



Vectren Energy Delivery of Ohio
DSM Program Year 8 Operating Plan
January 2016 – December 2016

Prepared by:
Vectren Energy Delivery of Ohio

Submitted initially on:
December 2, 2015

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EXECUTIVE SUMMARY

Program Year 8 Portfolio Summary and Budget

In Program Year 8 (January 1, 2016 through December 31, 2016), Vectren Energy Delivery of Ohio, Inc. (VEDO) will continue to offer many of the same programs included in the Program Year 7 natural gas demand-side management portfolio. The program offerings, as outlined in Table 1, have been adjusted based on lessons learned and 2015 year to date results. Program Year 7 final results will be provided prior to the end of February 2016.

Table 1: Program Year 8 DSM and Low Income Weatherization Portfolio Summary

Program Year 8 DSM and Portfolio Summary						
		Budget	% of Total Portfolio Budget	Estimated Gross Savings (Ccf)	% Gross Savings (Ccf)	Participants
ID	DSM Programs					
1	Residential Prescriptive	\$1,239,222	34%	502,675	50%	5,250
2	Home Insulation Program	\$975,880	27%	154,691	15%	535
3	Multi-Family Direct Install	\$285,248	8%	108,887	11%	1,500
4	School Education Program	\$398,077	11%	150,000	15%	9,000
5	UDEEP	\$49,928	1%	20,548	2%	250
6	Commercial Prescriptive	\$161,447	4%	48,343	5%	200
7	Commercial Custom Program	\$115,500	3%	24,000	2%	6
	Outreach and Education	\$375,000	10%			
	Online Audit Licensing Fees	\$64,000	2%			
	DSM Portfolio Total - 2016	\$3,664,303	100%	1,009,144	100%	16,741
	DSM Annual Program Funding - 2016	\$2,900,000				
	DSM Program Funding Variance - 2016	\$764,303				
	DSM Funding Total - 2016	\$3,664,303				
8	Low Income Weatherization Program					
	TEEM I - Total Available Funding - 2016	\$1,100,000		31,040		160
	TEEM II - Total Available Funding - 2016	\$1,000,000		20,664		123
	TEEM Total - 2015	\$2,100,000		51,704		283
	DSM & Low Income Program - Totals - 2015	\$5,764,303		1,060,848		17,024

Program Changes

For 2016, VEDO is planning an Operating Plan budget of \$3.66M, savings of 1,009,144 Ccfs and 16,741 participants. As part of the settlement agreement in Case No. 07-1080-GA-AIR, the VEDO Collaborative was given authority to increase program funding beyond the \$2.9M in base rate funding through the use of the EEFr rider. To sustain current programs and achieve the planned Ccf savings for 2016, VEDO is planning an increase in EEFr of \$764,303. A summary is provided below for each program that VEDO is planning to modify for 2016 from the 2015 VEDO DSM Operating Plan.

DSM Programs

1. Residential Prescriptive Rebate Program

- a. Residential Furnace Replacement:** As a result of the Evaluation, Measurement and Verification (EM&V) process performed by The Cadmus Group, Inc. (Cadmus) on 2014 programs, the incentive levels for the tiered residential furnace rebates will be increased as follows: The 95% AFUE incentive will increase from \$200 to \$250 and the 97% AFUE incentive will increase from \$300 to \$350. Additionally, participation will be increased for both measures. This change was made to reduce freeridership and incent more customers to participate in the program.
- b. Residential New Construction Furnace:** Also as a result of the 2014 evaluation, it is recommended the AFUE threshold for residential new construction furnaces be increased from 95% to 97% to reduce freeridership. The incentive amount will be set to \$350 to match the 97% retrofit furnace.

2. Home Insulation and Air Sealing Program

For 2016, there are no program design changes being made to the home insulation and air sealing program. The program has been administered through Conservation Services Group (CSG) since inception. In mid-2015, CSG was purchased by CLEARresult and will now operate under the CLEARresult name. This change does not affect how the program is administered.

3. Home Audit and Weatherization Program Pilot

In 2016, VEDO will no longer offer the Home Audit and Weatherization Program Pilot. VEDO has decided to discontinue this program due to high cost per Ccf and lack of duct sealing opportunities within the service territory. This customer market will continue to be served through the prescriptive home insulation and air sealing program.

4. Multi-Family Direct Install Program

VEDO will again offer the Multi-Family Direct Install Program in 2016. This year, the program will target eligible residences within the Dayton Metro Housing Authority (DMHA). The program will continue to offer a programmable thermostat, water saving measures and pipe wrap at no cost to customers.

5. School Education Program

For the past five years, the School Education Program has been a collaborative effort with Dayton Power & Light (DP&L), by cobranding materials and sharing costs and savings. The 2016-2017 School Education Program is currently proposed as a Vectren only program. As a result of DP&L not yet having an approved DSM plan for 2017, they cannot commit to a joint school education program for the 2016-2017 school year. DP&L feels that it is very likely they will participate in the school education program for the 2016-2017 school year, but cannot commit to the program until mid-2016. Should DP&L file and receive approval for a DSM portfolio that includes a school education program, VEDO will communicate to the collaborative the reduced cost for running a joint program. VEDO's 2016 operating budget would be reduced by approximately \$95,000 with DP&L's continued participation in this program.

6. University of Dayton Energy Education Program (UD-EEP)

In partnership with several community groups, VEDO will participate in a new community engagement and education program in 2016. The program, which offers both residential and commercial savings, promotes energy reduction to residences and small businesses throughout the city of Dayton. The program consists of community outreach and education, no-cost direct install measures, behavior education and data collection for program evaluation.

7. Commercial Prescriptive Rebate Program

- a. Commercial Furnace Replacement:** In 2016, VEDO will remove the \$200 rebate for a 92 - 94.99% AFUE Furnace Replacement due to lack of participation. The $\geq 95\%$ AFUE commercial furnace will remain with a \$300 rebate for participating customers. An additional commercial furnace rebate tier will be added for a $\geq 97\%$ AFUE furnace. This second tier will provide a \$400 rebate for the purchase of an eligible furnace.
- b. New Commercial Measures:** Three additional new commercial measures will be added to the commercial prescriptive program for 2016. These measures include a Wi-Fi thermostat for commercial customers, low pressure steam traps and dry cleaner steam traps.

Low Income Weatherization Program

The TEEM weatherization program continues to perform well and reach the intended markets. The 2016 weatherization forecast is based on historical Ccf savings and average cost per home. The savings estimates are based on an analysis of TEEM I and TEEM II homes weatherized in 2013. The analysis was performed by The Cadmus Group, Inc. (Cadmus) and considered twelve months of weather normalized consumption before and after the job completion date. Based on this information, VEDO is forecasting that the 2016 TEEM programs will produce a total of 51,704 Ccf savings. These estimates may not be indicative of future results based on the varying amounts of weatherization that may be required per home.

a. TEEM I

Based upon an average savings of 194 Ccfs per home, VEDO is forecasting that the 2016 TEEM I program will generate a savings of 31,040 Ccfs and serve 160 homes. The total 2016 budget for this program is approximately \$1,100,000.

b. TEEM II

Based upon an average savings of 168 Ccfs per home, VEDO is forecasting that the 2016 TEEM II program will generate a savings of 20,664 Ccfs and serve 123 homes. The total 2016 budget for this program is approximately \$1,000,000.

PROGRAM OPERATING PLANS

DSM Programs

1. Residential Prescriptive Rebate Program

Program Description: The Residential Prescriptive Rebate Program is designed to influence customer purchasing decisions when replacing existing or installing new equipment. Financial incentives (online or mail-in rebates) are designed to encourage customers to purchase high efficiency products that would have otherwise purchased standard efficiency products in the absence of the program. These incentives help to reduce the incremental cost of purchasing higher efficiency and higher priced products. The program will foster sustainable improvements in the local VEDO market for these products. This will be accomplished using a combination of market push and pull strategies that stimulate demand from customers while simultaneously increasing trade ally investment in stocking and promotion of targeted products. The efficient equipment that will be promoted through this effort includes:

Table 2: Residential Rebate Prescriptive Measures

Measure	Incentive Per Unit
Furnace Replacement 95 - 96.99% AFUE	\$250
Furnace Replacement > 97% AFUE	\$350
New Construction Furnace >97% AFUE (New)	\$350
Boiler Replacement >95%	\$500
Wi-Fi Enabled Thermostat	\$100
Programmable Thermostat	\$20

The program will increase demand by educating customers about the energy and money saving benefits associated with efficient products via outreach and education, website and equipping trade allies to communicate the benefits to customers.

Eligible customers: The Residential Prescriptive Rebate Program will target single-family residential homes and multi-family properties.

Marketing: Marketing for the Residential Prescriptive Rebate Program relies on networking with trade allies, mass media messages to consumers and businesses, and website tools and promotions.

- **Customer Targeted Marketing:** Outreach and education efforts will continue to reach customers via bill inserts and mass media education that provides customers with low cost energy saving tips (e.g. program your thermostat, turn down your water heater temperature) while increasing awareness of incentive offers.

- Vectren Live Smart webpage: Information regarding the availability of incentives, program requirements, rebate claim forms, and product fact sheets will be available through www.vectrenenergy.com/Save_Energy. This resource will serve both customers and trade allies seeking information and program materials.
- Energy Efficiency Advisory Team: In addition, Vectren’s call center fields referrals from the company’s general call center and serves as a resource for interested customers. A toll-free number is provided on all outreach and education materials.

Delivery Organizations: VEDO staff will oversee the program and will utilize the services of CLEAResult to perform rebate fulfillment services.

Table 3: 2016 Residential Prescriptive Rebate Program Summary

Measure	Number of Participants	Incentive Per Unit	Incentive Budget	Savings Per Unit	Projected Ccf Savings
Furnace Replacement 95 - 96.99% AFUE	2,500	\$250	\$625,000	121	301,750
Furnace Replacement > 97% AFUE	400	\$350	\$140,000	127	50,970
New Construction Furnace >97% AFUE (New)	125	\$350	\$43,750	112	14,039
Boiler Replacement >95%	25	\$500	\$12,500	112	2,811
Wi-Fi Enabled Thermostat	1,700	\$100	\$170,000	69	117,085
Programmable Thermostat	500	\$20	\$10,000	32	16,020
Total	5,250		\$1,001,250		502,675

Table 4: 2016 Residential Prescriptive Summary Budget

Program Delivery & Implementation	
Incentives	\$1,001,250
Program Delivery/Implementation Expenses	\$155,962
Evaluation	\$59,011
Program Delivery/Implementation Subtotal	\$1,216,222
Program Administration	
Program Administration Expenses	\$23,000
Program Administration Subtotal	\$23,000
Total	\$1,239,222

2. Home Insulation and Air Sealing with Direct Install Program

Program Description: The Home Insulation and Air Sealing with Direct Install Program is a trade ally driven market approach to comprehensive energy efficiency projects. The objective of the program is to deliver air sealing and insulation upgrades to serve individually metered 1-4 unit single family homes in VEDO’s territory through a network of participating contractors. The program will continue to offer a

direct install measure (DIM) package. The program administrator will offer to install the applicable measures during a quality control walk through process. The direct install package will include:

- One (1) programmable thermostat
- 6 feet of pipe wrap
- Up to two (2) energy efficient showerheads
- Up to two (2) bath aerators
- One (1) kitchen aerator

CLEAResult (formerly CSG) will continue to recruit and train insulation contractors to offer and provide recommended shell improvements to their existing customers. Contractors will also receive training and supervision on air sealing which may be unfamiliar to insulation contractors. The program will continue to rely on BPI certified contractors to assess needs, provide recommendations, sell and install air sealing and insulation projects.

The program will offer cash incentives to help customers pay for the improvement work and to encourage customers to move forward and install comprehensive improvement packages. There are two “major measure” categories: 1) air sealing (includes closure of open flues) and 2) insulation. It is suggested that air sealing be required as a measure before insulation is performed. To make it more affordable for customers to participate in the program, the rebate amount will be deducted from the total cost of the work scope and will be paid to the contractor once the project is completed. Table 5 outlines the proposed incentive structure for this program.

Table 5: Home Insulation and Air Sealing Customer Incentive Structure

Rebate	Per Unit	Bonus Per Unit	Max
Air Sealing	\$40/hour	\$10/hour	\$250
Wall Insulation	\$.40/sf	\$.20/sf	\$700
Attic Insulation R-32+	\$.50/sf	\$.30/sf	\$600
Attic Insulation R-25 - R-31.9	\$.40/sf	\$.20/sf	\$600
Attic Insulation R-19 - R-24.9	\$.30/sf	\$.15/sf	\$600

Eligible customers: The program is available to VEDO residential natural gas customers in single family homes.

Marketing: CLEAResult, in conjunction with VEDO’s existing marketing strategy for energy efficiency programs, will use a program-specific marketing plan and communications strategy to reach eligible customers. CLEAResult will also coordinate with trade allies with a customer base that would be receptive to the program.

Delivery Organizations: VEDO staff will oversee the program and utilize the services of CLEAResult (formerly CSG) to manage the trade ally installation services and provide cash incentive fulfillment services.

Table 6: 2016 Home Insulation and Air Sealing with Direct Install Program Summary

Measure	Number of Participants	Incentive Per Unit	Incentive Budget	Savings Per Unit	Projected Ccf Savings
Residential Home Performance - Per Project	535	\$891	\$476,819	282.64	151,213
Direct Install	107	\$0	\$0	32.50	3,478
Total	535		\$476,819		154,691

Table 7: 2016 Home Insulation and Air Sealing with Direct Install Program Budget

Program Delivery & Implementation	
Incentives (Home Insulation and DIM)	\$476,819
Program Delivery/Implementation Expenses	\$436,591
Evaluation	\$46,470
Program Delivery/Implementation Subtotal	\$959,880
Program Administration	
Program Administration Expenses	\$16,000
Program Delivery/Implementation Subtotal	\$16,000
Total	\$975,880

3. Multi-Family Direct Install Program

Program Description: The Multi-Family Direct Install Program was initially offered in July 2010. The program installed low flow water fixtures (i.e. showerheads and faucet aerators) in rental units at no cost to the customer. The program aimed to reduce hot water consumption and thus reduce natural gas consumption. The program also educated renters and property managers about the water and energy savings benefits of installing these low-cost measures and behaviors that will have a lasting impact on energy consumption.

In 2013, the program added pipe wrap and programmable thermostats to the measure mix. In 2014, the program recruited new apartment complexes to install the water saving measures, and re-visited previous program participants to take advantage of the programmable thermostats, prior to that measure being added to the program. Customers responded very favorably to the Programmable Thermostat installs and we continue to see that customers are eager to participate in the Programmable Thermostat program.

In 2016, VEDO will again offer the Multi-Family Direct Install Program. This year, the program will target eligible residences within the Dayton Metro Housing Authority (DMHA). These residences have not previously participated in the program; as a result, the program will offer the following direct install measures:

- One (1) Programmable Thermostat
- One (1) Dual Spray Kitchen Aerator
- Up to two (2) Showerheads
- Up to two (2) Bathroom Sink Faucet Aerators
- Foam Pipe Wrap
- Showerhead Adaptor

The program will work to educate both renters and property managers about the benefits of installing these measures and behaviors that will have a lasting impact on their energy consumption. The offered measures will continue to be installed at no cost to the customer.

Eligible customers: The program will target complexes of eight or more units that are either individually metered (i.e. residential customers) or master metered (general service customers). Each unit must have its own natural gas fueled storage water heater.

Marketing: The program will be marketed via direct mail pieces that promote the existence of the program to property management firms and property owners. Apartment associations will be identified and targeted for presentations. Information regarding program requirements along with requests for service will be available through the Conservation Connection webpage and contact center. Participants

will be accepted on a first come, first served basis to prevent over subscription.

Delivery Organizations: VEDO conservation staff oversees the program and utilize the services of Water and Energy Solutions (WES) to assist in the delivery and installation services aspect of the program.

*Table 8: 2016 Multi-Family Direct Install Program Summary**

Measure	Number of Participants	Incentive Per Unit	Incentive Budget	Savings Per Unit	Projected Ccf Savings
DWH Pipe Wrap	900	\$0	\$0	6.00	5,400
Water Saving Measures with Handheld	1,500	\$0	\$0	33.04	49,561
Additional Measures	200	\$0	\$0	29.33	5,866
Programmable Thermostat	1,500	\$0	\$0	32.04	48,060
Total	1,500		\$0		108,887

*Direct Install measures provided at no cost to participant.

Table 9: 2016 Multi-Family Direct Install Program Budget

Program Delivery & Implementation	
Incentives	\$0
Program Delivery/Implementation Expenses	\$221,665
Evaluation	\$13,583
Program Delivery/Implementation Subtotal	\$235,248
Program Administration	
Program Administration Expenses	\$50,000
Program Administration Subtotal	\$50,000
Total	\$285,248

4. School Education Program

Program Description: The School Education Program is designed to raise awareness about how individual actions and low-cost measures can provide significant reductions in energy and water consumption. The program is offered to 5th-12th grade students who attend school within in the VEDO service territory. The goal of the program is to influence and educate students about conservation and the efficient use of natural gas and to show their families how to be smart energy consumers too. Families become involved as students are given energy efficient kits to take-home and the assignment to improve energy use in their own homes. The program is very effective in teaching students, families and teachers about how to use energy efficient devices and adopt conservation behaviors. Program participants are encouraged to return a Home Installation Survey which provides valuable information on the adoption and installation of the energy savings measures. The program curriculum teaches energy efficiency programs aligned to Ohio’s educational standards and Common Core. In past years, the program has been a collaborative effort with Dayton Power & Light (DP&L) by cobranding materials and sharing costs and savings. For the 2016-17 school year, the program is currently proposed as Vectren only program due to DP&L not yet having an approved DSM plan. However, it is likely DP&L will continue to participate in the program.

Eligible Customers: The target market for this program is children in 5th-12th grade attending school systems within the VEDO service area.

Marketing: The delivery organization’s curriculum is correlated to meet the Ohio Academic Content Standards. They will communicate directly with schools through letters and electronic communication systems utilized specifically by teachers or education administrators.

Delivery Organizations: Ohio Energy Project (OEP) serves as the School Education Program vendor. OEP is an educational organization that provides energy education, interactive learning tools and programs for students, educators and business partners.

Table 10: 2016 School Education Program Summary

Measure	Number of Participants	Incentive Per Unit	Incentive Budget	Ccf Savings Per Unit	Projected Ccf Savings
School-Based Education Program	9,000	\$0	\$0	16.67	150,000
Total	9,000		\$0		150,000

Table 11: 2016 School Education Program Budget

Program Delivery & Implementation	
Program Delivery/Implementation Expenses	\$329,121
Evaluation	\$18,956
Program Delivery/Implementation Subtotal	\$348,077
Program Administration	
Program Administration Expenses	\$50,000
Program Administration Subtotal	\$50,000
Total	\$398,077

5. University of Dayton Energy Education Program (UD-EEP)

Program Description: In partnership with several community groups, VEDO will participate in a new community engagement and education program in 2016. The University of Dayton Energy Education Program (UD-EEP) consists of 250 Energy Education Site Visits to include no-cost direct installs of energy efficient equipment and education to residents and business owners. The program, which offers both residential and commercial savings, promotes energy reduction to residences and small businesses throughout the city of Dayton. The program consists of community outreach and education, no-cost direct install measures, behavior education and data collection for program evaluation.

The program will feature community forum events to reach neighborhoods and business districts through neighborhood meetings at schools, churches, and business district leaders; all aimed to get sign-ups for the on-site Energy Education & Energy Reduction Site Visits. The on-site visits will address resident occupancy requirements relative to thermostat programming (and subsequent programming), how to implement temporary thermostat set point changes, lighting behavioral energy impact, and other obvious behavioral energy reduction opportunities. The direct installs will include the following items (as needed): Wi-Fi enabled smart thermostats, low flow showerheads, furnace filters, plug-n-play LED or magnetic mount LED strip lighting upgrades, and Emerson Climate Technologies Comfort Guard HVAC monitoring systems. Monthly reports documenting the participating residences and small businesses will be delivered to Vectren and DP&L.

Eligible customers: The program will target single-family residential and small business properties within the DP&L and Vectren service territory.

Marketing: The program will reach customers through community forums, social media and site visit handouts. All handouts will be approved by VEDO marketing.

Delivery Organizations: VEDO staff will oversee the program. The site visits will be conducted by students at the University of Dayton, Sinclair Community College and other local schools.

Table 12: 2016 UD-EEP Summary

Measure	Number of Participants	Incentive Per Unit	Incentive Budget	Savings Per Unit	Projected Ccf Savings
UD-EEP Residential	200	\$0	\$0	83.15	16,631
UD-EEP Commercial	50	\$0	\$0	78.35	3,918
Total	250		\$0		20,548

*Direct Install measures provided at no cost to participant.

Table 13: 2016 UD-EEP Budget

Program Delivery & Implementation	
Incentives	\$0
Program Delivery/Implementation Expenses	\$43,550
Evaluation	\$2,378
Program Delivery/Implementation Subtotal	\$45,928
Program Administration	
Program Administration Expenses	\$4,000
Program Administration Subtotal	\$4,000
Total	\$49,928

6. Commercial Prescriptive Rebate Program

Program Description: Similar to the Residential Prescriptive program, the Commercial Prescriptive Rebate Program is designed to influence commercial customers to install energy efficient technologies. Financial incentives (mail-in rebates) are intended to encourage customers to purchase high efficiency products that would have otherwise purchased standard efficiency products in the absence of the program.

The program will increase demand by educating customers about the energy and money saving benefits associated with efficient products via outreach and education, website and equipping trade allies to communicate such benefits to customers. The program will foster sustainable improvements in the local VEDO market for these products. Product availability is addressed as market providers adjust to meet increased demand generated by incentive offers and consumer education activities. Four new rebates will be offered this year. The efficient equipment that will be promoted through this effort includes:

Table 14: Commercial Rebate Prescriptive Measures

Measure	Incentive Per Unit
Furnace Replacement >95% AFUE	\$300
Furnace Replacement >97% AFUE (New)	\$400
Commercial Boiler >90%	\$3,000
Boiler Tune Up	\$250
Wi-Fi Enabled Thermostat (New)	\$100
Steam Traps - Low Pressure (New)	\$50
Steam Traps - Dry Cleaners (New)	\$250

Note – the actual per unit incentive for the commercial boiler is a custom amount calculated based on \$6/MMBTU with a maximum payout of \$5,000.

Eligible customers: Commercial Prescriptive rebates target commercial customers in rate classes 320, 321 and 325, defined as those whose annual usage is less than 150,000 Ccfs.

Marketing: The Commercial Prescriptive Rebate Program relies on networking with trade allies, mass media messages to consumers and businesses, and website tools and promotions.

Delivery Organizations: VEDO staff will oversee the program and will utilize the services of CLEAResult to perform rebate fulfillment services.

Table 15: 2016 Commercial Prescriptive Rebate Program Summary

Measure	Number of Participants	Incentive Per Unit	Incentive Budget	Savings Per Unit	Projected Ccf Savings
Furnace Replacement >95% AFUE	60	\$300	\$18,000	115	6,876
Furnace Replacement >97% AFUE (New)	10	\$400	\$4,000	128	1,280
Commercial Boiler >90%	30	\$3,000	\$90,000	803	24,096
Boiler Tune Up	15	\$250	\$3,750	258	3,875
Wi-Fi Enabled Thermostat (New)	60	\$100	\$6,000	78	4,701
Steam Traps - Low Pressure (New)	10	\$50	\$500	72	720
Steam Traps - Dry Cleaners (New)	15	\$250	\$3,750	453	6,795
Total	200		\$126,000		48,343

Note – the actual per unit incentive for the commercial boiler is a custom amount calculated based on \$6/MMBTU with a maximum payout of \$5,000.

Table 16: 2016 Commercial Prescriptive Rebate Program Budget

Program Delivery & Implementation	
Incentives	\$126,000
Program Delivery/Implementation Expenses	\$20,759
Evaluation	\$7,688
Program Delivery/Implementation Subtotal	\$154,447
Program Administration	
Program Administration Expenses	\$7,000
Program Administration Subtotal	\$7,000
Total	\$161,447

7. Commercial Custom Program

Program Description: The Commercial Custom Program offers business customers incentives for qualifying energy efficiency upgrades not covered under the Commercial prescriptive rebate program. This program encourages the purchase and installation of efficient technologies or implementation of process improvements. VEDO will again partner with a qualified implementation subcontractor, Heapy Engineering, to deliver this program.

VEDO's field representative will work directly with key customers and market providers to identify potential energy savings projects and answer questions on program requirements. Once prospective energy saving projects are identified, VEDO's representative and Heapy Engineering will work with the customer and/or market provider to complete custom engineering calculations.

If the project is deemed eligible, Heapy Engineering and VEDO will assist the customer or market provider in completing the grant application and will manage the allocation of funds. Prior to starting a project, customers must complete an application and attach documentation verifying the energy savings potential, payback horizon, project eligibility and incentive amount. When the project is approved, Vectren will send a Letter of Intent (LOI) to the applicant confirming the amount of the incentive that will be paid once the project is completed.

Once projects are implemented, the customer will submit incentive claims along with all necessary documentation to VEDO. Heapy Engineering will review the applications and a qualified engineer will verify savings calculations are correct prior to payment. The VEDO representative will monitor the status of the rebate application and project until the point of payment.

VEDO will continue to partner with Dayton Power & Light (DP&L) and the University of Dayton (UD) Building Energy Center to target customers with the highest opportunity for energy savings by use of a UD computational tool. UD will identify and perform a utility analysis for priority customers in Vectren and DP&L's service territories. UD conducts on-site energy saving assessments and provides assessment results to estimate the potential energy savings of specific energy reduction measures that would qualify for the program. Cost sharing of the assessments with DP&L allows VEDO to reach more customers and perform more assessments within the program year.

Eligible Customers: Commercial customers in rate classes 320, 321 and 325, defined as those whose annual usage is less than 150,000 Ccfs.

Marketing: VEDO will provide outreach and education to contractors to inform them of the program offerings through direct contacts with key customers and market providers (e.g. mechanical contractors).

This approach is highly dependent upon referrals and networking with trade allies to identify projects. Outreach will include in-person visits to customers and market providers, attending and presenting at public seminars and trade association meetings, (e.g. ASHRAE, school administrators, hospitality), direct mail, newsletters and other targeted media and networking.

Delivery Organizations: Vectren will contract with a local engineering firm, Heapy Engineering, to perform the engineering review and rebate fulfillment for this program.

Table 17: 2016 Commercial Custom Program Summary

Measure	Number of Participants	Incentive Per Unit	Incentive Budget	Savings Per Unit	Projected Ccf Savings
Commercial Custom Incentive	6	\$4,500	\$27,000	4,000	24,000
Total	6		\$27,000		24,000

Table 18: 2016 Commercial Custom Program Budget

Program Delivery & Implementation	
Incentives	\$27,000
Program Delivery/Implementation Expenses	\$73,000
Evaluation	\$5,500
Program Delivery/Implementation Subtotal	\$105,500
Program Administration	
Program Administration Expenses	\$10,000
Program Administration Subtotal	\$10,000
Total	\$115,500

Low Income Weatherization Program

8. Teaching Energy Efficiency Measures (TEEM)

Overview: Project TEEM (Teaching Energy Efficiency Measures) is a low income weatherization program that assists VEDO customers to make energy efficient improvements to their homes. The program is administered by The Community Action Partnership of the Greater Dayton Area (Dayton CAP) and improvements are provided at no cost to the customer. Dayton CAP subcontracts with three smaller CAP agencies in order to deliver services to all of VEDO's service territory. The TEEM program is divided into two sections based on income eligibility requirements.

Program Description: The program focuses on shell measures such as insulation and air sealing, but also includes replacements of non-functioning natural gas furnaces and water heaters, and minor repairs intended to increase the health and safety of the occupants of the home. Participation is limited by the annual budget and a waiting list of eligible customers is maintained for each program.

1. TEEM I

TEEM I provides single-family home weatherization services for customers with incomes up to 200% of the federal poverty guidelines. The program was initiated in 2005 and is funded by VEDO through base rates at \$1.1 million annually.¹ The program includes measures and protocols prescribed by the State of Ohio Home Weatherization Assistance Program (HWAP). Prior to the American Recovery and Reinvestment Act (ARRA), funds available through TEEM I were leveraged with other available funds for customers whose incomes were up to 175% of poverty while funds for customers whose incomes ranged between 175% and 200% were solely from funds approved for TEEM I. As a result of ARRA, funding was extended to include up to 200% of Federal Poverty Guidelines.

2. TEEM 2

TEEM II was launched in 2007 and originally funded at \$2 million for a two year period.² Subsequently, TEEM II was identified as an additional program to be funded by the EEFRR rider at approximately \$1 million annually.³ TEEM II is a unique income-qualified program that funds home weatherization for customers in the range of 201% up to 300% of the federal poverty income guidelines. TEEM II is intended to benefit customers who have traditionally been unable to access any sort of assistance funds, yet do not have the disposable income to make needed

¹ Established originally by stipulated agreement in Case No. 04-571-GA-AIR and continued by agreement in Case No. 07-1080-GA-AIR.

² As a result of Case No. 05-1444-GA-UNC.

³ As part of the settlement agreement in Case No. 07-1080-GA-AIR

energy efficiency improvements to their homes. The program includes measures and protocols prescribed by the State of Ohio Home Weatherization Assistance Program (HWAP).

Quality Assurance: VEDO contracts with an independent inspector to perform quality assurance inspections for the TEEM programs. This ensures that weatherization service work is completed to the highest standards and that no safety or health hazards exist due to the work performed through the programs. On-site quality checks are performed for a percentage of all programs as follows:

- TEEM I: 5% of jobs completed within 0-150% federal poverty income range.
- TEEM I: 15% of jobs completed within 151-200% federal poverty income level range.
- TEEM II: 15% of all homes weatherized through the program.

For both TEEM I and TEEM II, desk reviews are performed on 60% of the homes weatherized through these programs. Desk reviews verify that the appropriate paperwork and permits are filed and that required city inspections on furnace and water heater work are performed.

Marketing: Outreach efforts are performed by Dayton CAP and includes the distribution of quarterly newsletters which include information about the TEEM programs, along with additional agency program offerings, presentations at community events, faith-based organizations and distribution of brochures, magnets and pens. Dayton CAP also distributes copies of a TEEM video in order to provide information about how the program works and the measures that an eligible customer may receive. This video plays continuously in the lobbies of the various CAP agencies when clients are applying for the various assistance programs that the agency offers. Both TEEM programs now enjoy steady participation and customer demand requires that Dayton CAP maintain a waiting list of prospective clients.

Conclusion: The TEEM program continues to reach its target market, which includes customers who have not traditionally been eligible for weatherization assistance. The partnership between Dayton CAP and VEDO has proven to be very effective in delivering weatherization services to low-to-moderate income households with the desired result of reducing overall natural gas consumption and providing customers with an increased ability to manage their energy costs.

2016 Low Income Weatherization Forecast and Budget

Some carryover funding may be available and will be updated in early 2016. The 2016 weatherization forecast is based on historical Ccf savings and average cost per home. The savings estimates are based on an analysis of TEEM I and TEEM II homes weatherized in 2013. The analysis was performed by The Cadmus Group, Inc. (Cadmus) and considered twelve months of weather normalized consumption before and after the job completion date. Based on this information, VEDO is forecasting that the 2016 TEEM programs will produce a total of 51,704 Ccf savings. The Table below demonstrates the savings per program.

a. TEEM I

Based upon an average savings of 194 Ccfs per home, VEDO is forecasting that the 2016 TEEM I program will generate a savings of 31,040 Ccfs and serve 160 homes. The total 2016 budget for this program is approximately \$1,100,000.

b. TEEM II

Based upon an average savings of 168 Ccfs per home, VEDO is forecasting that the 2016 TEEM II program will generate a savings of 20,664 Ccfs and serve 123 homes. The total 2016 budget for this program is approximately \$1,000,000.

Table 19: 2016 TEEM Program Summary

Dayton CAP	Funding	Homes	Ccf per home*	Total Ccf
TEEM I	\$1,100,000	160	194	31,040
TEEM II	\$1,000,000	123	168	20,664
Total TEEM	\$2,100,000	283	182.70	51,704

*Weighted average based on number of homes and Ccf per section.

SUPPORT SERVICES

9. Customer Outreach

The mission of energy efficiency programs provided by VEDO is to educate and encourage customers toward making energy efficient decisions for their home and/or business. Typically, VEDO practices a multi-faceted approach to ensure the communication channels to reach each program target are utilized. In 2016, VEDO will continue to employ a two-part endeavor for mass program outreach. Using new creative methods, media messages will be short, quick and succinct featuring everyday people in situations related to appliance rebates, programs and tips. Bill inserts, press releases, customer e-mails and a variety of mass media messaging will assist VEDO in educating customers about rebate programs available to help assist the choice of high efficiency. Mass media outreach will focus on television, radio and print advertising, as well as digital marketing including YouTube, Pandora, Weather.com, Hulu, Twitter, Facebook and web display.

The first advertising campaign will run in early 2016 with a multi-week promotion of the Residential Prescriptive Rebate program and Home Insulation and Air Sealing program. Energy tips will also be promoted. The second campaign will kick off in the fall and run continuously through the end of December. This campaign will again incorporate television, radio, print ads and an online presence promoting the Prescriptive Rebate program, Home Insulation and Air Sealing program and tips.

Additional outreach and education through direct mail and electronic communications provide traditional energy efficiency tips and comprehensive outreach to VEDO's customers. Information regarding the availability of incentives, program requirements, rebate claim forms, and product fact sheets is available through Vectren's website at www.vectren.com/saveenergy. This resource serves both customers and trade allies seeking information and program materials. The budget for customer outreach and education will be \$375,000.

10. Energy Efficiency Advisory Team

The Energy Efficiency Advisory Team fields referrals from the company's general call center and serves as a resource for interested customers. A toll-free number is provided on all outreach and education materials. Direct calls are initial contacts from customers or market providers coming through the dedicated toll free number printed on all Vectren's conservation materials. Transferred calls are customers that have spoken with a Vectren Energy Efficiency Advisor and have either asked or been offered a transfer to an Energy Efficiency Advisor who is trained to respond to energy efficiency questions or conduct the on-line energy audit. These customer communication channels provide support mechanisms for VEDO customers to receive the following services:

- Provide general guidance on energy saving behaviors and investments using customer specific billing data via the on-line tool (bill analyzer and energy audit).
- Respond to questions about the residential and general service programs.
- Facilitate the completion of and provide a hard copy report from the online audit tool for customers without internet access or who have difficulty understanding how to use the tool.
- Respond to inquiries about rebate fulfillment status.

In an effort to ensure that the Energy Efficiency Advisors are providing the most appropriate and best value-added service to VEDO customers, Vectren began a continuous improvement and training effort in 2013. This effort focuses on preparing these representatives with resources, training, tools and tips to be able to provide a more consultative response and customized recommendations to customers who are seeking information and solutions regarding energy efficiency. What is appropriate for one customer might not suit another customer's needs, and the continuous training process will better equip representatives to be able to provide solutions that fit the customer's individual situation.

PROGRAM EVALUATION

11. Evaluation

VEDO plans to continue using The Cadmus Group to perform independent evaluation, measurement and verification (EM&V) of VEDO's natural gas DSM programs. The Cadmus Group will have overall responsibility for the evaluation of program performance, results, and cost-effectiveness for selected DSM programs. The School Education Program for the 2014-2015 school year is currently under evaluation by The Cadmus Group. This is being done as a joint effort with Dayton Power & Light (DP&L). Results will be available in the second quarter of 2016.

VEDO plans to evaluate the following programs in 2016:

- Residential Prescriptive
 - Residential Furnace 97%
 - Residential Boiler 95%
 - Wi-Fi Enabled Thermostat
 - Programmable Thermostat
- Commercial Prescriptive
 - Commercial Furnace 95%

VEDO plans to have Cadmus begin the EM&V process in the second quarter of 2016 and will provide the Collaborative an update once we have a final timeline.

APPENDIX A. COST EFFECTIVENESS ANALYSIS RESULTS

Results of Cost Effectiveness Analysis

Residential Programs				
Measure	TRC	UCT	TRC Net Benefits	
Furnace 95%	1.10	1.09	63,732.72	
Furnace 97%	0.96	1.77	(9,515.78)	
New Construction Furnace 97%	1.04	1.34	2,605.18	
Boiler 95%	0.99	1.02	(136.79)	
Wi-Fi Tstats	2.08	4.39	439,285.80	
Programmable Tstats	5.84	8.48	116,816.14	
Residential Prescriptive Sub Total	1.28	1.64	612,787.27	
Residential Home Insulation	1.26	1.10	300,642.72	
Multi Family	2.06	2.06	586,218.57	
Schools	1.64	1.64	254,955.80	
UD-EEP Residential	2.09	2.09	43,383.86	
Total Benefits			1,797,988.22	
Total Costs			(833,183.00)	
Total Residential	1.28	1.37	964,805.21	

Commercial Programs				
Measure	TRC	UCT	TRC Net Benefits	
Furnace 95%	1.07	1.98	2,434.09	
Furnace 97%	0.97	2.23	(259.43)	
Boiler - Commercial Prescriptive	1.15	1.38	16,610.89	
Boiler Tune-Up Commercial Prescriptive	1.97	1.79	3,475.54	
Wi-Fi Tstats	2.23	5.19	19,498.89	
Steam Traps - Low Pressure	3.18	2.23	1,109.47	
Steam Traps - Dry Cleaners	4.38	4.81	14,648.43	
Commercial Prescriptive Sub Total	1.12	1.45	57,517.88	
UD-EEP Commercial	2.29	2.29	12,880.55	
Commercial Custom	1.13	1.49	19,475.03	
Total Benefits			89,873.46	
Total Costs			(57,799.00)	
Total Commercial	1.08	1.38	32,074.45	

Portfolio				
Total Residential	1.28	1.37	964,805.21	
Total Commercial	1.08	1.38	32,074.45	
Online Audit Licensing Fees	-	-	(64,000.00)	
Portfolio Outreach	-	-	(50,000.00)	
2015 Portfolio - Total	1.33	1.22	882,879.66	

Note: The following amounts are allocated at the portfolio level: Mass Media Outreach, Online Tool Licensing fees.