

# Mid-Term Review: 2015-2020 Conservation Framework

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IESO Stakeholder Advisory Committee Meeting  
May 10, 2017

# Overview

- The IESO has initiated the mid-term review of CFF and IAP, including a formal engagement process with the establishment of the Conservation Mid-Term Review Advisory Group
  - Multiple opportunities for all interested parties to provide input to review
  - Completion required by June 1, 2018 per Direction; IESO planning to complete Q1 '18
- IESO is implementing a Mid-Term Review Work Plan that includes an in-depth analysis of eight policy elements:
  - 1) Customer and market engagement; 2) definition of CDM;
  - 3) collaboration; 4) governance and operations; 5) non-energy benefits; 6) planning integration; 7) climate change; 8) budgets, targets and cost-effectiveness
- Review will assess CFF and IAP implementation against any stated policy goals within directions from the Minister of Energy and LTEP
- As an outcome of the review, IESO will provide recommendations to the Minister of Energy to address any identified challenges or opportunities

# Mid-term Review Engagement

- In November 2016 initiated pre-engagement process by publishing draft Conservation Mid-Term Review engagement plan and invitation for Advisory Group members on IESO website
- Comprehensive, open engagement adhering to IESO principles to ensure all LDCs, customers, channel partners, other interested parties have meaningful opportunities to provide feedback for consideration by the IESO
- Multi-stakeholder advisory group formed as part of the engagement and includes the following members (see Appendix A for details):
  - Five LDCs (representing different size utilities, regions)
  - Five customers (representing a mix of sectors, and distribution/transmission connected customers)
  - One service provider
  - One manufacturer
  - IESO (Chair plus support staff)
  - Observers
- Planned public engagements:
  - April 18 2017: Comments on customer and market engagement summary report
  - June-Oct. 2017: Comments on relevant issues and insights from monthly topics-based summary reports (2-3 public engagements planned)
  - Q1 2018: Comments on key topics from the draft final Mid-term Review Study report

# Overview of Mid-Term Review Work Plan

- The issues to be examined through the review are grouped into the following major topics. The review will be structured around the four key activities outlined below.



# Market Research Plan by Group and Topic

The graphic below maps the market research phases by topic and group. Additional detail will be provided on subsequent slides. It is important to highlight that the Advisory Group will also be providing input through the stakeholder engagement process. The market research phase of the study will take place May-Aug.

Group		Customer & Market Engagement	Definition of CDM	Collaboration	Governance + Operations	Planning Integration	NEBs	Climate Change	Budgets, targets, CE	
Industrial Accelerator Program customers										
Large customers										
Small business customers and associations										
Other associations										
Channel Participants	Applicant reps	<b>PHASE 1: ONE-ON-ONE INTERVIEWS/ FOCUS GROUPS</b>								
	Consultants									
	Contractors (non-res)									
	Distribution									
	Manufacturers									
	Retail									
	Contractors (res)									
HRAI										
Individual LDCs										
Gas utilities										
Ontario Energy Board										
Conservation First Implementation Committee & other LDCs		<b>PHASE 2: WORKSHOPS</b>								
IESO-Planning and Conservation staff										
Customers										

# TOPIC 1. CUSTOMER AND MARKET ENGAGEMENT & SATISFACTION

## FOCUS AREAS AND KEY QUESTIONS

This report will analyze available information and begin to explore the issues and opportunities of the key questions and focus areas listed below pertaining to the **Customer and Market Engagement and Satisfaction** topic.

### Key Questions

- Are programs meeting the needs of the customer?
- Is the framework itself creating challenges for the customer or market actors who could support CDM/Demand Side Management (DSM)?
- Are there any customer or sector specific gaps in the framework?
- How can the customer experience be improved?
- How do customers view the Save on Energy brand?
- How can customers' perception of the Save on Energy brand be improved?

### Focus Areas

#### I. Conservation First Framework:

- A. Brand/program awareness and customer relationships
- B. Challenges of coordination across multiple utilities
- C. Customers with facilities across multiple territories
- D. Variation in program offering across the province
- E. Customer satisfaction with programs
- F. Channel participation in/support for programs
- G. Efficacy of current approach & barriers to entry

#### II. Industrial Accelerator Program:

- A. Active and non-participants, efficacy of current approach
- B. CDM/DSM integration into business practices
- C. Awareness and understanding of programs
- D. Channel participation in/support for programs

# TOPIC 1. CUSTOMER AND MARKET SATISFACTION & ENGAGEMENT

## CONSERVATION FIRST FRAMEWORK SCORECARD

The preliminary scorecard illustrated below will be used to evaluate **Customer and Market Engagement and Satisfaction** in the Conservation First Framework for both the current state and future state assessments.

METRIC	SUB-METRIC	RESULT <sup>1</sup>	TREND	INDICATOR	CRITERIA
<b>Brand Awareness</b>		69%	↔	●	2016 % of brand awareness (brand and brand with description) Power What's Next Survey. Responses from general residential population.
<b>Brand Trustworthiness</b>		89%	↔	●	2016 % of brand awareness (brand and brand with description) Power What's Next Survey. Responses from general residential population.
<b>Customer Satisfaction</b>	Satisfaction with Retrofit program	91%	↔	●	% of program participants in 2016 that reported their "participation met expectations" or "exceeded expectations" as per Customer Satisfaction and Business Customer Experience surveys. Responses from program participants.
	Satisfaction with Heating & Cooling program	94%	↔	●	
	Satisfaction with Coupon program	93%	↔	●	

TREND		INDICATOR	
↔	Minimal (less than 5 percentage points year over years) change in the metric relative to prior years	●	Metric is on track (against what will vary by metric, e.g., forecast, benchmark, expectations, etc.)
↑	Increase in the metric relative to prior years	●	Metric indicates there is an opportunity for improvement
↓	Decrease in the metric relative to prior years	●	Metric is in progress (continue to monitor)

# TOPIC 1. CUSTOMER AND MARKET SATISFACTION & ENGAGEMENT

## CONSERVATION FIRST FRAMEWORK SCORECARD

The preliminary scorecard illustrated below will be used to evaluate **Customer and Market Engagement and Satisfaction** in the Conservation First Framework for both the current state and future state assessments.

METRIC	SUB-METRIC	RESULT <sup>1</sup>	TREND	INDICATOR	CRITERIA
<b>Market Share</b>	Participation rate, Heating & Cooling program	60%	↑	●	% eligible customers that participated as per Longitudinal Mass Market Research Survey and Power What's Next surveys. Responses from general residential population.
	Participation rate, Coupon program	35%	↑	●	
<b>Program Penetration</b>	% of savings achieved in 2015 and 2016 vs achievable potential in 2015 and 2016 <sup>2,3</sup> : • Residential • Business	70% 126%	↕	● ●	% persisting energy savings acquired in 2015 plus new energy savings acquired in 2016 as compared to energy savings as per the achievable potential study in 2015 and 2016. Metrics do not reflect progress to CDM Plan.
	% of reported savings achieved in 2015 and 2016 vs CDM Plans <sup>2,3</sup> : • Residential • Business	68% 80%	↕	● ●	

Note <sup>2</sup>: Includes 2015 verified results and 2016 unverified results.

Note <sup>3</sup>: Approximately 67 percent of 2016 progress consists of persisting savings from 2011-2014 framework projects completed in 2015

TREND		INDICATOR	
↔	Minimal (less than 5 percentage points year over years) change in the metric relative to prior years	●	Metric is on track (against what will vary by metric, e.g., forecast, benchmark, expectations, etc.)
↑	Increase in the metric relative to prior years	●	Metric indicates there is an opportunity for improvement
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# TOPIC 1. CUSTOMER AND MARKET SATISFACTION & ENGAGEMENT

## INDUSTRIAL ACCELERATOR PROGRAM SCORECARD

The preliminary scorecard illustrated below will be used to evaluate **Customer and Market Engagement and Satisfaction** in the Industrial Accelerator Program for both the current state and future state assessments.

METRIC	SUB-METRIC	RESULT <sup>1</sup>	TREND	INDICATOR	CRITERIA
<b>Customer Satisfaction</b>		N/A	N/A		Metrics not tracked for Industrial Accelerator Program; market research will inform the metric.
<b>Brand Awareness</b>		N/A	N/A		Metrics not tracked for Industrial Accelerator Program; market research will inform the metric.
<b>Brand Trustworthiness</b>		N/A	N/A		Metrics not tracked for Industrial Accelerator Program; market research will inform the metric.
<b>Market Share</b>	# of participating customers	85%	↑	●	% of eligible customers that have participated.
	Number of projects	31	↑	●	Increase in # of projects from 2015 to 2016.
<b>Energy Managers</b>	Customers with energy managers	25%	N/A	●	% of eligible customers with IESO funded energy managers.

TREND		INDICATOR	
↔	Minimal (less than 5 percentage points year over years) change in the metric relative to prior years	●	Metric is on track (against what will vary by metric, e.g., forecast, benchmark, expectations, etc.)
↑	Increase in the metric relative to prior years	●	Metric indicates there is an opportunity for improvement
↓	Decrease in the metric relative to prior years	●	Metric is in progress (continue to monitor)

# Customer and market satisfaction and engagement: summary of preliminary observations and areas for further study

## **Perception of brand and customer experience**

- High Brand awareness and trust
- High customer satisfaction scores for programs for which information is collected (Retrofit, Coupons, Heating & Cooling)

## **Presence of customer or sector specific gaps in the framework**

- There are programs available to all segments (residential, small commercial, large commercial).
- CDM plans focus target achievement (energy savings) on business customers

## **Any challenges with framework itself for customers/market**

- Increased engagement by businesses through energy managers, channel, and multi-site customers
- 46% of large customers hear about business programs from channel and supply chain

## ***Areas for further study/next steps:***

- Determine how collaboration is impacting customer satisfaction
- Investigate customers' satisfaction with the choice and availability of programs (by sector)
- Examine IAP Industrial Accelerator Program non-participant barriers and participant satisfaction
- Seek further input on satisfaction, barriers and opportunities with customers with businesses in multiple territories (i.e. those that interact with multiple LDCs or both electric and gas utilities)
- Determine implications for participants/delivery agents of geographically inconsistent offerings

## TOPIC 2. DEFINITION OF CDM

### FOCUS AREAS AND KEY QUESTIONS

This report will analyze available information and begin to explore the issues and opportunities of the key questions and focus areas listed below pertaining to the **Definition of CDM** topic.

#### Key Questions

- How has the definition of CDM changed over time in Ontario?
- Is the current definition appropriate to achieve the policy objectives of the framework and to align with Ontario's broader GHG reduction goals?
- How does the definition of CDM in Ontario align with the definition of CDM/DSM in other jurisdictions?

#### Focus Areas

- I. Conservation First Framework:
  - Defining CDM
- II. Industrial Accelerator Program:
  - Defining CDM

Note: the definition of CDM topic crosses other topics. Some examples include:

Topic 1: Customer and market engagement and satisfaction	How does the inclusion or exclusion of certain technologies impact customer engagement with the framework?
Topic 5: Planning integration	How does the definition of CDM interact with system planning? How are planning and CDM goals impacted by technologies that are included or excluded?
Topic 7: Climate change	Do the technologies included support climate change goals?
Topic 8: Budgets, targets, cost effectiveness	What is the impact of adding or removing technologies on the ability to cost-effectively reach targets?

## TOPIC 2. DEFINITION OF CDM

### EVOLUTION OF THE DEFINITION OF CDM IN ONTARIO – LONG TERM VIEW

- The definition of CDM is set by guiding policies which specify overarching, long-term CDM goals/targets at the provincial level, these goals/targets have historically included a broad range of CDM activities



	2005-2007	2008-2010	2011-2014	2015-2020				
Guiding policy	<ul style="list-style-type: none"> <li>15 specific directives</li> </ul>	<ul style="list-style-type: none"> <li>Integrated Power System Plan</li> <li>Supply Mix Directive</li> </ul>	<ul style="list-style-type: none"> <li>Green Energy and Green Economy Act</li> <li>Supply Mix Directive</li> </ul>	<ul style="list-style-type: none"> <li>Long Term Energy Plan</li> <li>Conservation First</li> </ul>				
Long term goals/targets	N/A	3,600 <b>MW</b> by 2025	7,100 <b>MW</b> and 28 <b>TWh</b> by 2030	30 <b>TWh</b> by 2032				
Definition of CDM	2005-2007	2008-2010	2011-2014	2015-2020				
Energy Efficiency								
Conservation Behaviour								
Fuel Switching								
Self/Co Generation					< 10 MW	< 10 MW	< 10 MW Excl. FIT and mFIT	< 10 MW
Demand Management								
Natural Conservation								

## TOPIC 2. DEFINITION OF CDM

### ELIGIBILITY AND ALIGNMENT WITH POLICY OBJECTIVES

- The following table outlines whether a particular technology or approach is currently eligible to be considered CDM within Conservation First Framework and Industrial Accelerator Program per Directions and which policy objectives the technology or approach aligns with

Technology/ Approach	Eligible as CDM?	Policy Objective					
		Integration with Regional Planning	Greenhouse gas reductions	Customer Choice	Peak Reduction	Innovation	Market Transformation
Resource acquisition	Y	✓	✓	✓	DEPENDS		
Market transformation	Y	✓	✓	✓	DEPENDS		✓
Behavioural	Y	✓	✓	✓	DEPENDS	✓	✓
Performance-based funding	Y	✓	✓	✓	DEPENDS	✓	✓
R&D, pilots	Y		✓	✓	DEPENDS	✓	
Direct load control	N	✓	✓	✓	✓		
Demand Response Capacity	N	✓	✓	✓	✓		
Time-of-use pricing	N		✓	✓	✓		✓
Critical peak pricing	N	✓	✓	✓	✓		

## TOPIC 2. DEFINITION OF CDM

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- The following table outlines whether a particular technology or approach is currently eligible to be considered CDM within Conservation First Framework and Industrial Accelerator Program per Directions and which policy objectives the technology or approach aligns with

Technology/ Approach	Eligible as CDM?	Policy Objective					
		Integration with Regional Planning	Greenhouse gas reductions	Customer Choice	Peak Reduction	Innovation	Market Transformation
Voltage reduction	N	✓	✓			✓	
Solar	Y <sup>1</sup>	✓	✓	✓	✓	✓	
Solar-storage	N	✓	✓	✓	✓	✓	
Storage	N	✓	✓	✓	✓	✓	
Combined Heat and Power	Y	✓	DEPENDS	✓	✓		
Electric Vehicles	N	✓	✓	✓		✓	
Microgrids	N	✓	DEPENDS	✓	✓	✓	
R&D, pilots		DEPENDS					

# Definition of CDM: summary of preliminary observations and areas for further study

## **Changes in definition of CDM in Ontario over time**

- Definition of CDM that is counted towards targets has changed (e.g. CHP added; TOU removed)
- Targets have shifted from broad, province-wide kW and kWh targets to local LDC kWh targets

## **Appropriate of current definition to achieve the policy objectives of the framework and to align with Ontario's broader GHG reduction goals**

- Several ineligible options have both customer and system benefits and align 1+ policy objectives
- Policy interactions must be considered (e.g., net metering, industrial conservation initiative)
- Not all technologies and approaches align with GHG reduction goals

## **Comparison of Ontario's definition of CDM/DSM with other jurisdictions**

- DER and smart grid investments are typically funded outside of DSM in other areas
- Treatment of both combined heat and power and voltage reduction (VR) varies across jurisdictions; VR is funded outside of CDM/DSM budgets in most other jurisdictions

## ***Areas for further study/next steps:***

- During market research: consider policy interactions/impact on adoption of CDM options
- Cost/benefit equity (alignment who pays/who benefits on a time and geographic scale)
- System need/impacts; role of regulator; whether grid modernization should be part of CDM

## TOPIC 3. COLLABORATION

### FOCUS AREAS AND KEY QUESTIONS

This report will analyze available information and begin to explore the issues and opportunities of the key questions and focus areas listed below pertaining to the **Collaboration** topic. The Conservation First Framework direction indicated that the expected outcomes of collaboration are **1) delivery efficiencies** and **2) customer convenience**. The focus of this section will be on whether collaboration has achieved these outcomes and whether collaboration [or some alternative or additional action(s)] should be pursued to achieve these ends.

#### Key Questions

- Have the expected outcomes of delivery efficiencies and customer convenience been achieved through collaborative efforts undertaken to date?
- What other outcomes has collaboration generated?
- Should additional collaboration be enabled? If so, how? If not, why not?
- What are the barriers to collaboration and what are some options to tackle these barriers?
- If collaboration should be encouraged, are there structural changes that can be addressed in the current or future frameworks (2020+) to drive collaboration and achieve the outcomes of customer convenience and cost efficiencies?

#### Focus Areas

- I. Conservation First Framework:
  - Types of collaboration activities that have occurred
  - Outcomes of collaboration activities
  - LDC collaboration
  - Cross fuel collaboration and costs
  - Cross fuel cost effectiveness inputs
  - Attribution and cost sharing
  - Collaboration opportunities with government funded initiatives
- II. Industrial Accelerator Program:
  - Cross fuel collaboration and costs



## TOPIC 3. COLLABORATION

### CONSERVATION FIRST FRAMEWORK SCORECARD

METRIC	DESCRIPTION	RESULT	TREND	GOAL	INSIGHT
Joint plans	<ul style="list-style-type: none"> <li><b>Metric:</b> Number of Joint CDM Plans (one or more LDC) that are within the same planning region (full – all LDCs in the joint plan are in the same region; Partial – at least 2, but not all LDCs are in the same region)</li> <li><b>Goal:</b> of 21 regional CDM plans as outlined in government direction</li> </ul>	Full: 5 Partial: 4	↔	21	<ul style="list-style-type: none"> <li>Market research should attempt to focus on the barriers to adopting joint CDM plans to understand if any framework changes can be made to encourage additional plan collaboration</li> </ul>
Cost efficiencies realized through collaboration	<ul style="list-style-type: none"> <li><b>Metric:</b> [E.g. reduced \$/kWh delivery cost resulting from collaboration]</li> <li><b>Goal:</b> as per government direction LDCs are required to collaborate with gas utilities and encouraged to collaborate with one another to achieve efficiencies</li> </ul>	NA	NA	NA	<ul style="list-style-type: none"> <li>Efficiencies were not defined within the direction and no quantifiable goals were established at outset of framework</li> <li>No quantifiable goals have been identified for individual collaboration efforts (e.g. joint CDM Plans, activities funded through Collaboration Fund) (except kWh targets for certain energy management resources funded through Collaboration Fund)</li> </ul>
Customer convenience improvements realized through collaboration	<ul style="list-style-type: none"> <li><b>Metric:</b> [E.g. improved satisfaction scores following introduction of collaborative activity]</li> <li><b>Goal:</b> as per government direction LDCs are required to collaborate with gas utilities and encouraged to collaborate with one another to achieve efficiencies</li> </ul>	NA	NA	NA	

#### TREND



Minimal (less than 5 percentage points year over years) change in the metric relative to prior years



Increase in the metric relative to prior years



Decrease in the metric relative to prior years

# Collaboration: summary of preliminary observations and areas for further study

## **Achievement of expected outcomes of 1) delivery efficiencies and 2) customer convenience been achieved through collaborative efforts**

- Initial review suggests no quantifiable evidence of delivery efficiencies from joint LDC CDM Plans
- Quantitative outcomes were not defined/measured in LDC Collaboration Fund requirements

## **Other collaboration outcomes**

- 97% of LDCs have participated in some form of funded collaboration
- 54% of Collaboration Fund approved funds have been for human resource-related projects (e.g., energy managers, sales support, etc.)

## **Collaboration between electric and gas utilities**

- Limited collaboration between electric and gas utilities
- Some aspects of natural gas and electric utility frameworks are aligned (e.g., evaluation); other aspects could create barriers to collaboration (e.g., plan modification/approvals)

## ***Areas for further study/next steps:***

- Further discern/attempt to quantify impacts of collaboration activities
- Identify opportunities to ensure future collaboration achieves measurable goals/outcomes
- Explore alternatives to collaboration to achieve delivery efficiencies and customer satisfaction
- Examine barriers and solutions to LDC collaboration and cross-fuel collaboration

# Next Steps for Conservation Mid-Term Review

- May 2, 2017: Comments from interested parties on first topic report due to IESO
- May, 2017: Draft Topic 4 Report on Governance and Operations to be completed
- June-August 2017: Topics 5-8 Reports to be completed (Planning Integration, Non-energy Benefits, Climate Change and Budgets, Targets and CE)
- Summer 2017: Next Public Webinar on the Definition of CDM
- Summer 2017: Market Research phase begins

# Discussion Questions

1. Are there areas of customer engagement and satisfaction that are not sufficiently covered by the market research plan? If so what issues/areas related to customer engagement and satisfaction require further examination?
2. Should the definition of CDM for CFF and IAP be revised to include technologies/approaches that are not currently eligible or exclude technologies/approaches that are currently eligible? If the definition should be revised, how and why?
3. The CFF direction identifies collaboration amongst LDCs as a means to achieve a) delivery efficiencies and b) customer satisfaction. If delivery efficiencies and customer satisfaction are the goals, should collaboration be encouraged or are there other means to achieve these ends that should be explored?

# Appendix A. Conservation Advisory Group Members and Observers

<b>Mid-Term Review Advisory Group Membership</b>	
<b>Consumers (5)</b>	
Housing Services Corp.	Parry, Myfanwy
<u>LaFarge</u>	<u>Nuvolori, Walter</u>
Loblaws	<u>Schembri, Mark</u>
University Health Network	Rubinstein, Ed
CBRE Limited	<u>Abraham, Amha</u>
<b>Local Distribution Companies (5)</b>	
Customer First Inc.	Barker, Chris
<u>Entegrus Powerlines Inc.</u>	Rodd, Margaret
Hydro One	<u>Katsuras, George</u>
<u>PowerStream Inc.</u>	Bond, Raegan
Toronto Hydro-Electric System	<u>Marchant, Michael</u>
<b>Electricity Service Providers/Consultants (2)</b>	
<u>CLEAResult Canada Inc.</u>	<u>Kalyanraman, Guru</u>
Nest Labs	<u>Calin, Iuliana</u>
<b>IESO</b>	
Chair	Katherine Sparkes

## Observer Organizations:

Ministry of Energy  
 Ministry of Environment and Climate Change  
 Ontario Energy Board  
 Environmental Commissioner of Ontario  
 Enbridge Gas Distribution  
 Union Gas Limited  
 Association of Major Power Consumers in Ontario  
 Canadian Solar Industries Association (CanSIA)  
 Electricity Distributors Association  
 Ontario Energy Association  
 ENWIN Utilities  
 Brantford Power Inc.  
 Cornerstone Hydro Electric Concepts Association  
 Energy+ Inc.  
 Essex Powerlines Corporation  
 Oshawa PUC  
 Thunder Bay Hydro Electric Distribution Inc.  
 Veridian Connections Inc.  
 Roberts and Co.  
 Summerhill Group  
 buildABILITY  
 Burman Energy Consultants Group Inc.  
 ecobee  
 Just Energy Ontario LP  
 liteSMART  
 Ontario Clean Air Alliance  
 Building Owners and Managers Association

## Appendix B. Highlights of Key Initial Feedback from Advisory Group

- Include a comprehensive assessment of what should be included in the definition of CDM
  - Suggested that solar, storage and demand response be considered in definition of CDM
  - IESO has added a topic paper on options for definition of CDM and will undertake a study of solar (potential savings and potential solar CDM program design options)
- Look at options to establish more quantitative policy objectives for CDM
  - Group suggested that there should be more measurable policy goals against which to measure success (in addition to TWh targets and cost-effectiveness requirements)
  - IESO will look at providing recommendations for quantifiable policy objectives with review outcomes
- Include metrics focused on quality of outcomes rather than quantity
  - E.g. Look at relevance of new local programs to customers rather than number of new programs
  - Topic reports will focus on determining quality of implementation outcomes
- Include in-depth assessment of impact of conservation on the electricity system
  - E.g. the proportion of savings at system peak versus off peak
  - Will be examined as part of definition of CDM, cost-effectiveness and planning integration
- Other comments found in Advisory Group meetings notes
  - <http://www.ieso.ca/sector-participants/engagement-initiatives/engagements/conservation-framework-mid-term-review>