hydro Plan.

Proposed Approach

- The 2017 LTEP should consider a "simplified" demand scenario with less aggressive uptake of electrification than outlined in CCAP (e.g., electrification of transportation, but minimal electrification of space heating).
- ENERGY to continue working with partner ministries to explore other areas for policy alignment.

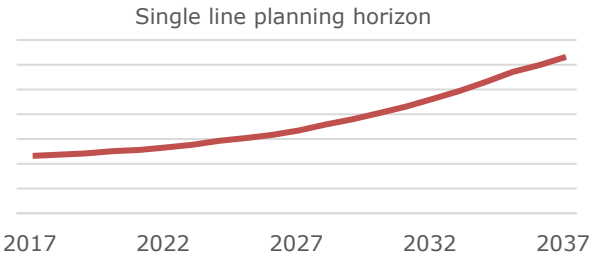
2. Range of Outcomes

Description

- Changes in technology, consumer behavior, government policy and climate change targets have combined to create significant uncertainty around future electricity supply and demand.

Considerations

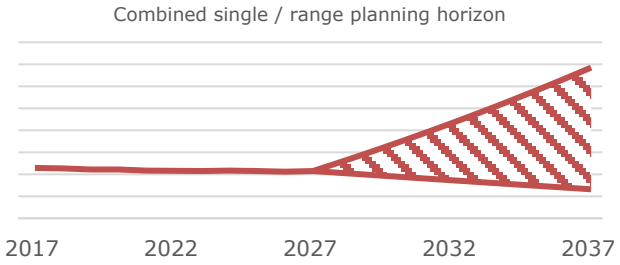
- Previous LTEP outlooks have provided a single line 20-year forecasts to align with planning horizons and project lifespans (see illustrative example of this shown at right).



- Uncertainty around future supply and demand will need to be reflected in the 2017 LTEP. This can be presented in the outlooks through a variety of means including a range of outcomes or low/high cases.

Proposed Approach

- Reflective of the uncertainty, 2017 LTEP could adopt a single scenario for the first half of the 20-year forecast (until 2027), with a range of outcomes for the second half (from 2028-2037) (see illustrative example of this is shown at right).



3. Ontario's Fair Hydro Plan

Description

- Ontario's Fair Hydro Plan (OFHP) would reduce electricity costs for all RPP-eligible customers, including residential consumers, small businesses and farm.

- Under the OFHP, Global Adjustment (GA) would be refinanced to defer costs and electricity support programs would be funded from provincial revenues.

Considerations

- Measures announced in the OFHP will impact 2017 LTEP outlooks for customer bills, leading to a near-term reduction and long-term increase in comparison the previous outlooks. It should be noted that there is uncertainty around the long-term cost of OFHP.

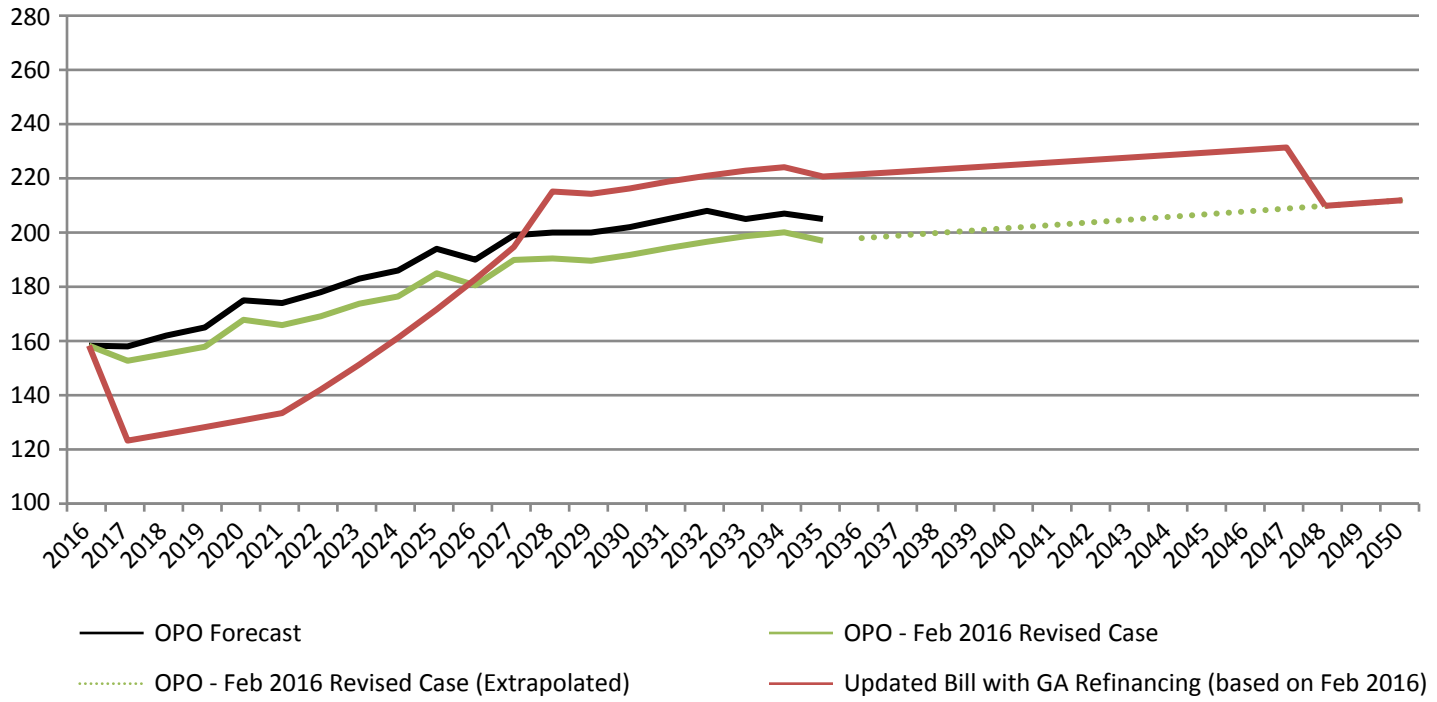
- 2017 LTEP modelling will also need to make an assumption regarding the permanence of the funding of electricity support programs from provincial revenues.

Proposed approach

- 2017 LTEP cost outlooks to include all modelling assumptions announced in the OFHP including permanent funding of electricity support programs from provincial revenues. 2017 LTEP outlooks should note there is uncertainty around the long-term cost of OFHP.

3. Ontario's Fair Hydro Plan – Updated Forecast for a Typical Residential Electricity Consumer (cont'd)

Typical Residential Bill
in $ / 750-kWh month



Notes: OPO forecast refers to IESO's November 2016 forecast. GA financing as based on the IESO's revised February 2017 forecast. Assumes 30 year financing period and a nominal interest rate of 5% (compounded monthly). Ratepayer GA payments increase annually beyond 2021 such that the average monthly residential electricity bill increases by 6.5% per year with a limit of $2.2 billion above the true cost of GA in any given year to cap repayment charges at around 10% of total bill. Includes the cancellation of LRP II and EFW, expansion of ICI. Does not include smoothed OPG rates. Above residential bill is based on a 750 kWh per month Toronto Hydro customer.

4. Scope of Fuels Sector in LTEP

Description

- Ontario will seek to maximize the value of existing infrastructure while reducing greenhouse gas (GHG) emissions through integrated energy solutions. The 2017 LTEP provides an opportunity to highlight these integrated energy solutions.

Considerations

- Technological, economic and policy shifts can have a significant impact on fuels demand and use. A key challenge going forward will be to maintain flexibility, responsiveness, reliability and robustness while minimizing the environmental impacts of fuels consumption.

- While Ontario has regulatory oversight over some aspects of the fuels sector, there is limited ability to influence price. This reflects Ontario's reliance on external fuels supplies and the competitive, market-based structure of the sector.

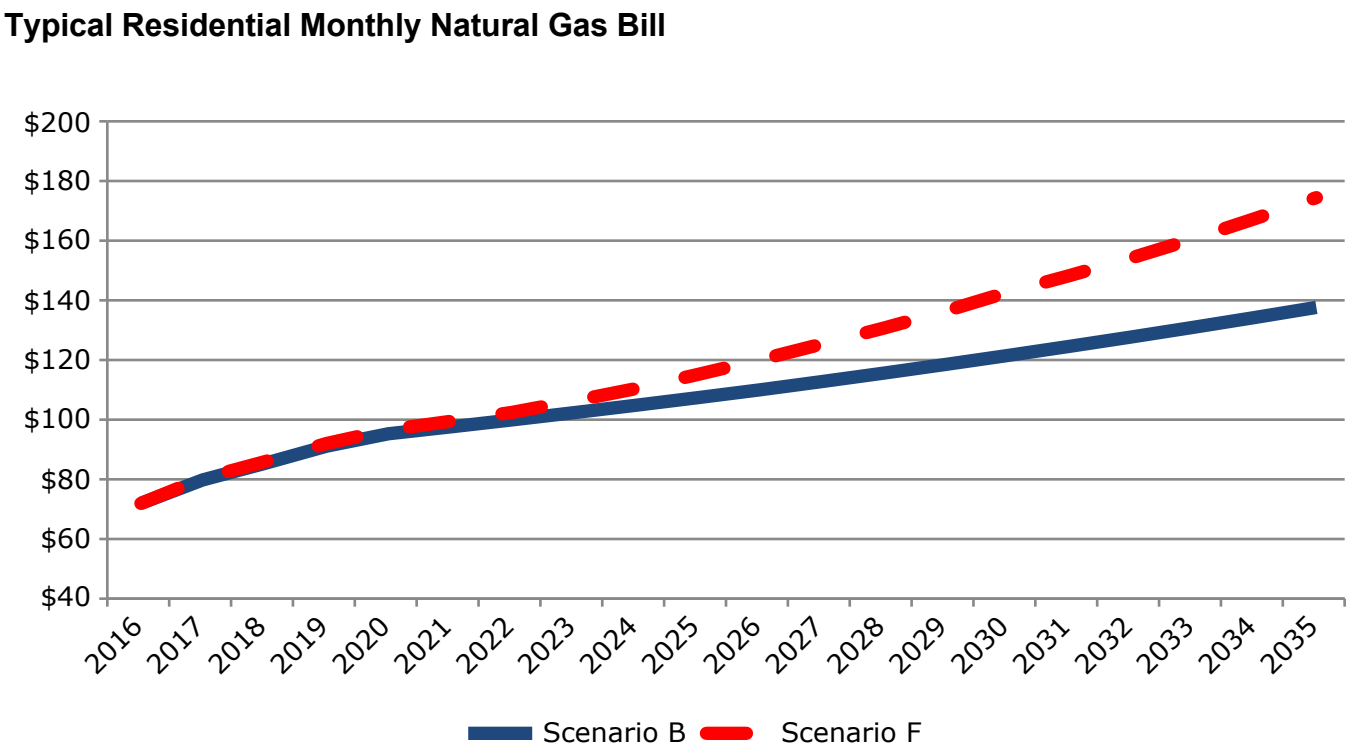
- Ontario's fuels sector is a major contributor to GHG emissions in the province (e.g., transportation).

Proposed approach

- 2017 LTEP to include an overview of the fuels sector and discussion of integrated energy solutions (e.g., RNG).

- Include fuels sector outlooks, based on the Fuels Technical Report, comparable to those concerning the electricity sector.

4. Scope of Fuels Sector in LTEP – Forecast for a Typical Residential Natural Gas Consumer



Notes: Based on Navigant Fuels Technical Report. Residential bill is based on a 2300 cubic meter annual consumption for an average Ontario customer. In nominal dollars at 2% annual inflation. Includes assumed costs of RNG in Scenario F as well as impact of reduced gas consumption (distribution costs are assumed to be fixed over the forecast period, so lower demand results in higher bills).

5. Technology Neutral Planning

Description

- The province has previously procured capacity by entering into long-term contracts with electricity generators. While this approach has ensured reliability, it has proven to be inflexible to changing electricity system conditions, and has led to price increases.

- Enhancements to the electricity market could result in providing reliability and flexibility in a cost effective, technology-neutral manner to meet the province's future energy needs.

Considerations

- IESO is leading the Market Renewal project to develop an ambitious set of initiatives which amount to a fundamental redesign of Ontario's electricity markets. Key initiatives in Market Renewal include:
  - Development of new "day-ahead" markets to improve efficiency and transparency;
  - Introduction of a capacity auction to procure supply in a cost effective manner; and
  - Enhancements to intertie scheduling to improve system flexibility.

Proposed approach

- Continue to support IESO in the design and development of Market Renewal and associated measures that improve efficiency, reduce costs and enhance system flexibility.

6. Electricity Conservation Target

Description

- ENERGY is exploring whether to establish a more aggressive long-term electricity conservation target.

Considerations

- In 2016, the IESO completed an Achievable Potential Study (APS) on electricity conservation. Following the study, the IESO developed an addendum which analyzed the potential for electricity conservation under a more aggressive participation scenario (market potential).
    - IESO's APS addendum suggests that there is potential to cost effectively increase the current 30 TWh target to ~39 TWh. On average, annual program spending would need to increase by three times (from ~$350 M to ~$950 M) to achieve the incremental electricity savings.
- The IESO APS results are based on the LTEP 2013 demand forecast. The IESO has procured a consultant to update its addendum analysis to reflect a higher demand forecast (consistent with Outlook D of the Ontario Planning Outlook).
- Pursing incremental electricity conservation savings could result in long-term benefits to the electricity system, but there is limited potential to mitigate system costs in the short term.

Proposed approach

- Potential for cost-effective electricity conservation depends on the demand scenario. Once a demand scenario approach for the 2017 LTEP is finalized, ENERGY will work with the IESO to incorporate the incremental electricity savings identified in the addendum.
- ENERGY to submit an application to MOECC to request that cap and trade proceeds be used to fund incremental conservation program budgets.

7. Customer Choice – Pricing Plans-

Description

- The OEB's Regulated Price Place (RPP) Roadmap sets out a five-point plan to redesign the RPP to respond to policy objectives, improve system efficiency, and give consumers greater control.
- One of the major elements of the Roadmap is implementation of pilots for new pricing mechanics and non-price mechanisms.
- The OEB has additionally proposed an interim opt-in RPP flat pricing plan that could be in place as the OEB completes its RPP review and prior to the implementation of new pricing plans.

Considerations

- Research commissioned by the OEB indicated that different customers likely need different pricing design choices in order to respond to TOU.
- The pilots will provide the OEB with the information to design new tools for customers to manage their electricity usage and provide for increased system efficiency.
- The OEB is working closely with pilot applicants and has indicated that two pilot applications are in advanced stages and are being put forward for approval.
- A flat pricing structure does not provide a price signal to conserve; a tiered pricing structure could be considered, where electricity prices increase at a certain consumption threshold.

Proposed approach

- Direct the OEB to report back with an investigation and implementation plan for an enhanced RPP Roadmap which investigates a wider array of pricing plans.

7. Customer Choice – Net Metering

Description

- Ontario's net metering program allows customers to generate electricity from a renewable source for their own use, sending excess generation to the grid for a credit on their bill and drawing electricity from the provincial power grid when needed.
- In February 2017, Ontario amended the net metering regulation (O.Reg. 541/05) to broaden program eligibility and support 2016-2020 CCAP initiatives. Amendments take effect July 2017. Additional potential amendments to enable TOU pricing for net metered customers, third party ownership and virtual net metering are currently being examined by ENERGY.

Considerations

- These amendments are intended to increase energy choice for consumers, provide opportunities for customers to offset electricity bills, and enable innovative technologies and customer-utility relationships.
- Considerations for third party ownership and virtual net metering include consumer protection issues, the costs of enabling virtual net metering and associated ratepayer impacts, and avoiding negative system impacts.

Proposed approach

- ENERGY is consulting on potentially enabling third-party ownership and virtual net metering and aiming to report on policy options and recommendations in April 2017. Additional regulatory updates could be enabled as early as July 2018.
- ENERGY is undertaking a cost-benefit analysis to help inform whether investments should be made to enable province-wide TOU billing for residential and small business customers.

4. Preliminary Overarching Theme Possibilities

Need for Overarching Themes

- The following slides propose three overarching themes for the Long-Term Energy plan.
- The themes can be used to i) communicate the focus of the 2017 LTEP; ii) explain how it is unique relative to past LTEPs; and iii) structure writing to ensure sections are consistent.
- The benefit of identifying the theme at this stage is to evaluate how policy initiatives support the theme. Staff can begin to shape how they communicate initiatives based on the theme.
- The themes are meant to be **overarching**. Policy initiatives may cut across and support more than one theme.
- The themes are preliminary in nature and based on key messages and feedback that have emerged from LTEP engagement and policy briefings thus far. The themes may evolve as briefings and internal discussions continue.

Context

- **Policy Briefing Topics:** After LTEP engagement, the Ministry grouped specific issues and initiatives into key topics to be used for internal policy briefings

- **Overarching Themes:** The Ministry has prepared draft themes to evaluate policy initiatives and communicate how they support the plan..

- **Key Communication Messages in LTEP:** The Ministry intends to use key messages to help communicate the theme(s) above throughout the LTEP (e.g., we're in a strong supply situation, cost pressure in the out years)

LTEP Audience and Key Messages

- LTEP will have a broad audience and will require a balance between messaging and technical information. It could contain the following key messages, consistent with its legislative objectives and reflective of public engagement:

Legislative Objectives for all future LTEPs

- *Cost-effectiveness*
- *Reliability*
- *Clean energy*
- *Community and indigenous engagement*
- *Conservation and demand management*
- *GHG emissions*

Potential key messages

- Smart customers need a smarter grid that is modern, more efficient and gives customers real choice. The LTEP will enable LDCs to modernize and achieve these goals.
- The Province is taking measures to ensure system investments are paid for more fairly.
- Ontario is enhancing its commitment to Conservation.
- Ontario is in a good electricity supply situation,
- The Province is committed to promoting Indigenous energy capacity and leadership
- The Province will build upon its already clean electricity supply by further decarbonizing its energy system.
- The Long-Term Energy Plan builds upon the direction outlined in the Climate Change Action Plan.
- There are long-term cost pressures that need to be managed in the electricity sector
- Ontario will enable innovations and new technologies in the energy sector
- Ontario is moving towards a technology-neutral future
- By learning from past planning processes, the Province is moving to more flexible market-driven electricity supply planning.
- The Province will support specific needs of energy customers across the regions.

Option 1: One Overarching Theme

- One overarching theme for LTEP can be used as a lens for how policy initiatives are selected and communicated.
- Two potential options for the overarching theme include:

Option 1A: Maximise Fairness

- Continues direction from Fair Hydro Plan by emphasizing how initiatives can help reduce system and consumer costs.
- Emphasises the differences in consumer and regional needs
- Recognises customers should be given more options and product offerings.

Option 1B: Encourage Flexibility for the Future

- Provides a framework for the Province to enable and take advantage of new technologies and processes
- Promotes flexibility in supply planning (capacity market) and through consumer products (more options)

Potential Themes & Key Messages

Overarching theme	1A. Maximise Fairness	1B. Encourage Flexibility for the Future
The Headline	• This LTEP will focus on the energy consumer- providing choice and value while recognising consumer situations differ across the province.	• LTEP will position the sector to take advantage of future technologies and innovations to benefit consumers. These innovations will also assist with efforts to decarbonize the energy system.
Key Messages	• LTEP will enable a market-driven system helping to ensure that capacity is secured at the lowest cost, leading to lower bills for consumers.	• LTEP will enable new market-driven system that provides capacity when it is needed and is technology neutral.
	• LTEP will provide consumers more options and tools to reduce their energy consumption.	• The LTEP will enable new technologies and resources to reduce energy consumption.
	• By building on provincial climate change policy, the LTEP will help ensure future generations have clean energy supply and a healthy environment.	• The LTEP's market-based supply framework will work with provincial climate change policy to incent reduced emissions and clean supply.

Option 2: Three Overarching Themes

- Based on the key messages, three potential overarching themes emerge.
- These three themes can be woven throughout the LTEP, assess policy initiatives and communicate the unique objectives of LTEP 2017.
- Policies may intersect across the three overarching themes.

Focus on the Consumer
LTEP will focus on the energy consumer, recognising consumer needs and situations differ across the province.

Maximise Efficiency and Value
LTEP will provide a framework that maximises value and ensures system costs are borne fairly.

Encourage Flexibility for the Future
LTEP will position the sector to take advantage of future technologies and innovations to benefit consumers. These innovations will also assist with efforts to decarbonize the energy system.

Potential Themes & Key Messages

Overarching Themes	Focus on the Consumer	Maximise Efficiency and Value	Encourage Flexibility for the Future
The Headline	LTEP will focus on the energy consumer, recognising consumer needs and situations differ across the province.	LTEP will provide a framework that maximises value and ensures system costs are borne fairly.	• LTEP will position the sector to take advantage of future technologies and innovations to benefit consumers and reduce emissions.
Key Messages	• The LTEP will focus on initiatives that empower consumers and provide more choice • Previous plans have been system focussed; this LTEP focusses on the consumers • Plan will recognize regional differences and fairness for all consumers	• Ontario is in a good energy supply situation • Ontario remains committed to Conservation First. • There are long-term cost pressures that need to be managed in the electricity sector, and can be delivered by taking a technology-neutral approach	• The Province is committed to clean electricity supply and further decarbonisation of energy system • The LTEP will enable the sector to take advantage of innovations and disruptive technologies in the energy sector • By learning from past planning processes, the Province is moving to more flexible market-driven electricity supply planning.

5. Next Steps

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Engagement

- Engagement with Indigenous communities continues. The Ministry of Energy plans to report back to Indigenous communities and organizations on what was heard during the LTEP engagements and to discuss potential policy and program initiatives moving forward.
- As the content for LTEP is developed, the Ministry of Energy will work closely with other ministries both where policy areas overlap, and also to ensure alignment with other government initiatives (e.g. the Climate Change Action Plan, 2017 Budget, etc.)
    - An LTEP ADMs' Forum has been established and will continue to provide ongoing input into the LTEP process.

Development and Approvals

- The Ministry continues to identify and assess policy initiatives to be included in the LTEP. The Ministry will work with the IESO to assess how initiatives impact different outlooks (demand, supply, costs).
- The Ministry plans to report in to Cabinet in April 2017 to get early feedback on LTEP initiatives. The Ministry will seek Cabinet approval of the LTEP and implementation directives to IESO and OEB in May 2017.