



Union Gas Limited DSM Mid-Term Review Stakeholder Meeting

September 6, 2018

2015 – 2017 Highlights

2015-2017 Highlights

Overview



First 2 Years of
 2015-2020 Framework*

2.7
 billion m³

Natural Gas Saved
(lifetime)

\$80
 million

Total Spend

Current DSM Portfolio

Low-Income
 Home Weatherization,
 Multi-Family,
 Indigenous, Furnace

Residential
 Home Reno Rebate

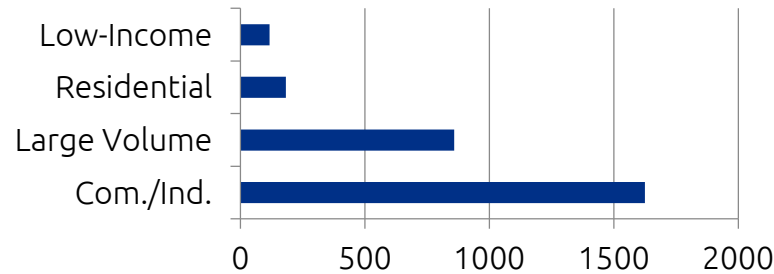
Performance-Based
 Strategic Energy
 Management,
 RunSmart

**Commercial/
 Industrial**
 Prescriptive, Direct
 Install, Custom

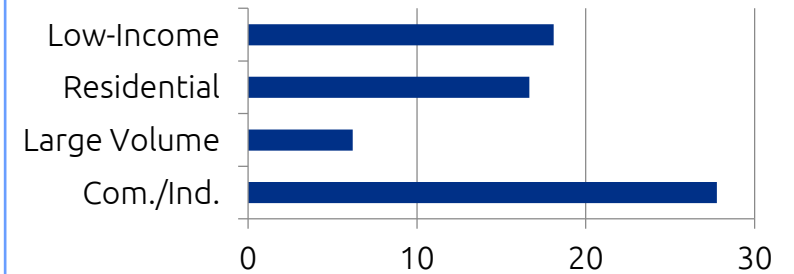
Large Volume
 Direct Access

**Market
 Transformation**
 Commercial Savings by
 Design, Optimum Home

2015-16 Gas Savings by Program*
(M lifetime m3)



2015-16 Spend by Program**
 (\$M)

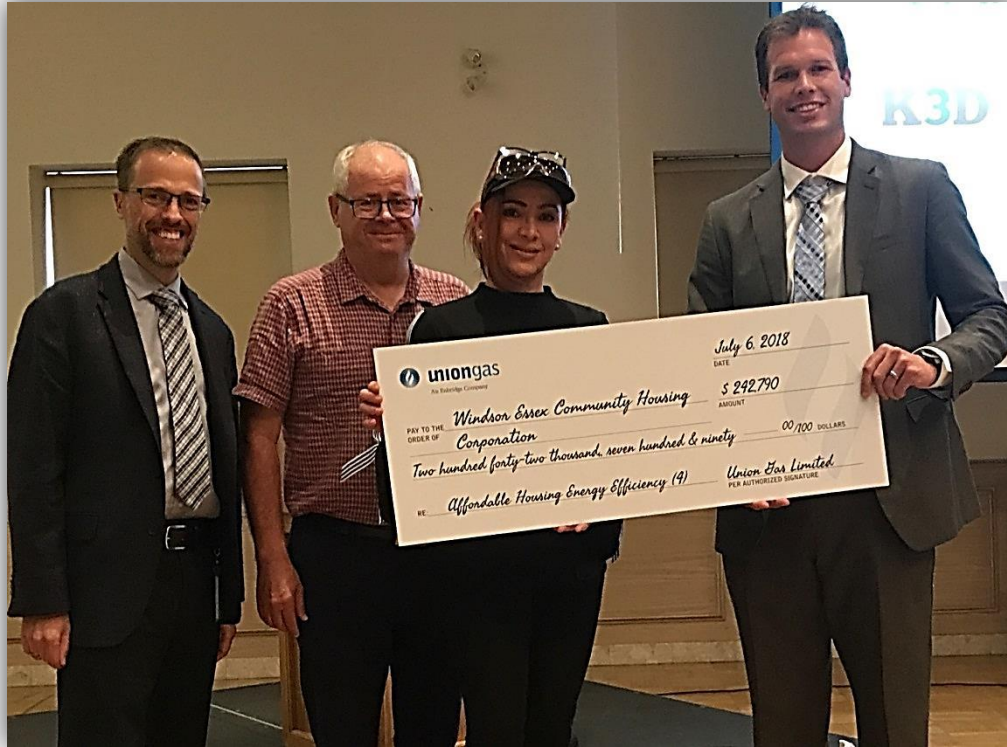


* 2015 final results; 2016 pre-audit results

** 2015 final results; 2016 pre-audit results; Portfolio costs not included

2015-2017 Highlights

Overview



Windsor Essex Community Housing will save an estimated *2.4 million m³ of natural gas (lifetime)* through participation in Union's 2017 DSM program

In 2017, Union launched the Indigenous energy conservation offering to several Indigenous communities including:

Garden River First Nation
Batchewana First Nation
Mississauga First Nation
Nipissing First Nation

2015-2017 Highlights

Successes

Improvements to Union's Residential Retrofit Offering

Union has partnered with both the provincial government and the Independent Electricity System Operator (IESO) through its residential Home Reno Rebate offering



For Union's customers, the partnerships resulted in:

- Increased rebate levels for existing measures (funded by the Ontario government)
- New rebates for air-source heat pumps and adaptive thermostats (funded by the Ontario government)
- New rebates for air conditioners and electric appliances (funded by the IESO)

Union's customers have seamless access to all enhancements, regardless of the funding source, through one offering and one point-of-contact

2015-2017 Highlights

Successes

Increased Participation Rates by Union’s Contract Customers

As part of an active effort by Union, the percentage of contract customers who participated in Union’s DSM programs has increased from 2016 to 2017

Percentage of Contract Customers that Participated in a DSM Program		
<u>Sector</u>	<u>2016*</u>	<u>2017*</u>
Commercial	19%	28%
Industrial	37%	39%
Greenhouse	41%	51%

* Pre-audit results

2015-2017 Highlights

Successes

Improvements to the Verification Results of Union’s Custom Projects

Third-party verification results of Union’s custom project calculations improved to near 100%-levels, due to Union’s continuous improvements

<u>Verification Results (Realization Rates) for Union’s Custom Projects</u>		
<u>Program</u>	<u>2015</u>	<u>2016*</u>
Commercial/Industrial	98%	101%
Large Volume	135%	101%
Low-Income	103%	95%

* Custom project savings verification results not yet finalized

2015-2017 Highlights

Successes



Completion of the 2012 Ontario Building Code (OBC) version of Union’s Residential New Construction Offering

With the implementation of OBC 2017, Union successfully retired the OBC 2012 residential new construction offering and launched a new OBC 2017 version of the offering

The OBC 2012 version of the offering saw year-over-year growth in homes being built 20% above OBC 2012 by participating builders

Residential New Construction Metric	2014	2015	2016*
Percentage of homes built 20% above OBC 2012 by participating builders	14%	50%	70%

* Pre-audit results

2015-2017 Highlights

Challenges

Target Adjustment Mechanisms (TAMs) for the Performance-Based Scorecard

While the existing TAMs are effective for most programs, they result in erroneous target levels for programs that include incentive payments that are deferred across multiple years (such as the Performance-Based Program)

The erroneous target levels produced by the existing TAMs for the Performance-Based Program are not achievable

Union continues to offer the program to its customers and has requested that the TAMs be corrected as part of the Mid-Term Review

2015-2017 Highlights

Challenges

Reaching Small Business Customers

Small business customers generally have fewer resources (both financial and personnel) to dedicate to energy conservation projects; therefore, influencing these customers requires higher incentive levels and higher program costs (e.g. one-on-one approach)

DSM Audit

Significant delays in finalizing Union's annual DSM audit result in delayed application of valuable program feedback to future programming

Metrics and Targets

Categorization of Programs and Offerings

The Optimum Home Offering

Union has requested that its residential new construction offering (the Optimum Home offering) remain classified as a Market Transformation offering

Union's Optimum Home offering is designed as a Market Transformation offering

Union's offering seeks to influence several aspects of the residential new construction market to address the fundamental barriers to building high-efficiency homes, rather than seeking to influence the adoption of specific technologies through financial incentives (as with a Resource Acquisition offering)

Union's offering is measured by the penetration rates of above-code homes built by participating builders, rather than by direct energy savings from offering participants (as with a Resource Acquisition offering)

Categorization of Programs and Offerings

The Optimum Home Offering

The current Market Transformation approach continues to be the most effective way of influencing the residential new construction market

Barriers preventing widespread construction of high-efficiency homes include:

- Builders' unfamiliarity with, or reluctance to use, new technologies or processes
- The challenges faced by a builders' sales team regarding their ability to sell high-efficiency homes to buyers
- Buyers' competing factors (such as location, builder reputation, and aesthetic upgrades)

The cost of implementing specific technologies is not a primary barrier (as with a Resource Acquisition offering)

Should the offering be re-categorized as Resource Acquisition, a fundamental re-design of the offering, its budgets and its targets, would be required

Categorization of Programs and Offerings

The Performance-Based Program

Union has requested that it's Performance-Based Program remains on the Performance-Based Scorecard

Union's Performance-Based program is designed as a Resource Acquisition program as it:

- Provides financial incentives directly to participants based on their measured natural gas savings
- Measures program success by the participants' direct natural gas savings (in addition to a participation metric)
- Is screened for cost-effectiveness using the TRC-Plus test

Union proposed a separate scorecard for the program to ensure that Union remained focused on the program (and to avoid it being overshadowed by other larger Resource Acquisition programs)

A separate scorecard for the program continues to be appropriate, to maintain focus on the program

Target Adjustment Mechanisms

Performance-Based Scorecard

Union has requested a change to its Target Adjustment Mechanisms (TAMs) for the Performance-Based Scorecard

Existing Performance-Based Scorecard TAMs rely on previous year's cost-effectiveness results (i.e. achievement ÷ spend), which are not appropriate indications of future cost-effectiveness due to deferred incentive payments

Union's proposed Performance-Based Scorecard TAMs rely on previous year's actual achievement, plus a stretch factor of 10%

Existing TAMs for the Performance-Based Scorecard are not sustainable and not aligned with unique program design, resulting in unachievable targets

If the TAMs for the Performance-Based Scorecard are not adjusted Union will not be able to provide incentives and will be required to suspend the offering

Target Adjustment Mechanisms

Low-Income Scorecard

Union has requested a change to its TAMs for the Low-Income Scorecard

Union's Low-Income Program includes a Multi-Family offering with two components:

1. Social and Assisted Multi-Family
2. Market Rate Multi-Family

The OEB-approved Low-Income scorecard includes two metrics (one for each component); however, the OEB-approved Low-Income budget only includes one budget for the Multi-Family offering overall

The existing TAMs require an OEB-approved budget for each component, which is not available

Union's proposal is to merge the Social and Assisted Multi-Family metric and the Market Rate Multi-Family metric into one metric, the *Multi-Family offering* metric, to align the TAM with the OEB-approved budget

Target Adjustment Mechanisms

Low-Income Scorecard

Misaligned: Existing Low-Income metric structure and OEB-approved budget structure

Existing Metric Structure

Union Gas 2018 Low Income Scorecard					
Programs	Metrics	Metric Target			Weight
		Lower Band	Target	Upper Band	
Home Weatherization Furnace End-of-Life Aboriginal	Cumulative Natural Gas Savings (m3)	75% of Target	2017 metric achievement (LRAM natural gas savings) / 2017 actual program spend without overheads x 2018 program budget without overheads x 1.02	150% of Target	60%
Multi-family	Social and Assisted Multi-Family Cumulative Natural Gas Savings (m3)	75% of Target	2017 metric achievement (LRAM natural gas savings) / 2017 actual program spend without overheads x 2018 program budget without overheads x 1.02	150% of Target	35%
	Market Rate Multi-Family Cumulative Natural Gas Savings (m3)	75% of Target	2017 metric achievement (LRAM natural gas savings) / 2017 actual program spend without overheads x 2018 program budget without overheads x 1.02	150% of Target	5%

Note: Metric achievement is calculated using verified program savings used for LRAMVA purposes

Existing Budget Structure

Low Income

Home Weatherization - Revised	\$ 6,285,000
Aboriginal	\$ 8,000
Furnace End-of-Life	\$ 761,000
Multi-Family	\$ 2,651,000
Low Income Program Budget	\$ 9,705,000
Low Income Overhead - Revised	\$ 1,644,000
Evaluation	\$ 219,000
Administrative costs	\$ 1,425,000
Low Income Total	\$ 11,349,000

Target Adjustment Mechanisms

Low-Income Scorecard

Union's proposed Low-Income metric structure aligns with OEB-approved budget structure

Union's Proposed Metric Structure

Union Gas 2018 Low Income Scorecard					
Offering(s)	Metric	Metric Targets			Weight
		Lower Band	Target	Upper Band	
Home Weatherization; Furnace End-of-Life Upgrade; Indigenous.	Single-Family Cumulative Natural Gas Savings (m ³)	75% of Target	2017 metric achievement ÷ 2017 actual offering spend without overheads × 2018 offering budget without overheads × 1.02	150% of Target	60%
Multi-Family	Multi-Family Cumulative Natural Gas Savings (m ³)	75% of Target	2017 metric achievement ÷ 2017 actual offering spend without overheads × 2018 offering budget without overheads × 1.02	150% of Target	40%

Existing Budget Structure

Low Income	
Home Weatherization - Revised	\$ 6,285,000
Aboriginal	\$ 8,000
Furnace End-of-Life	\$ 761,000
Multi-Family	\$ 2,651,000
Low Income Program Budget	\$ 9,705,000
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Other Topics: IRP, Overhead, Open Bill Access

Integrated Resource Planning

In the 2015-2020 DSM Framework, the Board stated that it expects the gas utilities to consider the role of DSM in reducing and/or deferring future infrastructure investments

In its Decision on Union's 2015-2020 DSM Plan the OEB directed the Utilities to submit a transition plan to incorporate DSM into infrastructure planning activities at the DSM Mid-Term Review

Related activities:

- Engaged ICF for an Integrated Resource Planning (IRP) study to inform the transition plan
- Commenced case studies

IRP Related Activities

IRP Study Highlights:

- In certain scenarios, may be potential to reduce distribution infrastructure investment
- ICF found limited North American gas utilities incorporating DSM in facilities planning or utilizing targeted DSM to reduce infrastructure projects
- There is uncertainty regarding how DSM measures impact facilities planning
- Natural gas IRP study cannot be directly compared to Electricity IRP Study

Case Study Objectives:

- Collection of hourly demand data
- Assessment of reliability of using targeted DSM to reduce peak hour demand growth
- Assessment of cost of geo-targeted DSM implementation

Administration Costs

Union has complied with the OEB's request to provide a more detailed explanation of its DSM administration costs

It is not appropriate to compare DSM administration costs between program administrators, due to:

- **Different cost methodologies:** Program administrators may use different methods to categorize administration costs
- **Different program designs:** Programs that mainly require technical training by internal staff may have higher administration costs than programs that mainly require rebate offers
- **Different franchise areas:** Program administrators that operate in densely populated areas may have lower administration costs than program administrators that operate in large rural areas

Administration Costs

The Dunsky Report:

- Found that both utilities are in compliance with the OEB's DSM Guidelines
- Concluded that a more precise definition of the OEB-approved DSM administration cost methodology is needed going forward

Union submits that the appropriate time to develop and implement a more clear, common methodology is during the development of the next OEB DSM Framework, in consultation with stakeholders

Union requests that the process to develop the next OEB DSM Framework begin no later than Q2 2019

Open Bill Access

Union has complied with the OEB's direction to develop an Open Bill Access program

The Open Bill Access program will provide third party companies (Billers) the opportunity to include charges on Union's customer bill for energy conservation related products and/or services

Customers will receive the benefit of one bill, access to Union's automatic payment option, and access to Union's paperless billing option (for services provided by Billers)

Union has reviewed Enbridge Gas Distribution's cost model and will charge the same fees (currently \$1.015 per charge, and \$0.06 per one-panel bill insert).

Union's Open Bill Access program is currently under development and is expected to be launched in Q4 of 2018

Program Updates

Custom Free-Ridership

Union has enhanced key program design and implementation practices within the Commercial/Industrial Custom offering in order to reduce free-ridership

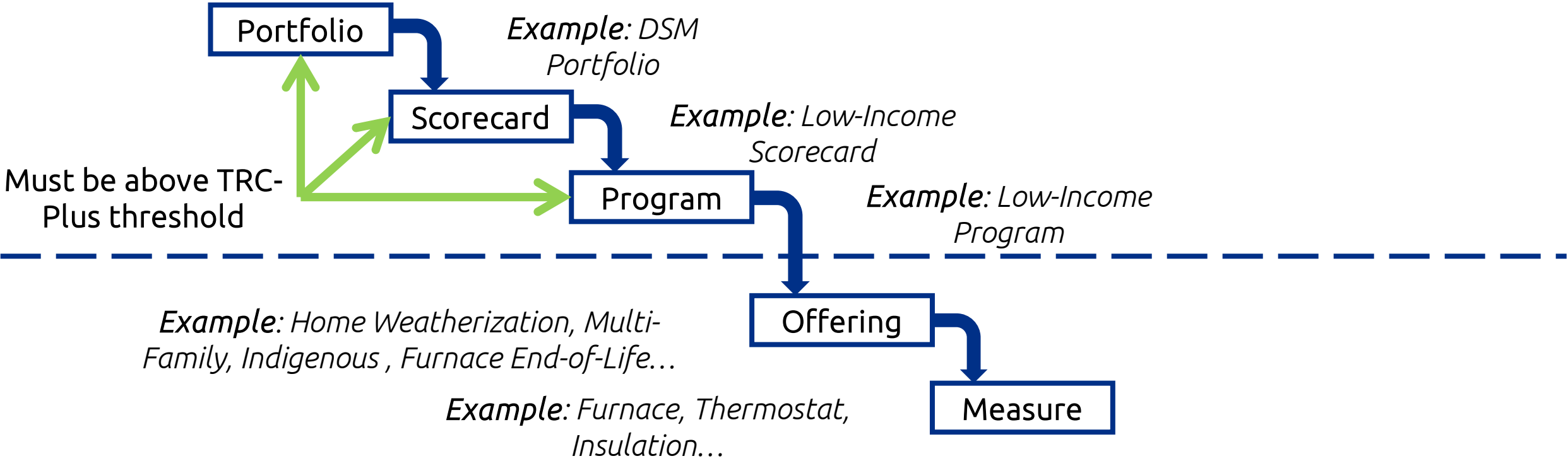
Enhancements include:

- Updated project eligibility requirements
- Improved project documentation and project screening practices
- Exclusion of routine maintenance projects
- Addition of Terms and Conditions to marketing material

Union will continue to identify and implement new free-ridership mitigation practices

Low-Income TRC-Plus

Union continues to screen cost-effectiveness at the program level, and Union's Low-Income program remains above the Low-Income TRC-Plus threshold (2016 pre-audit = 1.3)

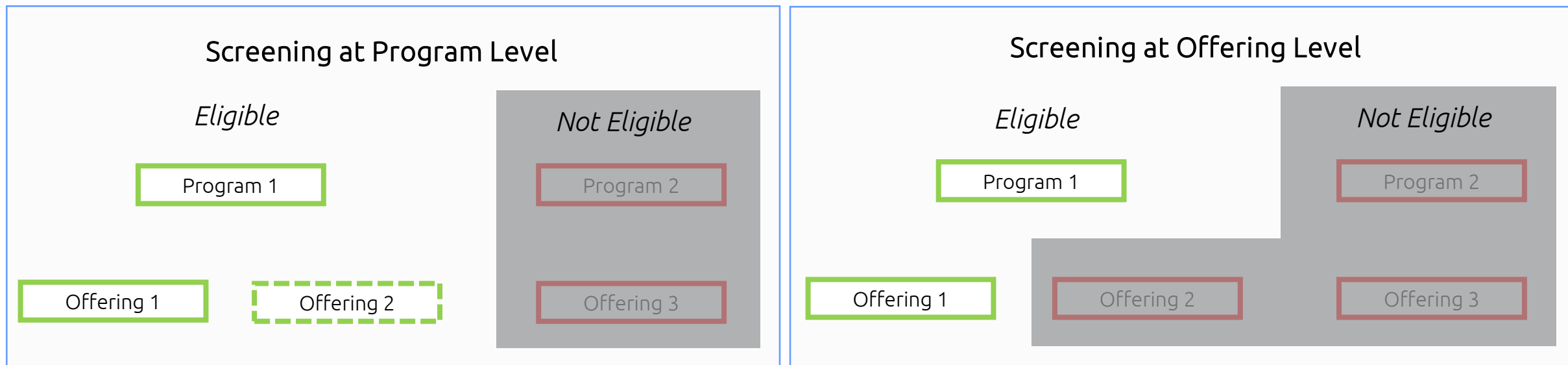


Low-Income TRC-Plus

If the cost-effectiveness screening level is changed to the offering or measure level, fewer energy conservation opportunities will be provided to customers

This will directly result in the elimination of offerings (such as the Low-Income Furnace offering)

Illustrative Comparison



By screening at the program level, more energy conservation offerings are eligible to be provided to customers, while ensuring the program remains cost-effective

Pilots and New Programs

Residential Adaptive Thermostats

Union has requested an incremental \$1.5M/year to launch a Residential Adaptive Thermostat offering

The proposal meets two of the OEB's Mid-Term Review requirements:

1. To file results of adaptive thermostat pilot program
2. To explore different conservation measures and technologies for a mass-market residential program

Union's proposed offering would be aligned with and scaled to Enbridge Gas Distribution's OEB-approved residential adaptive thermostat offering:

- \$1.5M/year incremental budget
- 13,000 units at \$100 rebate/unit
- 2019 target of 34,645,000 m³

Integration of DSM and CDM Programs

Union has collaborated with the IESO to deliver a joint DSM/CDM residential offering

The collaboration adds new rebates for air conditioners and electric appliances (funded by the IESO) to Union's existing natural gas rebates (funded by DSM), such as high-efficiency furnaces and insulation upgrades

The joint offering is administered by Union

Union's customers have seamless access to both natural gas conservation rebates and electricity conservation rebates through one offering and one point-of-contact