



Engaging small businesses in deeper energy savings

Motivating small businesses to invest in energy efficiency has been a challenge for energy efficiency programs nationwide. Minnesota is no different: with more than 100,000 small businesses offering a diverse set of services and occupying all types of commercial building space, there is no single energy efficiency program that will serve them all.

Lighting-only retrofit programs have been successful with small businesses, but with new lighting efficiency standards, these programs are seeing diminishing savings. At the same time, there are opportunities for energy savings from heating, cooling, ventilation and process loads that efficiency programs for small businesses are not capturing. This includes most of the potential natural gas savings in the sector.

Seventhwave researched the small business sector in Minnesota to shed light on its business characteristics and energy savings opportunities. The results were used to identify strategies that utility efficiency programs can employ to serve this hard-to-reach market and are the foundation for the program recommendations.

SNAPSHOT OF MINNESOTA'S SMALL BUSINESSES

Number of small businesses

~138,000

Predominant business activities

Half of small business employees work in retail, accommodation and food service, or healthcare

Ownership (by ft²)

57% lease their space and 43% own their space; 46% are the sole occupant of the building

High energy users

Total usage statewide—Office
Per ft²—Food service

Size and shape

Primarily single-story buildings; most are <5000 ft²; though savings are evenly weighted across sizes 5,000–50,000 ft²

Biggest end uses

Office—HVAC
Food service—kitchen equipment
Retail—HVAC
Food service and sales—refrigeration
Office—plug loads (including servers)

Attitude toward programs

Less than half have participated in efficiency programs; 37% have upgraded their lighting in the past 2 years; 47% have not touched their lighting

Key non-energy benefits of interest

Comfort, reduce maintenance



CUSTOMER ENGAGEMENT

Energy savings opportunities beyond lighting have not been easy to sell to small businesses: they may require hiring a contractor to install them, they may require capital investment and they may have long payback periods—all of which are barriers for small businesses. Addressing these barriers means employing different approaches to engage these customers.

COST-EFFECTIVE MEASURE BUNDLES

Show small businesses a path to deeper energy savings step-by-step. Begin with simple low-cost measures and gradually offer incrementally more complex, higher cost measures. Each step along the way builds confidence in the outcome and the program.

Our research identified ten categories of energy savings opportunities and corresponding bundles of measures that offer incremental levels of effort and savings.

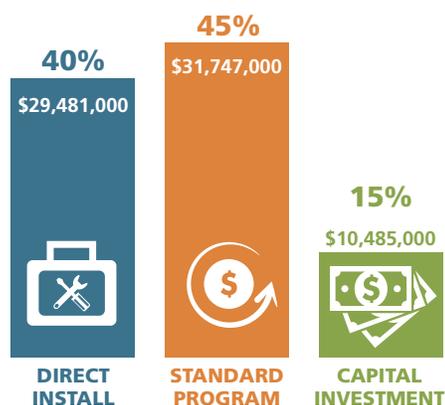
PROGRAM APPROACHES TO ENGAGE SMALL BUSINESS CUSTOMERS IN ENERGY EFFICIENCY	
ENGAGEMENT APPROACH	DESCRIPTION
Integrate program vertically	Use a single contractor for program implementation; from administration, to outreach and sales, and overseeing project execution. Tap into trade ally network for end-use subcontractors.
Use needs-based marketing and outreach	Segment businesses by customer needs and end uses. Focus marketing and outreach based on segmentation characteristics.
Ally with trusted information channels (e.g. business associations)	Use trusted, local business networks to reach customers.
Provide easy financing options	Connect program to easy-access financing options. Financing is critical for deeper savings.
Sell non-energy benefits (e.g. productivity, comfort)	Translate, even lead with, benefits beyond simple payback: comfort, convenience, productivity, etc.
Use residential marketing channels	Cross-market to residential customers. Small business owners see residential messaging. Residential/commercial trade allies are often identical.
Focus on customer journey to deeper savings	Provide an easy progression from low-cost measures to more capital-intensive projects.

PROGRAM BUNDLES

- CAPTURE GAS SAVINGS**
Focus on natural gas measures, such as heating system tune-ups or replacements, controls, and envelope
- TACKLE ROOFTOP UNITS**
Measures that focus on the most predominant HVAC system type in Minnesota
- RETROCOMMISSIONING**
These tune-up type measures include low-cost/no-cost improvements to a building's mechanical (and sometimes electrical) system
- TAMING KITCHEN ENERGY INTENSITY**
Improving all the high-energy using equipment found in commercial kitchens, and dealing with exhaust issues
- HVAC CROSSOVER: FROM RESIDENTIAL TO COMMERCIAL**
Take advantage of the synergy between residential and small business HVAC, and the trade allies that serve both
- EVERYONE HAS A THERMOSTAT**
Focus on the ubiquitous thermostat-associated measures
- KEEPING IT COOL WITH REFRIGERATION**
A targeted approach to refrigeration retrofit
- SELLING ENERGY EFFICIENCY TO RETAIL**
A bundle of measure targeted specifically at retail stores
- EXTERIOR LIGHTING**
Many existing lighting programs are skewed toward indoor lighting; add exterior lighting to existing programs
- IF IT'S PLUGGED IN, IT'S PLUG LOAD**
A bundle of measures targeted at this often completely overlooked end use

EXAMPLE BUNDLE—REFRIGERATION: WHERE TO START

SAVINGS BY PROGRAM DELIVERY TYPE



Total statewide customer cost savings (\$ millions) \$70,712,000

PROGRAM MEASURES (highest savers listed first in each category)

DIRECT INSTALL

- 1 Refrigeration tune-up/maintenance
- 2 Display case LEDs
- 3 Automatic walk-in door closers
- 4 Clearing space around condensers

STANDARD PROGRAM

- 1 Anti-sweat heater control
- 2 EC motors
- 3 Evaporator fan control
- 4 Floating head/suction pressure control
- 5 Smart defrost
- 6 Night covers

CAPITAL INVESTMENT

- 1 Add case doors
- 2 VFD on condenser fans

TARGETING BUSINESS SEGMENTS

Business segment	Average premise savings	
	electric (kWh)	natural gas (therms)
Grocery	12,615	0
Food service	4,650	10
Retail	4,035	0
Office	780	0

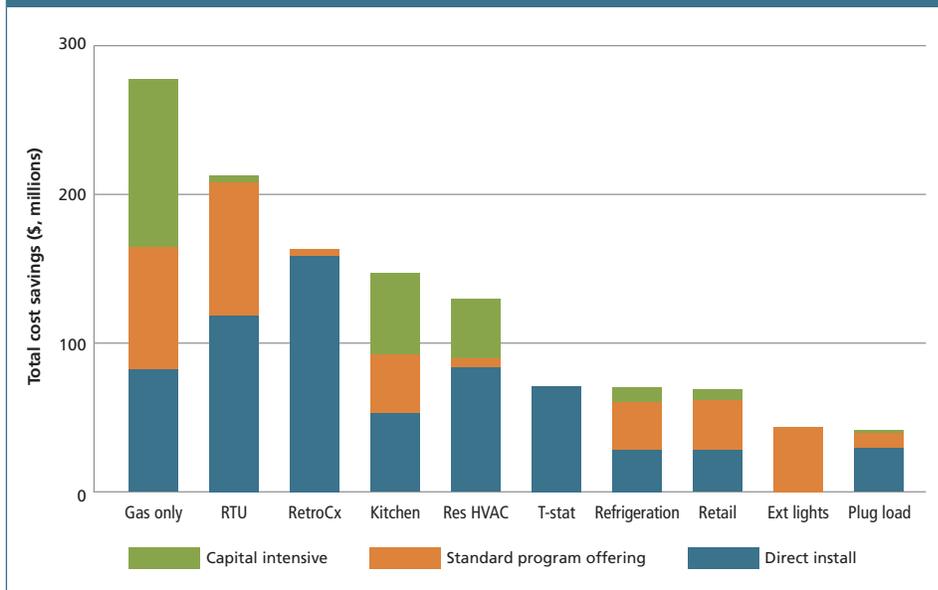
OUTREACH AND IMPLEMENTATION

Help guide small businesses along a journey through the spectrum of refrigeration measures—from simple direct install options to expensive capital improvements. Building types with a significant refrigeration system are generally obvious, so heavily targeted marketing should be used. Use a tiered approach to garner greater savings. Provide economic analysis and financing solutions to unlock deep savings once the point of capital improvement measures is reached.

These bundles can be configured to appeal to small business customers by business type, end-use and fuel type (electric or gas savings). Small businesses can focus on the end-uses that will provide them with the most savings and energy efficiency program managers can show their customers a path to greater savings. See [Small Commercial Characterization](#) for a list of measures for each program bundle.

End-use measures in each program bundle are categorized by the program delivery type: direct-install, standard and capital-intensive. The direct-install measures can be plugged into a traditional direct-install program. Standard measures can be offered through a rebate-based program while capital-intensive measures will likely require more hand-holding, financing or economic analysis. ■

ENERGY SAVINGS FROM EACH PROGRAM BUNDLE



FOR MORE INFORMATION

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Project Page: seventhwave.org/small-commercial-study

Final Report: Small Commercial Characterization