

**Ministry of Energy, Northern
Development and Mines
2021-2024 CDM Framework Proposal**



Greensaver Feedback Submission

August 22, 2020

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EXECUTIVE SUMMARY

Greensaver, is pleased to submit the following feedback for the 2021-2024 Conservation and Demand Management Framework proposal.

The feedback we have provided is based on our support for and belief in the importance of the inclusion of the Home Assistance Program (HAP), Business (or *Restaurant*) Refrigeration Incentive Program (BRI) and the Suite Saver Program (SSP), or the more comprehensive Multifamily Energy Efficiency Rebates (MEER) program.

We have provided background on our experience with the programs, key insights and lessons learned and recommendations for the next versions of the programs (highlighted here) in the proposed 2021-2024 Framework.

Home Assistance Program

With HAP, the central delivery of the program by Greensaver has been extremely successful, with retrofit targets being achieved (and now over 20,000 current projects in process, and growing!) at a high customer satisfaction rating.

The program, which targets low income-eligible households and provides for the installation of energy saving measures at no cost to the participant, fits well with one of the Program Types proposed under the new Framework and should be continued.

While the program has been successful, we believe there are further potential enhancements to be considered:

- Updating the HAP eligibility criteria for the next year or two to allow for enrollments for people who find themselves in the low-income category only now because of the COVID-19 lockdown. The several million people that are newly unemployed would benefit significantly from the program. Expanding the criteria to include, for example CERB and CEWS recipients and making those that are now unemployed instantly eligible, would provide great assistance.
- With the end of AFT there is now no program for those who struggle with their bills and fall into this income category. It is suggested that the scope be broadened and certain AFT income categories become eligible through the HAP program.
- Greensaver is currently implementing certain steps to synchronize with the Enbridge Home Winterization Program (HWP), which we also deliver. However, if the two programs were to be formally combined, the synergies could be taken one step further to streamline the intake process and have for example unified forms and consistent eligibility criteria.
- Coordinate marketing efforts with the OEB led Ontario Electricity Support Program (OESP), to refer to/auto-enroll in HAP. There is currently no partnership and it is viewed as a significant missed opportunity.
- The HAP program has helped families in need lower their electric and gas bills, and now with the economy in decline it is believed it should not only continue but be expanded!

As the current delivery agent for the HAP program, our contract already includes a provision for Greensaver to lead and/or support the design of the new/successor program to HAP, if requested by the IESO, so no further tendering is required. We are ready to do that work and to fully support the Ministry and the IESO in this process and, if requested, the Greensaver team would welcome the opportunity!

Business Refrigeration Incentive Program

The previous version of the BRI program was achieving a strong participation level across the province before it was cancelled, and there is still significant potential. In addition, the hospitality sector has been particularly hard hit by the pandemic and the BRI program would directly support this sector, along with benefitting the electricity supply and the environment.

While the program has been successful, we believe there are further potential enhancements to be considered:

- The restaurant sector accounted for most of the participants and it is proposed they become the sole focus for the program, given their financial challenges because of the pandemic, and become the **Restaurant Refrigeration Incentive (RRI) program**.
- The program should be delivered on its own – separate from the SBL program. The lighting in restaurants is typically a specialty type, with limited opportunities for lighting retrofits apart from tube replacements for reach-ins and A-19s for walk-ins, and they are both part of the BRI program. Also, there will still need to be two calls made, with a separate refrigeration and lighting contractor visit, so no real synergies.
- The previous list of measures for the program were well received by customers and proved successful.
- The only additional measure foreseen is Demand Control Kitchen Ventilation (DCKV) units – not provided free of charge but promoted, with an incentive and the option for the contractor to install the unit for them.
- It is also proposed that the IESO incentives be doubled (in the short-term) to address the financial challenges impacting the industry.
- The inclusion of the Enbridge incentive and cross promotion between the two organizations could drive additional take-up of the program and DCKV measure.

SuiteSaver Program and the Multifamily Energy Efficiency Rebates Program

The goal of the SuiteSaver program was to overcome barriers to improving energy efficiency in multi-unit residential buildings (MURB), which have all-inclusive rents or administration fees.

In this segment, residents (tenants or unit owners) often pay a fixed cost for electricity as part of their rent, and building operators are responsible for maintenance. Through the SuiteSaver program, building owners and managers received a direct reduction in electricity costs where they could install in-suite upgrades in the building.

The SuiteSaver program was only offered to building owners and managers of high-rise multiunit residential buildings in the Toronto Hydro service area. The program holds considerable potential to address an area that is missed by the current programs in market – specifically the Retrofit program.

- It hits the priority lighting inside the suites and has the potential to be expanded to include demand savings, and be combined with gas company efficiency program solutions.
- SuiteSaver has also demonstrated one of the highest cost effectiveness results for any program, and is recommended to be launched as a centrally delivered direct install program across the Golden Horseshoe.

Greensaver delivered the MEER program on behalf of the Ontario Power Authority (OPA) across Ontario (outside the City of Toronto) in the 2007-2010-time period, processing 1,200 building applications and retrofitting 25,000 tenant units.

The MEER program included an energy audit, resident education and incentives for comprehensive energy retrofits (lighting, HVAC, motors and drives, water heating, building envelope, appliances, as both prescriptive and custom measure solutions).

Greensaver has considerable documentation on the program, and would welcome the opportunity provide the information to the Ministry to support a review and possible relaunch of the program.

INTRODUCTION

The Urban Environment Centre (Toronto), o/a Greensaver, is pleased to submit the following feedback for the Ministry of Energy 2021-2024 Conservation and Demand Management Framework proposal.

Greensaver is Ontario's oldest non-profit corporation and one of the leading CDM program delivery agents, working in the low-income, residential and commercial sectors. We specialize in turnkey CDM program management, internally operating all aspects of delivery: outreach, application intake, Customer Care, energy auditing, field installation services, quality assurance, program coordination and utility reporting.

We have delivered over 100 energy conservation programs for nearly 50 utilities across the province since 2011. The current programs being delivered are the IESO centrally delivered Home Assistance program (HAP), the Enbridge Home Winterproofing Program (HWP) and the AffordAbility Fund Trust (AFT). We also recently delivered the Business Refrigeration Program (BRI) and the Small Business Lighting (SBL) programs for several LDCs across the province.

Greensaver has been a leader in the creation and engagement of Provincial environmental and energy conservation initiatives since 1991. Throughout our 26-year history, we have maintained our reputation as an innovative, trusted and unbiased advocate for residents, businesses and utilities as they strive to meet their energy conservation goals. Our not-for-profit status has not only defined our approach to objective and fair energy consulting but also differentiates us in the marketplace. From our beginnings as a community based environmental advocate and centre for education, GreenSaver has grown to become a full-service conservation partner for electric and gas utilities and other clients across Ontario.

We operate across the province with over 70 energy conservation professionals and over 100 contracted resources, from our head office in Etobicoke and with numerous local staff across the province. We have a fully staffed operational Customer Service centre, a team of energy auditors, in-house crews for weatherization work as well as an extensive and operational network of weatherization contractors across Ontario. Program management is handled by in-house staff, with program coordination, delivery and QA/QC handled by different and independent teams to ensure accuracy, efficiency and effectiveness in delivery.

The feedback we have provided is based on our support for and belief in the importance of the inclusion of the following three CDM programs – the Home Assistance, Business (or *Restaurant*) Refrigeration Incentive and the Suite Saver Programs. We have provided background on our experience with the programs, key insights and lessons learned and recommendations for the next versions of the programs in the proposed 2021-2024 Framework.

HOME ASSISTANCE PROGRAM (HAP) FEEDBACK

Overview of the HAP Program Delivery by Greensaver

Between 2011 when the program was launched and June 2018, HAP was delivered by multiple vendors on behalf of the participating Local Distribution Companies (LDCs). During that time frame, Greensaver delivered the program for 54 LDCs, covered 80% of the province and completed over 60,000 home assessments.

Since its beginnings, the program has gone through several substantial revisions - in project volume, technology innovations, budgeting and political importance. In the summer of 2018, the IESO moved to a central delivery model with one service provider across the province, and Greensaver was selected as that delivery agent.

Centralizing the delivery of the program achieved several important strategic objectives: it stabilized service provision for customers across all areas of the province - necessary to meet the annual targets of 17,000 participants; the program updates to eligible measure and audit costs also greatly facilitated program implementation in the field; and perhaps most substantially, a single centralized HAP program allowed for a new level of collaboration with Ontario's natural gas utilities.

Go-to-market approach

HAP helps income-qualified homeowners and tenants in nonprofit housing and private rentals improve the energy efficiency of their homes and manage their energy use more effectively at no cost to the resident or owner.

During the audit, participants receive education about electricity conservation, time-of-use rates and the new energy efficiency equipment they are eligible to receive. With the consent of the participant and/or property owner, the delivery agent installs the eligible measures, at the initial audit visit and/or during a follow-up visit.

Participants in single-family homes that are heated by electricity receive a more extensive weatherization audit to determine eligibility for additional air sealing and insulation upgrades. To receive weatherization and domestic hot water measures, the residences and the water heating must be heated by electricity.

The measures available

The following chart outlines the measures available with the current version of the program, along with the energy and demand savings and the cost (incentive) / kWh for each.

CONSERVATION MEASURE NAME	ENERGY SAVINGS	DEMAND SAVINGS	COST / kWh
Smart Power Bar	3.6	0	\$0.36
Window Air Conditioner Replacement (ENERGY STAR Qualified) (6,000-7,999 BTU/hr)	41	0.049	\$1.91
Freezer Replacement (ENERGY STAR Qualified) (4.5-6.0 cu ft)	103	0.014	\$0.95
Window Air Conditioner Replacement (ENERGY STAR Qualified) (8,000-9,999 BTU/hr)	58	0.069	\$0.49
Window Air Conditioner Replacement (ENERGY STAR Qualified) (10,000-12,000 BTU/hr)	75.4	0.089	\$0.90
Freezer Replacement (ENERGY STAR Qualified) (2-14.4 cu ft)	104.9	0.014	\$0.56
Refrigerator Replacement (ENERGY STAR Qualified) (7.0-8.4 cu ft)	218	0.029	\$0.86
Refrigerator Replacement (10.0-12.5 cu ft)	180	0.024	\$0.65
Refrigerator Replacement (ENERGY STAR Qualified) (5.5-6.9 cu ft)	205	0.027	\$0.31
Dehumidifier Replacement (ENERGY STAR Qualified) (25.5-35.5 l/day)	183	0.059	\$0.45
Programmable Thermostat (Line Voltage)	122.2	0	\$0.19
LED Downlight with Light Output >600 and <800 lumens (Retrofit Measure List)	61.7	0.004	\$0.02
Dehumidifier Replacement (ENERGY STAR Qualified) (21.3-25.4 l/day)	198.5	0.064	\$0.96
≤11W ENERGY STAR Qualified LED MR16 (minimum 800 lumen output) (Formerly: 7W-12W ENERGY STAR Qualified LED MR16 GU5.3 Base)	35.7	0.002	\$0.63
Dehumidifier Replacement (ENERGY STAR Qualified) (4.2-11.2 l/day)	242.8	0.078	\$0.50
≤6W ENERGY STAR Qualified LED MR16 PAR16 (minimum 250 lumen output) (Formerly: 7W-10W ENERGY STAR Qualified LED)	37.7	0.003	\$0.39
LED Downlight with Light Output >800 lumens (Retrofit Measure List)	88.7	0.006	\$0.26
Hot Water Tank Insulation (Fiberglass) R10	99.2	0.01	\$0.02
ENERGY STAR LED Wet Location Rated PAR Lamp (23 Watt) (minimum 1100 lumen output)	53.2	0.004	\$0.99
Weatherization Measures	-	-	\$0.86
Indoor Clothes Drying Rack	97	0.065	\$0.74
≤16W ENERGY STAR Qualified LED PAR30 PAR38 (minimum 600 lumen output) (Formerly: 18W-22W ENERGY STAR Qualified LED PAR30)	56.4	0.004	\$0.73
≤14W ENERGY STAR Qualified LED A-Shape (75W) (minimum 800 lumen output) (Formerly: 10W-14W ENERGY STAR Qualified LED A-Shape)	47.4	0.003	\$0.65
≤23W ENERGY STAR Qualified LED PAR (minimum 1100 lumen output) (Formerly: 14W-18W ENERGY STAR Qualified LED PAR38)	52.8	0.004	\$0.62
≤23W ENERGY STAR Qualified LED A-Shape (100W) (minimum 600 lumen output) (Formerly: 17W-23W ENERGY STAR Qualified LED A-Shape)	61.3	0.004	\$0.62
≤16W ENERGY STAR Qualified LED PAR20 (minimum 600 lumen output) (Formerly: 18W-22W ENERGY STAR Qualified LED PAR20)	45.9	0.003	\$0.61
Efficient Aerators (bathroom) 2.8-3.8 lpm	49.2	0.005	\$0.48
Efficient Showerhead (handheld) 2.8-8 lpm	233.7	0.023	\$0.40
Efficient Showerheads (standard) 2.8-8 lpm	233.7	0.023	\$0.37
≤11W ENERGY STAR Qualified LED A-Shape (60W) (minimum 600 lumen output) (Formerly: 17W-11W ENERGY STAR Qualified LED A-Shape)	47.7	0.003	\$0.37
Block Heater (Timer) (just timer)	239.1	0	\$0.36
Programmable Thermostat (Low Voltage)	1321.4	0	\$0.36
Efficient Aerators (kitchen) 2.8-7 lpm	125.5	0.012	\$0.31
Hot Water Tank Pipe Insulation (4" per foot)	71.9	0.007	\$0.23
Hot Water Tank Pipe Insulation (2" per foot)	48.1	0.005	\$0.22

Estimated energy and demand savings

The historical average savings for the program as delivered by Greensaver has been 1,256 kWh per project, with an average demand savings of .35 kW per project. Note: the IESO revised the demand savings calculation midway through the centrally delivered program. As of the middle of 2019, the average demand savings per project has been adjusted down to .12 kW per project.

HAP - 5 Year Savings Totals				
Year	Energy Savings (kWh)	Demand Savings (kW)	Program Notes	Observations
2015	9,012,089	Not calculated	Full year of program delivery	Program was delivered by LDCs.
2016	4,845,150	Not calculated	Conservation First Framework commenced	The CFF framework allowed LDCs to manage program participation/budgets to hit overall CDM targets. HAP had a high cost/kWh so some LDCs less inclined to offer HAP at the 2011-2015 framework rate. This led to ministerial directive in 2017.
2017	4,812,022	Not calculated	August 2017 ministerial directive notified LDCs that as of Jan 1 2018, HAP centrally delivered	LDCs were wrapping up the LDC delivered HAP. Many wanted to wrap projects ASAP and new project numbers dropped.
2018	9,009,725	837	Central delivery of program began. Projects commenced June 2018	
2019	20,214,525	7,618	Full year of program delivery	2018-2020 results demonstrate need for centrally delivered program with no disruptions. Stable program = success.
Total	47,893,511	8,455		

Key insights and lessons learned

The following are some of the lessons learned with the implementation of the program, both in terms of what proved successful and what might be revisited.

Successful elements, with the centrally delivered program:

- the fact there were no restrictions on the social housing building type meant a greater number of buildings and participants were eligible to participate.
- the move to allowing for visual verification of the income documents for potential participants made for an easy enrollment for participants, and great that it didn't require them to mail/email sensitive documents!
- the Central delivery, with one service provider was a great improvement, providing consistency across the province and greatly increasing the program results!
- the increased funding and higher audit fee for the remote projects made it more financially viable to support all the projects in these areas.
- the appliance offering is a huge driver for participation – low-income customers see massive value in the program when large household appliances can be replaced for free.

Potential areas to be revisited:

- unplanned changes to the Frameworks can be a challenge (Greensaver could address and ensure continuity of the program with the Interim Framework) and avoided where possible.
- the fact that the AffordAbility Fund Trust (AFT) program has ended means that a large demographic that previously wanted to pursue energy conservation measures will no longer qualify for conservation programs. Perhaps the most successful elements of AFT could be added to the next version of HAP.

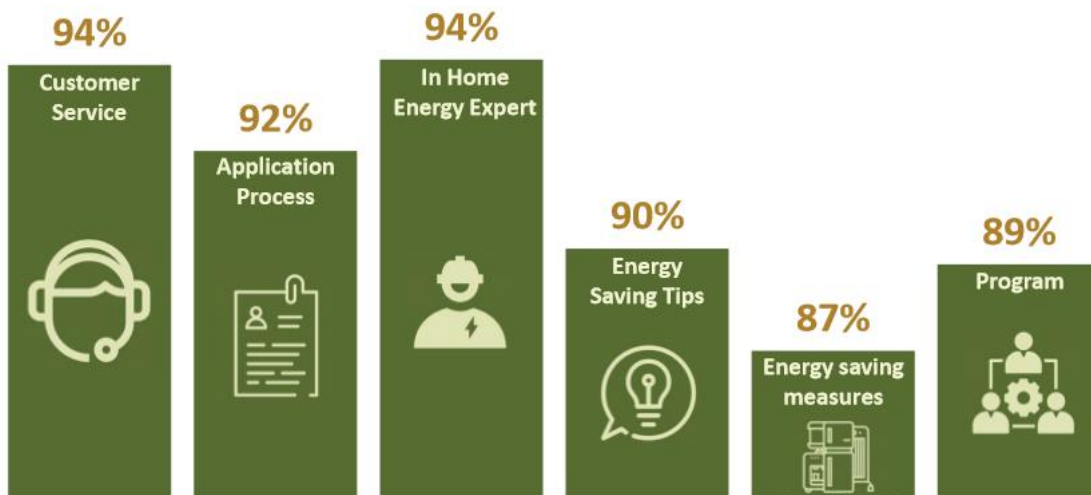
Other important information to share about the current HAP program

The positive response by participants has been overwhelming. We have almost 4,000 survey responses related to the satisfaction of the program by participants, and as you can see from the chart and the call-outs below, the feedback has been very positive.



Satisfaction per service type

2019 Average Satisfaction



Thank you, thank you .. a million times over .. thank you. You have NO IDEA what this means to me, to us. I have never had anything new and nice like this, never. It's over-whelming to look at our new stuff, I actually broke down in tears the first night, sitting and admiring it all. From the application process to the delivery, it's all been like a dream come true. Thanks again



I was very impressed with the professional and courteous treatment of everyone who came to my home. They provided me with great ideas to save energy and I am grateful to have had the chance to participate in this program.



Recommendations for the next generation of the HAP program

Greensaver believes the HAP program, which targets low income-eligible households and provides for the installation of energy saving measures at no cost to the participant, fits well with the program types proposed under the new framework and should be continued. We would also like to make suggestions on some potential additions to further improve the effectiveness of the program.

Eligibility

The HAP program eligibility has historically been based on the Low-Income Cut-off (LICO), with qualified income documents required from the **previous** tax year. The COVID-19 Pandemic has caused a personal financial crisis for many people and has abruptly affected their income. It is suggested that consideration be given to updating the HAP eligibility criteria for the next year or two to allow for enrollments for people who find themselves only now in the low-income category.

Measures

The measure offering could be expanded to include:

- Offer appliances that accommodate special needs of seniors and people with mobility challenges, for example, fridges with the freezer on the bottom and upright freezers. These appliances are currently offered as an exception only when requested by the participant, but could become a standard offering.
- Offer Air Source Heat Pumps, washers and dryers, ranges, water heaters etc.

Central Delivery

The recommendation is the program remain centrally delivered. The success that was achieved when it moved to the central model is well documented, and this delivery method should remain in place.

Marketing

There could be some opportunities for provincially led marketing, to help build visibility with the Ontarians who need the program the most.

Another potential opportunity would be to coordinate marketing efforts with the OEB led Ontario Electricity Support Program (OESP), to refer to/auto-enroll in HAP. There is currently no partnership with that organization and it is viewed as a significant missed opportunity.

There may also be an opportunity for the IESO to coordinate efforts with the LDCs to ensure they are promoting HAP through their customer service and high bill complaint interactions with their customers.

Potential to fill the gap left by AFT

AFT provided benefits to those who did not meet the low-income threshold of the HAP eligibility requirements, but still claimed their bill was a significant financial burden. It allowed for the customization of each person's spending cap based on the percentage of their income that went towards their electricity bill.

With the end of AFT there is now no program for those who struggle with their bills and fall into this category. It is suggested that consideration be given to how a portion of the AFT eligible participants might become eligible through the HAP program.

Potential to combine HAP with the Enbridge HWP program

There are several synergies with the HWP, that Greensaver is currently delivering along with the current version of HAP. Some of the synergies we currently leverage between the two programs include:

- We provide referrals, when customers contact us about one program and are eligible for the other, we provide that referral, capturing participants and the resulting energy savings where it may not otherwise have been the case.
- Initial assessments are done by the same qualified assessor at the same appointment for HWP and HAP, creating efficiency of delivery of the programs, greater customer satisfaction, and reduced points of contact/home visits for the customer - even more important now with COVID-19.

If the two programs were to be combined, there would be the opportunity to take the synergies one step further to streamline the intake process and to have unified forms for the two programs and consistent eligibility criteria.

Projected energy / demand savings with a province-wide HAP program.

The following chart outlines the savings projections for the HAP program, based on the following assumptions:

- The new program has the same measures and energy/demand savings
- The program targets remain at 2020 levels (note that Greensaver has the capacity to exceed the current targets)
- There is no shortage of viable housing stock in future
- There are no components added from the AFT or Enbridge program
- Projected savings per project are based on historical savings (Jan 2019-Mar 2020) of 1,256 kWh per project, .35 kW and 1,400 completed projects per month.

HAP - 4 Year Savings Projections		
Year	Energy Savings (kWh)	Demand Savings (kW)
2021	21,100,800	5,880
2022	21,100,800	5,880
2023	21,100,800	5,880
2024	21,100,800	5,880
Total	84,403,200	23,520

Summary

The central delivery of the HAP program by Greensaver has been successful, with retrofit targets being achieved at a high customer satisfaction rating.

The program, which targets low income-eligible households and provides for the installation of energy saving measures at no cost to the participant, fits well with the Program Types proposed under the new Framework and should be continued.

While the program has been successful, we believe there are further potential enhancements to be considered.

It is suggested that consideration be given to updating the HAP eligibility criteria for the next year or two to allow for enrollments for people who find themselves only now in the low-income category because of COVID-19 lockdown.

With the end of AFT there is now no program for those who struggle with their bills and fall into this category. It is suggested that consideration be given to how a portion of the AFT eligible participants might become eligible through the HAP program.

Greensaver is currently implementing certain steps to synchronize efforts with the HWP program. However, if the two programs were to be combined, there would be an opportunity to take the synergies one step further to streamline the intake process and to have unified forms for the two programs and consistent eligibility criteria.

Another potential opportunity would be to coordinate marketing efforts with the OEB led Ontario Electricity Support Program (OESP), to refer to/auto-enroll in HAP. There is currently no partnership with that organization and it is viewed as a significant missed opportunity.

BUSINESS RESTAURANT REFRIGERATION INCENTIVE (RRI) PROGRAM FEEDBACK

Overview of the CFF program delivery by Greensaver

The restaurant sector is very important to the economy of Ontario. The numbers are staggering - there are 39,000 restaurants generating \$37B in revenues and directly employing 480,000 in the industry – an estimated 40% of the national totals.

The restaurant sector was particularly hard hit after the closures with the COVID-19 Pandemic. A Restaurants Canada survey stated that 2/3 of the work force were laid off in March. And an estimated 30% of the restaurants, bars and cafes that closed might not re-open. This all translates into lost jobs and lost revenues for the individual businesses, as well as for all levels of government and the utilities.

The potential impacts to the Ontario economy if many restaurants don't reopen are significant. According to Restaurants Canada data, the average restaurant generates \$953,000 in revenue, with a profit margin (at 4.2%) of \$40,000. If 30% of the restaurants in Ontario never re-open that translates to a loss of 15,600 businesses and \$12.4B in lost revenues – and the corresponding contribution of tax dollars to all levels of government. And 5% of that would be lost revenues for electric and gas utilities, or \$620M annually.

A sustainable solution - an energy efficiency program would be an investment in the infrastructure of the restaurants (they use 2.5 times more energy than other commercial buildings), that will provide immediate relief and pay dividends well into the future to help speed the recovery after the return to business.

The Save On Energy (SOE) sponsored BRI program provided up to \$2,500 (avg. \$1,400) in free upgrades, including the installation of ECM fan motors, condenser coil cleaning, strip curtains for walk-in coolers/freezers, night curtains and LED retrofits for display cases and walk-in cooler/freezers. The participating customers saved an average of \$650 per year and the program passed all the cost/benefit tests with strong result.

It was designed to overcome the barriers to implementation of these measures by small business owners, including limited awareness of electricity operating costs of refrigeration equipment and limited access to capital to upgrade refrigeration equipment – a problem that has only been exacerbated with the closing of the restaurants because of the pandemic.

Areas where the program was in market

Greensaver had considerable success with the implementation of the BRI program. The following chart showcases the LDC service areas served and the number of assessments and retrofits completed before the Program ended in April 2019.

REGION	2017	2018	2019 (Q1+)	2019 (Projected)
Eastern Region: Ottawa, Kingston, H2000, Embrun, Hawkesbury, Veridian – plus Oshawa and Whitby*		A:815 R:524	A:277 R:273	A:1900 R:2000
Central Region: Toronto, Oakville	A:1049 R:760	A: 2783 R:1571	A:801 R:630	A:3200 R:2500
SouthWest Region: Kitchener, Milton, Burlington, Halton Hills, Festival, Essex, Entegrus, ELK, Wellington North. Energy+*		A:419 R:234	A:409 R:315	A:2000 R:1500
TOTALS	A:1049 R:760	A:4019 R:2329	A:1487 R:1218	A:7100 R:6000

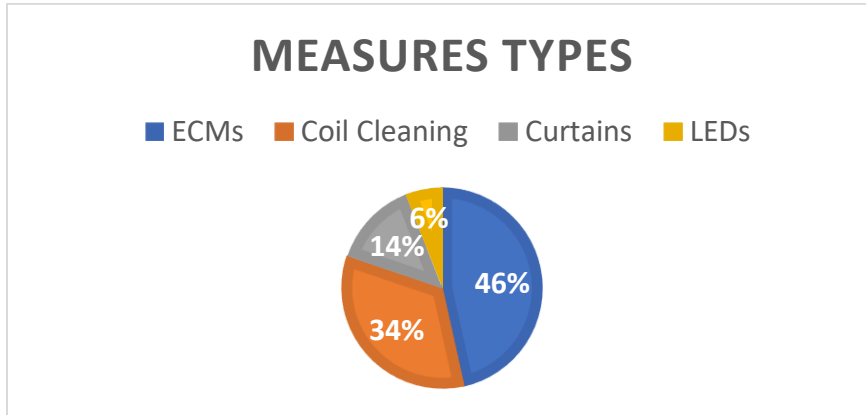
*Added just before program cancelled.

It is important to note that the results were restricted by the budgets set by each of the participating LDCs and a significantly higher number of retrofits could have been achieved had the supporting budgets been available.

In addition, it is understood that the program was also implemented to a limited degree by other vendors in Niagara Falls, Peterborough, Waterloo North, London and Guelph.

The measures available

The program included an expanded list of measures. The main measures that were installed included: ECMs, coil cleaning, strip curtains, night curtains and LED tubes in reach ins and A19s in walk in coolers/freezers.

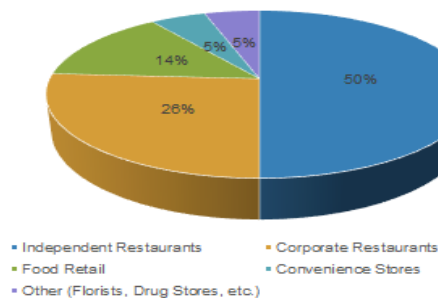


There were only limited opportunities for the larger ECMs, with installations of the 1/3 HP motors only at Shoppers Drug Mart stores. ASH controls were not installed, as they were either not accessible, disconnected or not a priority with customers. The door gaskets and auto closers were also not installed as they were specific to the manufacturers and it was not practical to carry all the varieties.

Targeted Customers

The customers that qualify for the program are for the most part in the restaurant space, with 50% being independent restaurants and 26% being corporate and independently owned franchised restaurants. The food retail sector was also important at 14%, with the smaller categories being convenience stores and others (florists and drug stores) at 5% each.

Retrofits by Customer Type



Estimated energy savings

The average savings per customer that were achieved was 6,200 kWhs, higher than the savings achieved in the PowerStream pilot at 5,717 kWhs (and PowerStream used much higher measure savings than the official IESO numbers we had used, as supplied by Jesse Kanagarajan) and higher than the earlier quoted Small Business Lighting savings of 4,116 kWhs.

Key lessons learned

There were many lessons learned from the work undertaken by Greensaver across the regions that we served, including:

- There is still significant potential for the program. The estimated 10,000 BRI retrofits completed to date means only a quarter of the market potential has been addressed.
- The focus for the program should be restaurants – who stand to benefit the most and were hardest hit during the lock-down. The convenience stores and food service stores were both allowed to be open, and have a much lower savings potential than restaurants.
- The program should be delivered on its own – separate from the SBL program. The lighting in restaurants is typically a specialty type, with limited opportunities for lighting retrofits apart from tube replacements for reach-ins and A-19s for walk-ins, and they are both part of the BRI program. Also, there will still need to be two calls made, with a separate refrigeration and a lighting contractor visit, so no real synergies.
- Customers are aware of the cost of refrigeration, but not the impact of the retrofits. An Energy Action Plan, or customized report is an important educational element for the participant and should be included in the program.

Recommendations for the next generation of the program

The recently introduced SOE incentives for Demand Control Kitchen Ventilation (DCKV) units provides the opportunity to add the promotion of that measure to customers with commercial kitchens that utilize vat fryers, griddles and ovens to cook food. There is also an opportunity to leverage and cross-promote the even greater incentives available from Enbridge.

The incentive of \$2,500 for an average unit, along with the \$7,000 from Enbridge provides a total of \$9,500 towards a \$20,000 unit or almost 50% of the cost – with savings that can be \$5,000 per year, with just over a 2-year payback.

However, the research conducted by groups such as the CEE, ASHRAE and PG&E have determined that simply making incentives available will not address the main barriers: lack of education for the end customers, the challenge of finding qualified contractors and the long-term payback.

The direct install/turn-key model that has been used for the BRI program and has proven successful with the small to medium sized businesses could lead to an increased uptake of the DCKV units – with educational opportunities and by providing a qualified contractor to install the units. Perhaps the DCKV incentive of \$2,500 could be re-visited and increased/doubled to shorten the payback even further.

Potential budget / energy savings with a four-year province-wide program

It is estimated that approximately 10,000 of the 39,000 restaurants have already participated in the BRI program, meaning there would be an additional 29,000 that would be eligible for the Restaurant Refrigeration Incentive (RRI) program. The following assumes a 70% (or higher depending on the number that do not re-open) response rate from the restaurants for the program.

There are two scenarios presented with the Demand Control Kitchen Ventilation (DCKV) component, one with the current incentive rate, the second with a doubled incentive. This also assumes the inclusion of the Enbridge incentive as well, which could bring the payback to less than 2 years for the participant.

	Year 1	Year 2	Year 3	Year 4	Totals
Restaurant Refrigeration Incentive Program					
Participants	5,000	5,000	5,000	5,000	20,000
Incentive and Administration Cost	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 40,000,000
Gross Estimated kWh Savings	31,000,000	31,000,000	31,000,000	31,000,000	124,000,000
DCKV					
Current SOE Incentive, plus Administration Cost	\$ 675,000	\$ 1,350,000	\$ 1,350,000	\$ 1,350,000	\$ 4,725,000
Participants	250	500	500	500	1,750
Gross Estimated kWh Savings	15,000,000	30,000,000	30,000,000	30,000,000	105,000,000
Double Incentive, plus Administration Cost					
Participants	500	1,000	1,000	1,000	3,500
Gross Estimated kWh Savings	30,000,000	60,000,000	60,000,000	60,000,000	210,000,000

Summary

The BRI program was achieving a strong participation level across the province before it was cancelled, and there is still significant potential. The restaurant sector accounted for most of the participants and it is proposed they become the sole focus for the program, given their financial challenges because of the pandemic, and become the **Restaurant Refrigeration Incentive (RRI) program**.

The go to market strategy and measures for the program highlighted above proved successful. The only additional measure foreseen is the addition of the Demand Control Kitchen Ventilation (DCKV) units – not provided free of charge but promoted, with an incentive and the option for the contractor to install the unit for them. It is also proposed that the IESO incentives be doubled (in the short-term) to address the financial challenges impacting the industry. The inclusion of the Enbridge incentive and cross promotion between the two organizations could drive additional take-up of the program and the DCKV measure.

SUITESAVER PROGRAM FEEDBACK

Overview of the Pilot Program Delivery

Background

The goal of the SuiteSaver program was to overcome barriers to improving energy efficiency in the multi-unit residential buildings (MURB) sector, with all-inclusive rents or administration fees.

In this segment, residents (tenants or unit owners) often pay a fixed cost for electricity as part of their rent, and building operators are responsible for maintenance. Through the SuiteSaver program, building owners and managers received a direct reduction in electricity costs from efficiency upgrades where they could install in-suite upgrades in the building.

Areas where the program was in market

The SuiteSaver program was only offered to building owners and managers of high-rise multiunit residential buildings in the Toronto Hydro service area.

The measures available

The program offered building owners and managers of high-rise multi-unit residential buildings free smart power bars and in-suite lighting retrofits for the units.

Estimated energy/demand savings and cost effectiveness

The following table shows the participation, gross program savings and the NTG ratio for the 2018 program year (source: Evaluation of 2018 Residential Programs, CADMUS).

Item	Units	Values
Participation	Projects	63
Gross Estimated Savings	MWh	1,428
	MW	1.076
Net-to-Gross Ratio	%	100%

The following table shows the 2018 SuiteSaver program was cost-effective, with a TRC test ratio of 6.25 and a PAC test ratio of 5.44 (source: Evaluation of 2018 Residential Programs, CADMUS).

Metric	Result	Benefits (\$)	Costs (\$)	Net Benefits
TRC Ratio	6.25	3,350,034	535,593	2,814,441
PAC	5.44	2,913,073	535,593	2,377,480
LUEC \$/kWh	0.038	N/A	N/A	N/A

Recommendations for the next generation of the program

The program fits with the APS and the focus on significant untapped lighting potential in sectors such as MURBs, as they have not had many targeted programs in the past.

The program target market needs to be expanded, as the pilot was restricted to the Toronto Hydro service area. While Toronto has by far the largest number of MURBs, there are also a considerable number across the GTA including the Alectra and Elexicon service areas, as well as Ottawa. There are an estimated 1,400 facilities in these areas.

There is an opportunity to cross-promote with the Retrofit program, to leverage the opportunity to show to suite owners the benefits in the common areas of the building. There is also an opportunity to cross-promote with Enbridge, with their programs focused on gas savings in these buildings.

With the move to targeting demand as well as energy savings going forward, there may be an opportunity to re-visit controlling suite and common area loads – as a follow up the peaksaverPLUS MURB pilot that was conducted in 2013. Perhaps the technology is more cost effective and now more readily accepted by the suite owners.

Summary

The SuiteSaver program holds so much potential to address an area that is missed by the current programs in market – specifically the Retrofit program. It hits the priority lighting area energy savings inside the suites and has the potential to be expanded to include demand savings, and be combined with gas company efficiency program solutions. SuiteSaver has also demonstrated one of the highest cost effectiveness results for any program, and is recommended to be launched as a centrally delivered direct install program across the Golden Horseshoe.