REPORT

Focus on Energy
Community Pilot and Territory-Wide Programs Offered in the Wisconsin Public Service Territory
Calendar Year 2012 Evaluation Report

October 15, 2013

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Executive Summary

Focus on Energy, Wisconsin's statewide energy-efficiency and renewable-resources program, works with eligible residents and businesses to install cost-effective energy-efficiency and renewable-energy projects. Focus on Energy receives funding from each of the investor-owned utilities in Wisconsin, including the Wisconsin Public Service Corporation (WPS).

In 2008, WPS reached an agreement with the Citizens Utility Board (CUB) to provide increased funding for WPS customers participating in energy-efficiency programs. The additional funds from WPS support two types of programs: (1) Territory-Wide programs, which largely offered bonus incentives on top of those provided by existing Focus on Energy programs, and (2) Community Pilot programs, which offered three municipalities in WPS territory – Brillion, Allouez, and Plover – additional energy efficiency opportunities. Community Pilot offerings were designed to help Focus on Energy test the effectiveness of new tools, technologies, and program approaches, including the use of new rates and the provision of special equipment to program participants.

For both the Territory-Wide programs and the Community Pilot programs, Focus on Energy administers and delivers (through the Program Implementer) the programs, including the distribution of incentives. The Public Service Commission of Wisconsin (PSC)—which approved these programs for the years 2009 through 2012—also oversees them, providing guidance to the Program Administrator. Since 2011, CB&I (formerly Shaw Environmental & Infrastructure, Inc.) has been administering the programs. Prior to that date, the Wisconsin Energy Conservation Corporation (WECC) was the Program Administrator.

In November 2011, the PSC contracted with the Evaluation Team[1] (the Team) to evaluate the Focus on Energy programs and the Territory-Wide programs during the current (2011-2014) quadrennial cycle. The Team's evaluation of the calendar year (CY) 2012 programs consisted of these tasks:

- **Task 1:** Summarizing the CY 2012 programs
- **Task 2:** Compiling the CY 2012 savings
- **Task 3:** Reporting on the CY 2012 program evaluation findings

In this report, the Team presents its assessment of the Territory-Wide programs for CY 2012. The Team also calculated new net-to-gross (NTG) ratios for CY 2012. These are presented in Appendix D. Net-to-Gross Ratios by Measure.

By design, the majority of the Territory-Wide programs expand upon existing Focus on Energy programs. The Evaluation Team included the Territory-Wide program savings in the 2012 Focus on Energy Evaluation Report. However, these savings are also presented in this report. Therefore, savings presented in this report are not additive to the savings in the 2012 Focus on Energy Evaluation Report.

To provide a complete reference for savings that occur in the WPS service territory as a result of the WPS/CUB agreement, the Team included all known savings from the Community Pilot programs in this report. The Community Pilot savings are attributed solely to WPS and not to Focus on Energy because these programs are unique and offered only in the WPS service territory. However, the Evaluation Team has not evaluated the Community Pilot programs' savings because DNV KEMA Energy & Sustainability (KEMA) is responsible for these evaluations. Thus, the savings for Community Pilot programs reflect the verified net savings provided by KEMA. Gross and verified net savings for Community Pilot programs are presented in Appendix F. Community Pilot Program Savings.

[1] *The Evaluation Team consists of Cadmus, Nexant, TecMarket Works, and the St. Norbert College Strategic Research Institute.*

[2] *Available at http://focusonenergy.com/about/evaluation-reports*

Summary of Findings

In this executive summary, findings are divided into three sections: (1) First-year annual savings by market segment, (2) life-cycle savings by market segment, and (3) program cost-effectiveness.

First-Year Annual Savings

Table ES-1 lists gross, verified gross, and verified net first-year annual savings by market segment.

Table ES-1. Gross, Verified Gross, and Verified Net Kilowatt-hour, Kilowatt, and Therm Savings by Segment, First-Year Annual*

Segment		Residential	Nonresidential	Total
Gross	kWh	997,804	27,701,264	28,699,068
	kW	192	3,655	3,846
	Therms	141,808	448,170	589,978
Verified Gross	kWh	994,001	28,259,167	29,253,168
	kW	191	4,038	4,228
	Therms	145,188	385,211	530,399
Verified Net	kWh	685,592	23,503,178	24,188,771
	kW	138	3,053	3,191
	Therms	105,107	158,038	263,144

**Rows may not sum to the totals because of rounding*

Life-Cycle Savings

Because energy savings occur each year of a measure's life, the kWh and therm savings presented here are significantly larger than the first-year annual kWh and therm savings presented above. To calculate these life-cycle savings, the Team multiplied first-year savings for each program measure by each measure's effective useful life (EUL).

On the other hand, demand savings do not accumulate over time, so all life-cycle kW savings presented in this section are equal to the first-year kW savings presented above.

Table ES-2 lists gross, verified gross, and verified net life-cycle savings by market segment.

Table ES-2. Gross, Verified Gross, and Verified Net Kilowatt-hour, Kilowatt, and Therm Savings by Program, Life-Cycle*

Segment		Residential	Nonresidential	Total
Gross	kWh	7,135,992	379,122,950	386,258,942
	kW	192	3,655	3,846
	Therms	2,098,491	5,459,484	7,557,975
Verified Gross	kWh	7,152,918	386,126,648	393,279,567
	kW	191	4,038	4,229
	Therms	2,169,439	4,539,063	6,708,502
Verified Net	kWh	5,143,545	319,127,873	324,271,418
	kW	138	3,053	3,191
	Therms	1,638,138	1,931,451	3,569,589

**Columns may not sum to the totals because of rounding*

Table ES-3 lists the number of unique customers for both Territory-Wide segments and each program.

Table ES-3. Unique Customers by Segment and Program

Segment	Program Name	Number of Unique Customers
Residential Segment	Assisted Home Performance Bonus	5
	Home Performance Bonus	13
	Residential Energy Bundle Bonus	27
	Residential Renewable Energy Bonus	3
	Total	**48**
Nonresidential Segment	Nonresidential Energy Bundle Bonus	86
	Nonresidential Renewable Energy Bonus	4
	Schools and Government	25
	Smart Farms	2
	Trade Ally Bonus Bid	1
	Total	**118**
Territory-Wide Total		**166**

Cost-Effectiveness of Residential and Nonresidential Programs

As previously mentioned, the majority of the Territory-Wide programs in CY 2012 provided bonus incentives that expanded upon those offered through the Focus on Energy programs. To determine the cost-effectiveness of the Territory-Wide programs, the Evaluation Team conducted a benefit/cost analysis. The analysis encompassed all benefits and costs associated with the Territory-Wide measures, including the both Territory-Wide and statewide Focus on Energy costs associated with Territory-Wide measures.[3]

In the current quadrennial cycle, the Program Administrator—with PSC approval—has elected to use a third-party cost-effectiveness calculator for program planning purposes. For an effective comparison of program performance and expectations, it is critical that the planning and evaluation approaches are consistent, so the Evaluation Team used the same calculator for its evaluation.

Table ES-4 lists the cost-effectiveness results for CY 2012. To calculate these costs, the Evaluation Team used information on CY 2012 program costs provided by Wipfli, the Fiscal Agent for Focus on Energy. Wipfli is responsible for managing the accounting of the programs, issuing the incentive checks, and managing the program tracking database (SPECTRUM). The program costs encompass all of the costs associated with operating the efficiency programs (such as administration and delivery costs); however, incentive costs are not included, as they are deemed transfer payments.[4]

[3] *The Evaluation Team used this approach because the data for CY 2012 were insufficient to determine incremental participation resulting from the WPS-specific activities.*

[4] *For details on the processes the Evaluation Team used to calculate the cost-effectiveness of the Focus on Energy programs, see the Program Cost-Effectiveness subsection in the Evaluation Findings section of this report. See also the Benefit/Cost Analysis CY09 Evaluation Report, available online at www.focusonenergy.com, Focus on Energy Benefit/Cost Analysis CY09 Evaluation Report. PA Consulting Group and KEMA, Inc., submitted the final report to Public Service Commission of Wisconsin on November 24, 2009. It is available online at www.focusonenergy.com/about/evaluation-reports.*

Table ES-4. Total Resource Cost (TRC) Test Inputs and Final Benefit/Cost Ratio

Test Input	Result
Incentives*	$3,339,559
Program Costs	$2,393,997
Incremental Measure Costs	$17,271,429
Total Costs for TRC Test	$19,665,426
Electric Benefits	$19,667,810
Gas Benefits	$2,835,589
Emissions Benefits	$7,839,356
Total Benefits for TRC Test	$30,342,755
TRC B/C Ratio	1.54
TRC Verified Net Benefits	$10,677,329

**Incentives are not included in the calculation of the TRC.*

Introduction

Focus on Energy, Wisconsin's statewide energy-efficiency and renewable-resources program, works with eligible residents and businesses to install cost-effective energy-efficiency and renewable-energy projects. Focus on Energy receives funding from each of the investor-owned utilities in Wisconsin, including the Wisconsin Public Service Corporation (WPS).

In 2008, WPS reached an agreement with the Citizens Utility Board (CUB) to provide increased funding for WPS customers participating in energy-efficiency programs. The additional funds from WPS support two types of programs: (1) Territory-Wide programs, which largely offered bonus incentives on top of those provided by existing Focus on Energy programs, and (2) Community Pilot programs, which offered three municipalities in WPS territory – Brillion, Allouez, and Plover – additional energy efficiency opportunities. Community Pilot offerings were designed to help Focus on Energy test the effectiveness of new tools, technologies, and program approaches, including the use of new rates and the provision of special equipment to program participants.

This report contains the Evaluation Team's findings from its assessment of the impacts of the Wisconsin Public Service Corporation (WPS) Territory-Wide programs in CY 2012. Although this report presents savings for both the Territory-Wide programs and Community Pilot programs, the Team evaluated and verified only the Territory-Wide program savings. For the evaluation of the Community Pilot programs, WPS commissioned KEMA, which prepared a separate report. KEMA provided the verified net savings from the Community Pilot programs, which are presented in Appendix F. Community Pilot Program Savings.

The CY 2012 Evaluation

The Evaluation Team investigated the performance of nine programs, seven of which delivered savings in CY 2012. Of the seven programs that delivered savings in CY 2012, two were offered in previous years but did not achieve savings until 2012. The other five programs that delivered savings in CY 2012 were offered that same year. Finally, two programs were launched late in the year and therefore did not achieve CY 2012 savings.

Table 1 lists the Territory-Wide programs and their respective acronyms by segment. See Appendix C. List of Measures by Measure Category for a complete list of measures by program, segment, and measure category.

Table 1. Territory-Wide Programs by Segment

Residential	Nonresidential
• Assisted Home Performance Bonus (AHP) • Home Performance Bonus (HP) • Energy Bundle Bonus (EBB) • Residential Renewable Energy Bonus (REB)	• NonEnergy Bundle Bonus (NEBB) • Nonresidential Renewable Energy Bonus (NREB) • Schools and Government (S&G) • Smart Farms (SF) • Trade Ally Bonus Bid (TABB)

Overview of Evaluation Activities

The Evaluation Team's activities for CY 2012 consisted of a database review, a cost-effectiveness assessment and, through coordination with Focus on Energy program evaluation activities, a review of the savings that were reported and achieved in the WPS territory. These evaluation activities included applying the NTG ratio from the CY 2012 Focus on Energy evaluation to the savings reported from the Territory-Wide programs.

Summary of First-Year Annual Savings by Segment and Program

In this section, the Evaluation Team provides an overview of the first-year annual savings realized for each of the Territory-Wide programs. For more information on the associated Focus on Energy programs, see Appendix B. Focus on Energy Programs.

Residential Segment Summary

In CY 2012, there were three Territory-Wide programs available to the residential segment: Assisted Home Performance Bonus, Home Performance Bonus, and Energy Bundle Bonus. In addition, savings were achieved from one legacy program, the Renewable Energy Bonus. Table 2 presents the gross, verified gross, and verified net first-year savings for these four residential Territory-Wide programs. Differences between gross and verified gross savings result from the application of realization rates, which are presented in greater detail in Appendix E. Realization Rates by Program and Measure Category. Differences between verified gross and verified net savings result from the application of net-to-gross (NTG) ratios, which are presented in greater detail in Appendix D. Net-to-Gross Ratios by Measure.

Table 2. Gross, Verified Gross, and Verified Net Kilowatt-hour, Kilowatt, and Therm Savings by Residential Program, First-Year Annual*

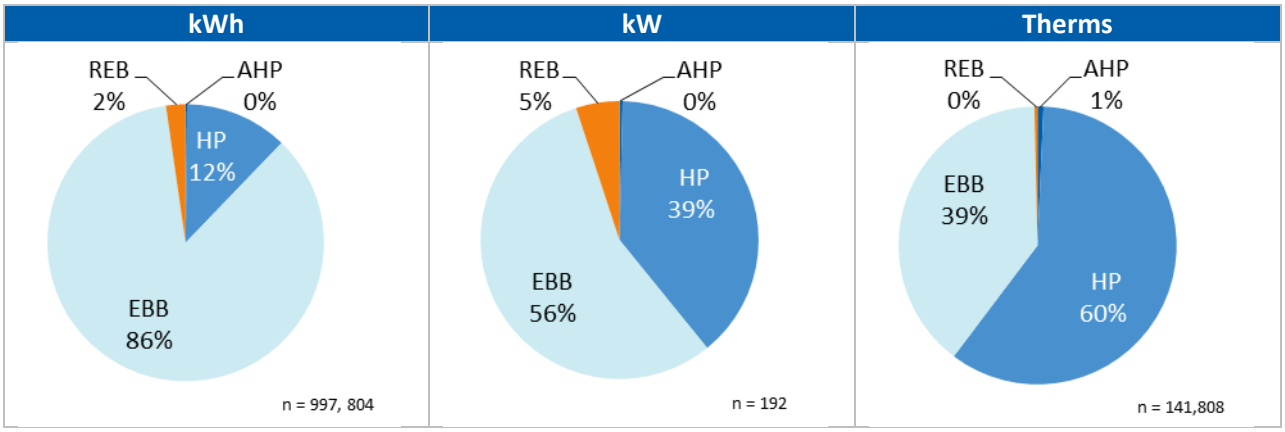
Program	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Assisted Home Performance	1,682	1	987	1,653	1	1,018	1,653	1	1,018
Home Performance	120,075	74	84,515	119,354	74	86,150	95,837	59	71,788
Energy Bundle Bonus	853,248	107	55,792	850,195	106	57,505	565,304	68	31,786
Renewable Energy Bonus	22,799	10	515	22,799	10	515	22,799	10	515
Total	**997,804**	**192**	**141,808**	**994,001**	**190**	**145,188**	**685,592**	**137**	**105,107**

*Columns may not sum to the totals because of rounding; Renewable Energy Bonus is a legacy program for which projects were approved in CY 2010; however, the program did not realize savings until CY 2012.

The following figures present gross, verified gross, and verified net kilowatt, kilowatt-hour, and therm first-year savings for all Territory-Wide residential programs.

Figure 4 shows the allocation of first-year gross kWh, kW, and therm savings for the Territory-Wide residential programs.

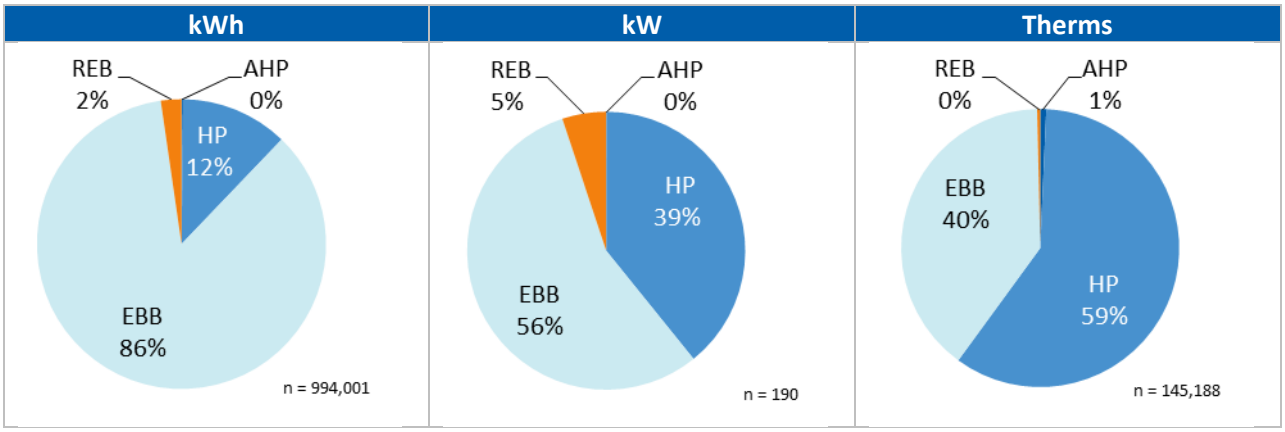
Figure 1. Gross kWh, kW, and Therm Savings for Territory-Wide Residential Programs, First-Year Annual*



*AHP = Assisted Home Performance Bonus, HP = Home Performance Bonus, EBB = Energy Bundle Bonus, REB = l Renewable Energy Bonus

Figure 2 shows the allocation of first-year verified gross kWh, kW, and therm savings for the Territory-Wide residential programs.

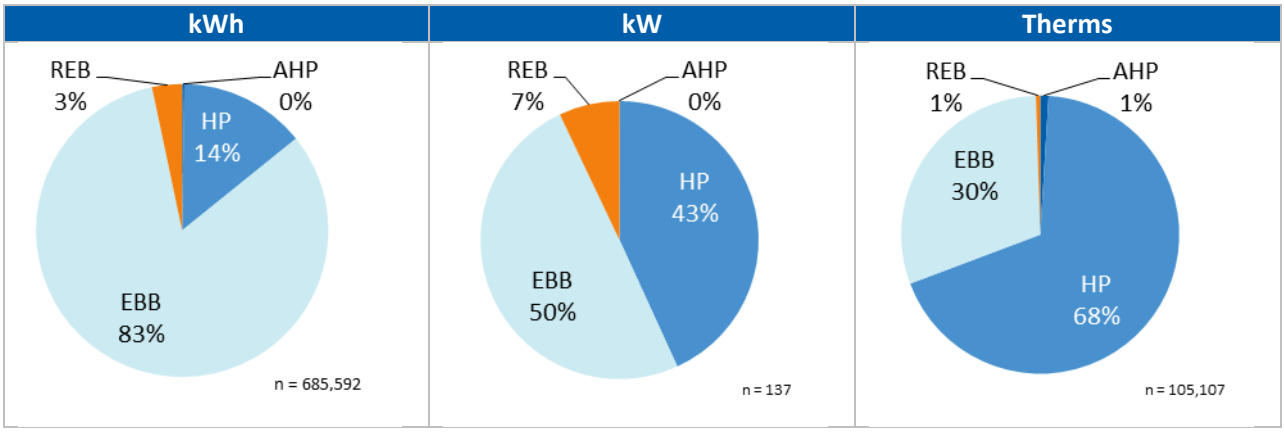
Figure 2. Verified Gross kWh, kW, and Therm Savings for Territory-Wide Residential Programs, First-Year Annual*



*AHP = Assisted Home Performance Bonus, HP = Home Performance Bonus, EBB = Energy Bundle Bonus, REB = Renewable Energy Bonus

Figure 3 shows the allocation of first-year verified net kWh, kW, and therm savings for the Territory-Wide residential programs.

Figure 3. Verified Net kWh, kW, and Therm Savings for Territory-Wide Residential Programs, First-Year Annual*



*AHP = Assisted Home Performance Bonus, HP = Home Performance Bonus, EBB = Energy Bundle Bonus, REB = Renewable Energy Bonus

The savings shown in these figures were achieved by a total of 48 residential segment participants, as shown in Table 3.

Table 3. Unique Residential Segment Customers by Program

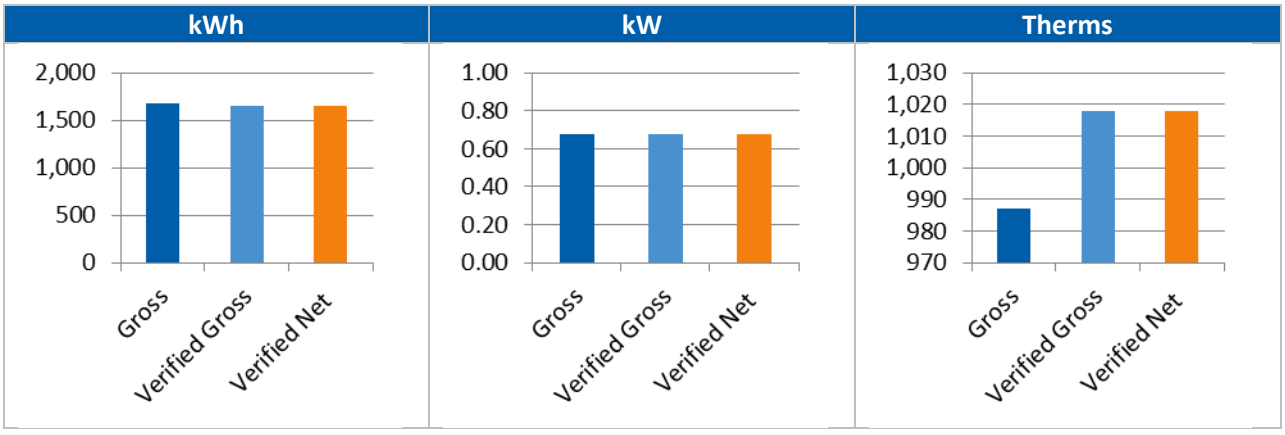
Program Name	Number of Unique Customers
Assisted Home Performance	5
Home Performance	13
Energy Bundle Bonus	27
Renewable Energy Bonus	3
Total	**48**

Assisted Home Performance Bonus

Focus on Energy offered bonus incentives to customers in the WPS territory who participated in the Focus on Energy Assisted Home Performance with ENERGY STAR® Program. Qualified WPS customers (those whose incomes ranged from 60% to 80% of the state median income) were eligible to receive an additional 15% incentive—which, when added to the 75% incentive for Focus on Energy's Home Performance with ENERGY STAR, resulted in a possible incentive of 90% off the cost of eligible air sealing and insulation improvements, up to $3,500.

In CY 2012, five customers received this bonus, and they reduced their energy consumption by a total of 1,653 net kWh and 1,018 net therms (first-year annual savings). Furthermore, these customers reduced their demand by 1 net kW. Figure 4 presents the gross, verified gross, and verified net savings by fuel type for this program.

Figure 4. Gross, Verified Gross, and Verified Net Assisted Home Performance Bonus Savings by Fuel Type, First-Year Annual

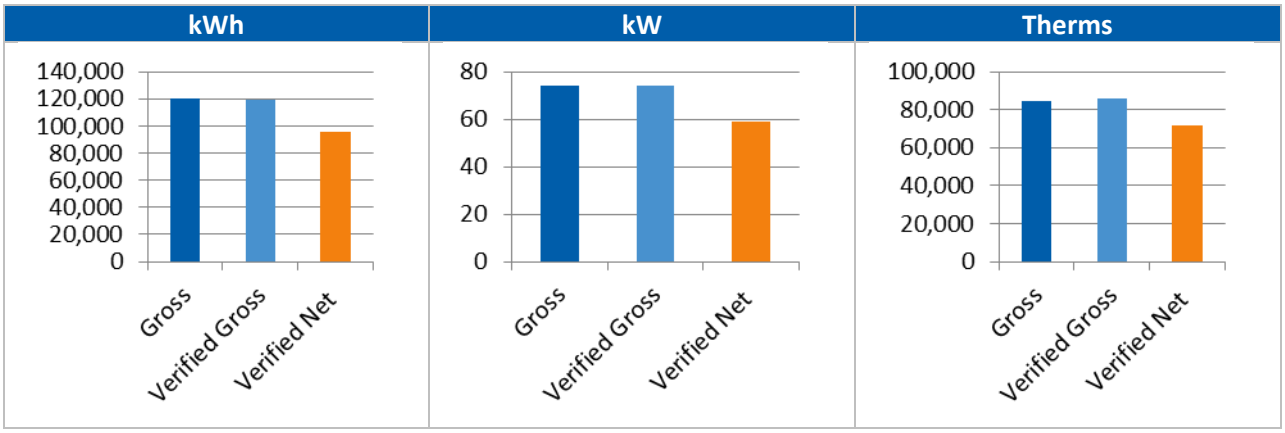


Home Performance Bonus

Focus on Energy offered bonus incentives to customers in the WPS territory who participated in the Focus on Energy Home Performance with ENERGY STAR Program. Qualified customers were eligible to receive up to double the Focus on Energy incentive of 33% of eligible energy saving air sealing and insulation improvements, up to $3,000.

In CY 2012, there were 13 customers who received this bonus, and they reduced their energy consumption by a total of 95,837 net kWh and 71,788 net therms (first-year annual savings). Furthermore, these customers reduced their demand by 59 net kW. Figure 5 presents the gross, verified gross, and verified net savings by fuel type for this program.

Figure 5. Gross, Verified Gross, and Verified Net Home Performance Bonus Savings by Fuel Type, First-Year Annual

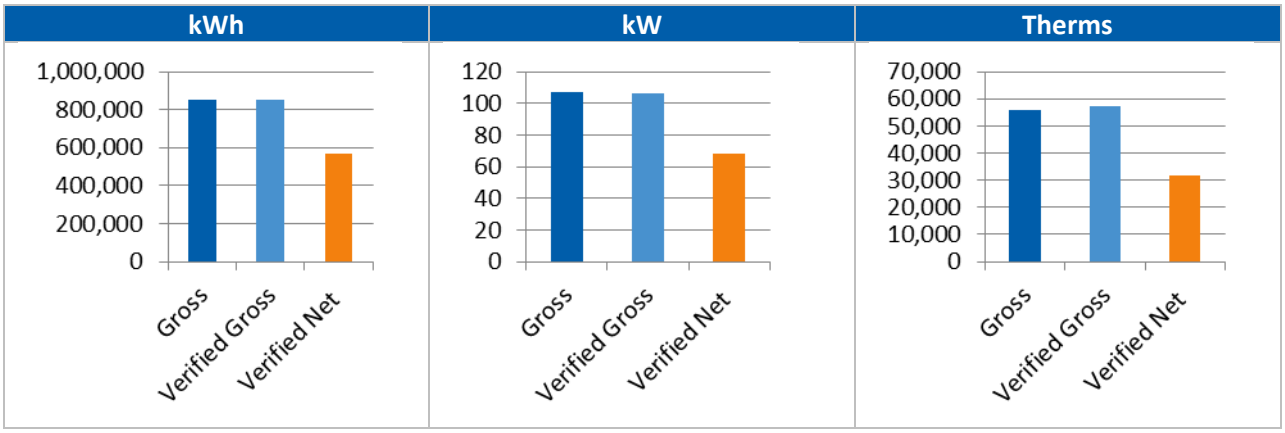


Energy Bundle Bonus

WPS customers who participated in select Focus on Energy programs were eligible to receive an additional bonus from Focus on Energy for up to double the program incentives. To be eligible for the bonus, customers were required to complete multiple projects on unrelated energy-using systems. The bonus increased as more measures were installed—up to 100% for five or more measures.

In CY 2012, there were 27 customers who received this bonus, and they reduced their energy consumption by a total of 565,304 net kWh and 31,786 net therms (first-year annual savings). Furthermore, these customers reduced their demand by 68 net kW. Figure 6 presents the gross, verified gross, and verified net savings by fuel type for this program.

Figure 6. Gross, Verified Gross, and Verified Net Residential Energy Bundle Bonus Savings by Fuel Type, First-Year Annual

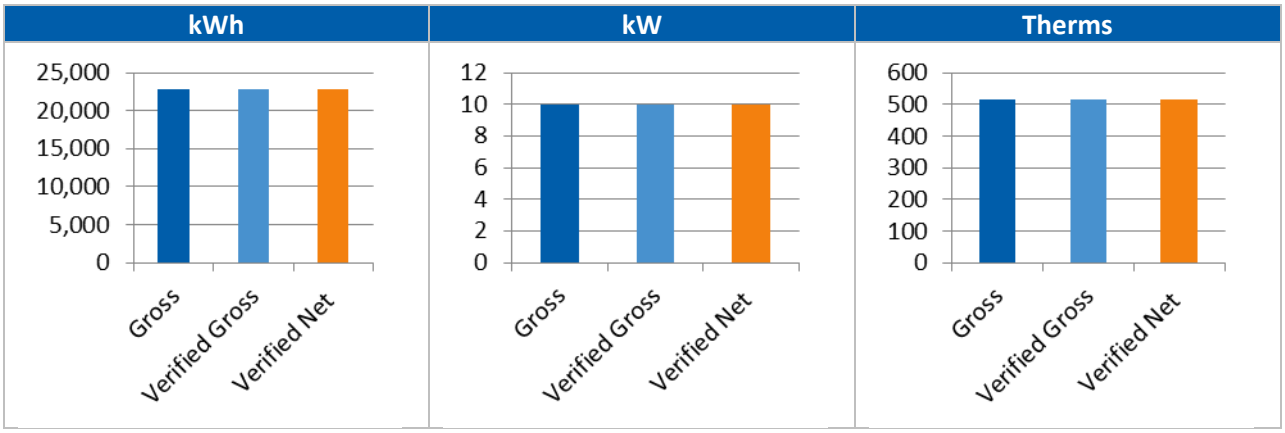


Residential Renewable Energy Bonus

To encourage residential WPS customers to install renewable energy projects, Focus on Energy offered a bonus to WPS customers who received an incentive through Focus on Energy's Renewable Energy Program. The Residential Renewable Energy Bonus ended in CY 2010; however, for three projects, the savings were not realized until CY 2012, when the projects were completed. Therefore, as these savings were not specified in past reports, the Evaluation Team included them here.

In CY 2012, three customers received the Renewable Bonus, and they reduced their energy consumption by a total of 22,799 net kWh and 515 net therms. Furthermore, these customers reduced their demand by 10 net kW. Figure 7 presents the gross, verified gross, and verified net savings by fuel type for this program.

Figure 7. Gross, Verified Gross, and Verified Net Residential Renewable Energy Bonus Savings by Fuel Type, First-Year Annual



Nonresidential Segment Summary

There were four Territory-Wide programs available to the nonresidential segment in CY 2012: Nonresidential Energy Bundle Bonus (NEBB); Schools and Government (S&G); Smart Farms (SF); and Trade Ally Bonus Bid (TABB). In addition, savings were achieved from one legacy program, the Renewable Energy Bonus (NREB).[5]

Table 4 presents the gross, verified gross, and verified net first-year savings for these five nonresidential Territory-Wide programs. Differences between gross and verified gross savings result from the application of realization rates, which are presented in greater detail in Appendix E. Realization Rates by Program and Measure Category. Differences between verified gross and verified net savings result from the application of net-to-gross (NTG) ratios, which are presented in greater detail in Appendix D. Net-to-Gross Ratios by Measure.

Table 4. Gross, Verified Gross, and Verified Net Kilowatt-hour, Kilowatt, and Therm Savings by Nonresidential Program, First-Year Annual*

Program	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Energy Bundle Bonus	17,078,988	2,301	261,995	17,776,506	2,262	223,849	13,880,371	1,693	120,548
Renewable Energy Bonus	9,613,952	1,100	(18,884)	9,507,527	1,100	(18,884)	9,038,846	1,036	(18,884)
Schools and Government	1,008,324	254	205,059	975,134	676	180,246	583,962	324	56,373
Smart Farms	-	-	-	-	-	-	-	-	-
Trade Ally Bonus Bid	-	-	-	-	-	-	-	-	-
Total	**27,701,264**	**3,655**	**448,170**	**28,259,167**	**4,038**	**385,211**	**23,503,178**	**3,053**	**158,038**

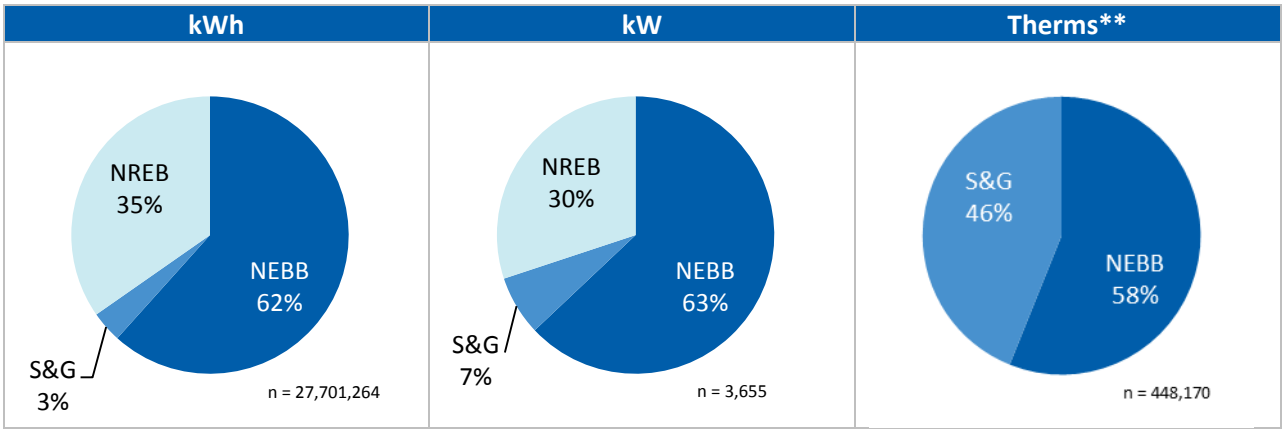
*Columns may not sum to the totals because of rounding

The following figures present gross, verified gross, and verified net kilowatt, kilowatt-hour, and therm first-year savings for all Territory-Wide nonresidential programs.

[5] Renewable Energy Bonus is a legacy program for which projects were approved in CY 2010 but did not realize savings until CY 2012.

Figure 8 shows the allocation of first-year gross kWh, kW, and therm savings for the Territory-Wide nonresidential programs.

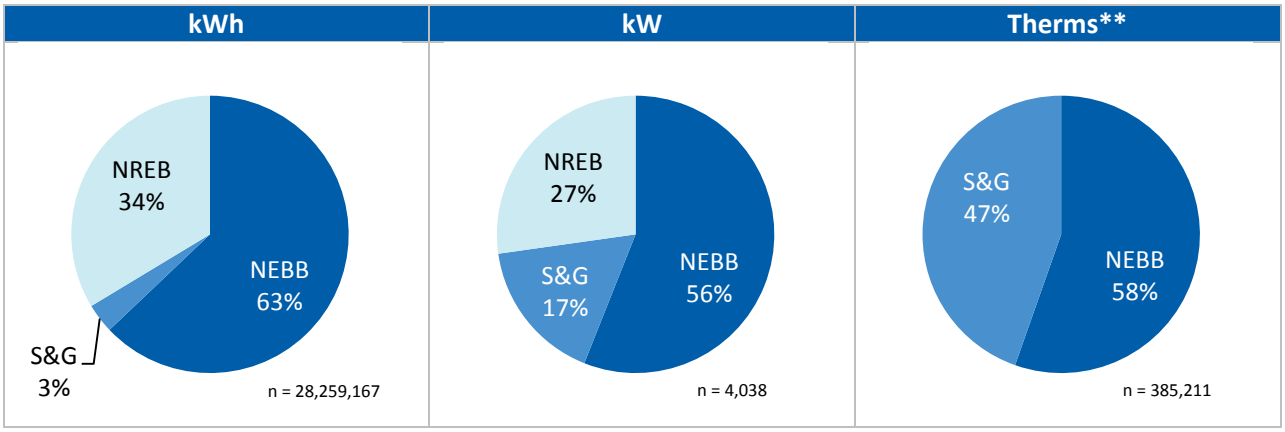
Figure 8. Gross kWh, kW, and Therm Savings for Territory-Wide Nonresidential Programs, First-Year Annual*



*NEBB = NonEnergy Bundle Bonus, NREB = Nonresidential Renewable Energy Bonus, S&G = Schools and Government; no savings reported for either Smart Farms or Trade Ally Bonus Bid.
**Values presented here add up to more than 100% because NREB savings are negative (-4%); as a result, figure may not be to scale.

Figure 9 shows the allocation of first-year verified gross kWh, kW, and therm savings for Territory-Wide nonresidential programs.

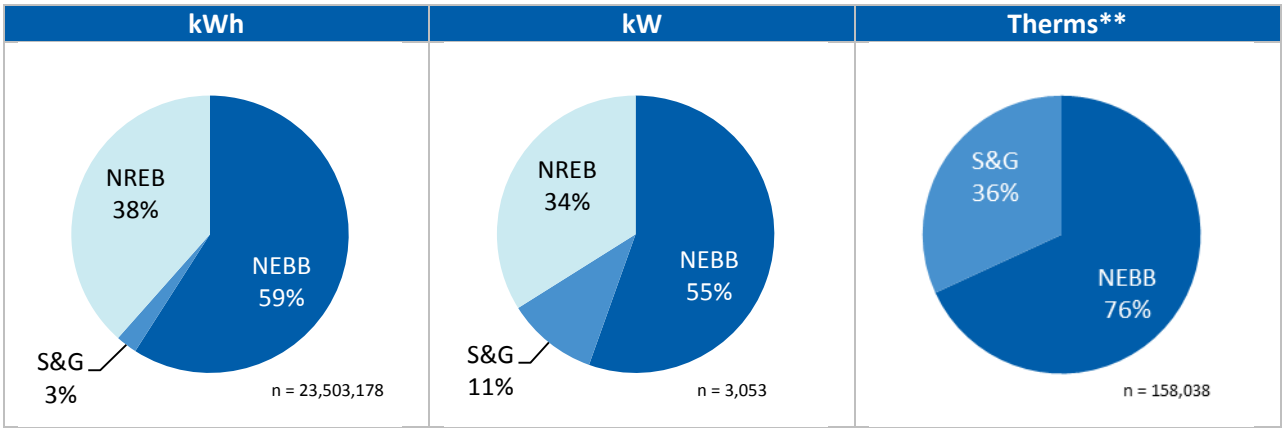
Figure 9. Verified Gross kWh, kW, and Therm Savings for Territory-Wide Nonresidential Programs, First-Year Annual*



*NEBB = NonEnergy Bundle Bonus, NREB = Nonresidential Renewable Energy Bonus, S&G = Schools and Government; no savings reported for either Smart Farms or Trade Ally Bonus Bid.
**Values presented here add up to more than 100% because NREB savings are negative (-5%); as a result, the figure may not be to scale.

Figure 10 shows the allocation of first-year verified net kWh, kW, and therm savings for Territory-Wide nonresidential programs.

Figure 10. Verified Net kWh, kW, and Therm Savings for Territory-Wide Nonresidential Programs, First-Year Annual*



*NEBB = NonEnergy Bundle Bonus, NREB = Nonresidential Renewable Energy Bonus, S&G = Schools and Government; no savings reported for either Smart Farms or Trade Ally Bonus Bid.
**Values presented here add up to more than 100% because NREB savings are negative (-12%); as a result, the figure may not be to scale.

These savings were achieved by a total of 118 nonresidential segment participants. Table 5 presents the total number of unique participants by nonresidential Territory-Wide program.

Table 5. Unique Nonresidential Segment Customers by Program

Program Name	Number of Unique Customers
Energy Bundle Bonus	86
Renewable Energy Bonus	4
Schools and Government	25
Smart Farms	2
Trade Ally Bonus Bid	1
Total	**118**

NonEnergy Bundle Bonus

WPS customers who participated in select Focus on Energy programs were eligible to receive a bonus from Focus on Energy for up to double the incentives offered. To be eligible for the bonus, customers were required to complete multiple projects on unrelated energy-using systems. The bonus increased as more measures were installed—up to 100% for five or more measures.

In CY 2012, 86 customers received the Energy Bundle Bonus, and they reduced their energy consumption by a total of 13,880,371 net kWh and 120,548 net therms (first-year annual savings). Furthermore, these customers reduced their demand by 1,693 net kW. Figure 11 presents the gross, verified gross, and verified net savings by fuel type for this program.

Figure 11. Gross, Verified Gross, and Verified Net Nonresidential Energy Bundle Bonus Savings by Fuel Type, First-Year Annual

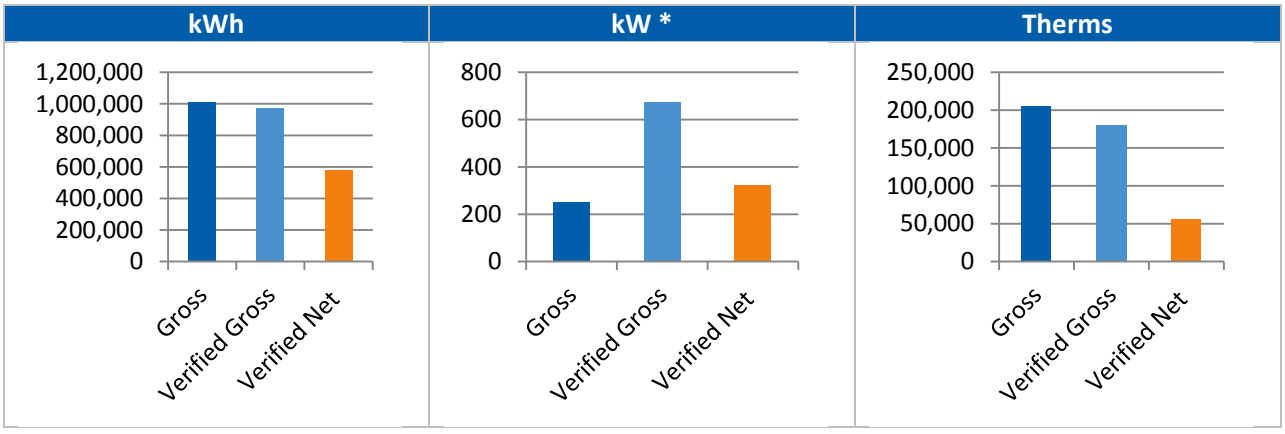
Schools and Government

Schools and Governments are eligible to participate in several of the programs that are offered by Focus on Energy throughout the state of Wisconsin. In addition to these programs, additional incentives are available to Schools and Government utility customers in the WPS territory. The Schools and Government Program launched in July 2012, and offers a formula-based incentive for projects that result in annual savings of $500 or more. To encourage quick adoption, Focus on Energy doubled the incentive for customers who completed their project before July 31, 2013. The double-incentive formula was designed to be just above 1 on the Program Administrator Cost (PAC) test. The PAC test compares the net costs incurred by the program Administrator, including incentive costs, to benefits of the reduced expenses that result from energy savings .[6]

The Schools and Government Program published a request for proposals (RFP) to provide pilot participants with a format for submitting their energy audits and proposed project lists. If selected, a participant would receive up to $25,000 in grant money to use towards efficiency projects, and the grants could be used with all of the available incentives and bonuses. In August and September 2012, Focus on Energy selected 25 responding customers (schools, school districts, and government agencies) to participate. These customers completed projects and received the Schools and Government Program incentive in CY 2012. Collectively, these customers reduced their energy consumption by a total of 583,962 net kWh and 56,373 net therms (first-year annual). Furthermore, these customers reduced their demand by 324 net kW.

Figure 12 presents the gross, verified gross, and verified net savings by fuel type for this program.

Figure 12. Gross, Verified Gross, and Verified Net Schools and Government Savings by Fuel Type, First-Year Annual



*The Schools and Government increase in verified gross KW is primarily due to differences in forecasted system operations compared to the actual system operations.

[6] "California Standard Practice Manual." October 2001. Retrieved from http://www.energy.ca.gov. Along with the TRC test, the PAC test is one of the most commonly-used tests for energy efficiency program planning purposes. Unlike the TRC test (outlined on page 39) the PAC test includes incentives and administrative costs as net costs incurred, the TRC does not include incentives as net costs.

Smart Farms

Focus on Energy offered bonus incentives through the Smart Farms Program to agricultural customers in the WPS territory. Customers who met the program prerequisites were eligible for a free energy assessment, assistance with installation, and bonus incentives. This program offers the standard incentives available from Focus on Energy, as well as the Energy Bundle Bonus and a custom Smart Farms bonus incentive.

To provide customers with quick project payback periods (specifically, two years or less), the Smart Farms bonus incentives are calculated on a project-specific basis. Also, for projects completed by July 31, 2013, this incentive amount was doubled, and even the doubled incentives were designed to pass the PAC test.

Two customers began participating in this program; however, because the program started in August, no projects were completed in CY 2012, so no savings are claimed or attributed to the program for this evaluation cycle.

Trade Ally Bonus Bid

The Trade Ally Bonus Bid Program provides awards to energy-efficiency contractors (Trade Allies) who bid competitively on a $/kWh-saved basis for proposed energy-efficiency projects through a reverse auction executed through an online platform. The award dollars are allocated based on the lowest price obtained.

The reverse auction, which is open only to prequalified Trade Allies, has predetermined starting bid amounts and bid decrement limitations. This ensures that grant dollars are distributed to numerous prequalified Trade Allies.

One customer participated in CY 2012; however, because the program began late in the year, no projects were completed in time for this evaluation cycle, so no savings are claimed or attributed to the program in CY 2012.

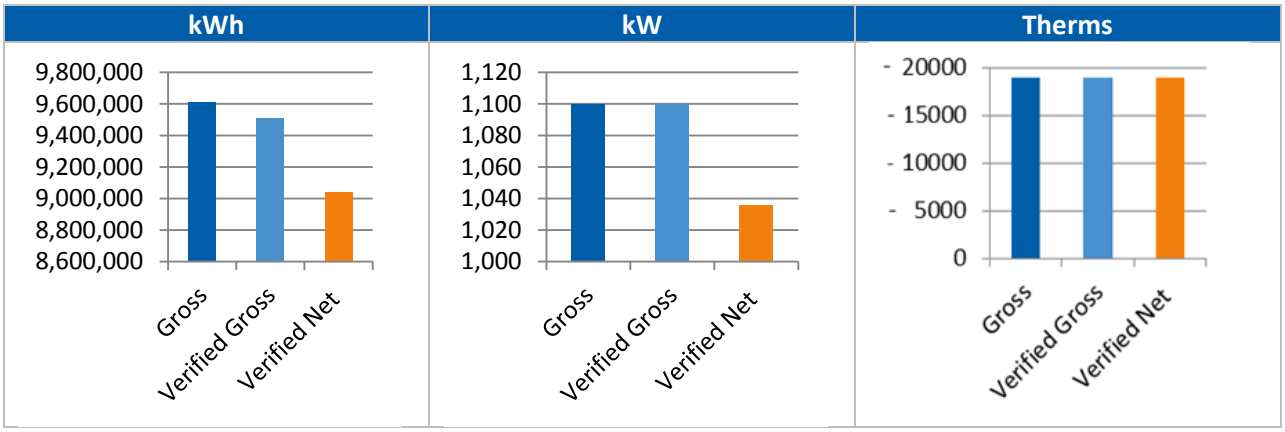
Nonresidential Renewable Energy Bonus

To encourage commercial customers to install renewable energy projects, Focus on Energy offered a bonus to WPS customers who received an incentive through Focus on Energy's Renewable Energy Program. The Nonresidential Renewable Energy Bonus ended in CY 2010; however, the savings for four projects were not realized until CY 2012, when the projects were completed. Therefore, as these savings were not specified in past reports, the Evaluation Team has included them here.

The four customers who received the CY 2012 Renewable Energy Bonus reduced their energy consumption by a total of 9,038,846 net kWh. Additionally, these customers reduced their demand by 1,036 net kW; however, these customers also increased their natural gas consumption by a total of 18,884 net therms (first-year annual).

Figure 13 presents the gross, verified gross, and verified net savings by fuel type for this program.

Figure 13. Gross, Verified Gross, and Verified Net Nonresidential Renewable Energy Bonus Savings by Fuel Type, First-Year Annual



Summary of Life-Cycle Savings by Segment and Program

In this section, the Evaluation Team provides an overview of the life-cycle savings realized for each of the Territory-Wide programs. For more information on the Focus on Energy programs associated with these programs, see Appendix B. Focus on Energy Programs.

To calculate life-cycle kWh and therm savings, the Team multiplied first-year savings for each program measure by each measure's effective useful life (EUL). Because energy savings accumulate over time, the kWh and therm savings presented here are significantly larger than the first-year annual kWh and therm savings presented in the previous section. However, demand (kW) savings do not grow over time, so all life-cycle kW savings presented in this section are equal to the first-year kW savings.

Residential Segment Summary

As previously noted, savings were achieved through three Territory-Wide programs available to the residential segment in CY 2012 and one legacy program, the Renewable Energy Bonus. Table 6 presents the gross, verified gross, and verified net life-cycle savings for these four programs.

Table 6. Gross, Verified Gross, and Verified Net Residential Kilowatt-hour, Kilowatt, and Therm Savings by Program, Life-Cycle*

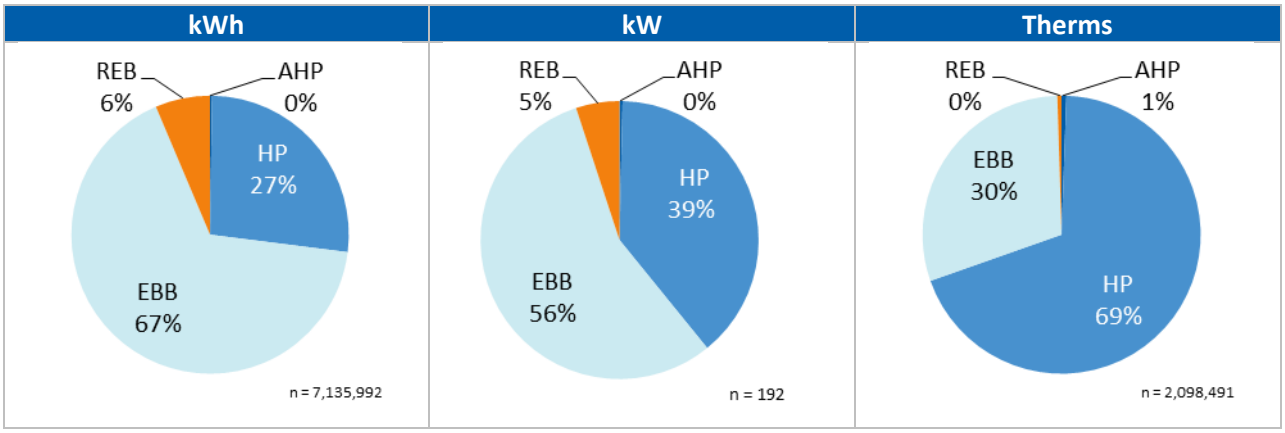
Program Name	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Assisted Home Performance Bonus	16,356	1	11,708	16,153	1	12,220	16,153	1	12,220
Home Performance Bonus	1,910,735	74	1,449,169	1,906,150	74	1,490,501	1,482,676	59	1,231,016
Energy Bundle Bonus	4,752,921	107	627,314	4,774,635	106	656,418	3,188,736	68	384,602
Renewable Energy Bonus	455,980	10	10,300	455,980	10	10,300	455,980	10	10,300
Total	**7,135,992**	**192**	**2,098,491**	**7,152,918**	**190**	**2,169,439**	**5,143,545**	**137**	**1,638,138**

* Columns may not sum to the totals because of rounding;

The following figures present gross, verified gross, and verified net kilowatt, kilowatt-hour, and therm life-cycle savings for all Territory-Wide residential programs.

Figure 14 shows the allocation of life-cycle gross kWh, kW, and therm savings for the Territory-Wide residential programs.

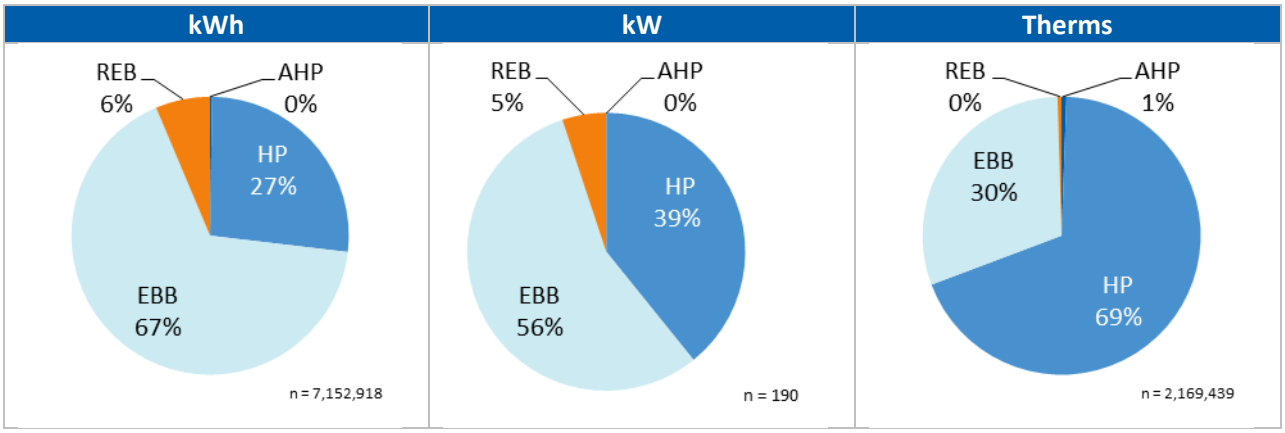
Figure 14. Gross kWh, kW, and Therm Savings for Territory-Wide Residential Programs, Life-Cycle*



*AHP = Assisted Home Performance Bonus, HP = Home Performance Bonus, EBB = Energy Bundle Bonus, REB = Residential Renewable Energy Bonus

Figure 15 shows the allocation of life-cycle verified gross kWh, kW, and therm savings for the Territory-Wide residential programs.

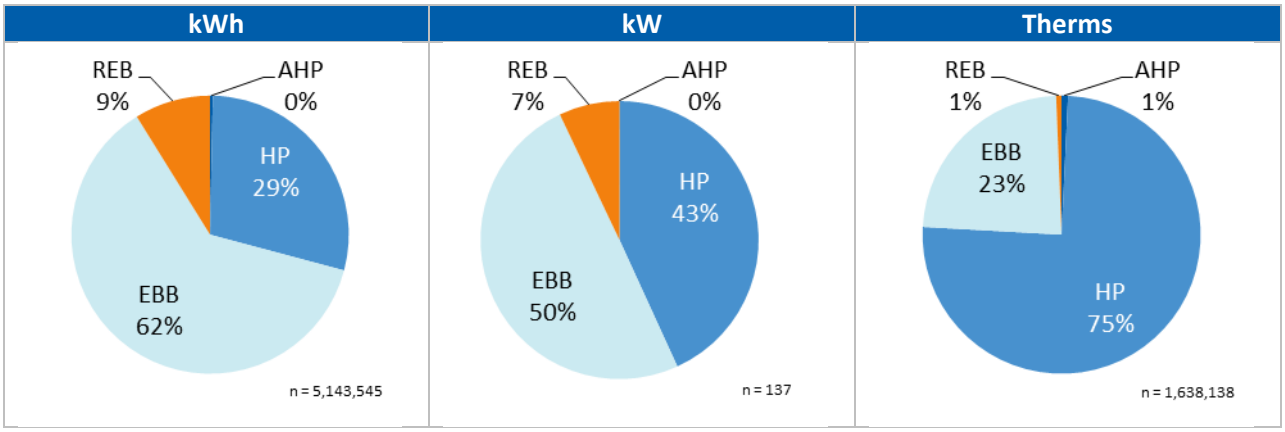
Figure 15. Verified Gross kWh, kW, and Therm Savings for Territory-Wide Residential Programs, Life-Cycle*



*AHP = Assisted Home Performance Bonus, HP = Home Performance Bonus, EBB = Energy Bundle Bonus, REB = Residential Renewable Energy Bonus

Figure 16 shows the allocation of life-cycle verified net kWh, kW, and therm savings for the Territory-Wide residential programs.

Figure 16. Verified Net kWh, kW, and Therm Savings for Territory-Wide Residential Programs, Life-Cycle*



*AHP = Assisted Home Performance Bonus, HP = Home Performance Bonus, EBB = Energy Bundle Bonus, REB = Residential Renewable Energy Bonus

Nonresidential Segment Summary

In CY 2012, savings were achieved through four Territory-Wide programs available to the nonresidential segment and one legacy program, the Renewable Energy Bonus. Table 7 presents the gross, verified gross, and verified net life-cycle savings for these five nonresidential programs.

Table 7. Gross, Verified Gross, and Verified Net Nonresidential Kilowatt-hour, Kilowatt, and Therm Savings by Program, Life-Cycle*

Program Name	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
NonEnergy Bundle Bonus	219,563,445	2,301	3,533,924	228,824,497	2,262	3,056,942	174,552,236	1,693	1,618,250
Nonresidential Renewable Energy Bonus	144,369,810	1,100	(283,260)	142,773,439	1,100	(283,260)	135,732,965	1,036	(283,260)
Schools and Government **	15,189,695	254	2,208,820	14,528,713	676	1,765,381	8,842,671	324	596,461
Smart Farms	-	-	-	-	-	-	-	-	-
Trade Ally Bonus Bid	-	-	-	-	-	-	-	-	-
Total	**379,122,950**	**3,655**	**5,459,484**	**386,126,648**	**4,038**	**4,539,063**	**319,127,873**	**3,053**	**1,931,451**

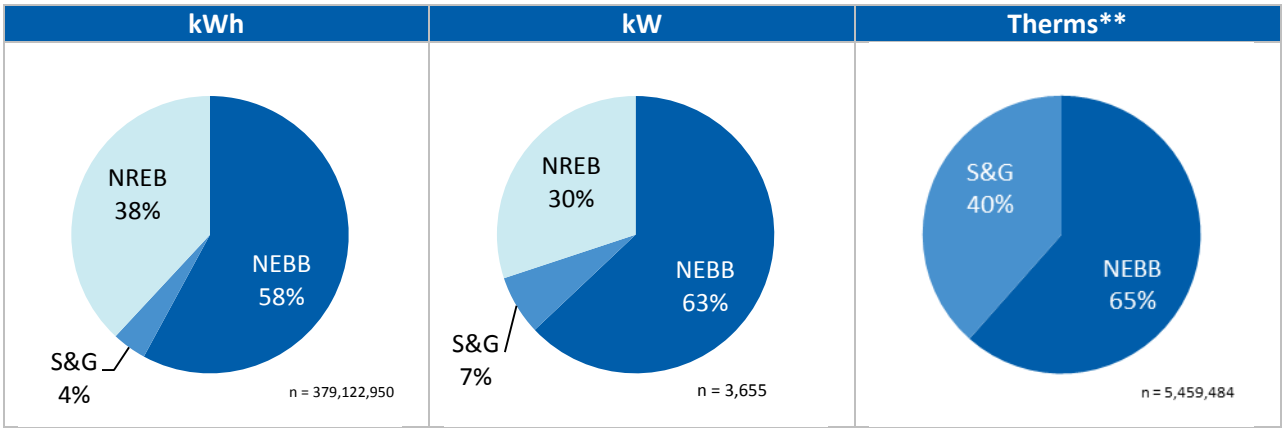
* Columns may not sum to the totals because of rounding

*The Schools and Government increase in verified gross KW is primarily due to differences in forecasted system operations compared to the actual system operations.

The following figures present gross, verified gross, and verified net kilowatt, kilowatt-hour, and therm life-cycle savings for all Territory-Wide nonresidential programs.

Figure 17 shows the allocation of life-cycle gross kWh, kW, and therm savings for the Territory-Wide nonresidential programs.

Figure 17. Gross kWh, kW, and Therm Savings for Territory-Wide Nonresidential Programs, Life-Cycle*

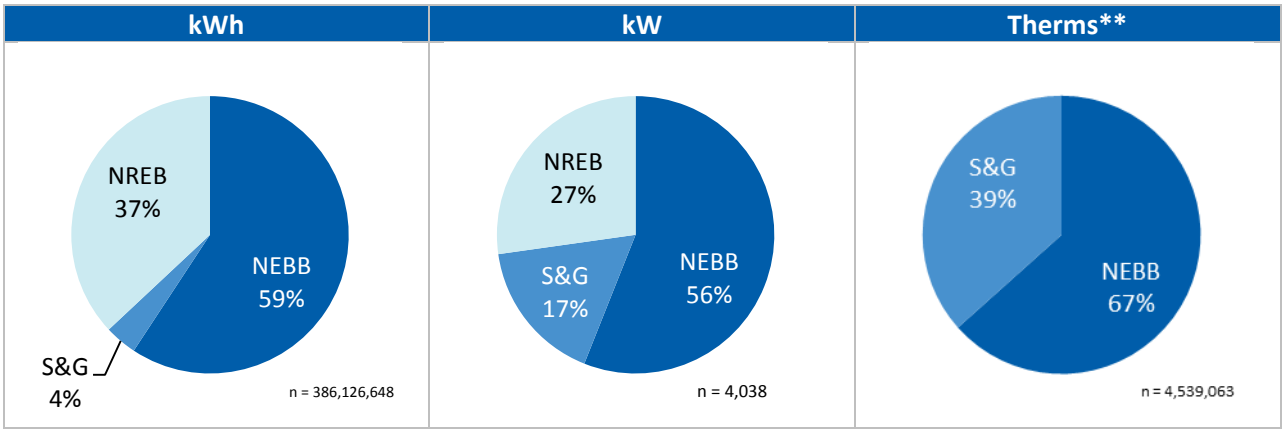


*NEBB = NonEnergy Bundle Bonus, NREB = Nonresidential Renewable Energy Bonus, S&G = Schools and Government; no savings reported for either Smart Farms or Trade Ally Bonus Bid.

**Values presented here add up to more than 100% because NREB savings are negative (-5%); as a result, figure may not be to scale.

Figure 18 shows the allocation of life-cycle verified gross kWh, kW, and therm savings for Territory-Wide nonresidential programs.

Figure 18. Verified Gross kWh, kW, and Therm Savings for Territory-Wide Nonresidential Programs, Life-Cycle*

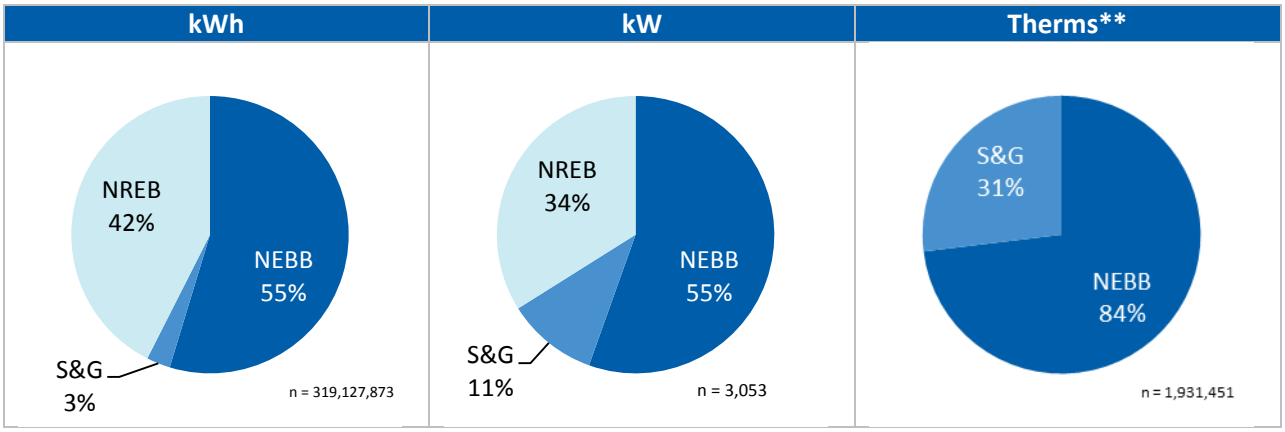


*NEBB = NonEnergy Bundle Bonus, NREB = Nonresidential Renewable Energy Bonus, S&G = Schools and Government; no savings reported for either Smart Farms or Trade Ally Bonus Bid.

**Values presented here add up to more than 100% because NREB savings are negative (-6%); as a result, figure may not be to scale.

Figure 19 shows the allocation of life-cycle verified net kWh, kW, and therm savings for Territory-Wide nonresidential programs.

Figure 19. Verified Net kWh, kW, and Therm Savings for Territory-Wide Nonresidential Programs, Life-Cycle*



*NEBB = NonEnergy Bundle Bonus, NREB = Nonresidential Renewable Energy Bonus, S&G = Schools and Government; no savings reported for either Smart Farms or Trade Ally Bonus Bid.

**Values presented here add up to more than 100% because NREB savings are negative (-15%); as a result, figure may not be to scale.

Summary of Savings by Measure Category

The tables in this section provide the gross, verified gross, and verified net savings for all Territory-Wide residential and nonresidential measure categories. First-year annual measure category savings are presented first, followed by life-cycle measure category savings.

Residential First-Year Annual Savings by Measure Category

For the residential Territory-Wide segment, Table 8 and Table 9 show first-year annual gross, verified gross, and verified net savings by measure category and fuel type.

Table 8. Territory-Wide Residential Gross, Verified Gross, and Verified Net Savings by Measure Category and Fuel Type, First-Year Annual*

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Boiler Equipment	0	0	38,271	0	0	39,488	0	0	20,053
Building Shell	61,693	80	36,753	61,794	80	38,446	42,659	63	29,565
Furnace	10,473	2	220	17,385	3	131	9,323	1	54
Hot Water	82,008	0	14,261	81,900	0	14,793	70,136	0	10,719
HVAC	7,431	6	261	6,652	5	240	3,927	3	218
Lighting	714,022	88	0	703,249	87	0	459,100	56	0
Refrigeration	26,862	4	0	27,710	5	0	18,092	3	0
Renewables	22,799	10	515	22,799	10	515	22,799	10	515
Vending and Plug Loads	11,514	1	0	11,514	1	0	7,551	1	0
Other	61,003	0	51,527	60,998	0	51,575	52,005	0	43,983
Total	**997,804**	**192**	**141,808**	**994,001**	**190**	**145,188**	**685,592**	**137**	**105,107**

* Columns may not sum to the totals because of rounding

Table 9. Territory-Wide Residential Gross, Verified Gross, and Verified Net Savings Percentages by Measure Category and Fuel Type, First-Year Annual

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Boiler Equipment	0.00%	0.00%	26.99%	0.00%	0.00%	27.20%	0.00%	0.00%	19.08%
Building Shell	6.18%	41.97%	25.92%	6.22%	41.95%	26.48%	6.22%	45.90%	28.13%
Furnace	1.05%	0.98%	0.16%	1.75%	1.39%	0.09%	1.36%	0.99%	0.05%
Hot Water	8.22%	0.00%	10.06%	8.24%	0.00%	10.19%	10.23%	0.00%	10.20%
HVAC	0.74%	2.95%	0.18%	0.67%	2.47%	0.17%	0.57%	2.37%	0.21%
Lighting	71.56%	45.96%	0.00%	70.75%	45.66%	0.00%	66.96%	40.93%	0.00%
Refrigeration	2.69%	2.34%	0.00%	2.79%	2.68%	0.00%	2.64%	2.06%	0.00%
Renewables	2.28%	5.06%	0.36%	2.29%	5.10%	0.35%	3.33%	7.07%	0.49%
Vending and Plug Loads	1.15%	0.74%	0.00%	1.16%	0.75%	0.00%	1.10%	0.68%	0.00%
Other	6.11%	0.00%	36.34%	6.14%	0.00%	35.52%	7.59%	0.00%	41.85%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Nonresidential First-Year Annual Savings by Measure Category

Table 10 and Table 11 show first-year annual gross, verified gross, and verified net savings by measure category and fuel type for the nonresidential Territory-Wide segment.

Table 10. Territory-Wide Nonresidential Gross, Verified Gross, and Verified Net Savings by Measure Category and Fuel Type, First-Year Annual*

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Agriculture	441,129	38	0	420,292	30	-	390,295	28	-
Boiler Controls	0	0	15,000	-	-	15,750	-	-	4,350
Boiler Equipment	(1,139)	0	36,288	(1,101)	-	32,363	(1,103)	-	15,378
Boiler Service	64,258	14	18,596	64,258	14	19,526	64,258	14	5,393
Building Shell	5,384	0	1,100	5,313	-	1,023	3,641	-	1,023
Compressor Equipment	112,908	34	0	100,117	31	-	63,543	21	-
Energy Recovery	380,707	41	11,256	380,707	41	10,863	380,707	41	7,009
Food Service	102,672	14	14,370	98,680	12	9,010	81,383	10	4,670
Hot Water	1,005,894	250	13,853	948,407	208	12,446	718,700	159	8,649
HVAC	1,646,821	383	67,675	1,331,854	329	63,418	1,000,126	241	37,769
Information Technology	2,216,000	0	0	2,548,278	-	-	2,548,278	-	-
Lighting	3,864,384	513	0	3,949,536	502	-	3,361,020	442	-
Lighting Controls	214,312	99	0	214,312	91	-	128,204	56	-
Motors and Drives	4,654,461	538	0	5,236,357	628	-	3,451,507	406	-
Process	116,262	0	0	143,231	-	-	136,059	-	-
Refrigeration	1,149,554	115	18,422	1,212,565	127	18,422	781,138	77	15,041
Refrigeration Controls	117,451	3	0	136,830	3	-	69,531	2	-
Renewables	9,613,952	1,100	(18,884)	9,507,527	1,100	(18,884)	9,038,846	1,036	(18,884)
Vending and Plug Loads	15,443	0	0	15,155	-	-	11,243	-	-
Whole Building	833,350	235	65,435	833,350	222	41,028	556,975	173	21,266
Other	139,137	24	0	138,365	24	-	134,865	24	-
Total**	**26,692,940**	**3,400**	**243,111**	**27,284,033**	**3,362**	**204,965**	**22,919,217**	**2,729**	**101,664**

* Columns may not sum to the totals because of rounding

** Nonresidential measure level totals do not include savings from custom projects in the Schools and Government Program. Being custom projects, these savings are not reported on the measure level.

Table 11. Territory-Wide Nonresidential Gross, Verified Gross, and Verified Net Savings Percentages by Measure Category and Fuel Type, First-Year Annual*

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Agriculture	1.65%	1.12%	0.00%	1.54%	0.90%	0.00%	1.70%	1.01%	0.00%
Boiler Controls	0.00%	0.00%	6.17%	0.00%	0.00%	7.68%	0.00%	0.00%	4.28%
Boiler Equipment	0.00%	0.00%	14.93%	0.00%	0.00%	15.79%	0.00%	0.00%	15.13%
Boiler Service	0.24%	0.40%	7.65%	0.24%	0.40%	9.53%	0.28%	0.49%	5.30%
Building Shell	0.02%	0.00%	0.45%	0.02%	0.00%	0.50%	0.02%	0.00%	1.01%
Compressor Equipment	0.42%	1.01%	0.00%	0.37%	0.92%	0.00%	0.28%	0.75%	0.00%
Energy Recovery	1.43%	1.19%	4.63%	1.40%	1.21%	5.30%	1.66%	1.49%	6.89%
Food Service	0.38%	0.42%	5.91%	0.36%	0.37%	4.40%	0.36%	0.38%	4.59%
Hot Water	3.77%	7.35%	5.70%	3.48%	6.19%	6.07%	3.14%	5.81%	8.51%
HVAC	6.17%	11.26%	27.84%	4.88%	9.79%	30.94%	4.36%	8.85%	37.15%
Information Technology	8.30%	0.00%	0.00%	9.34%	0.00%	0.00%	11.12%	0.00%	0.00%
Lighting	14.48%	15.08%	0.00%	14.48%	14.92%	0.00%	14.66%	16.19%	0.00%
Lighting Controls	0.80%	2.92%	0.00%	0.79%	2.72%	0.00%	0.56%	2.05%	0.00%
Motors and Drives	17.44%	15.83%	0.00%	19.19%	18.69%	0.00%	15.06%	14.90%	0.00%
Process	0.44%	0.00%	0.00%	0.52%	0.00%	0.00%	0.59%	0.00%	0.00%
Refrigeration	4.31%	3.38%	7.58%	4.44%	3.77%	8.99%	3.41%	2.82%	14.79%
Refrigeration Controls	0.44%	0.08%	0.00%	0.50%	0.10%	0.00%	0.30%	0.06%	0.00%
Renewables	36.02%	32.34%	-7.77%	34.85%	32.71%	-9.21%	39.44%	37.96%	-18.57%
Vending and Plug Loads	0.06%	0.00%	0.00%	0.06%	0.00%	0.00%	0.05%	0.00%	0.00%
Whole Building	3.12%	6.92%	26.92%	3.05%	6.59%	20.02%	2.43%	6.34%	20.92%
Other	0.52%	0.71%	0.00%	0.51%	0.72%	0.00%	0.59%	0.89%	0.00%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Residential Life-Cycle Savings by Measure Category

Table 12 and Table 13 show life-cycle gross, verified gross, and verified net savings by measure category and fuel type for the residential Territory-Wide segment.

Table 12. Territory-Wide Residential Gross, Verified Gross, and Verified Net Savings by Measure Category and Fuel Type, Life-Cycle*

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Boiler Equipment	0	0	472,200	0	0	496,539	0	0	282,867
Building Shell	1,182,231	80	839,724	1,183,041	80	881,428	855,656	63	697,858
Furnace	127,584	2	2,960	183,795	3	2,307	91,577	1	911
Hot Water	662,215	0	148,454	660,489	0	153,956	564,965	0	112,959
HVAC	59,448	6	6,525	53,215	5	6,009	31,416	3	5,444
Lighting	3,540,411	88	0	3,501,544	87	0	2,269,445	56	0
Refrigeration	214,896	4	0	221,677	5	0	144,735	3	0
Renewables	455,980	10	10,300	455,980	10	10,300	455,980	10	10,300
Vending and Plug Loads	161,196	1	0	161,196	1	0	105,716	1	0
Other	732,031	0	618,328	731,981	0	618,900	624,055	0	527,799
Total	**7,135,992**	**192**	**2,098,491**	**7,152,918**	**190**	**2,169,439**	**5,143,545**	**137**	**1,638,138**

* Columns may not sum to the totals because of rounding

Table 13. Territory-Wide Residential Gross, Verified Gross, and Verified Net Savings Percentages by Measure Category and Fuel Type, Life-Cycle*

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Boiler Equipment	0.00%	0.00%	22.50%	0.00%	0.00%	22.89%	0.00%	0.00%	17.27%
Building Shell	16.57%	41.97%	40.02%	16.54%	41.95%	40.63%	16.64%	45.90%	42.60%
Furnace	1.79%	0.98%	0.14%	2.57%	1.39%	0.11%	1.78%	0.99%	0.06%
Hot Water	9.28%	0.00%	7.07%	9.23%	0.00%	7.10%	10.98%	0.00%	6.90%
HVAC	0.83%	2.95%	0.31%	0.74%	2.47%	0.28%	0.61%	2.37%	0.33%
Lighting	49.61%	45.96%	0.00%	48.95%	45.66%	0.00%	44.12%	40.93%	0.00%
Refrigeration	3.01%	2.34%	0.00%	3.10%	2.68%	0.00%	2.81%	2.06%	0.00%
Renewables	6.39%	5.06%	0.49%	6.37%	5.10%	0.47%	8.87%	7.07%	0.63%
Vending and Plug Loads	2.26%	0.74%	0.00%	2.25%	0.75%	0.00%	2.06%	0.68%	0.00%
Other	10.26%	0.00%	29.47%	10.23%	0.00%	28.53%	12.13%	0.00%	32.22%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Nonresidential Life-Cycle Savings by Measure Category

Table 14 and Table 15, on the next pages, show the life-cycle gross, verified gross, and verified net savings by measure category and fuel type for the nonresidential Territory-Wide segment.

Table 14. Territory-Wide Nonresidential Gross, Verified Gross, and Verified Net Savings by Measure Category and Fuel Type, Life-Cycle

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Agriculture	4,498,290	38	-	4,289,916	30	-	3,989,953	28	-
Boiler Controls	-	-	225,000	-	-	236,250	-	-	65,250
Boiler Equipment	(17,085)	-	544,324	(16,521)	-	485,449	(16,538)	-	230,675
Boiler Service	321,290	14	278,940	321,290	14	292,887	321,290	14	80,893
Building Shell	99,200	-	11,000	98,489	-	10,232	66,731	-	10,232
Compressor Equipment	1,241,988	34	-	1,101,287	31	-	698,968	21	-
Energy Recovery	4,187,777	41	135,072	4,187,777	41	130,361	4,187,777	41	84,104
Food Service	1,096,367	14	172,437	1,056,445	12	108,118	860,383	10	56,042
Hot Water	9,935,966	250	145,744	9,361,090	208	128,981	7,064,026	159	88,835
HVAC	24,702,320	383	1,015,123	19,977,814	329	951,267	15,001,896	241	566,532
Information Technology	22,160,000	-	-	25,482,781	-	-	25,482,781	-	-
Lighting	46,261,606	513	-	47,283,430	502	-	40,230,731	442	-
Lighting Controls	2,571,739	99	-	2,571,739	91	-	1,538,451	56	-
Motors and Drives	74,201,908	538	-	83,532,129	628	-	55,010,192	406	-
Process	1,278,882	-	-	1,575,543	-	-	1,496,647	-	-
Refrigeration	13,794,648	115	221,064	14,550,783	127	221,064	9,373,652	77	180,489
Refrigeration Controls	1,409,412	3	-	1,641,965	3	-	834,372	2	-
Renewables	144,369,810	1,100	(283,260)	142,773,439	1,100	(283,260)	135,732,965	1,036	(283,260)
Vending and Plug Loads	175,518	-	-	172,635	-	-	126,524	-	-
Whole Building	10,000,200	235	785,220	10,000,200	222	492,333	6,683,704	173	255,197
Other	1,643,420	24	-	1,635,705	24	-	1,600,698	24	-
Total*	**363,933,255**	**3,400**	**3,250,664**	**371,597,936**	**3,362**	**2,773,682**	**310,285,202**	**2,729**	**1,334,990**

* Nonresidential measure level totals do not include savings from custom projects in the Schools and Government Program. Being custom projects, these savings are not reported on the measure level.

Table 15. Territory-Wide Nonresidential Gross, Verified Gross, and Verified Net Savings Percentages by Measure Category and Fuel Type, Life-Cycle

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Agriculture	1.24%	1.12%	0.00%	1.15%	0.90%	0.00%	1.29%	1.01%	0.00%
Boiler Controls	0.00%	0.00%	6.92%	0.00%	0.00%	8.52%	0.00%	0.00%	4.89%
Boiler Equipment	0.00%	0.00%	16.75%	0.00%	0.00%	17.50%	-0.01%	0.00%	17.28%
Boiler Service	0.09%	0.40%	8.58%	0.09%	0.40%	10.56%	0.10%	0.49%	6.06%
Building Shell	0.03%	0.00%	0.34%	0.03%	0.00%	0.37%	0.02%	0.00%	0.77%
Compressor Equipment	0.34%	1.01%	0.00%	0.30%	0.92%	0.00%	0.23%	0.75%	0.00%
Energy Recovery	1.15%	1.19%	4.16%	1.13%	1.21%	4.70%	1.35%	1.49%	6.30%
Food Service	0.30%	0.42%	5.30%	0.28%	0.37%	3.90%	0.28%	0.38%	4.20%
Hot Water	2.73%	7.35%	4.48%	2.52%	6.19%	4.65%	2.28%	5.81%	6.65%
HVAC	6.79%	11.26%	31.23%	5.38%	9.79%	34.30%	4.83%	8.85%	42.44%
Information Technology	6.09%	0.00%	0.00%	6.86%	0.00%	0.00%	8.21%	0.00%	0.00%
Lighting	12.71%	15.08%	0.00%	12.72%	14.92%	0.00%	12.96%	16.19%	0.00%
Lighting Controls	0.71%	2.92%	0.00%	0.69%	2.72%	0.00%	0.50%	2.05%	0.00%
Motors and Drives	20.39%	15.83%	0.00%	22.48%	18.69%	0.00%	17.73%	14.90%	0.00%
Process	0.35%	0.00%	0.00%	0.42%	0.00%	0.00%	0.48%	0.00%	0.00%
Refrigeration	3.79%	3.38%	6.80%	3.92%	3.77%	7.97%	3.02%	2.82%	13.52%
Refrigeration Controls	0.39%	0.08%	0.00%	0.44%	0.10%	0.00%	0.27%	0.06%	0.00%
Renewables	39.67%	32.34%	-8.71%	38.42%	32.71%	-10.21%	43.74%	37.96%	-21.22%
Vending and Plug Loads	0.05%	0.00%	0.00%	0.05%	0.00%	0.00%	0.04%	0.00%	0.00%
Whole Building	2.75%	6.92%	24.16%	2.69%	6.59%	17.75%	2.15%	6.34%	19.12%
Other	0.45%	0.71%	0.00%	0.44%	0.72%	0.00%	0.52%	0.89%	0.00%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

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Evaluation Findings

In this section, the Evaluation Team discusses the results of the Focus on Energy CY 2012 Evaluation Report that apply to the Territory-Wide programs and measures.

Summary of Net Savings by Program and Measure

The Evaluation Team calculated new NTG ratios based on CY 2012 Focus on Energy program data. The Territory-Wide programs largely offer additional incentives to the Focus on Energy state-wide offerings. In many cases customers, at the time of project inception or even completion, were not ensured of receipt of the additional incentives. Consequently it is believed that the Territory-Wide incentives would not have an impact on NTG beyond what was found for the Focus on Energy state-wide programs. However, additional research on any incremental impacts from the Territory-Wide incentives will be conducted in 2013 and reported on in 2014 across the 2011-2013 time period. Appendix D. Net-to-Gross Ratios by Measure contains a summary of the NTG ratios by measure. The NTG ratios listed by the Evaluation Team-defined measure category in Table D-1 reflect an MMBtu-weighted average across electric energy (kWh) and gas (therms) savings.

First-Year Annual Savings

Table 16, Table 17, and Table 18 summarize the gross, verified gross, and verified net electricity, peak demand, and gas savings for all Territory-Wide programs and measure categories. These are based on the first-year annual savings of the measures.

Table 16. Territory-Wide Portfolio: Summary of kWh, kW, and Therm Savings by Program, First-Year Annual*

Territory-Wide Segment	Program Name	Gross			Verified Gross			Verified Net		
		kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Residential Segment	Assisted Home Performance Bonus	1,682	1	987	1,653	1	1,018	1,653	1	1,018
	Home Performance Bonus	120,075	74	84,515	119,354	74	86,150	95,837	59	71,788
	Energy Bundle Bonus	853,248	107	55,792	850,195	106	57,505	565,304	68	31,786
	Residential Renewable Energy Bonus	22,799	10	515	22,799	10	515	22,799	10	515
	Total	**997,804**	**192**	**141,808**	**994,001**	**190**	**145,188**	**685,592**	**137**	**105,107**
Nonresidential Segment	NonEnergy Bundle Bonus	17,078,988	2,301	261,995	17,776,506	2,262	223,849	13,880,371	1,693	120,548
	Nonresidential Renewable Energy Bonus	9,613,952	1,100	(18,884)	9,507,527	1,100	(18,884)	9,038,846	1,036	(18,884)
	Schools and Government	1,008,324	254	205,059	975,134	676	180,246	583,962	324	56,373
	Smart Farms	-	-	-	-	-	-	-	-	-
	Trade Ally Bonus Bid	-	-	-	-	-	-	-	-	-
	Total	**27,701,264**	**3,655**	**448,170**	**28,259,167**	**4,038**	**385,211**	**23,503,178**	**3,053**	**158,038**
Total Territory-Wide Savings		**28,699,068**	**3,846**	**589,978**	**29,253,168**	**4,228**	**530,399**	**24,188,771**	**3,190**	**263,144**

* Columns may not sum to the totals because of rounding

Table 17. Residential: Summary of kWh, kW, and Therm Savings by Measure Category, First-Year Annual*

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Boiler Equipment	-	-	38,271	-	-	39,488	-	-	20,053
Building Shell	61,693	80	36,753	61,794	80	38,446	42,659	63	29,565
Furnace	10,473	2	220	17,385	3	131	9,323	1	54
Hot Water	82,008	-	14,261	81,900	-	14,793	70,136	-	10,719
HVAC	7,431	6	261	6,652	5	240	3,927	3	218
Lighting, CFL	140,658	16	-	140,658	16	-	82,096	9	-
Lighting, LED	51,046	5	-	51,046	5	-	33,961	3	-
Lighting	522,318	67	-	511,545	66	-	343,043	44	-
Refrigeration	26,862	4	-	27,710	5	-	18,092	3	-
Renewables	22,799	10	515	22,799	10	515	22,799	10	515
Vending and Plug Loads	11,514	1	-	11,514	1	-	7,551	1	-
Other	61,003	-	51,527	60,998	-	51,575	52,005	-	43,983
Total Territory-Wide Savings	**997,804**	**192**	**141,808**	**994,001**	**190**	**145,188**	**685,592**	**137**	**105,107**

* Columns may not sum to the totals because of rounding

Table 18. Nonresidential: Summary of kWh, kW, and Therm Savings by Measure Category, First-Year Annual*

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Agriculture	441,129	38	-	420,292	30	-	390,295	28	-
Boiler Controls	-	-	15,000	-	-	15,750	-	-	4,350
Boiler Equipment	(1,139)	-	36,288	(1,101)	-	32,363	(1,103)	-	15,378
Boiler Service	64,258	14	18,596	64,258	14	19,526	64,258	14	5,393
Building Shell	5,384	-	1,100	5,313	-	1,023	3,641	-	1,023
Compressor Equipment	112,908	34	-	100,117	31	-	63,543	21	-
Energy Recovery	380,707	41	11,256	380,707	41	10,863	380,707	41	7,009
Food Service	102,672	14	14,370	98,680	12	9,010	81,383	10	4,670
Hot Water	1,005,894	250	13,853	948,407	208	12,446	718,700	159	8,649
HVAC	1,646,821	383	67,675	1,331,854	329	63,418	1,000,126	241	37,769
Information Technology	2,216,000	-	-	2,548,278	-	-	2,548,278	-	-
Lighting, CFL	18,789	5	-	18,789	5	-	17,433	4	-
Lighting, HID	63,122	13	-	63,122	13	-	63,122	13	-
Lighting, LED	842,682	79	-	811,122	70	-	488,573	42	-
Lighting, Fluorescent	512,080	80	-	512,080	78	-	459,624	69	-
Lighting	2,427,711	337	-	2,544,423	337	-	2,332,268	314	-
Lighting Controls	214,312	99	-	214,312	91	-	128,204	56	-
Motors and Drives	4,654,461	538	-	5,236,357	628	-	3,451,507	406	-
Process	116,262	-	-	143,231	-	-	136,059	-	-
Refrigeration	1,149,554	115	18,422	1,212,565	127	18,422	781,138	77	15,041
Refrigeration Controls	117,451	3	-	136,830	3	-	69,531	2	-
Renewables	9,613,952	1,100	(18,884)	9,507,527	1,100	(18,884)	9,038,846	1,036	(18,884)
Vending and Plug Loads	15,443	-	-	15,155	-	-	11,243	-	-
Whole Building	833,350	235	65,435	833,350	222	41,028	556,975	173	21,266
Other	139,137	24	-	138,365	24	-	134,865	24	-
Total Territory-Wide Savings**	**26,692,940**	**3,400**	**243,111**	**27,284,033**	**3,362**	**204,965**	**22,919,217**	**2,729**	**101,664**

* Columns may not sum to the totals because of rounding

** Nonresidential measure level totals do not include savings from custom projects in the Schools and Government Program.

Life-Cycle Savings

Table 19 and Table 20 summarize the gross, verified gross, and verified net electricity, peak demand, and gas savings for all Territory-Wide programs and measure categories, based on the life-cycle savings of the measures.

Table 19. Residential: Summary of kWh, kW, and Therm Savings by Measure Category, Life-Cycle*

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Boiler Equipment	0	0	472,200	0	0	496,539	0	0	282,867
Building Shell	1,182,231	80	839,724	1,183,041	80	881,428	855,656	63	697,858
Furnace	127,584	2	2,960	183,795	3	2,307	91,577	1	911
Hot Water	662,215	0	148,454	660,489	0	153,956	564,965	0	112,959
HVAC	59,448	6	6,525	53,215	5	6,009	31,416	3	5,444
Lighting	3,540,411	88	0	3,501,544	87	0	2,269,445	56	0
Refrigeration	214,896	4	0	221,677	5	0	144,735	3	0
Renewables	455,980	10	10,300	455,980	10	10,300	455,980	10	10,300
Vending and Plug Loads	161,196	1	0	161,196	1	0	105,716	1	0
Other	732,031	0	618,328	731,981	0	618,900	624,055	0	527,799
Total Territory-Wide Savings	**7,135,992**	**192**	**2,098,491**	**7,152,918**	**190**	**2,169,439**	**5,143,545**	**137**	**1,638,138**

* Columns may not sum to the totals because of rounding

Table 20. Nonresidential: Summary of kWh, kW, and Therm Savings by Measure Category, Life-Cycle*

Measure Category	Gross			Verified Gross			Verified Net		
	kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Agriculture	4,498,290	38	-	4,289,916	30	-	3,989,953	28	-
Boiler Controls	-	-	225,000	-	-	236,250	-	-	65,250
Boiler Equipment	(17,085)	-	544,324	(16,521)	-	485,449	(16,538)	-	230,675
Boiler Service	321,290	14	278,940	321,290	14	292,887	321,290	14	80,893
Building Shell	99,200	-	11,000	98,489	-	10,232	66,731	-	10,232
Compressor Equipment	1,241,988	34	-	1,101,287	31	-	698,968	21	-
Energy Recovery	4,187,777	41	135,072	4,187,777	41	130,361	4,187,777	41	84,104
Food Service	1,096,367	14	172,437	1,056,445	12	108,118	860,383	10	56,042
Hot Water	9,935,966	250	145,744	9,361,090	208	128,981	7,064,026	159	88,835
HVAC	24,702,320	383	1,015,123	19,977,814	329	951,267	15,001,896	241	566,532
Information Technology	22,160,000	-	-	25,482,781	-	-	25,482,781	-	-
Lighting	46,261,606	513	-	47,283,430	502	-	40,230,731	442	-
Lighting Controls	2,571,739	99	-	2,571,739	91	-	1,538,451	56	-
Motors and Drives	74,201,908	538	-	83,532,129	628	-	55,010,192	406	-
Process	1,278,882	-	-	1,575,543	-	-	1,496,647	-	-
Refrigeration	13,794,648	115	221,064	14,550,783	127	221,064	9,373,652	77	180,489
Refrigeration Controls	1,409,412	3	-	1,641,965	3	-	834,372	2	-
Renewables	144,369,810	1,100	(283,260)	142,773,439	1,100	(283,260)	135,732,965	1,036	(283,260)
Vending and Plug Loads	175,518	-	-	172,635	-	-	126,524	-	-
Whole Building	10,000,200	235	785,220	10,000,200	222	492,333	6,683,704	173	255,197
Other	1,643,420	24	-	1,635,705	24	-	1,600,698	24	-
Total Territory-Wide Savings**	**363,933,255**	**3,400**	**3,250,664**	**371,597,936**	**3,362**	**2,773,682**	**310,285,202**	**2,729**	**1,334,990**

* Columns may not sum to the totals because of rounding

** Nonresidential measure level totals do not include savings from custom projects in the Schools and Government Program.

Program Cost-Effectiveness

To assess the cost-effectiveness of the Territory-Wide programs from a regulatory perspective, the Evaluation Team used a modified Total Resource Cost (TRC) test. This modified TRC includes the value of displaced emissions. Through this analysis, the Team determined the savings, benefits, and costs of both the Territory-Wide measures and the Focus on Energy measures for which WPS customers received bonus incentives.[7]

The TRC test is commonly used to assess the avoided cost of supplying the displaced energy compared to the program and participant costs. By measuring the net costs of an energy-efficiency program as a resource option based on the total program costs (both to participants and to Focus on Energy), the TRC test measures the net direct economic impact on a population (e.g., a utility service territory, county, or political district). In essence, the TRC is the ratio of program benefits to program costs:

- A value greater than 1 translates into a cost-effective program or portfolio of programs. (That is, the net benefits are positive.)
- A value less than 1 indicates that the program or portfolio of programs is not cost-effective (net benefits are negative).

From a TRC perspective, an energy-efficiency measure, renewable resource measure, or energy-efficient practice fails the test if the net benefit is negative (that is, if the costs of achieving the savings outweigh the value of the savings achieved). The equation used for the TRC is as follows:

$$TRC = \frac{(Value\ of\ Net\ Saved\ Energy + Value\ of\ Displaced\ Emissions)}{(Program\ Costs\ Exclusive\ of\ Incentives + Net\ Incremental\ Measure\ Cost)}$$

The inputs to the TRC ratio are discussed in more detail in the next sections.

Value of Net Saved Energy

The value of energy saved or displaced is the net energy saved multiplied by the utility's avoided cost of the saved energy. "Avoided cost" is the incremental (or marginal) cost to an electric or gas utility for generating or purchasing additional energy or capacity from another source, rather than paying for the energy-efficient measure that offsets this demand.

For this evaluation, as with the 2012 Focus on Energy Evaluation, the Evaluation Team used an annualization forecast avoided cost model that relied on the forecast of Locational Marginal Price for the years 2016, 2021, and 2026 (developed by the Midwest Independent Transmission System Operator, Inc., and approved by the PSC on January 13, 2012).[8]

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[7] The Team used this approach because the available data for CY 2012 were insufficient to determine incremental participation resulting from the Focus on Energy activities in the WPS territory.

[8] Order 5-GF-191 (PSC REF#:158228).

To account for distribution losses, the Evaluation Team increased the net savings presented above in Table 19 by the line loss factor of 8%. Table 21 lists the CY 2012 avoided cost assumptions the Team used for the cost-effectiveness tests.

Table 21. CY 2012 Avoided-Cost Assumption

Attribute	Result
Electric Energy ($/kWh)	0.379-0.561
Electric Capacity ($/kW-year)	114.3
Gas ($/therms)	1.005
Avoided Cost Inflation	0%
Real Discount Rate	2%
Line Loss	8%

Value of Displaced Emissions

Emissions benefits, which are included in the TRC calculation, require three key parameters: life-cycle net energy savings, emissions factors, and the value of the displaced emissions. The emissions factors are the rate at which pollutants are emitted per unit of energy. These factors are most often expressed in tons of pollutant per energy unit: for electricity, emissions factors are expressed as tons/MWh, and for gas, emissions factors are expressed as tons/MThm.

The product of the emissions factor and the net energy savings equals the total weight of the air pollutant that is offset or displaced by the program. Thus, the product of the total tonnage of pollutant displaced and the dollar value of the displaced emissions per ton equals the displaced emissions benefit.

Value of Displaced Emissions:
= [Net Saved Energy x Emissions Factor x Value of Emissions Allowance]

The Evaluation Team revisited the electric emissions factors from the CY 2011 Focus on Energy and WPS Evaluation Reports. This review was done in accordance with the forecasted CY 2012 estimates derived from the report *Focus on Energy Evaluation Emission Factors Update*.[9] The emissions factors and allowance prices are shown in Table 22, and the gas emissions factors remained constant from the CY 2011 evaluation report.

Table 22. Emissions Factors and Allowance Price

Service Fuel Type	CO_2	NO_x	SO_2
Electric Emissions Factor (Tons/MWh)	0.83	0.0012	0.0008
Gas Emissions Factor (Tons/MThm)	5.85		
Allowance Price ($/Ton)	$30.00	$4.10	$1.08

[9] PA Consulting Group, December 22, 2009.

The Evaluation Team obtained the CY 2012 nitrogen oxides (NO_x) and sulfur dioxide (SO_2) emissions allowance prices from the Energy Information Administration (EIA).[10] Due to the continued decline in and the uncertainty surrounding the forecasted NOx and SO_2 allowance prices, the forecasted values remained constant at CY 2012 values. The Team derived the CO_2 emissions price from PSC Order (Ref# 141173), which states, "… levelized carbon value of $30 per ton shall be used in the benefit/cost modeling of energy efficiency programs." (sic)

Table 23 lists total program-level emissions benefits.

Table 23. Territory-Wide Program Emissions Benefits

CY 2012 Emissions	Total
Benefits	$7,839,356

Program Costs

The program costs encompass all of the costs associated with operating the efficiency programs (such as administration and delivery costs); however, incentive costs are not included, as they are deemed transfer payments. The Fiscal Agent, Wipfli, provided the CY 2012 program costs to the Evaluation Team. Table 24 lists the CY 2012 program and incentive cost values used for the cost-effectiveness test.

Table 24. Program Cost

Cost Category	Cost
Incentive Cost	$3,339, 559
Administrative Cost	$1,439,662
Delivery Cost	$954,335
Total Non-Incentive Program Cost	$2,393,997

Incremental Costs

The gross incremental costs are the additional costs incurred by participants as a result of purchasing efficient equipment that exceeds a baseline nonqualified product. With the notable exception of renewable-based measures, the gross incremental cost values used in this evaluation came from the Focus on Energy evaluation Benefit-Cost Analysis CY 2009 Evaluation Report.

The Team used an approach consistent with that used in the CY 2010 and CY 2011 Focus on Energy evaluations, so the renewable-energy projects were assessed at the actual project cost values specified the program tracking databases. However, the gross incremental costs, similar to the energy-savings values used in the cost-effectiveness tests, required the application of attribution factors to account for

[10] These emissions allowance prices are available online: http://www.eia.gov/todayinenergy/detail.cfm?id=4830.

freeridership. The Team calculated new NTG ratios based on CY 2012 Focus on Energy program data. Appendix D. Net-to-Gross Ratios by Measure contains a summary of the NTG ratios by measure.

Table 25 lists the CY 2012 total measure net incremental costs used for the cost-effectiveness test.

Table 25. Net Incremental Measure Cost

	Cost
Net Incremental Cost	$17,271,429

Table 26 lists the cost-effectiveness test results for CY 2012. Cost-effectiveness analyses, for both program design and evaluation purposes for Focus on Energy programs and the Territory-Wide programs, were conducted using the "Focus on Energy Cost-Effectiveness Calculator" created by Green Energy Economics Group, Inc. Refer to the Focus on Energy Website for details on the processes used for calculating the cost-effectiveness of the energy portfolio.[11]

Table 26. Territory-Wide Program TRC Test Inputs and Final Benefit/Cost Ratio

Test Input	Result
Incentives*	***$3,339,559***
Program Costs	$2,393,997
Incremental Measure Costs	$17,271,429
Total Costs for TRC Test	**$19,665,426**
Electric Benefits	$19,667,810
Gas Benefits	$2,835,589
Emissions Benefits	$7,839,356
Total Benefits for TRC Test	**$30,342,755**
TRC B/C Ratio	1.54
TRC Net Benefits	$10,677,329

***Incentives are not included in the calculation of the TRC

[11] PA Consulting Group and KEMA, Inc. *Focus on Energy Benefit-Cost Analysis CY 2009 Evaluation Report.* Submitted to the Public Service Commission of Wisconsin. November 24, 2009. Available online: http://www.focusonenergy.com/about/evaluation-reports.

Community Pilot Program Descriptions

KEMA evaluated the Community Pilot programs. Gross and net savings were delivered by KEMA and WECC/CB&I in separate reports.[12] All verified Community Pilot program savings are presented alongside Territory-Wide program savings in Appendix F. Community Pilot Program Savings. Community Pilot offerings were designed to help Focus on Energy test the effectiveness of new tools, technologies, and program approaches, including the use of new rates and the provision of special equipment to program participants. Descriptions of Residential and Nonresidential Community Pilot programs are presented below.

Residential Community Pilot Programs

In CY 2012, WPS offered six residential Community Pilot programs in Brillion, Allouez, and Plover. A description of each program is provided below.

Home Energy Audit Program

Community Served: Brillion

Description: An energy advocate (EA) conducted a walk-through energy audit and directly installed a CFL bulb, low-flow showerhead, and low-flow faucet aerator at no cost to the participant. Later, if a customer chose to participate in the Comprehensive Home Energy Assessment Program, the same EA served as the customer's primary contact and guide.

Comprehensive Home Energy Assessment Program

Community Served: Brillion

Description: Customers were offered a whole-home retrofit in which a Home Performance with ENERGY STAR® consultant conducted a pre- and post-assessment. Participating contractors installed recommended efficiency measures; customers received installation incentives of 50, 75, or 90 percent of the project's total cost, depending on the customer's household income. The customer was responsible for covering installation costs up front and, if they chose not to install recommended measures, for a $150 assessment fee.

Home Energy Review Program

Community Served: Allouez and Plover

Description: An EA conducted a walk-through energy audit and directly installed a CFL bulb, low-flow showerhead, and low-flow faucet aerator at no cost to the participant. The same EA served as the customer's primary contact and guide through all program stages. A Home Performance with ENERGY STAR consultant conducted a pre- and post-assessment for a fee of $25. Program-participating contractors, selected through a competitive bidding process, installed recommended measures.

[12] See Appendix G. KEMA iCanConserve Final Report and Appendix H. WPS Community Pilot Programs Final Report.

Customers received installation incentives equal to 60 percent of the total project cost if all recommended measures were installed. Exclusive to Plover, customers also received a $250 bonus incentive if all recommended measures were installed.

School to Home Program

Communities Served: Brillion, Allouez, and Plover

Description: Implemented by the K-12 Energy Education Program (KEEP), this program delivered classroom sessions, continuing education courses, and learning tools (e.g. conservation kits) to students and teachers. No financial incentives were provided.

Heating Equipment Bonus Program

Communities Served: Brillion and Allouez

Description: Customers received incentives for replacing inefficient furnaces or boilers. Incentives were equal to the Territory-Wide incentives for qualifying furnaces and boilers. Customers also received bonus incentives of $275 and $400 for qualifying furnaces and boilers, respectively.

In-Home Display (IHD) Program

Communities Served: Brillion and Allouez

Description: For a $30 fee, this program offered the professional installation of an energy-monitoring device, which allowed customers to view real-time electrical usage data.

Nonresidential Community Pilot Programs

In CY 2012, WPS offered five nonresidential Community Pilot programs in Brillion, Allouez, and Plover. A description of each program is provided below.

Small Business Audit Program / Business Energy Review Program

Communities Served: Brillion and Allouez / Plover

Description: An EA conducted a walk-through energy audit, provided an audit report, and directly installed a CFL bulb, low-flow showerhead, and low-flow faucet aerator at no cost to the participant.

Enhanced Business Incentives Program

Communities Served: Brillion, Allouez, and Plover

Description: This program offered customers prescriptive and custom installation incentives that supplemented those offered through Territory-Wide programs. Prescriptive incentives varied by measure, and custom incentives varied by project.

Staffing Grant Program

Communities Served: Brillion, Allouez, and Plover

Description: A grant of up to $80,000 was offered to municipalities hiring a dedicated energy manager to identify and facilitate energy-efficient upgrades in commercial buildings.

Community Supported Financing Program

Communities Served: Brillion, Allouez, and Plover

Description: This program offered a loan through local lenders to businesses lacking the capital necessary for making energy-efficient improvements.

Community Participation Reward Program

Communities Served: Brillion, Allouez, and Plover

Description: Communities were offered an incentive to promote participation in the iCanConserve programs. A community that achieved 60 percent participation by December 2012 received a reward up to $25,000 to support a community-wide efficiency project.

Appendix A. Glossary of Terms

Table A-1 lists commonly used industry terms.

Table A-1. Glossary of Terms

Term	Definition
Attribution	The establishment of a causal relationship between action(s) taken by a group and an outcome.
Avoided Costs	Costs avoided by implementing an energy-efficiency measure, program, or practice. These generally include generation or distribution costs.
Baseline	Conditions (including energy consumption) that would have occurred without implementing the subject measure or project.
Benefit/Cost Ratio	A mathematical relationship between the benefits and costs associated with implementing energy-efficiency measures, programs, practices, or emissions reductions.
Claimed Savings	The amount of saved energy reported by a program administrator or implementer. Also called "reported savings" or "tracked savings," these amounts have not yet been verified by an evaluation team.
Coefficient of Variance (CV)	The mean of a sample (average) divided by its standard error.
Cost-Effectiveness	Indicator of relative performance or economic attractiveness associated with implementing energy-efficiency measures, programs, practices, or emissions reductions.
Custom Savings	Savings for non-prescriptive measures that are calculated by a program implementer or administrator at the time of project completion. The result reflects the savings for the specific project, based on pre-installation and post-installation energy use.
Deemed Savings	An estimate of energy, demand, or gas savings for a single unit of an installed energy-efficient measure. Savings are developed from data sources and analytical methods that are: (1) widely considered acceptable for the measure and purpose, and (2) applicable to the situation being evaluated.
Ex Ante Savings Estimate	Forecasted savings used for program and portfolio planning purposes.
Ex Post Evaluation	An assessment of the impact(s) of an activity after completion.
Estimated Saving	Savings estimates reported by an evaluator after they completed the energy impact evaluation.
Freeridership	Savings achieved by program participants that would have been achieved even in the absence of the program. Freeridership can be full, partial, or deferred. Partial freeridership means that some of the savings are a result of the program. Deferred freeridership means that the savings would have happened at a different time.
Gross Savings	Reported: savings as recorded in program tracking databases by Program Implementers. Verified: savings as confirmed by evaluators prior to the application of a NTG ratio (as used to derive net savings).
Interactive Effects	The influence in energy use between one technology application and the energy required to operate another application.
Legacy Programs	Programs for which projects were approved in a prior year but the savings were not realized until CY 2012.
Locational Marginal Prices (LMP)	The value of energy at a specific location at the time it is delivered

Term	Definition
Life-Cycle Savings	Energy savings—expressed either as verified gross or verified net—that are generated in the current program cycle. Savings incorporate annual savings and each measure's EUL.
Lifetime Savings	Energy savings—expressed as either verified gross or verified net—that are produced as a result of measures installed in the current program cycle and in the previous program cycle(s), provided the reporting period is within the measure's useful life. These savings incorporate annual savings and each measure's estimated useful life.
Market Effects	Changes in marketplace practices, services, and promotional efforts that induce businesses and consumers to buy energy-saving products and services without direct program assistance. In an evaluation, these effects are generally considered to be the result of program impacts on the market.
Measure Life	The life of an energy-consuming measure, including its equipment life and measure persistence.
Net Savings	Savings net of what would have occurred in the program's absence. (These are the observed impacts attributable to the program.) The savings are typically calculated by applying the NTG ratio to the gross verified savings.
Net-to-Gross (NTG)	The ratio of the verified net to the verified gross savings.
Non-Energy Benefits (NEBs)	An array of valued attributes derived from energy-efficient measures that are in addition to energy savings, such as increased property value or reduced water usage.
Program Administrator Cost (PAC) Test	This is a commonly used cost-effectiveness test that is similar to the TRC (see below) except that it does not include the participant costs. While part of the program planning process, this test is not used in evaluations in Wisconsin.
Participant Spillover	Participants who, after an initial program experience, go on to adopt additional energy-saving products or practices without program assistance.
Persistent Savings	Energy savings (expressed as verified net) that are life-cycle impacts. These include an exponential decay rate, such that half the savings remain after the measure life.
Precision	The degree to which repeated measurements under unchanged conditions produce the same results.
Realization Rate	Ratio of gross savings to verified gross savings.
Reported Savings	Also called "tracked savings" or "claimed savings," this is the amount of saved energy savings reported by a program administrator or implementer. These amounts have not yet been verified by an evaluation team.
Spillover	Savings that result from either participant spillover or from customers who make energy-efficient upgrades without taking advantage of program benefits.
Standard Error	A measure of the variability in a data sample, this represents how far a typical data point is from the mean of a sample.
Total Resource Cost (TRC) Test	A test that counts the avoided cost of supplying the displaced energy against the program and participant costs. This is a commonly used test to determine whether the benefits of a program are greater than the costs of offering the program. In Wisconsin, a modified TRC which includes emissions impacts, is used. By PSC order (5-GF-191 Ref#:141173) programs must pass, or be expected to eventually pass a TRC Test and a Program Administrator Cost (PAC) Test to be offered in WI, and evaluations must report the TRC results.
Tracked Savings	Also called "reported savings" or "claimed savings," this is the amount of saved energy reported by a program administrator or implementer. These amounts have not yet been verified by an evaluation team.

Term	Definition
Unclaimed Rewards	Incentives forfeited by customers who fail to submit the paperwork to claim program incentives.
Verified Gross Savings	Energy savings verified by an independent evaluation team, based on reviews of the number and types of implemented improvements and the engineering calculations used to estimate the energy saved. Verified gross savings reflect the total calculated savings, without considering the influence of freeridership or spillover.
Verified Net Savings	Energy savings that can confidently be attributed to program efforts. The verified net savings include adjustments for outside influences, such as freeridership and spillover.

Appendix B. Focus on Energy Programs

Summary of Measures by Program

The Focus on Energy programs contain a variety of initiatives and incentives designed to promote lasting changes in Wisconsin's energy-efficiency and renewable energy markets. The Evaluation Team assessed the electric and gas savings that each measure installed in CY 2012 will achieve during its first year of operation. The Team also assessed the impacts for each measure's installed and operating lifetime. By reporting on both the first-year annual savings and the life-cycle savings, the Team ensures that the most accurate representation of the program's accomplishments is presented.

Table B-1 lists all measure categories in the residential and nonresidential programs.

Table B-1. CY 2012 Residential and Nonresidential Program Measure Categories

Residential Only	Residential & Nonresidential Segments	Nonresidential Only
Appliance Recycling	Boilers & Burners	Aeration System
Boiler Equipment	Bonus	Boiler
Buydown	Building Shell	Boiler Controls
Fixtures	CFL	Boiler Service
Furnace	Controls	Building Shell
Hot Water	Dishwasher	Compressed Air Vacuum Pumps
LED Holiday Light	Domestic Hot Water	Compressor Equipment
	Energy Recovery	Compressor Service
	Fuel Conversion	Computer Technology/IT
	Hot Water	Custom
	HVAC	Food Service
	HVAC Controls	Greenhouse
	Laundry	High Intensity Discharge (HID)
	LED Lighting	Industrial - Custom
	Lighting	Industrial Ovens and Furnaces
	Lighting Controls	New Building Design
	Motors & Drives	Pools
	New Construction	Process Efficiency
	Refrigeration	Refrigeration Controls
	Renewable Energy	Scheduling
	T8/T5 Fluorescent Lighting	Waste Water Treatment
	Training & Special	
	Vending & Plug Loads	
	Whole Building	

The following pages summarize of all of the residential programs offered to WPS customers, as well as the nonresidential programs that expand on current Focus on Energy programs.

Descriptions of Residential Programs

The Evaluation Team assessed eight Focus on Energy residential programs for CY 2012; three of these are associated with WPS bonus incentives. Descriptions of these three programs are provided below.

Multifamily Energy Savings Program and Multifamily Direct Install Program

Program Dates: Launched April 1, 2012.

Program Purpose: The Multifamily Energy Savings Program and the Multifamily Direct Install Program provide information, financial incentives, and implementation assistance for energy-efficiency projects to owners and managers of multifamily buildings and condominiums that have four or more units. The Multifamily Direct Install Program also provides free installation of free energy-saving measures.

Target Audience: The target audiences are condominium and apartment associations, as well as multifamily building owners and managers.

Program Implementer: The Implementer for both programs is Franklin Energy Services, LLC.

Process and Associated Measures: Similar to the discontinued Apartment and Condo Efficiency Services Program, the Multifamily Energy Savings Program and the Multifamily Direct Install Program were launched in April 2012. Featuring several design changes to mitigate barriers that were identified in the discontinued program, both of the multifamily programs were developed to achieve the following objectives:

- Lower the non-incentive costs by recruiting Trade Allies to assist with market outreach;
- Use the direct-install approach to guide participants to prescriptive and custom tracks;
- Reduce the number of audits that do not result in follow-up installations; and
- Increase the amount of savings per building by introducing the custom track with increasing incentive amounts based on the savings achieved in the project.

The Multifamily Energy Savings Program offers two types of rewards: (1) prescriptive incentives for eligible measures; and (2) incentives for multi-tiered and performance-based custom projects.

The Multifamily Direct Install Program offers free direct installations of compact fluorescent lamps (CFLs), pipe insulation, faucet aerators, and showerheads inside individual living units. Trade Allies perform these installations during their walk-through assessment of the building.

The Program Implementer markets both programs to building owners and managers, and to the Trade Allies and contractors who work with these customers, through regionally based Energy Advisors. The Program Implementer also processes customer applications, manages program data, and educates Trade Allies in an effort to help promote the programs cost-effectively.

Home Performance with ENERGY STAR Program

Program Dates: Launched January 1, 2012.

Program Purpose: The goal of the Home Performance with ENERGY STAR Program is to reduce energy use (kWh and therms) and peak demand (kW) through the installation of energy-efficiency measures

(envelope, lighting, and domestic hot water). The Program offers incentives to customers and provides direct installation of energy-saving measures during a home energy assessment.

Target Audience: The target audience is homeowners of single-family (one- to three-unit) dwellings.

Program Implementer: The Program Implementer is Conservation Services Group (CSG).

Process and Associated Measures: This Home Performance with ENERGY STAR Program is contractor-oriented and can work in the following ways: (1) one company performs all aspects of work; or (2) one company acts as the general contractor but subcontracts out aspects of the work, such as the energy assessment and/or the retrofit work. In both scenarios, the contractor (referred to as the Trade Ally) is responsible for managing the customer relationship, completing the entire project, communicating to the Program Implementer, and ensuring that all program requirements are met. Participants pay market rate (a cost determined by each Trade Ally) for the assessment.

The Home Performance with ENERGY STAR Program provides incentives of 33% of eligible measure costs, up to $1,500, for energy-efficient improvements to a home's shell, such as air sealing and insulation (for the attic, exterior wall, sill box, and interior foundation). This program also includes direct-install measures—such as CFLs, faucet aerators, and low-flow showerheads—that are installed during the home energy assessment. Those projects that achieve energy savings of 15% to 25% over the home's modeled baseline energy usage are eligible for incentive bonuses of ranging from $200 to $700.

Assisted Home Performance with ENERGY STAR Program

Program Dates: Launched April 1, 2012.

Program Purpose: The Assisted Home Performance with ENERGY STAR Program provides income-eligible residents with the opportunity to increase the energy efficiency, durability, and comfort of their homes.

Target Audience: The target audience is income-eligible owner-occupants of one- to three-unit homes. Income-eligibility is defined by a household's gross income, which must fall between 60% and 80% of the state median income for this program. Ineligible customers are directed to the Home Performance with ENERGY STAR Program.

Program Implementer: The Program Implementer is CSG.

Process and Associated Measures: A free home-energy assessment is provided by an Assisted Home Performance Program Trade Ally to identify energy-efficiency opportunities, and eligible customers can receive enhanced incentives (to a maximum of $2,500) that cover up to 75% of the cost of the improvement measures.

To participate in the program, customers submit an Income Eligibility Application; the Implementer then notifies customers within 24 hours of determining eligibility. Eligible customers then schedule a free energy assessment, which is an abbreviated version of the Home Performance with ENERGY STAR

assessment. Following the assessment, the homeowner is given a list of recommended upgrades. After performing the recommended upgrades, the customer receives the incentive for measures installed.

The associated measures are air sealing, attic insulation, exterior wall insulation, and free direct-installation measures (CFLs, faucet aerators, and low-flow showerheads).

Descriptions of Nonresidential Programs

The Evaluation Team assessed four Focus on Energy nonresidential programs for CY 2012; the details of each are outlined below.

Business Incentive Program

Program Dates: Launched April 1, 2012

Program Purpose: The Business Incentive Program encourages energy efficiency by offering incentives for prescriptive and custom measures to nonresidential customers having an electricity demand of 1,000 kW or less.

Target Audience: The Business Incentive Program targets nonresidential segments such as: agribusinesses (farms and greenhouses); commercial spaces (hotels and independent retailers, food sales, and food service establishments); small- to medium-sized industrial facilities, educational institutions (K-12 schools, technical colleges, and University of Wisconsin two-year colleges); and municipal and county government facilities.

Program Implementer: The Program Implementer is Franklin Energy Services, LLC.

Process and Associated Measures: The Program Implementer reaches out to engage Trade Allies in the Program. These Trade Allies then recruit eligible customers, identify energy-saving opportunities, and lead the customer through the incentive application process. Customers may also propose additional efficiency projects through the custom incentive option.

Chain Stores & Franchises Program

Program Dates: Launched April 1, 2012.

Program Purpose: The Chain Stores & Franchises Program is designed to motivate decision-makers at chain stores and franchise operations that have a large presence in Wisconsin to make energy-efficiency changes across many locations at once.

Target Audience: The target audience is chain stores and franchise operations in retail, food service (restaurants), and food sales (grocery and convenience stores). To be eligible for the Program, a store or franchise must have a minimum of five locations in Wisconsin.

Program Implementer: The Program Implementer is Franklin Energy Services, LLC.

Process and Associated Measures: The Program Implementer assigns a dedicated Account Manager for specific chains and franchises. This Account Manager (or Energy Advisor) works with the appropriate decision-maker at corporate, regional, or local facilities to identify opportunities to improve energy efficiency. The Energy Advisor provides customer service and technical knowledge, helps to develop business cases to support projects, and may assist with marketing and messaging related to energy-

efficiency actions. Customers may also propose additional energy-efficiency projects through the custom incentive option.

Large Energy Users Program

Program Dates: Launched April 1, 2012.

Program Purpose: The Large Energy Users Program encourages the installation of energy-efficient technologies by offering incentives and services to large industrial, commercial, and institutional customers. The program offers financial incentives for prescriptive and custom measures, no-cost access to energy experts, training and tools to identify and evaluate energy-efficiency opportunities, resources to develop and benchmark energy management practices, and an engineering review of proposed projects.

Target Audience: The Program is designed for the large industrial, commercial, and institutional business customers of participating Wisconsin electric and natural gas utilities that meet these criteria: had a system-wide energy utility bill of at least $60,000 in one month of the preceding year *and* had energy usage at one contiguous facility of either:

- Over 1,000 kW of demand for any given month in the past year; or
- Over 100,000 therms for any given month in the past year.

Program Implementer: The Program Implementer is SAIC.

Process and Associated Measures: The Program Energy Advisors work directly with large industrial, commercial, and institutional business customers to identify and analyze opportunities for improving energy efficiency in their facilities and processes. They provide technical expertise and ongoing education about large-scale energy-efficiency measures and best practices. In addition, the Energy Advisors help these customers develop energy teams, energy management plans, energy baselines, and key performance indicators for facilities and end-uses. They also assist with the development of custom incentive projects or hybrid projects involving both custom and prescriptive incentives. Customers may also propose additional energy-efficiency projects through the custom incentive option.

Small Business Program

Program Dates: Launched July 1, 2012.

Program Purpose: The Small Business Program is designed to encourage owners of small businesses to install easy and affordable energy-efficiency upgrades. In addition to providing free on-site energy assessments to identify energy-efficiency improvements, the program offers an energy-efficiency package that is installed for free. Also, a package of additional measures is offered at a discount.

Target Audience: The Small Business Program targets both for-profit businesses that are independently owned and operated and not-for-profit organizations with an average monthly electricity demand less than 100 kW. The typical customers targeted for this program are from independent grocers,

convenience stores, gas stations, retail shops, locally owned restaurants, small hotels and motels, day care centers, doctor's offices, churches, and community action agencies.

Program Implementer: The Program Implementer is Staples & Associates, Inc.

Process and Associated Measures: After Trade Allies recruit participants in their local communities, the Program Implementer and qualified Trade Allies conduct an energy assessment (typically lasting 30 to 45 minutes) at the customer's facility to identify energy-efficiency opportunities. Based on the findings of the audit, the owner may elect to install the Free Energy Savings Package or may purchase the Gold Energy Savings Package (see Table B-2).

Table B-2. Small Business Program Measure Packages

Free Energy Savings Package	Gold Energy Savings Package
CFLs (dimmable, non-dimmable, and globe; unlimited)	Includes the Free Energy Savings Package
CFL reflectors (unlimited)	LED exit signs (up to five)*
Vending machine controllers (unlimited)	42-watt CFLs (unlimited)
LED "open" sign (limit of one to replace a neon sign)	De-lamping of redundant fixtures
Faucet aerators (unlimited)	4' T12 to T8 lighting retrofits (up to 80 lamps)*
Water-saving showerheads (unlimited)	Interior and exterior hard-wired fixtures (up to five)*
Engine block heater timers (agricultural customers)	Wall box occupancy sensors (up to five)*
	1" and 2" hot water pipe wrap

* Small business owners may purchase additional measures at discounted prices.

Appendix C. List of Measures by Measure Category

Table C-1 organizes the Evaluation Team-defined measure groups into measure categories and measure descriptions.

Table C-1. List of Measures for Territory-Wide Programs

Program	Measure Group	Measure Category	Measure Description
Assisted Home Performance Bonus	Building Shell	Insulation	Insulation, Project Based, Attic
			Insulation, Project Based, Wall
		Whole Building	Air Sealing, Project Based
	Domestic Hot Water	Aeration	Faucet Aerator, Non PI Direct Install, 1.5 gpm, Kitchen, NG
			Faucet Aerator, Non PI Direct Install, 1.0 gpm, Bathroom, NG
		Insulation	Insulation, Non PI Direct Install, 6' pipe, NG
		Showerhead	Showerhead, Non PI Direct Install, 1.5 gpm, NG
	Lighting	Fluorescent, Compact (CFL)	CFL, Non PI Direct Install, 14 Watt
			CFL, Non PI Direct Install, 19 Watt
			CFL, Non PI Direct Install, 9 Watt
	Other	Bonus	Bonus, Application Completion Award
		Other	Bonus, Project Completion - WPS TW
			Energy Assessment Fee
			Project Completion
Energy Bundle Bonus	Agriculture	Compressor	Dairy Refrigeration, Scroll Compressors, Ag
		Energy Recovery	Heat Recovery Tank, No Heating Element, Ag, Electric or NG
		Heat Exchanger	Plate Heat Exchanger and Well Water Pre-Cooler
		Livestock Waterer	Energy Efficient Livestock Waterer (Ag Only)(Prescriptive)
			Waterer, Livestock, < 250 Watts, R10 Insulation
		Other	Bonus, Agribusiness, 25% of Total Incentives on Ag Projects
		Pasteurization	Milk Pasteurization System, Ag, Electric
		Variable Speed Drive	VFD, Ag Primary Use Water System
			VFD, Dairy Milk Pump
			VFD, Dairy Vacuum Pump, Ag
			VFD, Not Otherwise Specified
	Boiler Controls	Controls	Linkageless Boiler Control, per output hp
	Boiler Equipment	Boiler	Boiler, hot water, for space heating (thermal efficiency 93.0%-93.9%)(>300, <=1000 MBh input)
			Boiler, hot water, high efficiency modulating, for space heating (AFUE >= 90%)(<175 MBh input)

Program	Measure Group	Measure Category	Measure Description
			Boiler, hot water, high efficiency modulating, for space heating (AFUE >= 90%)(<300 MBh input)
			Boiler, hot water, high efficiency modulating, for space heating (AFUE >= 90%)(175 - 300 MBh input)
			Custom Boiler or Burner Measure - Not Otherwise Specified
			Custom Boiler Replacement - Not Otherwise Specified
			Custom Boiler Replacement - Not Otherwise Specified
	Boiler Service	Steam Trap	Repair leaking steam trap, building space conditioning system, 50-125 psig steam (Hybrid)
			Repair leaking steam trap, building space conditioning system, <=15 psig steam
			Steam Trap Survey - per trap
		Tune-up / Repair / Commissioning	2011/2012 Compressed Air System Leak Survey and Repair, Year 1/hp
	Boilers & Burners	Boiler	Boiler Plant Retrofit, Hybrid Plant, 1- 5 MMBh
			Boiler, Hot Water, Condensing, >=90% AFUE, 300-1000 mbh
			Boiler, Hot Water, Modulating, >=90% AFUE, <= 175 mbh
			Boiler, Hot Water, Modulating, >=90% AFUE, 175-300 mbh
			Boiler, Hot Water, Modulating, >=90% AFUE,≤300 MBH
	Bonus	Other	Bonus, Energy Bundle, WPS Stipulation Territory-Wide only
			Bonus, Energy Bundle, WPS Stipulation Territory-Wide only
			Food Service Bonus, multiple equipment, 2 types
	Building Shell	Air Sealing	Reduce Air Infiltration - Not otherwise specified
		Insulation	Insulation, Roof
		Other	Building Envelope, Not Otherwise Specified
			Custom Building Envelope Measure - Not Otherwise Specified
		Window	Window Replacement - High efficiency units
	Lighting, CFL	Fluorescent, Compact (CFL)	CFL <= 30 Watts, replacing incandescent
			CFL Direct Install, replacing incandescent
			CFL Fixture, replacing incandescent fixture
			CFL High Wattage 31-115 Watts, replacing incandescent
	Compressed Air, Vacuum Pumps	Nozzle	Compressed Air Nozzles, Air Entraining
	Compressor Equipment	Compressor	Air compressor equipped with variable speed drive, new equipment

Program	Measure Group	Measure Category	Measure Description
			Scroll Compressors for Dairy Refrigeration (Ag & Industrial Only)(Hybrid)
	Dishwasher	Dishwasher, Commercial	Dishwasher, ENERGY STAR, High Temp, Gas Heat, Gas Booster, Under Counter
			Dishwasher, ENERGY STAR, Low Temp, Gas Heat, Under Counter
		Dishwasher, Residential	ENERGY STAR Dishwasher (Multi-Family Only)
	Domestic Hot Water	Aeration	Faucet Aerator, Direct Install, .5 gpm, Employee Restroom, Electric
			Faucet Aerator, Direct Install, .5 gpm, Employee Restroom, NG
			Faucet Aerator, Direct Install, .5 gpm, Public Restroom, Electric
			Faucet Aerator, Direct Install, .5 gpm, Public Restroom, NG
			Faucet Aerator, Direct Install, 1.5 gpm, Bathroom, NG
			Faucet Aerator, Direct Install, 1.5 gpm, Kitchen, Electric
			Faucet Aerator, Direct Install, 1.5 gpm, Kitchen, NG
			Faucet Aerator, Direct Install, 1.5 gpm, Kitchen, NG
		Other	DHW Plant Replacement
		Pre-Rinse Sprayer	Pre-Rinse Sprayer, Direct Install, 1.28 gpm, Electric
			Pre-Rinse Sprayer, Direct Install, 1.28 gpm, NG
		Showerhead	Showerhead, Direct Install, 1.5 gpm, NG
		Water Heater	Water Heater, >= 0.67 EF, Storage, NG
			Water Heater, Dual Thermostat, Ag, NG
	Energy Recovery	Energy Recovery	Heat Recovery - Custom, not otherwise specified
			Heat Recovery - Desuperheater / Capture heat off compressors to pre-heat domestic hot water
			Heat Recovery Tank, no heating element, all other water heating sources (Ag Only)
			Heater Recovery - Capture heat off compressors to pre-heat supply air for space heating
		Heat Exchanger	Plate Heat Exchanger / Well Water Pre-Cooler
			Plate heat exchanger on milk pipeline (Ag Only)
	Food Service	Controls	Kitchen Hood Ventilation Controls, Temp and Optical, Retrofit, BONUS for controlling MUA fan
			Kitchen Hood Ventilation Controls, Temp and Optical, Retrofit, Exhaust Fan Controlled
			Kitchen Hood Ventilation Controls, Temperature Only, New System, BONUS for controlling MUA fan
			Kitchen Hood Ventilation Controls, Temperature Only, New System, Exhaust Fan Controlled
		Dishwasher,	Dishwasher, High Temp, Electric Booster, Door Type,

Program	Measure Group	Measure Category	Measure Description
		Commercial	Energy Star, Electric
			Dishwasher, High Temp, Electric Booster, Single Tank Conveyor, Energy Star, Electric
		Fryer	Fryer, Gas - ENERGY STAR- per frypot
		Oven	Oven, Convection, Electric, ENERGY STAR - per cavity
			Oven, Rack Type, Gas, Double Compartment, High Efficiency
		Refrigerator / Freezer - Commercial	Freezer, Chest, Solid Door, 15-29 cu ft, Energy Star
		Steamer	Steamer, Gas, 6 pan - ENERGY STAR
	Furnace	Furnace	Furnace, with ECM fan motor, for space heating (AFUE >= 90%), New Construction (Multi-Family Only)
	Lighting, High Intensity Discharge (HID)	High Intensity Discharge (HID)	Ceramic Metal Halide (CMH) Fixture, 20-70 Watts - Replaces Incandescent Fixture
			Metal Halide (MH), Pulse Start, 320W replacing 400W probe start HID in wet location (Ag Only)
	Hot Water	Aeration	Faucet Aerator, Direct Install, .5 gpm, Bathroom, NG
			Faucet Aerator, Direct Install, .5 gpm, Public Bathroom, NG
			Faucet Aerator, Direct Install, 1.5 gpm, Kitchen, NG
			Faucet Aerators - Bath - Gas 1.5 gpm (Multi-Family)(New Construction)
			Low Flow Faucet Aerators, Direct Install, Natural Gas (Commercial and Multi-Family)
			Showerheads - Gas 1.5 gpm (Multi-Family)(New Construction)
		Fuel Switching	Water Heater - Fuel Switching, Electric to Non-electric (Custom)
			Water Heater Fuel Switching - Electric to non-electric (Ag Only)(Hybrid)
		Pre-Rinse Sprayer	Pre-Rinse Sprayer, Direct Install, 1.28 gpm, NG
		Water Heater	Water Heater - Installation or Upgrade (Custom)
			Water Heater, Residential Type - Indirect, with 90% AFUE+ Modulating Hot Water Boiler
			Water Heater, Residential Type - Indirect, with 90% AFUE+ Modulating Hot Water Boiler
			Water Heater, Residential Type - Natural Gas, Condensing, Thermal Efficiency 90% +
			Water Heater, Residential Type - Power Vented, Natural Gas with EF .64 to .79
			Water Heater, Residential Type - Power Vented, Tankless, Natural Gas with EF .82 or greater
	HVAC	Chiller	Chiller System, Not Otherwise Specified

Program	Measure Group	Measure Category	Measure Description
			Chiller, High Efficiency, Air Cooled, Replacement
		Controls	Demand Limiting Controls
			Energy Management System - More efficiently control HVAC system
			HVAC Energy Management System
		Energy Recovery	Energy Recovery Ventilator
		Fan	Agricultural Circulation Fan, High Efficiency, per inch of fan diameter (Ag Only)
			Circulation Fan, High Efficiency, Ag
			Fans, High Volume Low Speed (HVLS), 20 ft. dia.
			High Volume Low Speed (HVLS) Fans Replace Box Fans (Ag Only)(Custom)
			High volume low speed (HVLS) fans replace box fans, 20 ft. diameter (Prescriptive)
			High volume low speed (HVLS) fans replace box fans, 24 ft. diameter (Prescriptive)
			Ventilation Fan, 52" Dia., Ag
			Ventilation Fan, 54" Dia., Ag
			Ventilation Fans, High Speed, High Efficiency (Ag Only)
		Furnace	Furnace, ECM, 95%+ AFUE, NG 109.9 - 120.7 MBh
			Furnace, with ECM fan motor, for space heating (AFUE >= 90%), 109.9 - 120.7 MBh
			Furnace, with ECM fan motor, for space heating (AFUE >= 90%), 133.0 - 146.1 MBh
			Furnace, with ECM fan motor, for space heating (AFUE >= 90%), 54.675 - 60.749 MBh
			Furnace, with ECM fan motor, for space heating (AFUE >= 90%), 75.0 - 82.5 MBh
		Infrared Heater	Infrared Heating Units, High or Low Intensity
			Infrared Heating Units, High or Low Intensity - New Construction
		Other	Custom HVAC Measure - Not Otherwise Specified
			Custom HVAC Measure - Not Otherwise Specified
		Packaged Terminal Unit (PTAC, PTHP)	PTHP, Standard Efficiency, <8000 Btuh, >=9.45 EER, >=2.72 COP, Retrofit Application
			PTHP, Standard Efficiency, 8000 - 9999 Btuh, >=9.2 EER, >=2.69 COP, Retrofit Application
			PTHP, Standard Efficiency, 10000-12999 Btuh, >=8.77 EER, >=2.64 COP, Retrofit Application
		Rooftop Unit / Split System AC	A/C Split System < 65 MBh SEER 14
			A/C Split System < 65 MBh SEER 15
			A/C Split System < 65 MBh SEER 16 or greater

Program	Measure Group	Measure Category	Measure Description
			A/C Split System, <= 65 MBh, SEER 14
		Variable Speed Drive	VFD, Chilled Water Distribution Pump
	IT	Computer Management	PC Network Energy Management System
	Laundry	Clothes Washer	ENERGY STAR Clothes Washer - Common Area gas water heater (Multi-Family Only)
			ENERGY STAR Clothes Washer - in unit (Multi-Family Only)
		Other	Laundry, Not Otherwise Specified
	LED Holiday Light	Light Emitting Diode (LED)	LED Exit Lighting - For specially targeted early replacement only
	LED Lighting	Light Emitting Diode (LED)	2011/2012 LED - 8-12W Replacing 40-100W Incandescent
			2011/2012 LED - Exterior Canopy Fixture, Dusk to Dawn Only
			2011/2012 LED - Exterior Pole Mounted Fixture
			2011/2012 LED - Exterior Wall-Pack Fixture, Dusk to Dawn Only
			LED custom lighting, not otherwise specified
			LED custom lighting, not otherwise specified
			LED Reach-In Refrigerated Case Lighting - Replaces T12 or T8
			LED recessed downlight - ENERGY STAR qualified
			LED recessed downlight - ENERGY STAR qualified, New Construction (Multi-Family Only)
			LED, Direct Install, Screw-In, Freezer/Walk-In Cooler Lighting
			LED, Not Otherwise Specified
	Lighting	Controls	Occupancy Sensor, Ceiling Mount, <=500 Watts
			Occupancy Sensor, Fixture Mount, <=200 Watts
			Occupancy Sensor, Fixture Mount, >200 Watts
			Occupancy Sensor, High Bay Fluorescent Fixtures, Industrial
			Occupancy Sensor, Wall Mount, <=200 Watts
			Occupancy Sensor, Wall Mount, <=200 Watts
			Occupancy Sensor, Wall Mount, >200 Watts
			Occupancy Sensor, Wall Mount, >200 Watts
			Occupancy Sensors - Ceiling Mount 501-1000 Watts
			Occupancy Sensors - Wall Mount <= 200 Watts
		Delamping	Delamping, T12 to T8
		Fluorescent, Compact (CFL)	CFL <= 30 Watts, replacing incandescent
			CFL Fixture, <=100 Watts

Program	Measure Group	Measure Category	Measure Description
			CFL High Wattage 31-115 Watts, replacing incandescent
			CFL, <= 32 Watts, Common Area
			CFL, Cold Cathode, <= 32 Watt
			CFL, Direct Install, 13 Watt
		Fluorescent, Linear	Bonus, T12 Bounty, 2 Lamp Fixture
			Bonus, T12 Bounty, 2 Lamp Fixture, 8'
			Bonus, T12 Bounty, 3 Lamp Fixture
			Bonus, T12 Bounty, 4 Lamp Fixture
			T5HO 4L Replacing 400-999 W HID
			T5HO 6L Replacing 400-999 W HID
			T8 1L 4', 25W, CEE, BF <= 0.78
			T8 2L 4', 25W, CEE, BF <= 0.78
			T8 2L 4', 28W, CEE, BF <= 0.78
			T8 2L 4', HPT8, CEE, BF <= 0.78
			T8 2L 4', HPT8, CEE, BF > 0.78
			T8 2L 4', HPT8, CEE, replacing 8' 2L T12
			T8 2L-4 ft Hi Lumen Lamp with Low BF
			T8 2L-4 ft Hi Lumen Lamp with Low BF - INCLUDES $1 BALLAST BONUS
			T8 2L-4 ft Hi Lumen Lamp with Low BF (New Construction)
			T8 2L-4 ft Reduced Wattage with CEE Ballast - 28 Watts
			T8 3L 4', 28W, CEE, BF <= 0.78
			T8 3L-4 ft Hi Lumen Lamp with Low BF (New Construction)
			T8 4L 4', 28W, CEE, BF <= 0.78
			T8 4L 4', 28W, CEE, BF > 0.78
			T8 4L 4', HPT8, CEE, BF > 0.78
			T8 4L 4', HPT8, CEE, replacing 8' 2L T12
			T8 4L 4', HPT8, CEE, replacing 8' 2L T12HO
			T8 4L or T5HO 2L Replacing 250-399 W HID
			T8 4L Replacing 250-399 W HID
			T8 4L-4 ft Hi Lumen Lamp with Low BF
			T8 4L-4 ft Reduced Wattage with CEE Ballast - 28 Watts
			T8 6L or T5HO 4L Replacing 400-999 W HID
			T8 6L Replacing 400-999 W HID
			T8 8L or T5HO 6L Replacing 400-999 W HID
			T8 or T5HO <= 500W, Replacing >=1000 W HID
			T8 or T5HO <= 800W, Replacing >=1000 W HID

Program	Measure Group	Measure Category	Measure Description
			T8 Reduced Wattage Relamp - 25 Watts
			T8 Reduced Wattage Relamp - 28 Watts
			T8, Low Watt Relamp, 28 Watts, 4'
		High Intensity Discharge (HID)	Ceramic Metal Halide (CMH) Fixture, 20-70 Watts
			Ceramic Metal Halide (CMH) Lamp, <= 25 Watts
			Metal Halide, Electronic Ballast, Pulse Start, 320 Watt
		Induction	Induction Lighting, Not Otherwise Specified
		Light Emitting Diode (LED)	2011/2012 LED - 8-12W Replacing 40-100W IncandescentIncandecent
			2011/2012 LED - Exterior Wall-Pack Fixture, Dusk to Dawn Only
			2011/2012 LED - Exterior Wall-Pack Fixture, Hybrid
			LED Fixture, Canopy
			LED Fixture, Canopy, Dusk to Dawn
			LED Fixture, Exterior Pole Mounted
			LED Fixture, Exterior Wall-Pack, Dusk to Dawn
			LED Lamp, Direct Install, Walk-in Cooler
			LED Lamp, Direct Install, Walk-in Freezer
			LED, 8-12 Watts
			LED, Reach-In Refrigerated Case, Replaces T12 or T8
		Other	Custom Lighting Measure - Not Otherwise Specified
			Lighting, Not Otherwise Specified
	Lighting Controls	Controls	Daylighting Controls - Automatic dimming ballasts (per kW controlled)
			Occupancy Sensors - Wall Mount <= 200 Watts
	Motors & Drives	Motor	ECM (electronically commutated) evaporator fan motor replacing shaded-pole motor, <1/20 hp, in walk-in cooler
			ECM (electronically commutated) evaporator fan motor replacing shaded-pole motor, <1/20 hp, in walk-in freezer
			ECM (electronically commutated) evaporator fan motor replacing shaded-pole motor, >=1/20 hp, <1hp, in walk-in cooler
			ECM (electronically commutated) evaporator fan motor replacing shaded-pole motor, >=1/20 hp, <1hp, in walk-in freezer
			ECM (electronically commutated) motor replacing shaded-pole motor in refrig/freezer case
			ECM Motor, Cooler/Freezer Case
		Variable Speed Drive	Variable speed drive on fan, new construction, no peak kW savings, 3000 - 3999 hrs of operation (Prescriptive)

Program	Measure Group	Measure Category	Measure Description
			Variable speed drive on fan, retrofit, no peak kW savings, 2000 - 2999 hrs of operation (Prescriptive)
			Variable speed drive on fan, retrofit, no peak kW savings, 3000 - 3999 hrs of operation (Prescriptive)
			Variable speed drive on fan, retrofit, no peak kW savings, 4000+ hrs of operation (Hybrid)
			Variable speed drive on other equipment (Custom)
			Variable speed drive on other equipment, retrofit (Hybrid)
			Variable speed drive on pump, new construction, no peak kW savings, 4000+ hrs of operation (Hybrid)
			Variable speed drive on pump, retrofit, no peak kW savings, 2000 - 2999 hrs of operation (Prescriptive))
			Variable speed drive on pump, retrofit, no peak kW savings, 3000 - 3999 hrs of operation (Prescriptive)
			Variable speed drive on pump, retrofit, no peak kW savings, 4000+ hrs of operation (Hybrid)
			VFD on Dairy Milk Jar (Ag only)(Custom)
			VFD on Dairy Vacuum Pump (Ag only)(Custom)
			VFD on Dairy Vacuum Pump (Ag Only)(Hybrid)
			VFD, Not Otherwise Specified
	Non Energy	Other	Bonus, Energy Bundle - WPS TW
	Other	Other	Adjustment Measure
			Bonus, Energy Bundle - WPS TW
			Bonus, Energy Bundle - WPS TW
			Bonus, Trade Ally, 20% upto $500
			Custom Laundry Measure - Not Otherwise Specified
			Custom Lighting Measure - Not Otherwise Specified
			Units Accessed
	Process	Variable Speed Drive	VFD, Process Pump
	Refrigeration	Controls	Anti-sweat Heater Controls, Freezer Case, Low-heat Door
			Anti-sweat Heater Controls, Refrigerated Case, Low-heat or No-heat Door
			Defrost Controls - Controls which sense optimal defrost cycles
			Refrigeration, Defrost Controls
		Energy Recovery	Heat Recovery, Compressor Heat Used For Space Heating
			Heat Recovery, Compressor Heat Used To Pre-heat DHW
			Refrigeration Waste Heat Recovery

Program	Measure Group	Measure Category	Measure Description
		Motor	ECM Condenser/Condensing Unit Fan Motor
			ECM Evaporator Fan Motor, Walk-in Cooler, 1/20hp - 1 hp
			ECM Evaporator Fan Motor, Walk-in Freezer, <1/20hp
			ECM Evaporator Fan Motor, Walk-in Freezer, 1/20hp - 1 hp
			ECM Motor, Cooler/Freezer Case
		Other	Custom Refrigeration Measure - Not Otherwise Specified
			Refrigeration, Not Otherwise Specified
		Refrigerated Case Door	Case Door, Cooler, No Heat
			Case door, freezer, low heat
			Case door, refrigerated, no heat
		Refrigerator / Freezer - Commercial	Freezer, Vertical, Glass Door, 15-29 cu ft, ENERGY STAR
			Freezer, Vertical, Solid Door, 15-29 cu ft, ENERGY STAR
			Freezer, Vertical, Solid Door, 50+ cu ft, ENERGY STAR
			Refrigerator, Vertical, Glass Door, 30-49 cu ft, ENERGY STAR
			Refrigerator, Vertical, Solid Door, 15-29 cu ft, ENERGY STAR
			ENERGY STAR Refrigerator (Multi-Family Only)
		Tune-up / Repair / Commissioning	Coil Cleaning, Direct Install, Self Contained Unit
			Coil Cleaning, Plug in Cooler
			Coil Cleaning, Plug in Freezer
	Refrigeration Controls	Controls	Anti-sweat heater controls, on freezer case with low-heat door
			Anti-sweat heater controls, on freezer case with no-heat door
			Anti-sweat heater controls, on refrigerated case with low-heat or no-heat doors
	Fluorescent Lighting	Fluorescent, Linear	T8 1L-4 ft Reduced Wattage with CEE Ballast - 25 Watts (New Construction) - INCLUDES $1 BALLAST BONUS
			T8 1L-4 ft Reduced Wattage with CEE Ballast - 28 Watts
			T8 1L-4 ft Reduced Wattage with CEE Ballast - 28 Watts - INCLUDES $1 BALLAST BONUS
			T8 2L-4 ft Hi Lumen Lamp with Low BF
			T8 2L-4 ft Hi Lumen Lamp with Low BF - INCLUDES $1 BALLAST BONUS
			T8 2L-4 ft Hi Lumen Lamp with Low BF (New Construction)
			T8 2L-4 ft Reduced Wattage with CEE Ballast - 25 Watts (New Construction) - INCLUDES $1 BALLAST BONUS
			T8 2L-4 ft Reduced Wattage with CEE Ballast - 28 Watts

Program	Measure Group	Measure Category	Measure Description
			T8 2L-4 ft Reduced Wattage with CEE Ballast - 28 Watts - INCLUDES $1 BALLAST BONUS
			T8 2L-4 ft Reduced Wattage with CEE Ballast - 28 Watts (New Construction)
			T8 2L-4 ft Reduced Wattage with CEE Ballast - 28 Watts (New Construction) - INCLUDES $1 BALLAST BONUS
			T8 2L-4ft High Performance HBF Replacing T12HO 1L-8 ft
			T8 2L-4ft High Performance Tandem Replacing T12HO/VHO 2L-8 ft
			T8 3 lamp replacing 250-399 W HID (Ag only)
			T8 3L-4 ft Hi Lumen Lamp with Low BF
			T8 3L-4 ft Hi Lumen Lamp with Low BF (New Construction)
			T8 3L-4 ft Reduced Wattage with CEE Ballast - 28 Watts
			T8 3L-4 ft Reduced Wattage with CEE Ballast - 28 Watts - INCLUDES $1 BALLAST BONUS
			T8 3L-4 ft Reduced Wattage with CEE Ballast - 28 Watts (New Construction) - INCLUDES $1 BALLAST BONUS
			T8 4 lamp or T5HO 2 lamp Replacing 250-399 W HID
			T8 4L-4 ft Hi Lumen Lamp with Low BF
			T8 4L-4 ft Reduced Wattage with CEE Ballast - 28 Watts
			T8 4L-4 ft Reduced Wattage with CEE Ballast - 28 Watts - INCLUDES $1 BALLAST BONUS
			T8 4L-4ft High Performance Replacing T12 2L-8 ft
			T8 6 lamp or T5HO 4 lamp Replacing 400-999 W HID
			T8 6 lamp or T5HO 4 lamp Replacing 400-999 W HID Fall Winter 2011
			T8 8 lamp or T5HO 6 lamp Replacing 400-999 W HID
			T8 Reduced Wattage Relamp - 28 Watts
	Training & Special	Other	Bonus, Early Completion 10%, By December 1st, 2012
			Bonus, Early Completion 25%, By November 1st, 2012
			Bonus, Early Completion 50%, By October 1st 2012
	Vending & Plug Loads	Controls	Vending machine controls, occupancy based, on cold beverage machine
			Beverage Cooler Controls, sales based
			Vending machine controls, occupancy based, on cold beverage machine
			Vending Machine Controls, occupancy based, on snack machine
		Refrigerator / Freezer - Residential	Refrigerator, Energy Star
	Whole	Whole Building	Whole Building Track Project, 30+% Energy Cost Savings

Program	Measure Group	Measure Category	Measure Description
	Building		
Home Performance Bonus	Boiler Equipment	Boiler	Hot water boiler <300 MBH
	Building Shell	Air Sealing	Ally - 1000 cfm
			Ally - 1600 cfm
			Ally - 400 cfm
			Customer - 1000 cfm
			Customer - 1600 cfm
			Customer - 400 cfm
		Attic Insulation	Attic Scuttle/Access Insulation
			Cathedral
			Closed Floor
			Open Floor
			Other
		Floor Insulation	N/A
		Foundation Insulation	Exterior
			Interior
		Insulation	Insulation, Project Based, Attic,
			Insulation, Project Based, Foundation,
			Insulation, Project Based, Sillbox
			Insulation, Project Based, Wall,
		Kneewall	Kneewall
		Sidewall Insulation	Cavity
			Foam insulation R3 – R4
			Foam insulation R5 or greater
		Sill Box Insulation	N/A
		Whole Building	Air Sealing, Project Based
	Domestic Hot Water	Aeration	Faucet Aerator, Non PI Direct Install, 1.5 gpm, Kitchen, NG
			Faucet Aerator, Bath, NG
			Faucet Aerator, Non PI Direct Install, 1.0 gpm, Bathroom, Electric
			Faucet Aerator, Non PI Direct Install, 1.0 gpm, Bathroom, NG
		Showerhead	Showerhead, Non PI Direct Install, 1.5 gpm, Electric
			Showerhead, Non PI Direct Install, 1.5 gpm, NG
	Furnace	Furnace	Furnace - AFUE 90% or greater, two stage output and variable speed motor
	Hot Water	Water Heater	Flue Closure with new Power-vented water heater

Program	Measure Group	Measure Category	Measure Description
			Indirect natural gas water heater
			Power-vented natural gas energy factor 0.64-0.79
	HVAC	Chimney Liner	Customer - Correct an existing furnace or boiler drafting problem
		Exhaust Fan	ENERGY STAR
			Other - Inline, ERV, HRV
		Furnace	Flue Closure on a NG Furnace or Boiler
	Lighting	Fluorescent, Compact (CFL)	14 watt CFL
			19 watt CFL
			23 watt CFL
			9 watt CFL
			CFL, Non PI Direct Install, 14 Watt
			CFL, Non PI Direct Install, 19 Watt
			CFL, Non PI Direct Install, 23 Watt
			CFL, Non PI Direct Install, 9 Watt
	Non Energy	Referral	Customer
	Other	Adjustment	N/A
		Assessment-Post	Completion
		Assessment-Pre	Contractor
			Rater-Consultant
		Bonus	Bonus, Application Completion Award
		Facilitation	Rater-Consultant
		Other	Bonus, 15% Savings Achieved
			Bonus, 25% Savings Achieved
			Bonus, Project Completion - WPS TW
			Project Completion
		Performance Test - Blower Door	Contractor
			Rater-Consultant
			Rater-Consultant
		Priority Measures	Completion Reward - 3 recommended complete shell insulation measures
		Rater Coupon	Rating-Pre
		Rating-Post	Rater Completion Reward
		Rating-Pre	REMRate
		Referral	Ally
		WPS HP Bonus	Air Sealing 1000 cfm
			Air Sealing 1600 cfm
			Air Sealing 400 cfm

Program	Measure Group	Measure Category	Measure Description
			Attic Insulation
			Exhaust Fan – Other – Inline, ERV, HRV
			Exhaust Fan ENERGY STAR
			Exterior Foundation Insulation
			Floor Insulation (25 sq. ft. minimum)
			Foam Insulation R3 – R4
			Foam Insulation R5 or greater
			Furnace
			Hot Water Boiler
			Interior Foundation Insulation
			Knee Wall
			Sidewall Insulation
			Sill Box Insulation
Renewable	Biogas	Biogas	Biogas, <=$2 million project, Industrial or Municipal
			Biogas, WPS Large Project Grant, >$2 million - $5 million project, Farm Digester
	Solar Electric	Photovoltaics	PV, >6 - 20 kW, for profit, efficiency first
			PV, >6 - 20 kW, nonprofit, efficiency first
	Solar Thermal	Solar Thermal	Solar Thermal, 8 or fewer collectors, efficiency first
			Solar Thermal, WPS Nonprofit Match
Schools and Government	Boiler Controls	Controls	Linkageless Boiler Control, per output hp
	Boiler Equipment	Boiler	Custom Boiler or Burner Measure - Not Otherwise Specified
			Custom Boiler Replacement - Not Otherwise Specified
	Boiler Service	Steam Trap	Repair leaking steam trap, building space conditioning system, 50-125 psig steam (Hybrid)
			Repair leaking steam trap, building space conditioning system, <=15 psig steam
			Steam Trap Survey - per trap
		Tune-up / Repair / Commissioning	2011/2012 Boiler Tune-up per MBH
	Bonus	Other	Bonus, Energy Bundle, WPS Stipulation Territory-Wide only
	Building Shell	Insulation	Insulate Boiler Plumbing
	CFL	Fluorescent, Compact (CFL)	CFL Cold Cathode Screw-In, replacing incandescent
	Food Service	Oven	Oven, Combination Type, Gas, High Efficiency
			Oven, Convection, Gas, ENERGY STAR - per cavity
	Hot Water	Water Heater	Water Heater - Installation or Upgrade (Custom)
	HVAC	Chiller	High Efficiency Chillers - Retrofit, air cooled all sizes

Program	Measure Group	Measure Category	Measure Description
		Controls	Demand Limiting Controls - Reduce building peak electrical demand
			Energy Management System - More efficiently control HVAC system
			Ventilation Controls Installed
		Other	Custom HVAC Measure - Not Otherwise Specified
		Packaged Terminal Unit (PTAC, PTHP)	PTHP, Standard Efficiency, <8000 Btuh, >=9.45 EER, >=2.72 COP, Retrofit Application
	IT	Servers	Server Virtualization
	LED Lighting	Light Emitting Diode (LED)	LED custom lighting, not otherwise specified
			LED recessed downlight - ENERGY STAR qualified
	Lighting	Other	Custom Lighting Measure - Not Otherwise Specified
	Lighting Controls	Controls	Occupancy Sensors - Ceiling Mount <= 500 Watts
			Occupancy Sensors - Wall Mount <= 200 Watts
			Occupancy Sensors - Wall Mount >= 201 Watts
	Motors & Drives	Motor	ECM (electronically commutated) evaporator fan motor replacing shaded-pole motor, <1/20 hp, in walk-in cooler
			ECM (electronically commutated) evaporator fan motor replacing shaded-pole motor, <1/20 hp, in walk-in freezer
		Other	Custom Motor Measure - Not Otherwise Specified
		Variable Speed Drive	Variable speed drive on fan, retrofit, no peak kW savings, 2000 - 2999 hrs of operation (Prescriptive)
			Variable speed drive on fan, retrofit, no peak kW savings, 4000+ hrs of operation (Hybrid)
			Variable speed drive on pump, retrofit, no peak kW savings, 2000 - 2999 hrs of operation (Prescriptive))
			Variable speed drive on pump, retrofit, no peak kW savings, 4000+ hrs of operation (Hybrid)
	Solar Electric	Photovoltaics	PV, 0.5 - 50 kW, nonprofit, efficiency first
			PV, WPS nonprofit match, 0.5 - 50 kW
	Fluorescent Lighting	Fluorescent, Linear	T8 1L-4 ft Hi Lumen Lamp with Low BF (New Construction) - INCLUDES $1 BALLAST BONUS
			T8 2L-4 ft Hi Lumen Lamp with Low BF - INCLUDES $1 BALLAST BONUS
			T8 2L-4 ft Reduced Wattage with CEE Ballast - 25 Watts - INCLUDES $1 BALLAST BONUS
			T8 2L-4 ft Reduced Wattage with CEE Ballast - 28 Watts
			T8 2L-4 ft Reduced Wattage with CEE Ballast - 28 Watts - INCLUDES $1 BALLAST BONUS
			T8 3L-4 ft Hi Lumen Lamp with Low BF - INCLUDES $1 BALLAST BONUS

Program	Measure Group	Measure Category	Measure Description
			T8 3L-4 ft Reduced Wattage with CEE Ballast - 28 Watts - INCLUDES $1 BALLAST BONUS
			T8 4L-4 ft Reduced Wattage with CEE Ballast - 28 Watts - INCLUDES $1 BALLAST BONUS
			T8 4L-4ft High Performance Replacing T12 2L-8 ft
			T8 Reduced Wattage Relamp - 25 Watts
			T8 Reduced Wattage Relamp - 28 Watts
	Whole Building	Reconfigure Equipment	Whole Building Lighting - project implementation
	Wind	Wind Electric	Wind, New, >20 - 100 kW, nonprofit, standard
			Wind, WPS Nonprofit Match, New, <=100 kW
Smart Farms	Other	Bonus	Bonus - WPS Stipulation
	Training & Special	Other	Assessment Completed - WPS Stipulation
			Project Tracker - WPS Stipulation
Trade Ally Bonus Bid	Other	Bonus	Bonus, Efficiency Bid - WPS iCanConserve

Appendix D. Net-to-Gross Ratios by Measure

The net-to-gross ratios listed in Table D-1 reflect an MMBtu-weighted average across electric energy (kWh) and gas (therms) savings, by the Cadmus-defined measure category.

Table D-1. Territory-Wide Programs

Program Area	Program Name	Category	NTG Ratio
Residential	Assisted Home Performance Bonus	Building Shell	100%
		Hot Water	100%
		Lighting	100%
		Other	100%
	Home Performance Bonus	Boiler Equipment	100%
		Building Shell	80%
		Furnace	38%
		Hot Water	90%
		HVAC	91%
		Lighting	85%
		Non Energy	100%
		Other	85%
Nonresidential	Schools and Government	Boiler Controls	28%
		Boiler Equipment	28%
		Boiler Service	28%
		Bonus	100%
		Building Shell	52%
		CFL	76%
		Food Service	52%
		Hot Water	52%
		HVAC	49%
		IT	67%
		LED Lighting	60%
		Lighting	60%
		Lighting Controls	60%
		Motors & Drives	65%
		Renewable	90%
		T8/T5 Fluorescent Lighting	60%
		Whole Building	60%
	Smart Farms	Other	100%
		Training & Special	100%
	Trade Ally Bonus Bid	Other	100%

Program Area	Program Name	Category	NTG Ratio
Combined	Energy Bundle Bonus	Agriculture	93%
		Boiler Controls	28%
		Boiler Equipment	49%
		Boiler Service	35%
		Bonus	100%
		Building Shell	60%
		CFL	62%
		Compressor Equipment	63%
		Dishwasher	97%
		Energy Recovery	84%
		Food Service	60%
		Furnace	56%
		High Intensity Discharge (HID)	100%
		Hot Water	73%
		HVAC	66%
		IT	100%
		Laundry	67%
		LED Holiday Light	54%
		LED Lighting	61%
		Lighting	88%
		Lighting Controls	60%
		Motors & Drives	66%
		Non Energy	100%
		Other	97%
		Process	95%
		Refrigeration	70%
		Refrigeration Controls	51%
		T8/T5 Fluorescent Lighting	90%
		Training & Special	100%
		Vending & Plug Loads	70%
		Whole Building	58%
Legacy	Renewables	Renewables	95%

Appendix E. Realization Rates by Program and Measure Category

The realization rates presented below represent the ratio of verified gross to reported gross savings by fuel type. To verify gross savings, Cadmus evaluated measure retention and the persistence of savings and, furthermore, made appropriate adjustments to measure-level savings calculations. Findings from these evaluation activities informed adjustments to gross savings and therefore explain why gross and verified gross savings values are, in many cases, different.

Table E-1 presents realization rates by Territory-Wide program and fuel type.

Table E-1. Realization Rates by Territory-Wide Program and Fuel Type

Segment	Program	kW	kWh	Therms
Residential	Assisted Home Performance Bonus	100%	98%	103%
	Home Performance Bonus	100%	99%	102%
	Energy Bundle Bonus	99%	100%	103%
	Renewable Energy Bonus	100%	100%	100%
Nonresidential	NonEnergy Bundle Bonus	98%	104%	85%
	Nonresidential Renewable Energy Bonus	100%	99%	100%
	Schools and Government *	266%	97%	88%
	Smart Farms	-	-	-
	Trade Ally Bonus Bid	-	-	-

*The Schools and Government realization rate is primarily due to differences in forecasted system operations compared to the actual system operations.

Table E-2 presents realization rates by residential measure category and fuel type.

Table E-2. Realization Rates by Residential Measure Category and Fuel Type

Measure Category	kW	kWh	Therms
Boiler Equipment	-	-	103%
Building Shell	99%	100%	105%
CFL	100%	100%	-
Dishwasher	-	100%	100%
Furnace	142%	166%	60%
Hot Water	100%	91%	104%
HVAC	83%	90%	92%
Laundry	-	100%	108%
LED Holiday Light	100%	100%	-
LED Lighting	100%	100%	-
Lighting	98%	98%	-
Other	-	100%	100%
Refrigeration	114%	103%	-
Renewable	100%	100%	100%
Vending & Plug Loads	100%	100%	-

Table E-3 presents realization rates by nonresidential measure category and fuel type.

Table E-3. Realization Rates by Nonresidential Measure Category and Fuel Type

Measure Category	kW	kWh	Therms
Agriculture	80%	95%	-
Boiler Controls	-	-	105%
Boiler Equipment	100%	97%	89%
Boiler Service	100%	100%	105%
Bonus	-	-	-
Building Shell	115%	99%	93%
CFL	100%	100%	-
Compressor Equipment	90%	89%	-
Dishwasher	-	-	63%
Energy Recovery	100%	100%	97%
Food Service	86%	96%	63%
High Intensity Discharge (HID)	100%	100%	-
Hot Water	82%	95%	90%
HVAC	86%	81%	94%
IT	-	115%	-
Laundry	115%	79%	-
LED Lighting	88%	96%	-
Lighting	100%	105%	-
Lighting Controls	92%	100%	-
Motors & Drives	117%	113%	-
Non Energy	-	-	-
Other	100%	99%	-
Process	-	123%	-
Refrigeration	110%	105%	100%
Refrigeration Controls	122%	117%	-
Renewable	100%	99%	100%
T8/T5 Fluorescent Lighting	97%	100%	-
Training & Special	-	-	-
Vending & Plug Loads	-	98%	-
Whole Building	94%	100%	63%

Appendix F. Community Pilot Program Savings

Table F-1 presents gross and verified net kilowatt-hour, kilowatt, and therm first-year annual savings by program. Savings attributed to Community Pilot programs were presented in separate evaluation reports by KEMA and WECC/CB&I and did not include verified gross savings, verified net kW savings, or verified net therm savings. The Evaluation Team included all known Community Pilot program savings and resulting totals in Table F-1 below.

Table F-1. Gross and Verified Net Kilowatt-Hour, Kilowatt, and Therm Savings by Program, First-Year Annual*

Segment	Program Name	Gross			Verified Net		
		kWh	kW	Therms	kWh	kW	Therms
Residential	Assisted Home Performance Bonus	1,682	1	987	1,653	1	1,018
	Home Performance Bonus	120,075	74	84,515	95,837	59	71,788
	Energy Bundle Bonus	853,248	107	55,792	565,304	68	31,786
	Residential Renewable Energy Bonus	22,799	10	515	22,799	10	515
	Community Pilot Programs	NA*	NA	NA	689,259[13]	NA	NA
	Total	**997,804**	**192**	**141,808**	**1,374,852**	**137**	**105,107**
Nonresidential	NonEnergy Bundle Bonus	17,078,988	2,301	261,995	13,880,371	1,693	120,548
	Nonresidential Renewable Energy Bonus	9,613,952	1,100	(18,884)	9,038,846	1,036	(18,884)
	Schools and Government	1,008,324	254	205,059	583,962	324	56,373
	Smart Farms	-	-	-	-	-	-
	Trade Ally Bonus Bid	-	-	-	-	-	-
	Community Pilot Programs	NA	NA	NA	NA	NA	NA
	Total	**27,701,264**	**3,655**	**448,170**	**23,503,178**	**3,053**	**158,038**
Combined	Community Pilot Programs	2,849,295[14]	507	253,298	NA	NA	NA
Total Territory-Wide Savings		**31,548,363**	**4,353**	**843,276**	**24,878,030**	**3,190**	**263,144**

* Columns may not sum to the totals because of rounding;

**Not available.

[13] Community Pilot program verified net kWh savings submitted by KEMA. See Appendix G. KEMA iCanConserve Final Report.

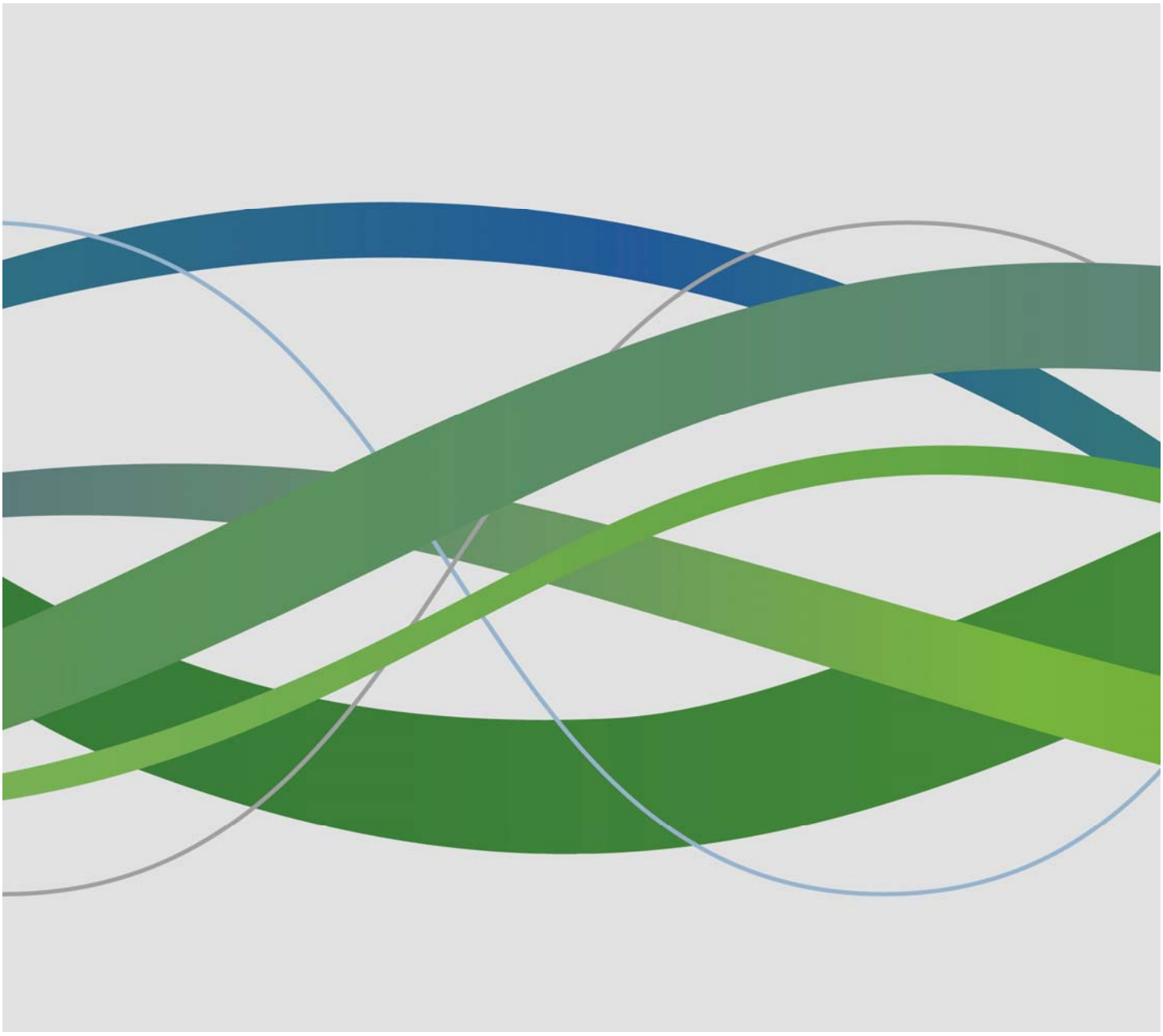
[14] Community Pilot program gross kWh, kW, and therm savings submitted by WECC/CB&I. See Appendix H. WPS Community Pilot Programs Final Report.

Appendix G. KEMA iCanConserve Final Report

iCanConserve

Final Report

Prepared for Wisconsin Public Service
Prepared by KEMA, Inc.
June 28, 2013



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1. Executive Summary

This executive summary offers a brief overview of the community-based pilot project developed by Wisconsin Public Service (WPS), and identifies key successes and challenges observed by DNV KEMA, the program evaluator, over the project duration. This section also offers our recommendations for future energy efficiency pilot design and delivery, based on lessons learned throughout this pilot process.

1.1 Pilot Background

The Public Service Commission of Wisconsin (PSCW) conditionally approved the Energy Efficiency Stipulation – of which the pilot project was a part – on December 30, 2008 as part of a final decision and Order within WPS's rate case (docket number 6690-UR-119). The Order required that Wisconsin Public Service (WPS) jointly develop and implement at least three community-based pilot projects with the Citizens Utility Board (CUB) in the WPS service territory.

WPS and Wisconsin Energy Conservation Corporation (WECC) were original partners in the project delivery as the first pilot project launched in 2009. WECC supported the pilot project as the program implementer and administrator of Wisconsin's Focus on Energy program through April 2011. In May 2011, the program administration shifted to Shaw Environmental & Infrastructure, Inc. – a CB&I company (CB&I); WECC retained much of its implementer role. Project delivery was supported further by a variety of implementers that provided additional support and services to customers within the pilot communities. WPS provided overall leadership, branding, and general outreach and had primary responsibility for electric rate options and tools and technology efforts. CB&I and WECC implemented the energy efficiency programs under the iCanConserve brand. The pilot activities were overseen by a Steering Committee that included WPS, WECC, CUB and PSCW representatives.

1.2 Pilot Purpose

The purpose of the pilots – named "iCanConserve" was to "determine the customer acceptance, cost effectiveness and the transferability of large scale pilot offerings, that include new electric rate designs, customer education, information and tools, and energy efficiency initiatives that seek to provide 'deeper and broader' cost-effective energy savings per customer and per program."[1] The pilots' objectives were as follows:

- Understand the information and the methods required and/or preferred by customers to enable them to understand and make educated choices regarding the various electric rate options and conservation opportunities that are available to them
- Understand the pricing option preferences of customers and why customers selected certain rate options over others

[1] WPS Community Based Pilot Plan, July 1, 2009 filed with the PSCW, p. 4.

- Determine the impact from the integration of rate designs, community approaches and efficiency programs that are offered in conjunction with improved feedback mechanisms
- Test the effectiveness of community–based approaches that use social networks and social marketing, to increase participation and affect participant behavior
- Achieve cost effective reductions in per-capita energy usage across the pilot communities.

To achieve this purpose, WPS selected three pilot communities and matched each with a control community. The control communities were used by the evaluation team to isolate the impact of the program from exogenous factors (such as climate or economic changes). WPS staggered the pilot start dates so that later pilots could build on the experience of the earlier pilots. The iCanConserve pilot communities, and their control counterparts, are highlighted in Table 1-1.

Table 1-1: Pilot and Control Communities

Pilot Community	Control Community (cc)	Pilot Launch*
Brillion	Chilton	October 2009
Allouez	Ashwaubenon	September 2010
Plover	Weston	July 2011

* Month program applications first accepted. Marketing started in advance.

The iCanConserve pilots included four main components:

- Energy efficiency program opportunities
- Promotion of non-standard rates (some specific to iCanConserve only)
- Tools and technology options
- A community level reward for each community that reached specific participation targets.

The pilots were not delivered identically. Offerings within the above components varied from pilot community to pilot community. Throughout the three-year duration of the pilots, WPS and Focus on Energy changed offers in response to earlier pilot lessons learned or as the market demanded. Tables offering a detailed view of pilot offerings, and how they differed by community or within component category, appear at the end of this report in Appendix A.

The pilot projects occurred during a deep, nationwide economic recession. It is unclear how this recession may have affected the outcomes of the pilots. The use of control communities could neutralize some of the effects of the economy, but not all. Control communities increase the likelihood that the observed differences in outcomes between the pilot and control communities were due to the pilots. However, the use of control communities does less to increase the likelihood that pilot outcomes will transfer to times with more typical economic conditions.

1.3 Evaluation Overview

The purpose of this report is to provide a final summary of DNV KEMA's evaluation efforts, and weigh in on pilot successes and challenges now that the pilot efforts have concluded. Our evaluation efforts were ongoing during the entire pilot tenure. The four key research objectives which guided our work, put forward by the iCanConserve Steering Committee at the pilot outset, included:

- Assess energy impacts associated with the pilot
    - Savings associated with rate options
    - Savings per capita (relative to a comparison community) for participation in rate options and other pilot offers
- Assess the pilot's impact on attitudes toward energy efficiency
- Assess the pilot's impact on behavior toward energy efficiency
- Identify key successes and issues (lessons learned) for expansion to statewide programs or the development of future pilots.

The selection of three control communities to match the pilot communities allowed the evaluation team to isolate the project impact from exogenous factors (such as economic changes), and increases the transferability of the results obtained when comparing pilot and control communities.

Table 1-2 offers a complete list of the program evaluation activities and studies produced by DNV KEMA. Each of the evaluation efforts listed in the table examined a small portion of the pilot, while keeping the original pilot research objectives in mind.

Table 1-2: DNV KEMA iCanConserve Evaluation Study List

Study	Completion Date	Primary Data Type
Brillion Baseline	1Q 2010	CATI Surveys
Response Rewards Post Event I	Aug 2010	In-depth Interviews
Allouez Residential Focus Groups: Time of Use Rates, Tools and Technology and Energy Use	Sep 2010	Focus Groups
Brillion Community Leader and Staff Interview Results	Nov 2010	In-depth Interviews
Allouez & Plover Baseline	1Q 2011	CATI Surveys
Brillion and Allouez Pilots: Time of Use Rates	Mar 2011	In-depth Interviews
Brillion Communications	Apr 2011	In-depth Interviews
Billing Analysis: Energy and Demand Effects (Year 1)	Jul 2011	Billing Data
Allouez Summer Peak Event Report (Response Rewards Post Event II)	Sep 2011	In-depth Interviews
Interim Report	Dec 2011	Summary of previous work
Allouez Process	Jan 2012	In-depth Interviews
Billing Analysis: Energy and Demand Effects (Year 2)	Feb 2012	Billing Data
Plover Process	Aug 2012	In-depth Interviews
Commercial Process Evaluation	Jan 2013	In-depth Interviews
Plover Opt Out	Feb 2013	In-depth Interviews
Residential Participation Characterization Study	May 2013	Baseline Study Results & Program Tracking Data
Follow Up Report	Apr 2013	CATI Surveys
Small Programs Evaluation: School to Home	Apr 2013	In-depth Interviews
Small Programs Evaluation: Business Staffing Grant	May 2013	In-depth Interviews
Billing Analysis Year 3	May 2013	Billing Data

There were several additional evaluations completed by organizations other than DNV KEMA:

- Energy Center of Wisconsin (ECW) completed evaluations of tools and technology offered through the pilots, including: direct load control technology, smart thermostats, home energy management systems, Google PowerMeter, home energy reports, and WPS-provided energy usage graphs.
- Electric Power Research Institute (EPRI) evaluated hyper-efficient appliances, LED lighting, a Smart Grid demonstration project, and plug-in electric vehicles.
- Klos Consulting completed an evaluation of customer reactions to the Conservation Rate deployed in Plover.

Conclusions from these evaluations appear in the Final Reports from WPS, CB&I, and Klos Consulting. These reports appear as Appendices C, D, and E within this document.

1.4 Evaluation Lessons Learned: Successes

DNV KEMA's evaluation uncovered clear iCanConserve pilot program successes. We observed many positive project outcomes when examining pilot participation, customer energy use, customer attitudes and behavior (including program marketing), and within the project process and evaluation itself. These key pilot attainments are highlighted below, and are also discussed in great detail later in this report.

Participation

Automatically switching people to a default electricity rate resulted in much higher levels of rate enrollment than a voluntary (opt in) structure. More than half (57%) of Plover residents whom WPS switched to a pilot rate stayed on that rate. In contrast, only about three percent of the residents across all three of the pilot communities opted into a pilot rate. Note, these findings refer to enrollment in the rates only, not necessarily any actions that would lead to energy conservation or a shift in the time of day that a household uses electricity.

Households that received an audit were more likely to participate in Focus on Energy rebates than households that did not receive an audit. About half of the audit participants received Focus on Energy rebates. In contrast, only 17 percent of the baseline survey respondents and seven percent of the overall pilot community populations participated in Focus rebates.

High incentives with a deadline motivated participation. In response to low participation in the commercial sector rebates, at the beginning of 2012, CB&I redesigned the commercial rebates into a program with very high initial incentives and descending payouts at several points in the year. The structure was designed so that earlier participants would receive greater incentives than later participants. CB&I reported that commercial sector participation increased after these changes, particularly right before the deadline to receive the greatest incentives. Customers responded rapidly when the pilot used marketing messages suggesting it was ending (i.e., *Act Now! Before the Deadline!).* Residential and commercial participation surged again towards the end of the pilots, when there was another clear deadline for receiving incentives.

Energy Use

DNV KEMA found evidence that the combination of time of use rates and Tools & Technology could be an opportunity to enhance savings. Our billing analysis revealed that households that participated in both offers had average electricity savings of nine percent. Households that only participated in pilot rates saved an average of two percent; those that participated only in Tools and Technology saved about four percent. Thus, the savings for the combination is greater than the sum of the parts. This may be due to a synergy between the price signals inherent in time of use rates and the feedback or automatic control functionality provided by the Tools & Technology.

Audits appeared to have minor positive effects on energy savings in the commercial sector. Commercial audit participants saved, on average across all three pilot communities, about five percent

more energy than their counterparts in the pilot communities who did not receive audits and businesses in the control communities.

Attitude / Behavior Changes

WPS customers interviewed throughout the pilots consistently confirmed pilot marketing efforts were successful in raising pilot awareness and educating customers about their choices. Respondents in all three pilot communities were aware of the iCanConserve pilot, generally understood their participation options, and indicated they had adequate information to make participation or rate change decisions. Differences between the follow up and baseline surveys indicated that awareness of energy efficiency related topics increased in all three pilot communities, relative to the control communities. Using a scale that gave respondents one point per each of five topics of awareness (time of use rates, Focus on Energy, Cool Rewards, that WPS offers different electricity rates, and ENERGY STAR®), awareness increased by an average of about six-tenths of one topic (from 3.1 to 3.7 points). This difference was statistically significant at the 90 percent confidence level.

The iCanConserve microsites offered key support and information to customers throughout the pilot. Customers repeatedly indicated to us that they used and valued the iCanConserve microsite. Many respondents further confirmed that the iCanConserve microsite was especially beneficial in helping them understand electricity rates. The rate videos that explained the different rate options in an easy-to-understand format were well-enough received that WPS has decided to make them available on their general website (see Appendix B for screenshots).

Personalized marketing or customer contact during the pilot left a positive impression of WPS among iCanConserve participants. Respondents throughout our evaluation were able to consistently recall personal communications about the pilot and/or generally had high levels of satisfaction with one-on-one communication experiences, particularly the audits. DNV KEMA consistently heard good things about the audits from ratepayers and stakeholders alike. In the residential sector, audit participation was the best predictor of Focus rebate participation. In the commercial sector, many of the organizations that DNV KEMA spoke to indicated that the door-to-door recruitment conducted by Franklin was the only time they got information about the program. Particularly in Brillion, where residents were not as technically savvy as other communities, the personal touch was important. Brillion residents noticed and liked the quotes and pictures of Brillion residents used in marketing materials. The names associated with the quotes were one of the first things respondents noticed, and they said including quotes from respected Brillion residents added credibility.

Process

Pilot implementers maintained a flexible approach and adjusted programs and procedures based on feedback and early evaluation results. The pilots included the evaluation team early in the process, and this allowed DNV KEMA to provide evaluation results during the course of the pilots. The implementation team was responsive to these results and made several changes during the course of the pilots in response. Some of these changes included: minor changes to marketing materials, increasing in-person presence in Brillion, adding customer testimonials to the marketing materials, providing

information to help customers understand how time of use rates would affect their bills, educating customers in how to reduce their bills after switching to time of use rates, and doing more demonstrations of Tools and Technology offers.

Pilot implementers successfully redesigned several program offerings that were lacking participation. CB&I overhauled several of the iCanConserve pilot components (i.e., Enhanced Business Incentives, Business Staffing Grant) and discontinued another (i.e., Community Staffing Grant) while the pilot was ongoing based on low participation and customer feedback. These strategic moves and quick cooperation between stakeholders allowed redesigned programs to be rolled out quickly. Staff working with the program had the added benefit of narrowing their focus onto offerings that were more successful.

WPS's efforts to inform Plover residents about the automatic rate switch before it occurred succeeded in reaching the majority of the community. About three-fourths (78%) of Plover residents said they were aware of the rate switch before it occurred. WPS primarily used direct mail, bill inserts, postcards, and program overview brochures (e.g., rate-specific "success kits") to educate Plover residents about the rate switch. WPS further utilized email blasts, voice mails, web banners, fact sheets, and the iCC microsite to communicate with customers about the rate change as part of the Plover program design. WPS additionally held multiple community meetings in Plover to educate customers and answer questions they had about the rate changes.

1.5 Evaluation Lessons Learned: Challenges

While the pilots enjoyed many observed successes, a pilot project would not be a *pilot,* by definition, without the opportunity to learn lessons from design and delivery choices. DNV KEMA uses the following section to summarize challenges we observed within the areas of pilot participation, customer energy use, customer attitudes and behavior (including program marketing), and project processes and evaluation.

Participation

Saving money was the most important reason for participating in the pilots. Throughout the pilot, DNV KEMA repeatedly heard that saving money (or the promise of saving money) was the most important motivator for participants (or potential participants). In the follow up surveys, 60 percent of Plover, 37 percent of Allouez, and 36 percent of Brillion cited saving money as the most important reason they participated in the pilots. The survey asked 185 households in all three pilot communities that did not participate in time of use rates how much savings they would need to expect to justify switching to time of use rates. Over two-thirds (69%) cited $25 or more per month. Another 23 percent cited between $15 and $20, and another five percent cited a number between $5 and $10.

Most non-participants could not provide a reason for not participating in time of use rates. In the follow up surveys, about two-thirds (69%) of the 185 households across all three communities that did not participate in time of use rates did not provide a reason for non-participation. It is difficult to speculate about a non-response, but it may indicate a general dislike for change or preference for the status quo. Of

the 31 percent who did provide a reason, about one-fourth (26%) said they did not want to lose control of their home's energy use. Another 26 percent said they did not think participation in the rates would save enough money.

Home owners were more likely to participate in the pilots than renters. Eighty-five percent of the pilot participants reported living in a single-family detached home compared to 75 percent of the non-participants. Over 95 percent of the respondents living in single-family detached homes said they owned rather than rented. Renters have little motivation (and often lack the authority) to spend a lot of money on durable energy saving home improvements. As explained in the Databases subsection later, it is also difficult to accurately measure energy savings impacts for renters.

One out of the three communities participated enough to attain their full community involvement goal. Plover was the only community to achieve its full community participation target, due in large part to the success of the default rate assignment process. The other communities received pro-rated community rewards based on how close they got to the goal. Pilot implementers used the community participation goals only to provide a target for achieving the community participation award. Because of the novelty of the pilots, program implementers had to set these goals without enough information to make confident predictions about eventual participation. Thus, they had to make an educated guess at a participation level that would represent a challenging target.

Energy Use

The final billing analysis concluded that residential participants reduced their energy use by an average of about three percent. This was the average savings of households across all three communities that participated in one or more of the following offer categories: Focus on Energy, Time-of-Use rates, Cool Rewards, or one of the Tools and Technology offers. There were too few commercial participants to make robust savings estimates.

When combined with energy efficiency measures (EEM), participation in other offers only resulted in an additive savings effect. Except for the combination of time of use rates and tools and technology offers discussed earlier, the savings from participating in multiple offers was about equal to the sum of the savings for participating in each of the offers individually.

DNV KEMA found little evidence that pilot community residents changed the time of day they used electricity. Several of the pilot electricity rates involved the use of price signals to encourage participants to shift their electricity use to different times of day. Using hourly billing data, DNV KEMA found evidence that Allouez residents shifted some electricity use off of about one percent of winter peak hours. We did not find any evidence of Brillion or Plover residents shifting electricity use off of summer, winter, or shoulder-season peak hours.

Despite increasing Focus on Energy participation, residential audits did not appear to directly reduce energy use. As mentioned in the successes section, audit participation increased participation in Focus on Energy. DNV KEMA also conducted a billing analysis that compared the audit households (regardless of Focus participation) with those in the pilot communities that did not receive audits and

those in the control communities. This billing analysis did not show statistically significant energy savings for the audit participants.

The combination of no tangible energy savings from audits themselves, but increased participation in Focus from audit participants, is somewhat contradictory. A possible explanation is that about half of the audit participants installed Focus measures, but half did not participate beyond the audit. The billing analysis averaged together these two categories, which had the effect of reducing the average savings per audit household. Similarly, some of the non-audit and control households installed Focus measures, which the billing analysis would have also averaged into that category. This would effectively raise the per household savings for the comparison groups. The combination of these two effects may have reduced the difference enough that it was no longer statistically significant. Other possible explanations include: weather leveled out the differences, or the increased Focus participation inspired by the audits did not actually result in energy savings.

Process

The number of stakeholders created project management challenges. DNV KEMA repeatedly heard from interviews with program implementers that the number of organizations involved in delivery of the pilots created communication challenges. These interviewees asserted the value of clearly defining inter-organization responsibilities and communication protocols. WPS's final report includes a project management conclusion that it is essential to define, document, and communicate roles and responsibilities in a timely manner across all the organizations involved in pilot delivery.

Focus on Energy rebate participants voiced a preference to work with a local contractor with whom they already had a relationship, and were unsatisfied if their contractor was not Focus on Energy-approved. The program may have been able to engage more local contractors by offering multiple opportunities to enter the program, reaching out personally to the contractors to invite their participation, and/or explaining contractor benefits through participation more clearly.

The speed of rolling out Allouez and especially Plover made it difficult to apply lessons learned from the previous pilot community. More time between rollouts would have provided the implementation teams with the chance to make more effective changes before the next pilot rollout. This might also have simplified the communication and evaluation efforts.

Two years may be the optimum pilot duration. We received feedback – either directly from customers or via the participation data – that the various pilot durations in the communities may have not always been ideal. In Brillion, where the pilots ran for three years, some residents expressed "marketing fatigue" where community members ignored marketing materials at best, or were even annoyed by them. On the other hand, in Plover, where the pilot ran for one year, some program implementers and residents considered their pilot exercise too brief and expressed a desire to continue the Plover pilots for longer.

Both customer satisfaction and timely realization of energy savings depends on having enough products or services to back up a customer call to action. During the initial pilot launch in Brillion, pilot marketing entered the field before Focus on Energy was fully prepared to respond to customer

interest. There was another instance where demand exceeded auditor availability for a couple of months. Deadlines and offer endings are another time when program implementers should plan for a surge in customer interest.

Not all pilot customers had equal opportunity to access all marketing channels and receive all possible information. Customers lacking high-speed Internet access did not necessarily have easy and ready access to the iCanConserve microsites, built to support and provide key education about the pilot program and its offerings to customers. In particular, we found evidence that Brillion residents had lesser internet access than those in other pilot communities and the average WPS customer. Sixty percent of Brillion baseline survey respondents said they had high-speed internet access, compared to 73 percent of Allouez, 79 percent of Plover, and 77 percent of WPS customers in general[2].

The iCanConserve pilot had several initial program offerings that did not generate customer response or excitement. Key stakeholders, Energy Advocates, and our evaluation findings noted that iCanConserve customers did not choose to participate in two initial pilot offerings – Community Supported Financing and the Business Staffing Grant. The redesign or reallocation of the funding dedicated to these programs was listed earlier as an example of successful flexibility on the part of program implementers.

Databases

Pilot outcomes and conclusions are only as reliable as the data inputs. Databases were set up to record point-in-time information rather than allow a retrospective view of the actions of pilot participants. In order to accurately track customer participation and assess energy savings impacts, creating solid, consistent database infrastructures in advance of a pilot launch is paramount. Data choices made before the iCanConserve launch (i.e., utilizing pre-existing databases not optimized for tracking specific pilot activity or energy efficiency actions) and migration to a new database mid-pilot made it difficult to track and compare the actions of participants in the pilot and control communities. Some specific issues included: lack of consistent identification numbers across the four residential and three commercial databases, lack of measure codes for the pilot-specific measures that were distinct from general Focus on Energy measures, and databases contained records for different numbers of customers or premises depending on when they were queried.

DNV KEMA's decision to evaluate the program at the customer-at-a-premise level resulted in several challenges. DNV KEMA considered the same premise with two different customers to be two different units of analysis. Furthermore, because DNV KEMA only evaluated customer-premise combinations that existed from the beginning to the end of the pilot in each community, any changes to the pair during the pilots resulted in the loss of a record. The decision to analyze at the paired level seemed the most logical at the beginning of the pilots because the pilots were interested in attitude and behavioral changes (customer-level variables) as well as energy efficiency equipment installations (a

[2] Based on the 2010 WPS territory wide survey.

premise-level variable). This decision did result in several challenges, including handling customers with multiple premises (such as landlords) and premises where the customer changed. In the latter case, these changes could have resulted from a family moving out of the premise or from divorces, legal name changes, or other situations that might not represent a whole family moving. However, it was beyond the scope of the evaluation to determine the precise reason for a change of customer associated with a premise. About one-fourth (24%) of the customer-premise combinations that existed at the beginning of the pilots did not exist at the end, and DNV KEMA was unable to analyze these records.

1.6 Evaluation Recommendations

Examining the key pilot successes and challenges of the iCanConserve pilot provides us the opportunity to document recommendations about what should be considered or implemented in future pilots or when attempting to transfer pilot activities to a broader territory. DNV KEMA uses this report section to offer our recommendations to optimize energy efficiency pilot planning and programming, based on lessons we learned during this program evaluation.

Participation

Provide high incentives coupled with a deadline for participation. The restructuring of the commercial rebate programs in early 2012 resulted in a significant increase in commercial participation, especially just before incentive deadlines. Program staff attributed the increased participation to high incentives and the deadlines themselves. The pilots experienced another surge in participation right before the final deadline that signaled the end of the pilots.

Use default rate assignment processes to increase rate adoption. The default rate assignment process resulted in over ten times the participation levels as the opt in process. We found evidence of reduced customer satisfaction immediately following the default rate assignment. Very few of the customers reached immediately following the rate assignment provided a specific reason for their satisfaction rating. However, customer satisfaction reported in the follow-up surveys was about the same as was reported in the baseline surveys. This suggests that if satisfaction did decrease after the default rate assignment process, it rebounded within a year.

Minimize the amount of information potential participants need to process, and wherever possible, customize the information and include payback periods. Some participants (residential and commercial) expressed being overwhelmed by the information in the audit reports. Organize reports so that they have a high-level summary with additional details if the recipient wants to drill down. In addition, some participants expressed frustration that the information in the reports was not applicable to their particular situation.

Subsidize residential audits, complete audit activities during a single visit, and allow for piecemeal implementation of audit recommendations. The iCanConserve pilots partially subsidized the audits, but even the subsidized price appeared to be a barrier to some potential participants. Audit procedures that require multiple visits, such as those originally used in Brillion, increase participant inconvenience. The

Brillion audits also required participants to implement all of the audit recommendations in order to receive a fully discounted audit. This created another barrier because the sum of the recommendations represented overwhelming capital outlays for some people. The best structure attempted during the pilot projects was a single, full audit for a nominal fee, coupled with direct install measures and a high bonus rebate for implementing the top three audit recommendations.

Use demographic information within customer data to predict participation and target marketing for future energy efficiency programming. Certain demographic characteristics (single-family home, central air conditioner, previous energy efficient actions, and community involvement) are better predictors of program participation than other demographics that are easier to come by (income, education, age).

Energy Use

Residential customers participating in voluntary critical peak pricing rates could benefit from technology that allows them to (a) receive notifications of the events via cellphone or text message, and (b) control their home remotely over the Internet. About half of the Response Rewards customers interviewed by DNV KEMA reported doing nothing to change electricity use during the critical periods. Despite having the option to select their preferred method of notification from phone, text, email, or fax, many said they were not aware of the events until after the fact. In other cases, even when the respondent received timely notification of the event, they could not do anything about it because they were not home and lacked technology to remotely control their home. Devices that can receive the events and automate control, such as at least one model of smart thermostat available through the pilots, could be helpful as well.

Attitude / Behavior Changes

Secure buy-in from key community leaders and enlist their help to increase the likelihood of pilot success. The pilot communities experienced various levels of community engagement which reflected engagement levels of local community leaders. Program implementers reported to DNV KEMA that the pilot was easier to implement in communities where the pilot had greater support from community leaders. Community leaders may or may not be elected officials. Examples of the types of community leaders important to the iCanConserve pilots included a mayor, a village administrator, and a parks department head.

Increase opportunities for face-to-face contact. Throughout the pilots, DNV KEMA heard positive comments from residents and businesses in the pilot communities and pilot implementers about the Energy Advocates who performed the audits. Similarly, DNV KEMA heard similar customer satisfaction sentiments based on personal communication experiences within studies on the Business Staffing grant and the School-to-Home grant, respectively.

Process

Consider pilot launch timing carefully. Defaulting customers to time-of-use rates during times of increased energy usage (i.e. the middle of summer) can adversely affect customer adoption or satisfaction. Also, be sure to allow adequate time between pilot launches to give implementers a chance to fully integrate previous lessons learned.

Design tracking databases to capture pilot participation and activity exclusively. In order to accurately track customer participation and assess energy savings impacts, creating a solid database infrastructure in advance of a pilot launch is paramount. Unique pilot databases should also include thoughtful, consistent identifiers that allow easy linking between pilot participant data and other data used for analysis (i.e. billing / metering data). Databases should track enough information to provide a clear retrospective of when and what each relevant household did throughout the pilot.

Produce and maintain detailed and accurate documentation for all major decisions. Many decisions will be made during the course of a pilot project or program. The longer a program or project endures, and the more organizations involved, the likelihood increases that natural personnel changes will remove key knowledge-holders from the project. Timely and clear documentation of all major program decisions will help ensure the maintenance of institutional knowledge.

Simplify staff communications and pilot program processes as much as possible. Pilot programs, by nature, explore new territory. Keeping the pilot communications between involved staff and delivery components as simple as possible keeps the focus on the pilot delivery, its customers, the results.

Plan for surges in customer demand. The pilot repeatedly enjoyed rapid response at the end of the program or at the end of an offer (i.e., Focus on Energy incentives) – especially when they informed customers that the end was near. The increase in customer interest is predictable; prepare and/or increase staffing to handle program- or offer-end surges to avoid customer disappointment.

Build in feedback mechanisms and the flexibility to change in response. The ability and willingness of pilot implementers to adapt to early results and feedback improved the pilot outcomes. Several of the iCanConserve pilot components were redesigned while the pilot was ongoing based on low participation and / or customer feedback.

Utilize a variety of marketing channels to maximize the number of customers reached. WPS had customers with a wide variety of technology access and internet savvy. Pilot marketing occasionally had to rely on lower-tech solutions to reach these individuals.

Make efforts to include local contractors. Enlisting the help of contractors from the pilot area, if possible, increases the feeling of community and feeds a local economy. Use of local contractors likely also increases scheduling options for participants.

Test a few things at a time. The iCanConserve pilot projects included many different offers that changed for each pilot community and in some cases, changed *within* pilot community. The offers were managed by multiple organizations. The number of offers, offer changes, and implementers added complexity and project management challenges. In addition, the pilot design and complexity made evaluation of the

impacts of individual components difficult. When multiple offers are packaged, it is usually impossible to attribute effects to single offers within packages - the best that evaluation can say is whether the package as a whole had effects. Pilots with fewer offers would facilitate more specific evaluations.

2. Report Structure

The following is a brief overview of the report body. The remainder of the report is organized as follows:

Section 3: Participation summarizes how and where WPS residential and commercial customers participated in the pilot program and its offerings. It also provides final insights on pilot participation in all three communities.

Section 4: Energy use provides key findings on how the pilot program impacted participants' energy use.

Section 5: Attitudes and behavior change highlights findings from both our qualitative and quantitative research activities to present how pilot participants may have experienced changes in energy attitudes or their actual day-to-day behavior. Within this section, we specifically explore awareness of and reactions to the following pilot offerings:

- Program marketing
- Rates
- Audits
- Focus on Energy opportunities
- Tools and Technology

Section 6: Program processes and pilot evaluation presents key observations about pilot processes, including delivery and design choices that appeared repeatedly in evaluation research. This section also reflects on the pilot *evaluation* as part of the pilot process.

Section 7: Evaluation lessons learned provides a list of things that the DNV KEMA team learned throughout this evaluation.

Section 8: Recommendations presents recommendations stemming from the evaluation activities.

3. Participation

Table 3-1 summarizes final pilot participation numbers in the three pilot communities and overall. This table includes the pilot offers of most relevance to DNV KEMA's evaluation efforts. Other offers were available. The final WPS report (Appendix C) and CB&I report (Appendix D) provide more detailed participation numbers.

Table 3-1: Final Pilot Participation

Participation	Data Source	Brillion	Allouez	Plover	Overall
Residential HVAC Bonus	CB&I	157	74	N/A	231
Home Energy Reviews	CB&I	224	776	327	1,327
Tools & Tech	WPS	36	215	113	364
Pilot Rates	WPS	86	400	2,575	3,061
Total Participating Households*	CB&I	479	2,614	3.416	6,509
% Households Participating	DNV KEMA	34%	29%	62%	51%
Total Households	WPS	1,408	5,894	5,498	12,800
Business Incentives	CB&I	30	25	40	95
Business Audits	CB&I	83	126	63	272
Pilot Rates	WPS	2	4	17	23
Total Participating Businesses*	CB&I	84	93	186	363
% Businesses Participating	DNV KEMA	40%	23%	25%	26%
Total Businesses	WPS	210	412	759	1,381

* Note: total participation is not equal to the sum of individual offer participation because some households/businesses participated in more than one offer and the totals include participation in non-iCanConserve-specific Focus measures during the pilot duration.

3.1 Motivations to Participate

Before the WPS iCanConserve pilots launched, DNV KEMA initially surveyed residents in the pilot communities to collect demographic information and assess the customers' pre-existing energy attitudes, behaviors, and perceptions. When the iCanConserve pilot period was nearly complete, DNV KEMA resurveyed many of the respondents to the original baseline surveys to measure their energy attitudes, behaviors, and perceptions as the pilot was concluding. As part of the Follow Up Study[3], DNV KEMA also asked respondents to assess their reasons for participating and what information sources motivated them to participate (Table 3-2). Both residential and commercial participants said their main motivation was to save money. Residential participants additionally mentioned pro-environmental values as a

[3] iCanConserve Community Pilots Follow Up Report – Final. KEMA, Inc., April 25, 2013.

secondary reason. Community "buzz" was a significant motivational information source for both the residential and commercial sectors, and the residential sector additionally cited the iCanConserve microsites.

Table 3-2: Overall Motivations to Participate

Evaluation Category	Residential Result	Commercial Result
Reasons for participating	Save money, pro-environmental values	Save money
Motivational information sources	iCanConserve website, community "buzz"	Community "buzz"

3.2 Participant Profiles

DNV KEMA conducted the Residential Characterization Study to identify characteristics that predicted residential participation in the pilots.[4] The main objectives of this study included identifying key differences between participants and non-participants, identifying customer segments that are likely to participate in offerings similar to those in the pilots, and assessing the effect of multiple pilot offers. The goal was to understand what types of people participated in the pilot, and what kinds of actions they took. This understanding may allow WPS to communicate with other like-minded customers in non-pilot areas to increase the adoption of non-standard electricity rates or participation in energy efficiency programming across their service territory.

The Residential Characterization Study used the results of the baseline surveys to identify the characteristics that best separated residential participants from those people who did not participate in each category.[5] To simplify these analyses, DNV KEMA grouped the various pilot offers into five categories, described in Table 3-3.

[4] iCanConserve Residential Participant Characterization Study, Final Report, KEMA, inc., 5/7/2013.

[5] WPS Community Pilot Programs – Brillion Pilot – Baseline Report. DNV KEMA, January 15, 2009.
WPS Community Pilot Programs – Allouez Pilot – Baseline Report, DNV KEMA, December 1, 2010.
WPS Community Pilot Programs – Plover Pilot – Baseline Report, DNV KEMA, January 11, 2011.

Table 3-3: iCanConserve Participant Definitions

Participant Category	Definition
Audits*	Households who received a Home Energy Review, whether or not they followed through with recommendations.
Focus Rebates	Households in any of the three communities who received rebates for energy efficiency improvements made during the pilot time period. Receiving a Focus rebate for anything other than an audit qualified a household for this category. The category was not restricted to the enhanced rebates available through iCanConserve. Where possible, we included participation in the upstream lighting program.** This category does not include Focus audits nor measures installed during audits.
Rate Opt In	Households that actively signed up for a pilot electricity rate in any of the three communities after the pilot began in their community: 3 Tier Time of Use, Response Rewards, Standard Rewards, Conservation rate, or Cool Rewards.
Rate Stay In	Households in Plover that stayed on their default iCanConserve rate.
Tools & Tech	Households in any of the three communities who chose at least one of the tools and technology offers. These offers included in-home displays, smart thermostats, and home energy management systems.

**In Brillion, the Home Energy Review was a two-step process: an introductory walkthrough, and a second inspection by an Energy Consultant. For this analysis, we only counted Brillion households who completed both steps as participants.*
***If we had more complete tracking information from the upstream lighting program, we would likely have added many more participants from this upstream program to this "Focus Rebates" group. However, because the upstream lighting program rarely collected specific customer information through 2011 and did not collect it at all in 2012, we were unable to do this.*

One important finding was that baseline survey respondents were more likely to participate in the pilot in some way than the overall population of the pilot communities. This overarching finding means that the baseline survey respondents may not be fully representative of the general population of the pilots. Therefore the remaining results in this section should be interpreted with this qualifier in mind. Table 3-4 provides definitions for the respondent characteristics used in this analysis.

Table 3-4: Respondent Characteristic Scales

Scale Variable	Description
Single Family Home	Binary (yes/no) variable for if the respondent said they live in a single family, detached home
Central Air Conditioner	Binary variable for if the respondent said they have a central air conditioner
Non-Standard Rate	Binary variable for if the respondent was on a non-standard (not RG1 or RG2) rate at the time of the baseline surveys
WPS Login	Binary variable for if the respondent said they have a login account on WPS's website
Usage	Annualized usage in kWh
Peak Hour	Respondent's peak hour of usage
Community Involvement	5 point scale variable based on the number of community events respondent reported attending in the six months prior to the baseline surveys.
Energy-related Info Sources	The number of different information sources respondent said they get energy efficiency information from, including: WPS bill stuffers, WPS website, non-WPS website, Focus on Energy, iCanConserve project, local newspapers, state/national newspapers, TV, word of mouth, community events or local schools, and other.
EE Actions	The number of recent energy efficient actions the respondent reported taking prior to the baseline survey, including: called WPS to get information about electricity rates, called WPS to get information about Cool Rewards, contacted WPS to learn how to save energy, contacted Focus on Energy for information on energy efficiency or renewables, installed CFLs, removed an extra refrigerator without replacement, looked at energy usage on WPS website, change thermostat settings when away/asleep.
EE Awareness	5 point scale based on respondent awareness of: (1) WPS offers different electricity rates, (2) Time of Use rates, (3) Cool Rewards, (4) Focus on Energy, and (5) ENERGY STAR.
EE Attitudes	7 point scale of respondent's attitudes towards energy efficiency. Higher values represent more positive attitudes.
EE Control	7 point scale of respondent's beliefs about how much control they have over their household's total energy use. Higher values represent greater degree of control.
EE Norms	7 point scale of respondent's beliefs about their friends' and neighbors' attitudes towards energy efficiency. This variable can be thought of as "peer pressure." Higher values represent greater pressure to be energy efficient.
TOU Attitudes	7 point scale of respondent's attitudes towards time of use rates. Higher values represent more positive attitudes
TOU Control	7 point scale of respondent's beliefs about how much control they have over *when* their household uses energy. Higher values represent greater degree of control.
TOU Norms	7 point scale of respondent's beliefs about their friends' and neighbors' attitudes towards time of use rates. This variable can be thought of as "peer pressure." Higher values represent greater pressure to adopt time of use rates.
Income	10 point scale variable for respondents' household income the year before the baseline study occurred
Education	7 point scale variable for the respondents' education level
Age	Respondent's age in years

DNV KEMA draws the following major conclusions from the differences we observed between pilot participants and non-participants:

- *Living in a single-family, detached home was a strong predictor of participation in energy efficiency programs.* This finding is not surprising – many energy efficiency offers involve making durable changes to one's home. People who expect to live in the same home for a substantial amount of time are more likely to be interested in those types of investments than people who know they will soon move out.
- *Prior participation was a good predictor of future participation.* People who had previously participated in a non-standard rate or taken energy efficient actions in the recent past were more likely to participate in the pilots.
- *The community-based marketing approach affected who participated.* Participants had higher community involvement than non-participants. This likely exposed them to more marketing and helped motivate them.
- *Traditional demographics (age, income, education) as well as awareness and attitudes were not as good at predicting participation as other predictors.*

The remainder of this section provides a more in-depth look at participant characteristics and motivations to participate for specific offers, such as home energy audits, Focus on Energy offers, and so on.

3.2.1 Audit Participation

This subsection discusses which customer characteristics were good predictors of residential audit participation. It also examines what factors might increase or decrease the willingness of commercial customers to have these audits done.

3.2.1.1 Residential Profile

Residential audit participants were more likely than those who did not participate in the audits to:

- Live in single-family, detached homes (93% vs. 76%)
- Have been on a non-standard rate before the pilots began (28% vs. 18%)
- Use more electricity (8,458 vs. 7,487 annual kWh)
- Report more involvement in the community (2.9 vs. 2.5 on a 5 point scale)
- Have taken more energy efficiency related actions in the 12 months prior to the pilots (2.2 vs. 1.9 out of 7 actions)
- Have more favorable attitudes towards time of use rates (4.5 vs. 4.1 on a 7 point scale).

People who live in single-family, detached homes and participated in audits were more likely to own those homes and thus had more incentive and ability to purchase energy saving improvements than

renters. These audit participants were also more likely than everyone else to already be on non-standard rates and to have taken energy-saving actions before the pilots began, which shows that past actions can predict future actions. These participants also had relatively high electricity use, which may mean they were motivated to reduce their energy use and hoped the audits would give them information about how to do so.

3.2.1.2 Commercial Motivations

DNV KEMA did not profile commercial audit participants, but we did collect some information about their motivations for participating. Most participants wanted to save money on their energy bill. Many were interested in seeing how their facility was doing in terms of energy efficiency. Some also pointed out the environmental benefits of saving energy. When the audits were free, they thought it would be worth exploring given the potential reduction in energy use and costs. A few did the audit because their participation would count towards the community reward.

At various times during the pilots, Franklin Energy – the Commercial Program Implementer in this instance – went door to door in an attempt to increase participation in the audits. This appears to have been a successful strategy. Commercial sector audit participation declined substantially during the periods in which Franklin was not marketing the audits this way. In addition, many of the commercial respondents whom DNV KEMA interviewed indicated that the door-to-door marketing is how they initially heard of the iCanConserve pilots. There was also evidence to suggest that the door-to-door marketing increased business follow through to adopt measures after the audits. Door-to-door marketing was the most common source of program information reported among the businesses that received audits and adopted measures. In contrast, it was the third most common source of program information, behind mailed WPS brochures and community events, among businesses that received audits and did not follow through.

Partway through the pilots, Franklin and Focus on Energy learned that any fee for the audits can prevent local managers from participating. The affected locations tended to be franchises in which local managers would have to acquire central corporate approval for spending money on services such as an energy audit.

3.2.2 Focus Rebate Participation

This subsection discusses which customer characteristics were good predictors of Focus rebate participation. It also examines what factors might increase or decrease the willingness of commercial customers to get Focus rebates.

3.2.2.1 Residential Participant Profile

Residential Focus rebate participants were more likely than those who did not participate in the rebates to:

- Have received an audit. Audits were the strongest predictor of rebate participation; they were so strong that they dominated the statistical models and had to be excluded to find any other distinguishing characteristics.

- Have lived in single-family, detached homes (94% vs. 76%)
- Have had central AC (83% vs. 74%)
- Have been on a non-standard rate before the pilots began (29% vs. 18%)
- Have reported greater involvement in the community (2.8 vs. 2.5 on a 5 point scale)
- Have received energy related information from a wider range of sources (3.7 vs. 3.1 out of 11)
- Have reported awareness of energy efficiency programs (3.2 vs. 2.8 out of 5).

Living in single family homes with central air conditioners likely gave these participants more incentive and opportunity to make energy saving improvements than renters or owners without central AC. The other differences suggest that the rebate participants were better informed about energy efficiency opportunities than everyone else.

Among residential customers whom DNV KEMA spoke to, saving money was the main reason for participating. Pro-environmental values were second.

Residential participants also repeatedly expressed their desire to be able to employ local contractors to complete major home renovation projects such as purchasing new furnaces. The pilots encountered some difficulty engaging local contractors, and doing so might have increased residential participation.

3.2.2.2 Commercial Motivations

DNV KEMA did not profile commercial Focus participants. However, various interviews over the course of our evaluation did reveal some common motivations among commercial participants:

- Saving money was the main reason for participating. Saving energy was the second most-cited reason.
- Participation in the rebates was low until CB&I restructured the incentives in early 2012. After the restructuring, participation increased, especially before deadlines.

3.2.3 Rate Participation

The pilots made several new electricity rates available to residents in the pilot communities. WPS (in collaboration with the PSC and CUB) used two different rate assignment mechanisms. The first was an "opt in" process where residents on standard rates had to actively switch to a pilot rate. The other was a default rate assignment process where residents would be placed on a pilot rate unless they took action to switch to WPS's standard rate. WPS implemented an opt in process in Brillion and Allouez and the default assignment process in Plover.

3.2.3.1 Opt in versus Default Rate Assignment

DNV KEMA examined the rate switching actions of residents in the three pilot communities. Not surprisingly, the default rate assignment process used in Plover resulted in many more customers on pilot rates than the opt in assignment process used in Brillion and Allouez. About one year into the Plover pilot (July 2012), over half (54%) of the Plover customers who WPS defaulted to a pilot rate were still on that rate. The vast majority of these were customers who stayed on a defaulted 3 tier time of use rate. In comparison, across all three pilot communities, about three percent opted *into* pilot rates.

Table 3-5: Plover Rate Opt Out/In Frequencies

Initial Rate Assignment	On Pilot Rate		On Std Rate	Change of Customer
	Stayed on Default	Opted In[1]	Opted Out	
Three tier time of use (n=4,282)	54%	<1%	23%	24%
Conservation Rate Choice[2] (n=100)	57%	5%	34%	4%
Conservation Rate Opt out[3] (n=98)	55%	1%	34%	10%
Not eligible for switch (n=741)	n/a	10%	n/a	n/a

Source: WPS Rate Option File and the Eligibility Report

1 This column includes anyone who opted into any pilot rate: 3 Tier Time of Use, Response Rewards, Conservation Rate, or Cool Rewards.

2 These customers were defaulted to Three Tier Time of Use, and could opt into the Conservation Rate.

3 These customers were defaulted to the Conservation Rate.

Table 3-5 shows several important results about the rate assignments in Plover:

- About half (54 to57%) of customers stayed on their default rate, regardless of the default rate.
- About one-fourth (23% to 34%) of customers opted *out* of their default rates.
- Very few (10% or less) customers opted *into* a different pilot rate. These low opt in frequencies are similar to the rates observed for Brillion (2%) and Allouez (3%).
- Customers who were already on a non-standard rate (most of which were on WPS's demand response program that automatically switches off air conditioners; "Not eligible for switch") were much more likely to opt into a pilot rate than those who received a default rate. This is probably due to a pre-existing interest in non-standard rates as demonstrated by their previous enrollment choice.

DNV KEMA was unable to account for about one-fourth of the population because of changes to customer-premise combinations. Most of these records were probably renters who moved during the course of the pilot. WPS defaulted new service to their standard rate rather than any pilot rates that the premise might have been on prior to the new service. In other words, new service contracts followed the opt in rate assignment process.

WPS notified customers who would be defaulted to the special rates of the upcoming rate switch at least 60 days before the switch occurred. One of the unique marketing tools used in the Plover pilot was a direct mail letter (see Appendix B). WPS used the letter to detail the default rate switch for its customers. It also provided Plover customers with instructions on how to opt-out if they did not want to be put on the default pilot rate. DNV KEMA further determined that WPS primarily used bill inserts, postcards, and program overview brochures (e.g., rate-specific "success kits") to educate Plover residents about the rate switch. WPS further utilized email blasts, voice mails, web banners, fact sheets, and the iCanConserve microsite to communicate with customers about the rate change as part of the Plover program design. WPS made hourly usage graphs available to customers to help guide them to the optimal rate for their household. WPS additionally held multiple community meetings in Plover to educate customers and answer questions they had about the rate changes. Customers could opt out before or after the switch. Most of those who opted out (84%) did so before switching to the default rate.

To help maintain customer satisfaction, WPS monitored the bills of the households they defaulted to a pilot rate. Three months after the Plover rate switch, WPS sent a letter to all households that were paying at least $20 or more per month than they would have been on a standard rate. This letter reiterated how customers could opt out of the pilot rates and offered a complimentary home energy review. This letter was sent to 284 customers in October, 2011; customers had until December 31, 2011 to take advantage of that opportunity.

3.2.3.2 Rate Participant Profiles

DNV KEMA's Residential Characterization Study identified the demographic characteristics that best distinguished households who opted into a pilot rate from those who did not opt in.

Rate opt in participants were more likely than anyone who did not opt into a pilot rate to:

- Have central AC (92% vs. 75%)
- Have been on a non-standard rate before the pilots began (36% vs. 19%)
- Self-report having a login with WPS (34% vs. 17%)
- Use less electricity (7,189 vs. 7,681 annual kWh)
- Receive energy related information from a wider range of sources (3.4 vs. 3.2 out of 11)
- Have performed more energy efficiency related actions in the previous 12 months (2.4 vs. 1.9 out of 7)
- Felt more control over their total household energy use (4.4 vs. 4.1 on a 5 point scale)

Considering all these characteristics, households that opted into a pilot rate appear to have been previously motivated and taking actions to reduce their energy use. Because air conditioning is a relatively large and controllable electricity use, homes with central air conditioning have more to gain from participating in time of use rates than those without central air conditioning. Furthermore, in the case

of Cool Rewards, air conditioning is a requirement. Households that opted into pilot rates also reported feeling more control over their household energy use than those who did not opt in. Feeling greater control over household energy use probably also increased these participants' expectations of obtaining benefits from the pilot rates.

Plover residents who stayed in their default pilot electricity rate were more likely than Plover residents who were not assigned a default pilot rate or who opted out:

- Have lived in a single-family home (73% of stay-ins vs. 67% of everyone else)
- Have been on a standard rate before the pilots began (2% of stay-ins were on a non-standard rate before the pilots vs. 31% of everyone else)
- Use less electricity (7,183 annual kWh for stay-ins vs. 7,595 annual kWh for everyone else)
- Have higher incomes (4.6 on a 10 point scale for stay-ins vs. 4 for everyone else)
- Have less education (3.6 vs. 3.9 on a 5 point scale)

Plover residents who stayed in their default electricity rate were different from the other types of participants in that they did *not* have to take deliberate action to participate. Staying in the pilot rates was the default option in Plover, whereas *not* participating was the default for the other communities. The findings for single family homes and standard rates are probably artifacts of the rate assignment process, which excluded homes already on a non-standard rate from the default pilot rates. The other findings – electricity use, income, and education, suggest that households that stayed in their assigned rates may have expected more gain, or less loss, than those who opted out.

3.2.3.3 Motivations to Participate - Rates

The Internet was an important source of information for Plover pilot participants (opt ins and stay ins) and the availability of the information there may have affected their participation decisions.

- Between the residents who stayed in, opted in, and opted out, Internet access was at the lowest levels among the opt outs (57% high speed, 22% no access). Some of the most unique marketing tools, such as the instructional rate videos (sample screen shots of these videos are available in Appendix B) and the interactive assessment tools were available only on the WPS microsite, meaning that WPS customers with lower levels of internet access had fewer tools in which to learn about rates. One-third of the opt ins cited the iCanConserve website as a rate information source, followed by 20 percent of the stay ins, and 13 percent of the opt outs.
- Half of the opt ins demonstrated a good understanding of the rates, followed by 35 percent of the stay ins, and 13 percent of the opt outs. This finding is probably related to the Internet access findings in the previous bullet. Because of the educational videos on the iCanConserve microsite, respondents with better access had more opportunities to learn about the rates.

Factors that influenced whether residents opted into or stayed in the pilot rates included saving money, getting a smart thermostat, and having a lifestyle that allowed flexibility when customers used electricity.

- The survey conducted after the pilots concluded asked the 185 respondents across all three communities who did not participate in time of use rates how much savings they would need to expect to justify switching to time of use rates. Over two-thirds (69%) cited $25 or more per month. Another 23 percent cited between $15 and $20, and another five percent cited a number between $5 and $10. All of these percentages are statistically greater than zero at a 90 percent or better confidence level. In-depth interviews with customers who stayed/opted in revealed that they wanted to save money, help achieve the Community Reward, or to just give the new rates a try.

- The smart thermostat was a key Allouez respondent motivator for signing up for Response Rewards, in addition to financial savings. Several respondents reported signing up for Response Rewards in order to get the free smart thermostat, with little understanding of how the rate worked.

- Survey respondents who were aware of the time of use rates but were not on them indicated that the primary reasons they were still on standard rates were that they did not want to lose control of their household energy use and that the savings were not enough to justify the hassle.

- Focus groups revealed that household composition determined participants' perceptions about whether they could shift when they used energy. The presence of an elderly or handicapped person often precluded people from considering time of use rates. They believed that the rates would lead to discomfort. One participant, who ran his central air conditioner throughout the summer, felt that his family's allergies precluded him from participating. In-depth interviews with Plover residents also revealed that stay ins were slightly younger and less likely to have children than opt outs. This suggests that they may have felt they had flexibility in when they used electricity.

- Lack of awareness of the rate switch in Plover did not seem to be a reason for staying in: 90 percent of stay ins indicated they were aware of the rate switch.

3.2.4 Tools and Technology Participation

The Tools and Technology offers evaluated by DNV KEMA included smart thermostats, home energy management systems, in-home displays, Google PowerMeter, and the usage graphs that WPS provided after Google ended PowerMeter. For Tools & Technology offers, DNV KEMA only evaluated the residential sector.

3.2.4.1 Tools/Tech Participant Profile

Tools and Technology participants were more likely than people who did not participate in this pilot component to have the following profile:

- Have lived in single family, detached homes (100% of tools/tech participants lived in single-family detached homes vs. 78% of everyone else)
- Have been on a non-standard rate before the pilots began (42% of tools/tech participants were on non-standard rates before the pilots began vs. 19% of everyone else)
- Have a login with WPS (36% vs. 17%)
- Have been more involved in the community (3.0 vs. 2.6 on a 5 point scale)
- Have more favorable attitudes towards energy efficiency (5.6 vs. 5.0 on a 7 point scale)
- Have felt more social pressure to reduce energy use (5.4 vs. 5.1 on a 7 point scale)
- Have felt more social pressure to shift when they use electricity (4.0 vs. 2.9 on a 7 point scale)
- Have higher incomes (5.4 vs. 3.9 on a 10 point scale).

Tools and Technology participants appear to be people that were already motivated and taking actions to reduce their energy use. The findings for both energy efficiency and time of use norms could mean that these people may be more image-conscious than other participants. Marketing messages about impressing one's friends and neighbors might be an approach that resonates with this type of participant.

4. Energy Use

In order to assess the energy impacts of the iCanConserve pilots, DNV KEMA created billing analyses at three different pilot crossroads. The objective of each of the billing analysis evaluations was to assess energy and demand impacts associated with the pilots. To measure program impacts, the evaluation used a time series, cross sectional, test-control experimental design. DNV KEMA compared pilot and control communities' monthly billing and advanced metering infrastructure (AMI) interval load data (cross section) over time (time-series) to determine the effects of the pilot program on pilot residential and business energy usage behavior. Some of our key results from those analyses appear in this report section.

4.1.1 Electricity Savings

One of the methodologies utilized in the billing analyses was examining energy use at the community level. The community level evaluation compared the test and control communities' monthly billing and AMI hourly load data to determine the effects of the pilot program on the test communities' (Brillion, Allouez, and Plover) residential and commercial customer energy usage behavior. This allowed DNV KEMA to focus on the determination of savings, if any, for each test community in aggregate during the program period.

Table 4-1 shows a comparison of the residential savings estimates by offer participation combination.[6] This table shows the following results:

- Overall, residential pilot participants reduced electricity use by about 3%.
- The overall energy savings are similar across all three communities despite baseline demographic and usage differences between those communities and different durations of the pilots.
- Participation in time of use rates combined with Tools & Technology may have had an effect greater than the sum of participation in either offer individually. This may be due to a synergy between the price signals inherent in time of use rates with the feedback and automatic control functionality provided by the Tools & Tech. This synergy is not apparent for very few households with the combination of Tools & Technology and demand response. A possible explanation for this is that the demand response rate is a passive one where WPS automatically shuts off the household's air conditioner. In this situation, feedback about the household's energy use does not really matter because the energy saving response is already automated and controlled by WPS.

[6] Note DNV KEMA's participation totals are substantially lower than totals provided by CB&I in their participation records. This is mostly due to difficulties with assigning a unique identifying number to each person-premise combination. In addition, because DNV KEMA tracked participation by person-premise combinations, whenever a resident moved into or out of a premise, we could no longer track that record. Annual turnover in each community reached as high as 25% for some participation categories.

- When combined with energy efficiency measures (EEM), participation in other offers only resulted in an additive savings effect. In other words, the savings from participating in multiple offers was about equal to the sum of the savings for participating in each of the individual offers.

- Most multiple offer combinations had too few participants to allow for definitive conclusions.

Table 4-1: Comparison of the Test Communities Savings by Component Combination

				Brillion				Allouez				Plover			
Energy Eff. Measures	Tools and Tech	Demand Response	Rates	No. of Participants	Pre-Program Normalized Annual kWh	Net Annual Savings (kWh)	Percent Savings	No. of Participants	Pre-Program Normalized Annual kWh	Net Annual Savings (kWh)	Percent Savings	No. of Participants	Pre-Program Normalized Annual kWh	Net Annual Savings (kWh)	Percent Savings
X				187	7,901	199	3%	375	8,487	165	2%	68	8,673	269	3%
			X	33	10,015	332	3%	69	7,387	24	0%	2,405	6,631	162	2%
X			X	5	7,490	530	7%	19	8,432	189	2%	58	8,359	431	5%
X	X			13	9,840	585	6%	53	8,482	624	7%	1	17,771	1,054	6%
	X			24	11,005	386	4%	37	10,184	459	5%				
	X		X					20	8,569	483	6%	37	10,129	1,106	11%
		X		1	11,539	(275)	-2%	16	7,169	(22)	0%	2	9,768	197	2%
X	X		X	2	6,211	916	15%	13	8,730	648	7%	1	13,313	1,375	10%
X		X		1	6,756	(848)	-13%	7	5,283	143	3%				
		X	X					3	5,111	2	0%	7	5,500	359	7%
X	X	X		2	7,669	(462)	-6%	4	7,513	602	8%				
	X	X		3	8,256	111	1%								
X		X	X					3	8,620	167	2%	1	11,503	3,698	32%
X	X	X	X					1	6,880	626	9%				
			Total	**271**	2,308,350	67,729	3%	**620**	5,193,699	139,586	3%	**2,580**	17,498,009	481,944	3%
			Average Participant		**8,518**	**250**	**3%**		**8,377**	**225**	**3%**		**6,782**	**187**	**3%**

Note: Energy efficiency measures included any Focus on Energy measures. It was not restricted to special iCanConserve pilot measures. Tools and Tech included smart thermostats, in-home displays, and home energy management systems. Demand response included households that participated in Cool Rewards. Rates included households that participated in any pilot rate other than Cool Rewards (Two Tier Time-of-use, Three Tier Time-of-use, Response Rewards, Flat Rate Rewards, and the Conservation Rate).

4.1.1.1 Audit Impacts

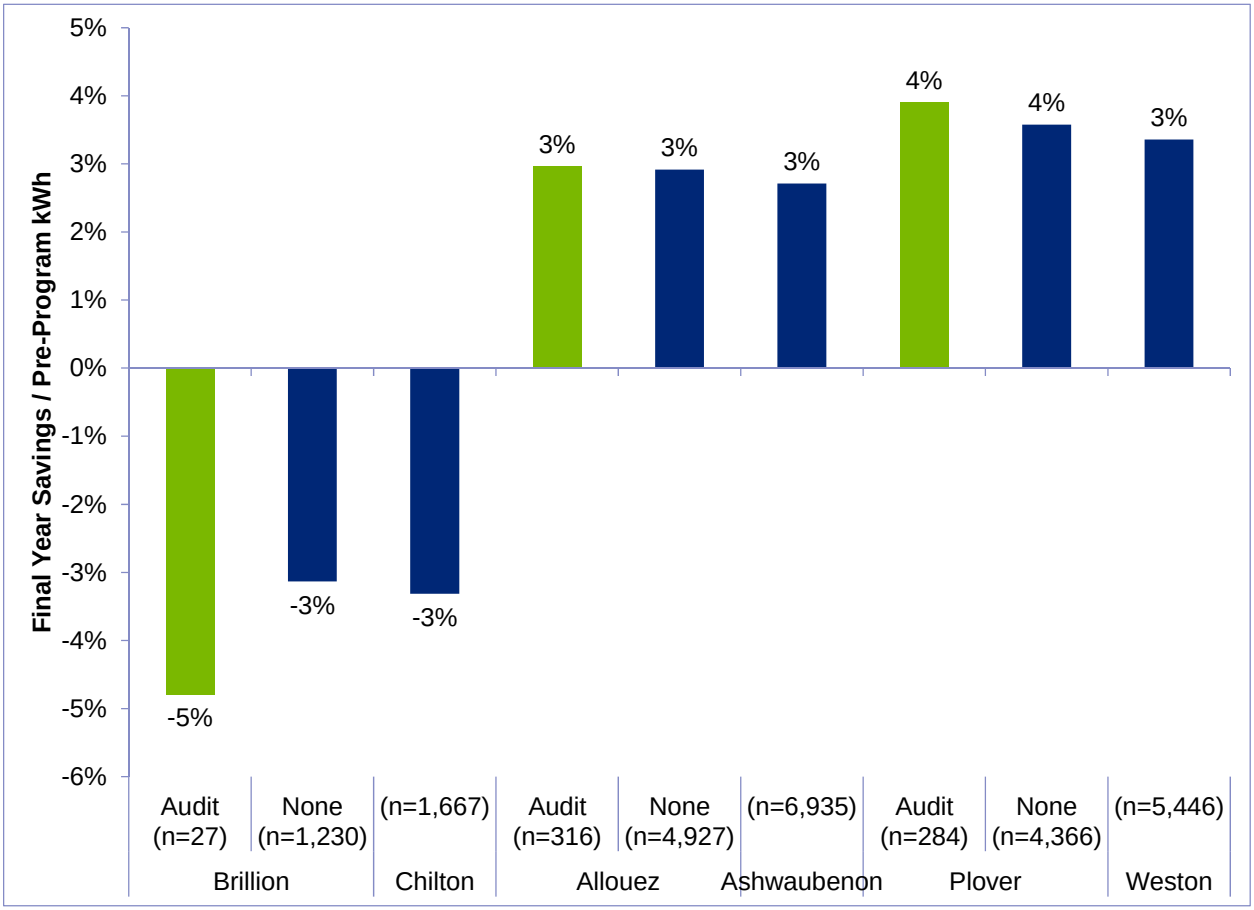
Through June 2012, audit participation was the best predictor of residential rebate participation. Half of the households who received audits went on to receive at least one Focus on Energy rebate (*not* limited to the special offers available through the pilots). This rate of participation in Focus is statistically greater than the 17 percent of baseline survey respondents and seven percent of the overall pilot community populations who participated in Focus on Energy.

Residential audits do not appear to have a direct, positive effect on energy efficiency. About half of the participation in Brillion and Allouez and the voluntary participation in Plover were through home energy reviews. Figure 4-1 shows that residential audit participants did not save any more energy than their counterparts in the pilot communities who did not receive audits or their counterparts in the control communities (who also did not receive audits).

- Audit participants in Brillion used an average of 5 percent *more* energy post-program, which is about the same difference as other Brillion residents and Chilton residents.

- Allouez audit participants used 3 percent *less* energy post-program, which is about the same difference as Allouez audit non-participants and Ashwaubenon residents.
- Plover audit participants used about 4 percent less energy post-program. This is about the same difference as Plover audit non-participants and Weston participants.

Figure 4-1: Effect of Audits - Residential

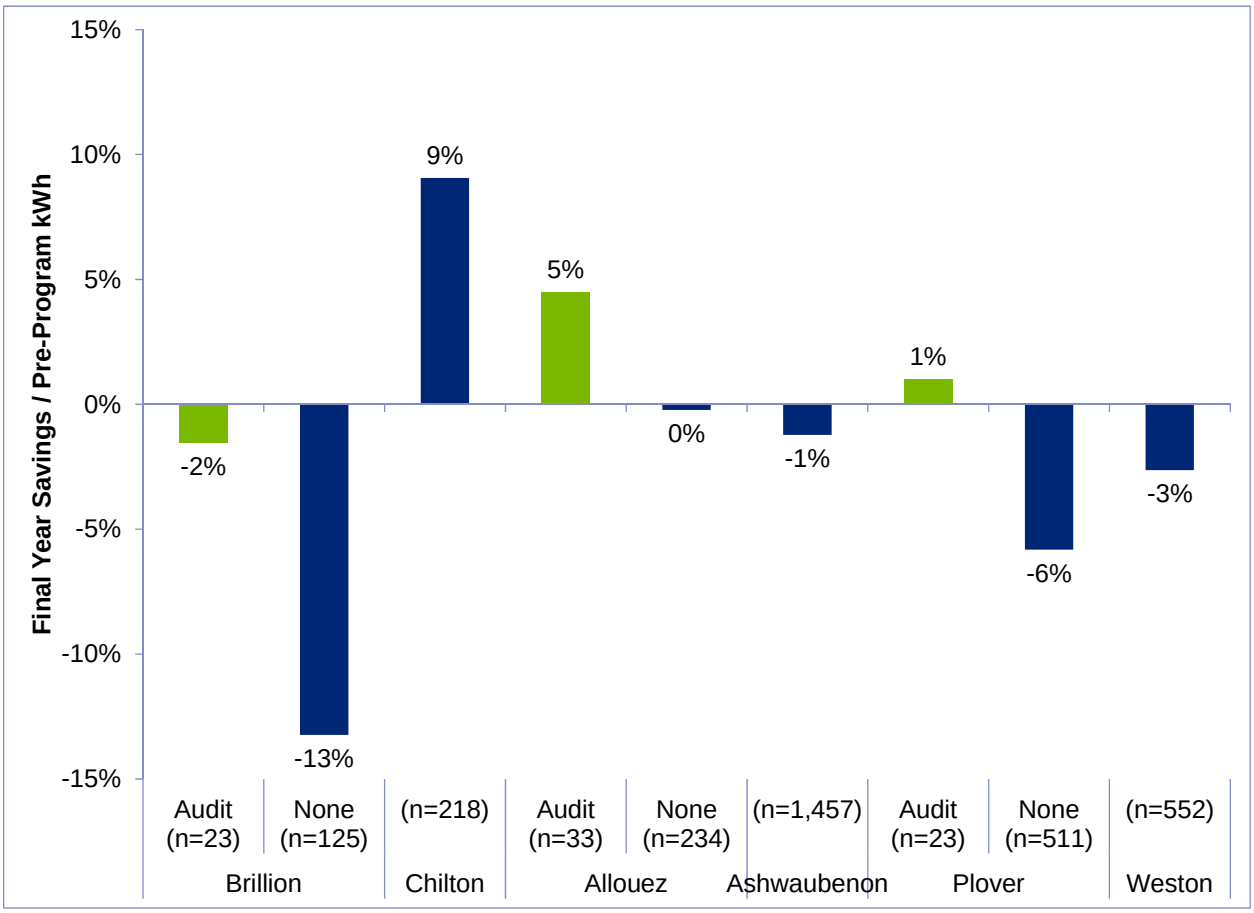


Audits do appear to have some positive effect on energy efficiency in the commercial sector. Figure 4-2 shows that commercial audit participants saved about 5 percent more energy than their counterparts in the pilot communities who did not receive audits and their counterparts in the control communities (who also did not receive audits).

- Brillion commercial audit participants used two percent *more* electricity post-program than pre-program. However, Brillion audit non-participants used 13 percent more. Chilton businesses used nine percent *less*. Thus it is inconclusive how much positive effect business audits had in Brillion.
- Allouez commercial audit participants used five percent less electricity post-program. Other Allouez businesses showed no change in electricity use and Ashwaubenon businesses increased use by one percent. Thus, the Allouez businesses with audits had greater energy savings than their comparisons.

- The pattern in Plover looked similar to Allouez. Plover audit participants used one percent less electricity, while Plover audit non-participants increased electricity use by six percent. Weston businesses increased by three percent.

Figure 4-2: Effect of Audits - Commercial



5. Attitude and Behavioral Changes

The pilots included goals of changing pilot community members' attitudes and awareness of energy efficiency, as well as encouraging them to make energy saving decisions. This final report section examines the pilot program marketing, in an effort to understand what behavior change messages were extended to pilot customers, and what messages they said resonated with them. Later in this section we highlight feedback from the pilot participants about how they actually changed their behaviors, how they reported their energy use, or if conservation awareness had changed since the pilot inception.

5.1 Program Marketing

WPS had overall responsibility for marketing the pilot, which included coordinating the marketing campaign. However, many of the marketing efforts for the iCanConserve pilot were collaborative between WECC, CB&I, and WPS. Marketing efforts across the pilot were broad and differed by pilot community and customer type (residential vs. commercial). Whether WPS was trying to reach residential customers in Brillion or Commercial customers in Plover, they used a wide variety of marketing channels to get their pilot offerings in front of their customers.

Pilot marketing benefitted from the three year, staggered roll out of the pilot programs in the three communities. For example, DNV KEMA noted some inconsistencies among marketing materials it examined early in its evaluation (i.e., placement of WPS logos), but the marketing became more refined as the pilot program endured. The Plover iCanConserve marketing and messaging about assigned rates likely benefitted from the increasingly-recognized pilot branding, and the established relationship and marketing processes already in place between WECC, CB&I, and WPS.

The different customer sectors (residential vs. commercial) and the demographic differences across the three communities necessitated different marketing methods during the pilot duration. For example, Brillion customers generally had less access to the internet; therefore, WPS had to rely more on traditional marketing communications such as direct mail and word-of-mouth within that pilot. Some of the different pilot offerings in the communities also called for a variety of marketing approaches.

WPS and the marketing team undertook some different marketing approaches in Plover, due particularly to the unique rate assignment process in that pilot program. For the most part, iCanConserve marketing specific to Plover looked like other iCanConserve marketing with additional content addressing the rate switch. However, the Plover marketing differed from other pilot efforts in the following ways:

- Plover iCanConserve marketing was focused on two main time periods – before customers were switched to new rates, and during and after the customer transition to their assigned rate.
- Direct mail communication was a key Plover pilot marketing component. Customers in Plover received a letter from WPS explaining their upcoming default rate assignment. Both the direct mail letter and the rate assignment were unique to this specific community.

- Plover iCanConserve marketing and communications offered a variety of opportunities and tools for customers to increase their awareness and understanding of the rate options, and how each rate option may impact their energy bill.
    - Rate-specific, Plover iCanConserve "success kits" were delivered to all customers in Plover before the pilot launch & rate switch.
    - Plover communication also included community meetings in advance of the rate switch.

5.1.1 Impacts of Plover Marketing on Awareness of Rate Switch and Rate Understanding

The critical mass of residential Plover customers who were routed to a new electricity rate provided the evaluators with an opportunity to examine their rate awareness and understanding of electricity rates. The majority of Plover respondents we interviewed/ surveyed during our evaluation process were aware of the iCanConserve program. Most customers also had at least some understanding of how program rates work, had a general awareness of their monthly energy use, and could confirm their average monthly electricity bill amount. Plover residents indicated WPS told them about the rate change and its customer impacts multiple times.

Table 5-1: Summary of Rate Awareness and Understanding within Plover Pilot Rate Groups

	Stay In (n=20)	Opt In (n=6)	Opt Out (n=23)
Aware of iCanConserve	70%	100%	96%
Recalled mass rate switch July 2011	90%	100%	61%
Said they understood ability to opt-out?	70%	NA	100%
Rate Information Source: Website?	20%	33%	13%
Said information was adequate	65%	100%	52%
High Speed Internet Access	85%	100%	57%
Aware of energy use / monthly bill?	90%	33%	70%

A pair of results in Table 5-1 warrants further explanation. One hundred percent of the opt outs said they were aware of their ability to opt out, but only 61 percent recalled the mass switch of July 2011 when WPS defaulted most of Plover residents to the Three Tier Time-of-use rate. This combination probably resulted from the timing of opting out. Most (about 80%) of the households that opted out of the default pilot rates did so before the mass switch occurred. It is likely that many of these households stopped

paying attention to details of the default rate assignment process after they opted out, and thus were not aware when the mass switch actually occurred.

DNV KEMA asked customers to name their preferred method of communication with their utility. WPS customers largely listed traditional methods of notification – like direct mail – as a preferred way to receive information. Email was the second most-preferred means of future communication. Most respondents said the communication was sufficient, but they had very different reactions to the various marketing pieces or communication about the rate change that they received. The following list summarizes customer reactions to specific Plover marketing methods.

- Most respondents recalled receiving direct mail about program rates and understood, from that mailing, that they had the ability to change their rate.
- DNV KEMA asked respondents about the Welcome Kits" – using both aided and unaided recall. They were not often mentioned by respondents as a key source of information about the Plover program or its special rates.
- Some customers learned of the rate options from the community meetings; others -– opt outs more so than opt ins or stay ins, indicated they learned about their options when contacting WPS customer service.

Respondents throughout our evaluation were able to consistently recall personal communications about the Pilot program and/or generally had high levels of satisfaction with one-on-one communication experiences. Personalized marketing or customer contact during the pilot left an especially positive impression of WPS and its programs among iCanConserve participants.

5.2 Pilot Effects on Awareness, Attitudes, and Behaviors

As part of the Follow Up study, DNV KEMA re-surveyed many of the respondents to the original baseline surveys to measure how much their awareness and attitudes had changed during the course of the pilots.[7] These surveys found evidence that the pilots increased residential energy efficiency knowledge but did not change attitudes (Table 5-2). The surveys also revealed that the pilot impacts on the knowledge and awareness of the commercial participants were less than those on the residential customers.

[7] iCanConserve Community Pilots Follow Up Report – Final. KEMA, Inc., April 25, 2013.

Table 5-2: Pilot Effects on Awareness & Attitudes

Evaluation Category	Residential Result	Commercial Result
Awareness of energy efficiency topics	Increased	No change
Number of energy-related information sources	Increased	Increased
iCanConserve Awareness	Near 100%	Majority aware
Energy efficiency attitudes	No change	No change
Energy efficiency control beliefs	Increased (Plover only)	No change
Energy efficiency social norms	Increased (Plover only)	No change
Self-reported energy efficiency behaviors	Increased	No change

5.2.1 Load Shifting Behavior

As reported earlier, residents with more flexibility in when they use electricity were more likely to participate in the pilot rates. However, the capability to shift one's load does not necessarily translate into load shifting actions. Access to information about the rates and possibly energy use feedback appear to be important factors that affect whether pilot rate participants took any actions to shift their electricity loads.

- In-depth interviews of Brillion and Allouez residents who opted into time of use rates revealed that most of them tried to shift electricity loads during peak times. Specific actions included shifting laundry and dish washing times.
- Time-of-use rate participants, even those who did not indicate taking specific actions to shift their electricity use, said they did know what else they could do.
- In-depth interviews with Brillion and Allouez residents who opted into Response Reward revealed that only a few of them changed electricity use during critical peak periods. Many of these respondents indicated that they did not change use because they did not receive notification of the critical peak periods until after they were over.
- In-depth interview with residents in all three communities revealed that those with a better understanding of the rates were more likely to change their electricity using behaviors.
- Most (53%) of the in-depth interview respondents from Plover reported *not* changing their energy using behaviors whether or not they stayed or opted into a special rate.
- The billing analysis revealed participation in time of use rates combined with Tools & Technology may have had an effect on energy savings greater than the sum of participation in either offer individually. This may be due to a synergy between the price signals inherent in time of use rates with the feedback and automatic control functionality provided by the Tools & Technology.

A key lesson identified by DNV KEMA during the evaluation was that residential customers, who participated in Response Rewards or similar voluntary critical peak pricing rates, could benefit from

technology that allows them to (a) receive notifications of the events via cellphone or text message, and (b) control their home remotely over the Internet. Many of the respondents we talked to said they did not take any actions to reduce home energy use during the critical peak periods because they were not home when the events occurred. In many cases, they did not even know of the events until it was too late because the notifications went to an email address that they did not frequently check. In other cases, even when the respondent received timely notification of the event, they could not do anything about it due to a lack of remote control technology. Devices that can receive the events and automate the controls, such as at least one model of smart thermostat available through the pilots, would be helpful as well.

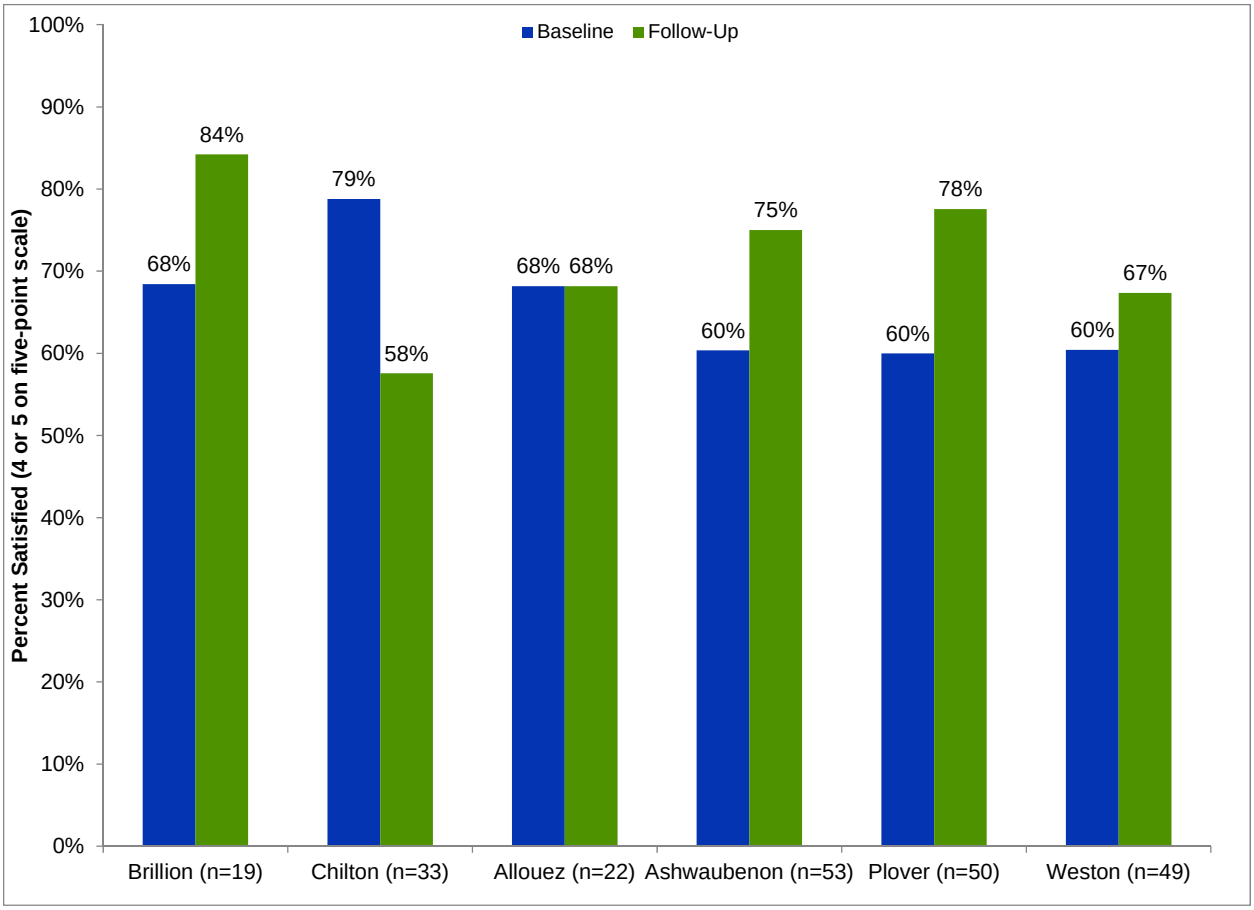
5.2.2 Satisfaction with WPS

In the residential sector, satisfaction with WPS increased in all six communities over the pilot duration. The increase in the pilot and control communities was similar, so there was not evidence that the pilots affected overall satisfaction with WPS – positively or negatively. For Plover, this finding is particularly interesting because of the default rate assignment process used there. In an evaluation conducted closer to the date in which most Plover residents were switched to a new rate, DNV KEMA found evidence of dissatisfaction. However, by the time the Follow Up survey occurred, almost a year later (and with a wider group of respondents), DNV KEMA no longer found evidence of dissatisfaction.

In the commercial sector, overall satisfaction results were mixed, with some results indicating a possible increase in general satisfaction in the pilot communities, and other results indicated no differences between pilot and control communities. Satisfaction among Brillion businesses increased while satisfaction in the control community of Chilton decreased. In Allouez, satisfaction did not change while satisfaction in its control community of Ashwaubenon increased. Satisfaction in Plover and its control community of Weston increased (Figure 5-1).

The surveys followed up with questions about reasons for being less than satisfied. Because of generally high satisfaction levels, very few commercial respondents were asked these questions. The plurality (10%) of reasons actually consisted of neutral or positive comments about WPS. The negative comments had three themes: energy costs too much (7%), WPS is the only source of energy (4%), and businesses had difficulty getting information from WPS (3%). Of these three themes, the only one that WPS has much control over is the last one.

Figure 5-1: Satisfaction with WPS - Commercial



5.2.3 Reactions to Audits

Overall: DNV KEMA heard repeatedly during its evaluation interviews that the Energy Advocates were a huge success. WPS, CB&I, and WECC representatives indicated that a primary lesson learned from the Allouez and Brillion pilots was the value of providing a single person to act as a point of contact for participants. Both Energy Consultants and respondents stated in interviews that the Energy Advocate made interacting with and understanding the program easier. Interviewed pilot participants appreciated an in-person contact that provides assistance and information. Consultants found value in being able to focus on the technical aspect of the Home Energy Review while the Advocates interacted directly with customers.

Residential: Most residential customers were satisfied with the audit reports, but some had suggestions for improvement, including the following:

- Clarify report recommendations and provide more information about available program incentives for energy efficiency improvements and estimated costs
- Increase report accessibility by including pictures and/or making it less technical
- Decrease report delivery time
- Include payback periods in the audit reports.

DNV KEMA received a few reports, at different points throughout the three year evaluation, of issues with the contractors that participants used to implement the audit-recommended energy efficiency improvements.

- The most common issue was that contractors were not local. Focus on Energy tried to recruit local contractors, but in some cases, it was not possible.
- Some respondents also reported difficulty reaching the approved contractors at all or finding a contractor who would do the work for the prices set by Focus.
- Finally, we also heard a few reports of poor workmanship.

Commercial: The energy advisors we interviewed thought that some commercial audit participants may have been overwhelmed by the level of detail in the report. On the other hand, some audit participants said the reports could have been more detailed.

5.2.4 Audit Caveats

Despite the success of the Energy Advocates, program staff expressed skepticism that the mechanism is scalable. Program staff suggested that Energy Advocates are too expensive to maintain cost-effectiveness when expanded territory- or state-wide. The geographically-constrained nature of the community pilots likely improved the effectiveness of the Advocates as well. Moving to a wider geographical area may reduce the effectiveness of the Advocates independently of any cost considerations.

Furthermore, careful selection and training of Advocates was essential to making them an asset**.** WPS and WECC staff reported that the Plover Advocates were more effective than the Brillion or Allouez Advocates because of refinements in the selection and training process.

5.2.5 Reactions to Smart Thermostats

Use of the smart thermostats varied, and often did not include the "smart" functions.

- Some respondents reported using the smart thermostats like a programmable thermostat to reduce heating and air conditioning when nobody was at home.
- Some respondents reported using the thermostats to notify them of a critical peak event or automatically reduce heating or cooling during those events.

- Most of the smart thermostat participants DNV KEMA spoke to said they were comfortable with WPS using them to control their air conditioner during a critical peak period.
- Some, but not all, of the smart thermostat recipients knew they could access the thermostats over the internet.

5.2.6 Reactions to In Home Displays

Most respondents that DNV KEMA spoke to were not aware of the in home display offers. The live demonstrations of In-Home Displays that DNV KEMA observed were effective at creating interest in the technology. Two feature requests from respondents who tried IHDs were to improve the battery life of the countertop units, and to have colored lights to indicate on- and off-peak periods.

6. Program Processes and Pilot Evaluation

This report section presents key observations about pilot processes, including delivery & design themes that appeared repeatedly in evaluation research. This section also reflects on the pilot *evaluation* as part of the pilot process.

6.1 Flexibility

Pilot implementers maintained a flexible approach throughout the duration of the pilots that included modifying or discontinuing programs that were not working. This flexibility was a double-edged sword. It produced positive outcomes when the original offerings would not have; however, it also created documentation and evaluation challenges inherent in any changes. We explore two cases of pilot offering redesign in the following subsections.

6.1.1 Business Staffing Grant Program

The Business Staffing Grant program was designed to change energy use habits of large organizations by reducing consumption or implementing energy efficiency equipment. Originally, the program was designed to create the opportunity for the company or organization to hire a person to work on a predetermined and approved list of projects to achieve estimated savings levels. This was not intended to be a permanent role, but would be a short term position with responsibilities for evaluating and implementing energy efficiency measures.

One shortcoming of this original program design was that projects needed to have estimated savings of at least 2.5 times greater than the estimated cost of proposed staff. If the project list was approved, the business could hire staff to implement the projects and would be reimbursed for staff costs *if the projects realized the projected savings*. However, if savings were not realized, the program would not reimburse staff costs, leaving businesses with all the risk. The program, under this original structure, did not have any participation in any of the pilot communities. Commercial customers and program staff alike named this as the barrier that likely attributed to the lack of program participation.

CB&I began discussing program changes in early 2012 with some iCanConserve pilot community leaders (such as village managers and village presidents) and officially modified the Staffing Grant program in March 2012[8]. The Staffing Modification Memo claimed "Internships, rather than full-time employment offer a temporary worker, which was more attractive to participating municipalities". DNV KEMA's interviews with eventual program participants (municipalities) confirmed they were unable to add temporary positions to payrolls on short notice due to the restrictions in annual, fixed budgets. However, these participants welcomed the alternative option of having interns evaluate their facilities and recommend energy efficiency improvements, as offered through the program re-design.

[8] iCanConserve Staffing Grant Program modification memorandum, March 13, 2012

The re-design of the Staffing Grant Program is an example of well-executed collaboration between the stakeholders. CB&I, WECC, and Franklin redesigned the program to bring interns into local governments and schools, with help in the field from Franklin Energy. The other stakeholders also had the opportunity for input into the re-design. Once the new program was in place, municipalities and school districts were personally contacted about the program change and were invited to participate. This likely increased participant buy-in and their likelihood of participation. CB&I reported that no organizations refused or declined to participate in the modified program when invited.

The redesign of the Business Staffing Grant was a success using measures of participation and participant satisfaction. Records provided by Franklin Energy revealed 134 completed projects at 11 sites where interns had performed evaluations from May 2012 to August 2012. Both interns and program participants ranked their program satisfaction very highly in our evaluation interviews. The rapid program re-design also presented some minor challenges, such as accomplishing intern training across multiple Wisconsin locations on a tight schedule, and timely delivery of Commercial audit reports to participants. These challenges were likely – in part – due to the rapid program redesign.

6.1.2 Enhanced Business Incentives

Program administrators (CB&I and WECC) modified the precise measures and incentive levels available to commercial customers throughout the three year duration of the pilots. The most substantial and influential change occurred in 2012 when CB&I restructured the Custom Business Incentives for the final year of the pilots. CB&I made this change because they observed that few customers were implementing recommended energy saving changes after the energy reviews. CB&I increased the Custom Business Incentives to encourage more follow through on energy review recommendations.

Prior to the 2012 changes, these incentives consisted of relaxed payback and incentive cap rules relative to the state-wide Focus Custom Business Incentives.[9] Focus did not advertise this program to the public; it was only for energy advisors to use as a last resort to get projects moving if the normal custom caps were an impediment.

The changes implemented in 2012 created three tiers of incentive levels that encouraged early action, and decreased throughout the year (Table 6-1).

[9] The standard payback rule requiring a project to have simple payback ≥1.5 years could be relaxed to ≥1.0 years. The standard rule that caps incentives at 30% of a project's cost could be expanded to allow program incentives to pay up to 50% of a project's cost.

Table 6-1: 2012 Custom Business Incentives Structure

	Q2 Offer	Q3 Offer	Q4 Offer
Incentive Name	Tier 3	Tier 2	Tier 1
Available Dates	Apr 1 – Jun 30	Jul 1 – Sep 30	Oct 1 – Dec 31
Incentive Detail	$0.225/kWh $750/peak kW $2.25/Therm	$0.135/kWh $450/peak kW $1.35/Therm	$0.045/kWh $150/peak kW $0.45/Therm
Limit	Incentives could not exceed 75% of project costs or $50,000 per tax id.	Incentives could not exceed 50% of project costs or $50,000 per tax id.	Incentives could not exceed 50% of project costs or $50,000 per tax id.

Projects had to be completed within 90 days of submitting the project agreement to customer. The Tier level incentive was awarded upon delivery of a signed completion notice and detailed invoice(s), submitted within 45 days of project completion.

6.2 Communication among Stakeholders and Implementers

Many stakeholders, implementers, and evaluators were involved in the iCanConserve pilots. Maintaining timely, precise, and effective communication over the duration of the pilots was an overall success despite the logistical challenge.

6.2.1 Roles and Responsibilities

At the outset, it was important to establish roles and responsibilities within the different organizations involved in pilot implementation. Communication protocols, including weekly teleconferences, were also established early in the pilots' tenure. Roles, responsibilities, and communication protocols had to be reestablished about halfway through the pilots when a major change to the statewide Focus on Energy program brought CB&I on board as the new program administrator, and modified WECC's role. One outcome of this transition was that CB&I added some formality to the documentation process, including building a SharePoint site that was accessible to all stakeholders and evaluators. DNV KEMA repeatedly returned to the SharePoint site during the rest of the pilots to find important program documentation.

6.2.2 Documenting Program Processes

Despite the convenience that the SharePoint site added for this evaluation, DNV KEMA still struggled with unclear, incomplete, and out-of-date program documentation. DNV KEMA was also challenged by occasionally receiving conflicting information from the various organizations when we interviewed them to gather information critical for the evaluations.

Data challenges encountered during this evaluation underscores the importance of documenting all pilot decisions, storing them in a central location agreed upon and accessible to all stakeholders, and keeping them up-to-date. The more people and organizations involved in the implementation and evaluation of the programs, the more important this documentation becomes to ensure pilot programming can be accurately assessed at its conclusion.

6.3 Turnover

In addition to the changes in the mix of involved organizations mentioned earlier, there was substantial individual turnover within most of the organizations during the three year duration of the pilots. Intra-organizational turnover is inevitable with programs that run as long as the iCanConserve pilots did, but the involved organizations, including DNV KEMA, did not anticipate and plan for this eventuality until after the fact. This further complicated communication.

6.4 Customer-Premise Pairing

DNV KEMA considered the same premise with two different customers to be two different units of analysis. Furthermore, because DNV KEMA only evaluated customer-premise combinations that existed from the beginning to the end of the pilot in each community, any changes to the pair during the pilots resulted in the loss of a record. The decision to analyze at the paired level seemed the most logical at the beginning of the pilots because the pilots were interested in attitude and behavioral changes (customer-level variables) as well as energy efficiency equipment installations (a premise-level variable). This decision did result in several challenges, including handling customers with multiple premises (such as landlords) and premises where the customer changed. In the latter case, these changes could have resulted from a family moving out of the premise or from divorces, legal name changes, or other situations that might not represent a whole family moving. However, it was beyond the scope of the evaluation to determine the precise reason for a change of customer associated with a premise. About one-fourth (24%) of the customer-premise combinations that existed at the beginning of the pilots did not exist at the end, and DNV KEMA was unable to analyze these records.

6.5 Program Database and Tracking

Participation in the iCanConserve pilots fell into three categories from a data tracking perspective. Rebates and Audits performed as part of the pilot program via coordination with the Focus on Energy program were tracked in the Focus on Energy program tracking databases. The evaluation received

quarterly deliveries of these data. Rate changes and tools and technology participants were tracked by WPS and reported to the evaluation via monthly iCanConserve eligibility reports.

The primary tracking of participation in the iCanConserve programs was done using databases designed for other uses. Pilot rebate and audit participation was tracked in Focus on Energy databases, rates were tracked using WPS's billing system and tools and technology participation was tracked in dedicated Excel spreadsheets. During the three years of pilot program activity, the Focus on Energy program changed both implementers and tracking systems. Table 6-2 shows the different areas of pilot participation and the tracking systems used to record participation.

Table 6-2: Program Participation Tracking Systems

Sector	Type of Participation	Tracking System Used	Dates
Residential	Rebates and Audits	WECC Access database	Pre-program – 3/31/2012
Residential	Rebates and Audits	SPECTRUM database	4/1/2012 – 12/31/2012
Residential	Rates	WPS Billing system	All
Residential	Tools and Technology	Eligibility Report	All
Commercial	Rebates and Audits	WISEERTS database	Pre-program – 12/31/2011
Commercial	Rebates and Audits	SPECTRUM database	1/1/2012 – 12/31/2012

Evaluation activities required identifying which eligible WPS customers participated in the Pilot or other programs and how they participated. Linking data across databases required the creation and manual addition of common IDs to each dataset. The evaluation created IDs for this purpose based on the transformed customer and premise IDs in WPS's tracking systems. These IDs only existed for customer and premise combinations that were eligible for the Pilots at the time that the Pilot evaluation launched, allowing the evaluation to focus only on community members who lived in the Pilot and control communities both prior to and throughout the evaluation.

As the pilot programs evolved, the evaluation encountered several challenges with the tracking systems. Those challenges are as follows:

- "Common IDs" were not added to rebate and audit records as they were created: this caused a labor intensive manual process to add the IDs with each data delivery.

- The rebate and audit databases often had conflicting information, were not clear, and changed over time, which made it challenging to identify:
    - Pilot measures separate from Focus measures
    - When an audit took place
    - What type of audit was completed (when more than one type was available in a community)
- Matching aggregated totals of participation (counts, savings, and incentives) to program reported participation for a time period was challenging due to dates and multiple tracking systems employed by the program.
- Migration to a new database mid-pilot resulted in significant issues in accounting for program effects.
-
- The databases WPS used to track the Plover rate assignment process were not optimized for understanding specific actions taken by customers. WPS maintained a rate assignment database for several months that tracked whether they should switch a premise during the mass switch in July, 2011. This database was optimized to give WPS a list of the premises they should switch in July. It did not track specific dates of specific decisions associated with a premise nor the decision maker. This made it difficult for the evaluation to determine critical customer actions such as the decision to opt out or opt into a pilot rate or which premises experience a change in customer during the lead-up period. WPS maintained a second database to track customer actions after the mass switch occurred. The variables used as keys in the pre-switch database were different than those used in the post-switch database, which further complicated the evaluation team's ability to determine customer actions.
- Participation in upstream lighting programs could not be accounted for due to a lack of customer information from their purchase.
- Installation of energy savings measures from the School to Home program could not be initially accounted for due to a failure to compile the returned program surveys.

Several of these challenges were unavoidable during the course of this pilot. However, a few of the challenges could have been reduced or eliminated by choosing (or obtaining permission to use) alternative data tracking options before the pilot began. DNV KEMA's recommends that tracking participation for future pilot programs of this scope weight the importance of the following while designing their customer programming:

- Produce and maintain detailed and accurate documentation for all tracking procedures and databases.

- Add (and consistently utilize) specific fields to flag program participation as separate from participation in other programs when multiple programs are tracked in the same database (or when one program is a subset of another).
- Add (and consistently utilize) specific fields to identify differences in program participation: for example, if two different audits are offered, ensure it is easy to identify each as distinct in the database.
- Ensure that a common ID is present in all relevant databases to link records if multiple databases are used to track participation.

A. Appendix: Pilot Offerings

This appendix provides an overview of the program offerings in three tables. The first, Appendix Table A-1, briefly describes the energy efficiency program offerings in the pilot communities. The full description is usually in the Brillion column, with the Allouez and Plover columns indicating differences from the Brillion (or Allouez) offering. In Appendix Table A-2 we show the rate options available in the pilot communities, followed by Appendix Table A-3 which describes the Tools and Technology offerings for the pilot communities.

Appendix Table A-1: Energy Efficiency Offerings

Program	Brillion	Allouez	Plover
Home Energy Review Residential	Walk-through audit by Energy Advocate. Installation of free low flow shower heads, faucet aerators and CFL. May recommend a comprehensive home energy assessment. Free Home Energy Review	See below	• Same as Allouez
Comprehensive Home Energy Assessment Residential	More thorough and technical audit, with blower door test, conducted by a building science expert. Home Energy Review is required prior to participation $150 fee Waived if implement recommendations. 50, 75 or 90 percent of measure costs paid by iCanConserve if recommendations completed.	**Home Energy Review** Combined Home Energy Review and Comprehensive Home Energy Assessment Program. $25 audit cost. 60 percent of measure costs paid by iCanConserve if recommendations completed	• Same as Allouez

Program	Brillion	Allouez	Plover
Heating & Cooling Equipment Residential	**Heating & Cooling Early Retirement** For early retirement and replacement only $600 – Gas Furnace. (Focus statewide is $150) $800 – Natural Gas Boiler. (Focus statewide is $400) $600 – Central air, air source heat pumps mini-split/ductless system. (Focus statewide is $100)	**Heating Equipment Bonus** Furnaces and boilers early replacement *and new construction.* $ 400 – Gas Furnace $600 – Natural Gas Boiler.	• Not offered
Small Business Audit Commercial	No-cost walk through audit Direct install of CFLs, faucet aerators, and showerheads Energy saving recommendations provided. Pilot and other incentive programs explained. Audit report provided.	Same as Brillion	Business Energy Review Same as Brillion except $50 refundable audit fee recommendations completed.
Enhanced Business Incentives Commercial	Enhanced Incentives for : • T -12 replacements with T5, High Performance T8 or Reduced Wattage T8. Focus on Energy bundle applies.	Same as Brillion, plus • Replacement of incandescent light bulbs with LED Lamps. • Replacement of door gaskets on refrigerators and freezers.	Same as Allouez except • no incentives for replacement of door gaskets on refrigerators and freezers.
Staffing Grant Commercial	Provide funding for an energy manager to serve public buildings, business groups. Up to 80K grant.	Same as Brillion	Same as Brillion

Program	Brillion	Allouez	Plover
Community Supported Financing Residential Commercial	Outreach and technical expertise to lending institutions. 3 local banks are listed. Focus will review and pre-approve the project and the customer will receive a letter to use as part of the loan application package.	• No lenders partnered.	Outreach and technical expertise to lending institutions. 3 local banks are listed. Completion of Business Energy Review is required.
Community Participation Reward	**Goal:** 60% of households and businesses enroll in pilot **Reward:** Public library receives a free PV system. 45% of target as of 10.19.2011.	**Goal:** same as Brillion **Reward:** Pubic park receives LED lighting project. 68% of target as of 10.19.2011	**Goal:** same as Brillion **Reward:** Sports complex receives energy saving project.

Appendix Table A-2: Pilot Rate Offerings

Rate	Description	Brillion	Allouez	Plover
Residential				
3-Tier Time-of-use	Three pricing periods	x	x	Must opt out.
Response Rewards	Two regular pricing periods. 50 hours critical peak price. Free smart thermostat.	x	x	x
Cool Rewards (DLC)	Direct load control of CAC and/or Electric Water Heater.	x	x	x
Flat Rate Rewards	Lower flat rate 50 hours/yr critical peak price	NA	x	x
Conservation Rate	Inclining block rate. 0 – 1,000 (month) = $0.10/kWh > 1,000 = $0.175/kWh	NA	NA	Default for 100 high electric use customers. (opt out) Promoted to 100 high electric use customers. (opt in)
Standard Rate	Flat rate	x	x	must opt in
Commercial				
Cool Rewards (DLC)	Direct load control of CAC and/or Electric Water Heater.	x	x	x
Response Rewards	Two regular pricing periods. 50 hours critical peak price. Free smart thermostat.	x	x	x
Standard Rate	Flat rate	x	x	x

Appendix Table A-3: Tools and Technology

Tool/Technology	Brillion	Allouez	Plover
In-home Displays residential	TED 1001 - $30 TED 5000 - $60	TED 5000 - $30	NA
Smart Thermostat Res and commercial	ecobee Smart Thermostat for Response Rewards customers	same as Brillion	Same as Brillion plus for Flat Rate Rewards customers
Watt Meter	Meter to measure individual appliance use available at local library	same as Brillion	same as Brillion
Google Power Meter residential	Discontinued by Google 9.16.11	Discontinued by Google 9.16.11	NA
Home Energy Management System Residential	NA	NA	EnergyHub Home Energy Management System
DLC Technology Res and commercial	Canon LCR 5000 paging based load control system	Same as Brillion (and territory wide)	Demand Response Unit (DRU). DRU uses AMR infrastructure.

B. Pilot Marketing Examples

This appendix contains screen shots of the innovative rate videos referred to in this report, the direct mail letter that WPS sent to Plover customers in advance of switching them to default pilot electricity rates, and a direct mail piece which epitomizes the pilot marketing branding choices.

Figure B-1: iCanConserve Rate Option Video Screen Captures

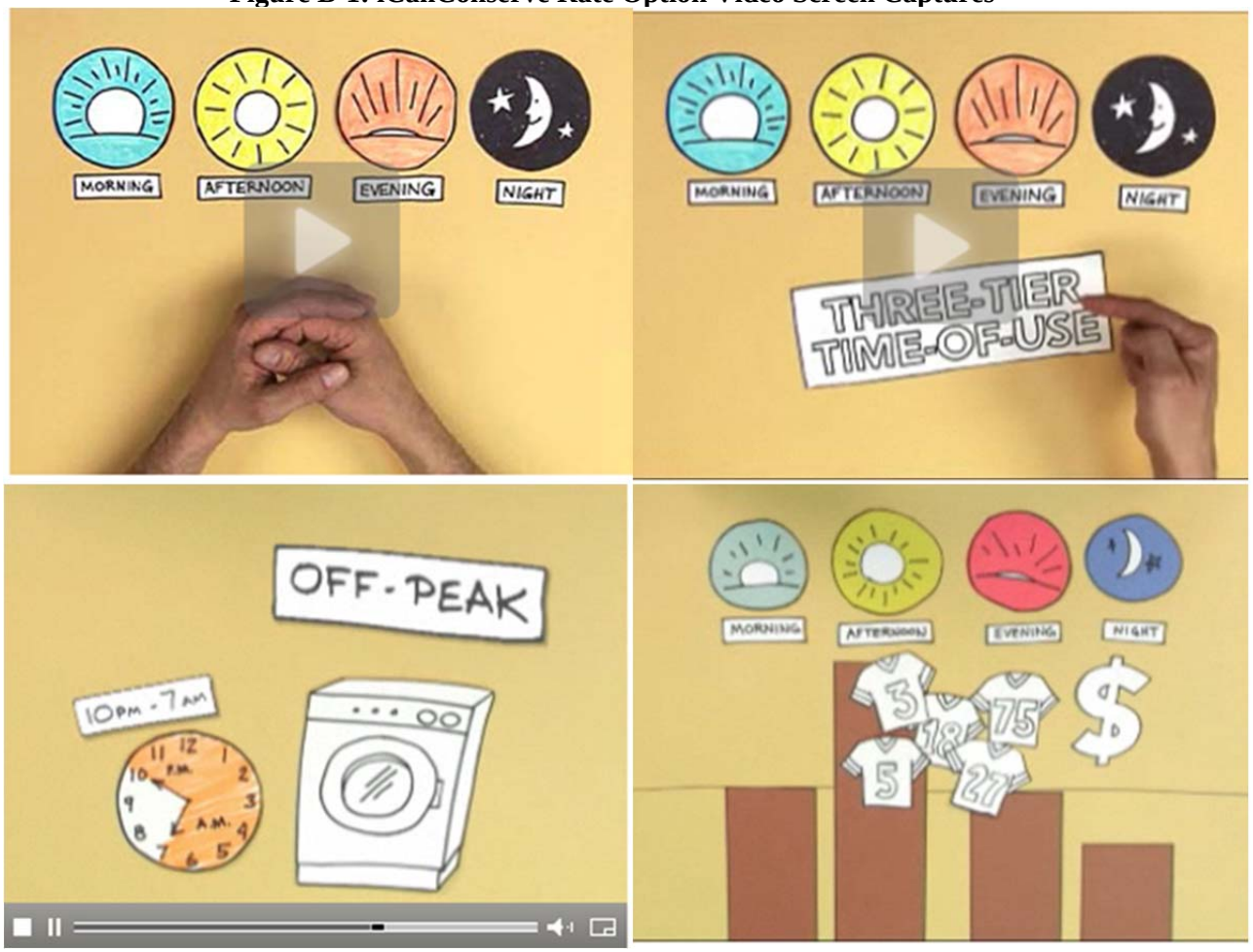


Figure B-2: iCanConserve Plover Rate Change Direct Mail Letter

Wisconsin Public Service Corporation
700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001
www.wisconsinpublicservice.com

Customer's Name
Address
Address Line 2
City, State, Zip Code

Dear [NAME]:

These days, people are open to ideas for reducing spending, especially if it doesn't require making unreasonable changes to our lifestyles. What better place to start than with energy bills?

We are pleased to introduce a powerful new way to lower your energy costs while shedding light on the best ways to conserve. Welcome to ***iCanConserve***, a bold energy conservation project from Wisconsin Public Service, in partnership with Focus on Energy and the Citizens Utility Board. Residents and businesses in Plover are joining two other Wisconsin communities, Allouez and Brillion, who are already seeing results.

As part of this pilot project, most households in Plover will be moved from the Standard rate to a special WPS electric rate that rewards people for conserving. **Your properties listed on the enclosed document have been chosen to be enrolled in the Three-Tier Time-of-Use electric rate, which starts July 1, 2011.**

Here's how it works: The idea behind **Three-Tier Time-of-Use** is simple; it's all about the time of day you use energy. It gives you three pricing periods — Off-Peak, Mid-Peak and On-Peak — and rewards you with a lower rate when you shift your electric use to Off-Peak hours. The more you shift, the more significant your savings. And, to help you save, all weekends and major holidays are Off-Peak!

Customers already on the **Three-Tier Time-of-Use** rate are saving an average of $60 per year. Plus, by participating in this rate option for a minimum of six months, you will be helping Plover earn a special energy-saving Community Reward.

Look for your personalized Success Kit to arrive in July, which will help make your efforts easier and more rewarding. You're also invited to attend an informational open house held from 4 to 7 p.m. on Monday, May 23, or 9 to noon on Wednesday, May 25, at the Plover Municipal Center, 2400 Post Road. Until then, visit **icanconserve.com/plover** to learn more about your rate, upcoming informational events, and resources to help you succeed.

If there are any properties that you do not want moved to this rate, you may opt out by visiting **icanconserve.com/ploveroptout**, or calling 24-Hour Customer Service at **800-450-7260**.

Thank you for being a valued customer of WPS, and we look forward to working with you on this exciting and progressive project!

Cheri Salmon
Program Manager, Wisconsin Public Service

P.S. — A fact sheet on **Three-Tier Time-of-Use** is enclosed, providing a quick and easy reference to learn more about your rate.

Figure B-3: iCanConserve Commercial Direct Mail Postcard

Appendix H. WPS Community Pilot Programs Final Report

FINAL REPORT: WPS Community Pilot Programs

October 2009-December 2012

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Submitted By: **Wisconsin Energy Conservation Corporation**
Date Submitted: **June 28, 2013**

LIST OF ACRONYMS

CFL	Compact Fluorescent Lamp
CUB	Citizens Utility Board
HVAC	Heating, Ventilating, and Air Conditioning
IHD	In-Home Display
KEEP	K-12 Energy Education Program
LED	Light Emitting Diode
PC	Personal Computer
PSC	Public Service Commission of Wisconsin
RFP	Request for Proposals
WPS	Wisconsin Public Service Corporation

WPS Community Pilot Programs

I. Purpose

The purpose of this Final Report is to document the historical information for the iCanConserve Focus on Energy Community Pilot Programs and to produce a comprehensive report that includes results on all key performance indicators, challenges, successes, and lessons learned for the program.

This Final Report provides information to parties interested in the program's progress and the outcomes achieved. This Final Report focuses on program activities between October 2009 and December 2012.

II. Program Overview

A. Introduction

Wisconsin Public Service Corporation (WPS), Wisconsin Energy Conservation Corporation (WECC) on behalf of Focus on Energy, and the Citizens Utility Board (CUB) developed the iCanConserve Program in response to a rate order from the Public Service Commission of Wisconsin (PSC). As part of the Stipulation, three (3) community-based pilot programs in the WPS service territory were developed and implemented. The pilot programs introduced and tested the acceptance of innovative rate and energy efficiency program designs, developed and tested methods to obtain customer participation through community-based information and education, and evaluated customer responses. The goal of the pilot programs was to determine the customer acceptance of pilot offerings and their transferability to a large-scale, service territory-wide basis. The programs launched in a staggered approach, beginning in Brillion, WI in October 2009, Allouez, WI in October 2010, and Plover, WI in July 2011.

WECC served as the Focus on Energy Program Implementer and Program Administrator through May 2011, at which time Shaw Environmental & Infrastructure, Inc., A CB&I Company, assumed the Program Administrator role. WECC remained the Program Implementer through the programs' completion in December 2012. As the Program Implementer, WECC designed, delivered, tracked, reported, and managed the day-to-day operations of the energy efficiency initiatives. For the purpose of this document, Program Implementer refers to WECC, regardless of role. The energy efficiency programs offered under the Focus on Energy name are unique to iCanConserve and unless noted otherwise, are not related to or a part of the statewide or WPS Territory-Wide Focus on Energy programs. WPS designed and delivered new rate options, tools for homeowners to monitor and control their energy consumption including an energy management system for Plover homeowners, and offered a limited number of hyper-efficient appliances in Brillion as part of an Electric Power Research Institute (EPRI) Pilot Program.

The Program Implementer developed and delivered energy efficiency initiatives to provide deep and broad energy savings per customer and per program. The initiatives supported community-based awareness, education, and marketing efforts for maximum program participation, targeting the business and residential sectors. The following table summarizes the key program elements by program.

Table 1. Key Program Elements by Program

	Brillion	Allouez	Plover
Population (approx.)	3,182	14,126	10,520
Program Duration	October 2009 – December 2012	October 2010 – December 2012	July 2011 – December 2012
Program Objectives	Deep energy savings and community-driven participation		
Reasons for Program Variances	Not applicable.	Lessons learned from Brillion and opportunities to test new design elements.	Lessons learned from Brillion and Allouez, opportunities to test new design elements, and shortened program duration.

1. **Business Programs:**

- Small Business Audit Program (Brillion and Allouez), Business Energy Review Program (Plover): A Focus on Energy energy advisor conducted a comprehensive walk-through energy audit, installed CFLs, low-flow showerheads, and faucet aerators where applicable, and prepared an audit report. The program provided all services and products at no cost to the business.
- Enhanced Business Incentives Program: This program offered prescriptive and custom incentives for energy efficiency measures supplementing the WPS Territory-Wide incentives. The prescriptive incentives for T12 to T8 lamp conversions and LED upgrades ranged from $4 to $45. The program offered a refrigerator/freezer door gasket incentive of $3 from September 2010 through February 2012. For the first year of the program in Brillion, the program offered a variable frequency drive incentive of the lesser of $75 per horsepower or 50 percent of the project cost and a multi-measure bonus incentive ranging from 25 percent to 100 percent the standard Focus on Energy incentive based on the additional measures installed. The program added a PC Network Energy Management System incentive of $8 in April 2012. The custom incentives varied per project.
- Staffing Grant Program: This program offered a grant of up to $80,000 for a municipality to hire a dedicated energy manager to identify and facilitate energy efficiency upgrades in commercial buildings.
- Community Supported Financing Program: This program offered a loan through local lending institutions to businesses without the capital to undertake energy efficiency improvements.
- Community Participation Reward Program: This program was an incentive to encourage participation in the iCanConserve Programs. If each community achieved 60 percent participation by December 2012, they received a reward of up to $25,000 toward a community-serving efficiency project.

2. **Residential Programs:**

- Home Energy Audit Program (Brillion): An energy advocate conducted a walk-through audit and installed a CFL, low-flow showerhead, and faucet aerator at no cost. The energy advocate served as the homeowner's primary contact and guided the homeowner through the Comprehensive Home Energy Assessment Program.
- Comprehensive Home Energy Assessment Program (Brillion): This program offered a whole-house retrofit in which a Home Performance with ENERGY STAR® consultant conducted a pre- and post-assessment and prepared accompanying reports, while participating contractors installed efficiency measures. Homeowners received incentives (50 percent, 75 percent, or 90 percent of the project cost based on the household income) for installing all of

the recommended energy efficiency measures. The homeowner paid for the energy efficiency measures in advance, or paid a $150 assessment fee if they chose not to move forward with the installation of the recommended energy efficiency measures.

- Home Energy Review Program (Allouez): An energy advocate conducted a walk-through audit and installed a CFL, low-flow showerhead, and faucet aerator. The energy advocate served as the homeowner's primary contact and guided the homeowner through all stages of the program. A Home Performance with ENERGY STAR® consultant conducted pre- and post-assessment and prepared accompanying reports. Customers paid a $25 fee for the assessments. A team comprised of a program-participating insulation and shell contractor and HVAC contractor, selected through a competitive bidding process, installed the energy efficiency measures. Homeowners received incentives equal to 60 percent of the total project cost, up to program maximums, when installing all recommended measures. Homeowners paid their cost directly to the contractor, under the terms established by the contractor. Homeowners selected their contractor team from the specified list of program-participating contractors.
- Home Energy Review Program (Plover): An energy advocate conducted a walk-through audit and installed a CFL, low-flow showerhead, and faucet aerator. The energy advocate served as the homeowner's primary contact and guided the homeowner through all stages of the program. A Home Performance with ENERGY STAR® consultant conducted a pre- and post-assessment and prepared accompanying reports. Customers paid a $25 fee for the assessments. A team comprised of a program-participating insulation and shell contractor and HVAC contractor, selected through a competitive bidding process, installed the energy efficiency measures. Homeowners received incentives equal to 60 percent of the total project cost, up to program maximums, when they installed the top three (3) recommended measures. Homeowners received a $250 bonus for installing all measures. Homeowners paid their cost directly to the contractor, under the terms established by the contractor. Homeowners selected their contractor team from the specified list of program-participating contractors.
- School to Home Program: This program promoted energy literacy and practices to students, teachers, and parents through classroom sessions, continuing education courses, and learning tools (e.g. conservation kits, LED holiday light exchange, and pledges). The program did not provide financial incentives. The K-12 Energy Education Program (KEEP) implemented the program.
- Heating and Cooling Early Retirement Program (Brillion and Allouez): This program offered incentives for the replacement of inefficient furnaces, boilers, or central air conditioners. Through December 31, 2011, homeowners received a $600 incentive for a qualifying furnace or central air conditioner and $800 for a qualifying boiler. In 2012, the program transitioned to the Heating Equipment Bonus Program.
- Heating Equipment Bonus Program (Brillion and Allouez): This program replaced the Heating and Cooling Early Retirement Program in January 2012 and offered incentives matching the WPS Territory-Wide incentives for qualifying furnaces and boilers. Homeowners received an incentive of $275 for a qualifying furnace and $400 for a qualifying boiler.
- In-Home Display (IHD) Program (Brillion and Allouez): This program offered professional installation of an energy-monitoring device for a $30 fee. The device allowed homeowners to view real-time data related to their electrical usage.

The programs elicited group support and involvement by leveraging peer encouragement and outreach. At the same time, personalized face-to-face interactions took place with individual business and residential customers in the form of an energy advisor or advocate. Subsequent sections of this report discuss the importance, and ultimate success, that both a community-driven approach and a personal, one-on-one interaction have with customers in completing projects.

B. Program History

The following identifies changes to the energy efficiency program measures and incentives for each program throughout the course of the pilot program implementation.

1. Business Programs:

Table 2. Business Programs History

	2009	2010	2011	2012
Brillion				
Small Business Audit	Free energy audit and direct install	Free energy audit and direct install	Free energy audit and direct install	Free energy audit and direct install
Enhanced Business Incentives	Lighting measures, variable frequency drives, multiple measure bonus, and custom incentives	Lighting measures, refrigerator door gasket, and custom incentives	Lighting measures, refrigerator door gasket, and custom incentives	Lighting measures, refrigerator door gasket, PC Network Energy Management, and custom three (3) tier incentives
Staffing Grant	Municipality-employed energy manager	Municipality-employed energy manager	Municipality-employed energy manager	Student internship targeting schools and municipal facilities
Community Supported Financing	Lending institution loan	Lending institution loan	Lending institution loan	Program elimination
Community Participation Reward	$25,000 for 60% participation goal	$25,000 for 60% participation goal	$25,000 for 60% participation goal	$16,000 awarded for 63% of 60% participation goal
Allouez				
Small Business Audit	Not applicable	Free energy audit and direct install	Free energy audit and direct install	Free energy audit and direct install
Enhanced Business Incentives	Not applicable	Lighting measures, refrigerator door gasket, and custom incentives	Lighting measures, refrigerator door gasket, and custom incentives	Lighting measures, refrigerator door gasket, PC Network Energy Management, and custom three (3) tier incentives
Staffing Grant	Not applicable	Municipality-employed energy manager	Municipality-employed energy manager	Student internship

	2009	2010	2011	2012
Community Supported Financing	Not applicable	Lending institution loan	Lending institution loan	Program elimination
Community Participation Reward	Not applicable	$25,000 for 60% participation goal	$25,000 for 60% participation goal	$21,000 awarded for 81% of 60% participation goal
Plover				
Business Energy Review	Not applicable	Not applicable	$50 energy audit and direct install	Free energy audit and direct install
Enhanced Business Incentives	Not applicable	Not applicable	Lighting measures, refrigerator door gasket, and custom incentives	Lighting measures, refrigerator door gasket, PC Network Energy Management, and custom three (3) tier incentives
Staffing Grant	Not applicable	Not applicable	Municipality-employed energy manager	Student internship
Community Supported Financing	Not applicable	Not applicable	Never initiated	Never initiated
Community Participation Reward	Not applicable	Not applicable	$25,000 for 60% participation goal	$25,000 awarded for 100% of 60% participation goal

Table 3. Business Programs Timeline

Program	Brillion		Allouez		Plover	
	Start Date	**End Date**	**Start Date**	**End Date**	**Start Date**	**End Date**
Small Business Audit	October 2009	November 2012	October 2010	November 2012	Not applicable	Not applicable
Business Energy Review	Not applicable	Not applicable	Not applicable	Not applicable	July 2011	November 2012
Enhanced Business Incentives	October 2009	December 2012	October 2010	December 2012	July 2011	December 2012
Staffing Grant (original design)	October 2009	December 2011	October 2010	December 2011	July 2011	December 2011
Staffing Grant (student internship)	May 2012	August 2012	May 2012	August 2012	May 2012	August 2012

Community Supported Financing	October 2009	January 2012	October 2010	January 2012	July 2011	January 2012
Community Participation Reward	October 2009	December 2012	October 2010	December 2012	July 2011	December 2012

The Small Business Audit Program remained unchanged through its duration in Brillion and Allouez with the exception of adding two (2) direct install lighting measures in February 2012. However, the Program underwent two (2) changes when launched in Plover: a $50 fee and a new name, Business Energy Review Program. Introducing the fee conveyed a value to the audit and gauged customer acceptance. The fee was not well received by businesses and was dropped by January 2012. The new program name better aligned with the Home Energy Review Program name to convey to customers the unity between the two programs. The main achievement of the program proved to be the energy advisor's one-on-one interaction and personal approach with the business customer. This interaction engaged customers to complete installations that may not have been accomplished without the energy advisor. Challenges included business customer skepticism (offer is too good to be true) and lack of interest in the program voiced by customers when talking with the energy advisor.

The Enhanced Business Incentives Program implemented changes due to demand for some measures, lack of interest for others, and to align the measures between all the communities. As of January 2012, all commercial lighting incentives offers were the same in the three (3) communities. The City of Brillion initially offered incentives for variable frequency drives and a multiple measure bonus, both of which ended due to limited participation by October 2010 and coincident with the Allouez program roll out. Brillion and Allouez offered a commercial refrigerator and freezer door gasket incentive, which garnered participation and therefore was offered in Plover. In April 2012, all three (3) communities offered a PC Network Energy Management System measure to address the growing market of PC networking. Also in April 2012, the custom measure redesign addressed low participation rates, thus the introduction of the three (3)-tier design approach. Each tier offered a different incentive structure, with the highest incentive at the Tier 3 level. To establish a sense of urgency, each tier contained a period in which the project had to be submitted. The Tier III project submission deadline was June 30, 2012, Tier II was September 30, 2012, and Tier I was December 31, 2012. The custom incentive redesign was the greatest achievement, processing 48 applications totaling more than $406,000 in incentives. The greatest challenge was obtaining participation from schools and businesses the PC Network Energy Management measure.

The Staffing Grant Program experienced the most changes and subsequent success of all the business programs. By December 31, 2011, the original program had no participation and the communities showed a lack of interest. Despite a grant amount of $80,000, the communities did not have the additional budget needed to sustain the position or fund the position for any portion of goal underachievement, nor the infrastructure to oversee a position. In the first quarter of 2012, the program changed to a student internship. The new design granted a summer internship to college students pursuing energy- or building-related fields of study the opportunity to perform audits and analyses on municipal buildings and schools within each of the communities, as well as to prepare final reports on the data gathered and lessons learned. The program was expected to assist the communities with energy management planning, however resulted in the immediate adoption of many of the recommended efficiency improvements (one of which, Brillion High School, had an estimated annual savings of over $7700). A Focus on Energy energy advisor mentored the students throughout the internship. The program provided

internships to four (4) students attending Northeast Wisconsin Technical College for Allouez, two (2) students attending the University of Wisconsin – Stevens Point for Plover, and one (1) Brillion High School graduated senior, planning to attend St. Norbert College for Brillion.

Despite initial interest by lending institutions and face-to-face contacts made by a program liaison in Brillion, the Community Supported Financing Program was eliminated because no businesses applied for community supported financing, nor was there much of a push by the lending institutions. In Allouez, despite some interest by local financial institutions, the program did not appropriately engage corporate support and the program was rejected. The program did not fully launch in Plover. In January 2012, all three (3) communities eliminated the program, redirecting budget dollars to the Enhanced Business Incentives Program.

The Community Participation Reward Program set a goal of 60 percent participation for all citizens in each community in the iCanConserve, WPS Territory-Wide, or Focus on Energy programs by December 31, 2012 in exchange for a reward of $25,000 to be used for an energy efficiency project benefiting the community. Plover met their goal in December 2011, in large part due to business owner and homeowner participation in new WPS rates. Unlike Brillion and Allouez, the new rates in Plover were mandated, with customers being placed on the new rate and required to opt out to return to their old rate. If a customer remained on the new rate for a minimum of six (6) months, their rate option counted toward the participation goal. Plover used the full reward amount toward energy efficient LED outdoor lighting at Woyak Sports Complex and their Village Hall. The project ended in October 2012 with an unveiling event held for the community. By December 31 2012, neither Brillion nor Allouez met their goal; however, all program stakeholders agreed to offer a reward amount equal to their percent towards the goal participation rate multiplied by $25,000. Brillion received a $16,000 reward and Allouez received a $21,000 reward. Brillion chose to use the reward for LED street lighting and Allouez used the reward for LED pathway lighting at Green Isle Park. Both projects are scheduled to be completed by the spring of 2013. Plover's attainment of the 60 percent goal is the program's greatest achievement while coaxing Brillion participation through 2012 is the greatest challenge.

2. Residential Programs:

Table 4. Residential Programs History

	2009	2010	2011	2012
Brillion				
Home Energy Audit	Free energy audit and direct install	Free energy audit and direct install	Free energy audit and direct install	Free energy audit and direct install
Comprehensive Home Energy Review	Home Performance with ENERGY STAR® assessment, $150 fee if not moving forward, income-based incentives for install all recommended measures	Home Performance with ENERGY STAR® assessment, $150 fee if not moving forward, income-based incentives for installing all recommended measures	Home Performance with ENERGY STAR® assessment, $150 fee if not moving forward, income-based incentives for installing all recommended measures	Home Performance with ENERGY STAR® assessment, $150 fee if not moving forward, income-based incentives for installing all recommended measures
School to Home	Lessons, activities, sessions, and tools	Lessons, activities, sessions, and tools	Lessons, activities, sessions, and tools (introduced conservation kits)	Lessons, activities, sessions, and tools (offered LED holiday light exchange)
Heating & Cooling Early Retirement	$600 furnace and central air conditioner incentive and $800.00 boiler incentive	$600 furnace and central air conditioner incentive and $800.00 boiler incentive	$600 furnace and central air conditioner incentive and $800.00 boiler incentive	Renamed to Heating Equipment Bonus, $275 furnace incentive, $400 boiler incentive, removed central air conditioner incentive
IHD	Two models, $60 cost	Two models, $60 cost	Two models, $30 cost	One model, $30 cost
Allouez				
Home Energy Review	Not applicable	Energy audit and direct install combined with Home Performance with ENERGY STAR® assessment for $25 fee, 60% incentive for installing all recommended	Energy audit and direct install combined with Home Performance with ENERGY STAR® assessment for $25 fee, 60% incentive for installing all recommended measures	Energy audit and direct install combined with Home Performance with ENERGY STAR® assessment for $25 fee, 60% incentive for installing all recommended

	2009	2010	2011	2012
		measures		measures
School to Home	Not applicable	Lessons, activities, sessions, and tools	Lessons, activities, sessions, and tools (introduced conservation kits)	Lessons, activities, sessions, and tools (offered LED holiday light exchange)
Heating & Cooling Early Retirement	Not applicable	$600 furnace and central air conditioner incentive and $800 boiler incentive	$600 furnace and central air conditioner incentive and $800 boiler incentive	Renamed to Heating Equipment Bonus, $275 furnace incentive, $400 boiler incentive, central air conditioner incentive dropped
IHD	Not applicable	Two models, $60 cost	One model, $30 cost	One model, $30 cost
Plover				
Home Energy Review	Not applicable	Not applicable	Energy audit and direct install combined with Home Performance with ENERGY STAR® assessment for $25 fee, 60% incentive for installing a minimum of top three measures, $250 customer bonus for installing all measures	Energy audit and direct install combined with Home Performance with ENERGY STAR® assessment for $25 fee, 60% incentive for installing a minimum of top three measures, $250 customer bonus for installing all measures
School to Home	Not applicable	Not applicable	Lessons, activities, sessions, and tools (introduced conservation kits)	Lessons, activities, sessions, and tools (offered LED holiday light exchange)
Heating Equipment Bonus	Not applicable	Not applicable	Not offered due to low participation in Brillion and Allouez	Not offered due to low participation in Brillion and Allouez
IHD	Not applicable	Not applicable	Not offered due	Not offered due

	2009	2010	2011	2012
			to redundancy of WPS energy management system	to redundancy of WPS energy management system

Table 5. Residential Programs Timeline

Program	Brillion		Allouez		Plover	
	Start Date	End Date	Start Date	End Date	Start Date	End Date
Home Energy Audit	October 2009	December 2012	Not applicable	Not applicable	Not applicable	Not applicable
Comprehensive Home Energy Review	October 2009	December 2012	Not applicable	Not applicable	Not applicable	Not applicable
Home Energy Review	Not applicable	Not applicable	October 2010	December 2012	September 2011	December 2012
School to Home	October 2009	December 2012	October 2010	December 2012	September 2011	December 2012
Heating and Cooling Early Retirement	October 2009	December 2011	October 2010	December 2011	Not applicable	Not applicable
Heating Equipment Bonus	January 2012	October 2012	January 2012	October 2012	Not applicable	Not applicable
IHD	October 2009	August 2012	October 2010	August 2012	Not applicable	Not applicable

The Home Energy Audit and Comprehensive Home Energy Assessment Programs for Brillion functioned as two (2) separate programs offering homeowners whole-house energy efficiency improvements. As an incentive to encourage homeowners to complete installations, the program offered the consultant assessment at no cost if the homeowner installed all recommended improvements. The homeowner paid the Program Administrator $150 if they did not install all of the recommended improvements. Incentives were based on household income and represented 50 percent, 75 percent, or 90 percent of the total project cost. The program assigned an insulation or shell contractor and an HVAC contractor, chosen through a competitive bidding process, to install the measures. The greatest achievement was reaching an installation completion rate of 85 percent and the greatest challenge was homeowner skepticism, thinking the offer was too good to be true.

When the home program rolled out in Allouez, the Program Implementer and stakeholders wanted to test new program design features. The two programs became one (1) and renamed the Home Energy Review Program. The redesigned program combined the energy advocate's walk-through audit and energy consultant's Home Performance with ENERGY STAR® assessment into one home visit, lowering the homeowner's time commitment. To convey value of the assessment, homeowners were charged a $25 fee regardless of moving forward with the recommended efficiency improvements. To eliminate the need to collect and verify homeowner income information and differentiate the offer between income classes, and to test a flat amount, the program incentive structure changed from income-based to 60 percent of total project cost up to program maximums. The program chose a pricing point of 60 percent to gauge customer acceptance of a value just over half of the total project cost. Homeowners selected from a pool

of participating contractors chosen through a competitive bidding process. Contractors formed teams, comprised of an insulation and shell contractor and an HVAC contractor, with one contractor serving as the lead and the face to the homeowner. Contractors set their cost structure for their products and services; therefore, homeowners solicited multiple bids for their jobs. Homeowners paid their portion of the project cost directly to the contractor. The main achievement proved to be the installation completion rate of 67 percent. The greatest challenge was accommodating the high volume of homeowner sign-ups at the kick-off and end of the program with the quantity of program advocates, consultants, and contractors involved in the program.

The introduction of the Home Energy Review Program in Plover brought two (2) additional design changes from the Allouez program design. In Plover, homeowners were only required to install the top three (3) recommended measures. The program stakeholders wanted to test a variation of the "all-or-nothing" approach, hypothesizing more homeowners would have some measures installed versus all measures. The top three (3) measures most often included major air sealing, insulation, and equipment recommendations. If the homeowner moved forward with all recommendations, they received a $250 bonus. Similar to Allouez, the greatest achievement for the whole-house retrofit program was reaching an installation completion rate of 68 percent and the greatest challenge was accommodating high volume of homeowner sign-ups at the end of the program.

The School to Home Program was run the same way in all three (3) communities. The program remained flexible to accommodate the specific needs of the schools and classrooms. Brillion's high school was very active with their strong technology and science curriculum, which fit the classroom sessions and activities offered. In Allouez and Plover, only elementary schools participated, as middle and high school attendance takes place in other communities. The School to Home Program utilized KEEP and their nationally recognized programs in all three (3) communities. One unique activity offered in 2012 was the LED holiday light exchange. Students were encouraged to bring old, inefficient strings of holiday lights to school in exchange for new energy efficient LED holiday lights. The old strings were recycled. Another well-received activity included conservation kits offered to the fourth grade classes in 2011 and 2012. The kits contained two (2) CFL bulbs, a shower timer, power strip, and LED nightlight for students to take home and install. Students were asked to return a survey, which proved to be the greatest achievement with a 100 percent response rate by more than 50 percent of the classes. Despite offering numerous day/timing opportunities, the greatest challenge proved registering teachers for continuing education classes, as the teachers' busy schedules prevented them from participating.

The Heating and Cooling Early Retirement Program in Brillion underwent a redesign in the last quarter of 2011 and was renamed to the Heating Equipment Bonus Program. To strengthen the connection to the Focus on Energy program and simplify the offer for trade allies and homeowners, the incentives, measure mix, and program delivery became a bonus in addition to the Focus on Energy incentives. The central air conditioner incentive ended due to small energy savings, high initial costs, and to align with the Focus on Energy offers. This program was not offered in Plover due to limited participation in Brillion and Allouez and the shortened program duration. Synergizing the program between communities, thereby unifying and simplifying the forms and messages to trade allies and customers proved to be the greatest achievement, while low participation was the greatest challenge.

When the IHD Program began in Brillion two (2) IHD models were available for homeowners. Most homeowners selected the model with more capabilities that allowed them the ability to view

their usage via their computer. Thus, the Program Implementer eliminated the second model by the third quarter of 2011. The original price for the IHD was $60. The program lowered the price to $30 after a slow start in Brillion. The program design in Brillion was modified to match the program in Allouez. Steady progress in both communities proved to be the greatest achievement. Homeowners did not see the $30 fee as an obstacle and electrician installations were performed at the homeowners' convenience. The greatest challenge proved to be technical issues with the device, routers, and connectivity with individual installations. However, frequent communication with the installing contractor and flexibility in replacing the device allowed for prompt customer service. This program was not available in Plover due to redundancy with the energy management system offered by WPS and the shortened program duration.

III. Key Metrics and Performance Indicators

A. Energy Targets

The stakeholders set the kW, kWh, and Therms energy savings targets for each community, not at the individual program level. The Program Administrator tracked and reported the targets each month. The iCanConserve programs delivered 507 kW, 2,849,295 kWh, and 253,298 Therms of energy savings and exceeded all targets, with the exception of Therms savings in Brillion. In Brillion, a high participation in lighting projects contributed to the Therms shortfall. The tables below provide energy savings achieved by program.

Table 6. Energy Savings Targets

Community	Target	Actual	% of Target
Brillion			
kWh	276,549.5	877,708	317%
kW	64.68	178.79	276%
Therms	44,050.4	44,006	99%
Allouez			
kWh	456,638.34	949,326	214%
kW	68.08	207.83	305%
Therms	57,661.1	152,238	264%
Plover			
kWh	249,907.4	1,022,261	412%
kW	58.21	120.27	207%
Therms	51,058.1	57,054	117%

Table 7. Energy Efficiency Metrics – Small Business Audit & Business Energy Review

	CY1 (Oct to Dec 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	Total
Brillion					
kW	.51	4.02	5.76	3.56	13.85
kWh	2,496	24,950	29,017	17,687	74,150
Therms	0	40	2,423	670.4	3,133
Allouez					
kW	-	1.37	7.34	13.96	22.67
kWh	-	7,223	40,451	74,314	121,988
Therms	-	104	3,112	1,350	4,566
Plover					
kW	-	-	2.74	15.29	18.02
kWh	-	-	16,174	88,780	104,954

Therms	-	-	16	3,164	3,180

Table 8. Energy Efficiency Metrics – Enhanced Business Incentives

	CY1 (Oct to Dec 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	Total
Brillion					
kW	0	4.15	1.55	94.22	99.92
kWh	0	20,487	8,576	574,611	603,674
Therms	0	0	0	0	0
Allouez					
kW	-	0	2.4	63.05	65.45
kWh	-	0	11,811	415,870	427,681
Therms	-	0	0	1,427	1,427
Plover					
kW	-	-	0	60.19	60.19
kWh	-	-	0	771,997	771,997
Therms	-	-	0	-338	-338

Table 9. Energy Efficiency Metrics – Home Energy Audit, Comprehensive Home Energy Assessment and Home Energy Review

	CY1 (Oct to Dec 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	Total
Brillion					
kW	0	9.46	21.35	5.17	35.98
kWh	0	49,490	52,528	15,895	117,912
Therms	0	11,666	20,284	5,568	37,517
Allouez					
kW	0	.26	48.16	67,04	115.46
kWh	0	14,447	160,532	184,126	359,105
Therms	0	3,498	59,924	81,277	144,699
Plover					
kW	-	-	1.88	40.18	42.06
kWh	-	-	26,050	119,260	145,310
Therms	-	-	6,759	47,453	54,212

Table 10. Energy Efficiency Metrics – Heating and Cooling Early Retirement, Heating Equipment Bonus

	CY1 (Oct to Dec 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	Total
Brillion					
kW	2.48	16.18	8.57	1.81	29.04
kWh	9,016	40,454	21,758	6,712	77,940
Therms	1,048	1,588	540	180	3,356
Allouez					
kW	0	0	3.91	.34	4.25
kWh	0	0	16,790	1,460	18,250
Therms	0	0	1,506	40	1,546

Table 11. Energy Efficiency Metrics – In Home Display (IHD)

	CY1 (Oct to Dec 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	Total
Brillion					
kW	0	0	0	0	0
kWh	0	3,024	630	378	4,032
Therms	0	0	0	0	0
Allouez					
kW	0	0	0	0	0
kWh	0	2,646	10,458	9,198	22,302
Therms	0	0	0	0	0

B. Customer Participation

The iCanConserve programs set a community participation goal of 60 percent. Brillion achieved 63 percent of that goal, Allouez achieved 81 percent of that goal and Plover exceeded the goal. A combination of community- and program-specific marketing and outreach contributed to reaching those numbers. Community outreach at special events, business ambassador efforts, homeowner word-of-mouth, and community leader encouragement resulted in customer awareness and lead generations. Mass marketing supplemented those efforts. Personalized, high-touch service delivered by residential energy advocates and a business energy advisor drove program participation and maximized savings per participant.

The energy advocates and energy advisor specialized in customer service. Their strong communication and effective negotiating skills built strong bonds with customers and developed a trust customers relied on to navigate through the programs. Specific to the energy advocates, with the exception of Brillion (whose advocate lived outside of the city limits), community residency added to their approachability, familiarity, and confidence in the relationships established with homeowners.

The Program Implementer and WPS conducted initial introductions, program kick-off activities, and annual progress report presentations in each community. The Program Implementer provided signage and hand-out materials for the City and Village Halls to engage the community members.

Copies of all marketing materials and forms used in all three (3) communities are posted on the Focus on Energy Administration SharePoint site (Focus on Energy - Program Administration > WPS Community Pilots > Program Marketing > Source Files).

1. Business Customers

The business programs utilized mass marketing efforts including direct mail, e-mail, newspaper ads, and business/community signage. WPS developed microsite webpages for each community to update with program information. Businesses that previously participated in one program received direct mail and a phone call to encourage participation in additional programs. In the first quarter of 2012, each community received a single marketing piece promoting all of the business programs.

Public spaces within the communities promoted the iCanConserve program and specifically the Community Participation Reward, with tabletop displays for the Allouez and Plover Village Halls, park banners, and yard signs.

An energy advisor contracted by the Program Implementer conducted personal visits to small businesses in each community to market the Small Business Audit and Business Energy Review

Programs, with follow-up visits to share recommendations and encourage participation in the Enhanced Business Incentives Program. The energy advisor established relationships with the business owners and guided them throughout their participation in all iCanConserve Programs. The energy advisor and Focus on Energy trade allies assisted businesses with the incentive application process and answered programmatic questions. Each business program delivered new application forms and instructions to the energy advisor and trade allies as programs changed; assuring everyone had the latest information and could effectively assist customers.

The Staffing Grant and Community Supported Financing Programs utilized a Program Implementer employee to reach out to the community and banking/lending institutions to explain the programs and solicit support. Despite ongoing one-on-one communications, neither program received the desired outcomes resulting in a redesign to the Staffing Grant Program and elimination of the Community Supported Financing Program.

The Community Participation Reward Program highlighted its progress through signage at the City/Village Halls and the micro websites. Annual program updates between the Program Implementer, WPS, and community leaders presented the latest participation statistics and encouragement to reach the goals.

The Program Implementer and WPS participated in and sponsored multiple events in support of business programs, including:

- Outreach events with the Brillion Chamber of Commerce, October 2009.
- Brillion open house event, January 2010.
- Brillion Fest, June 2010.
- Brillion 125th Anniversary, July 2010.
- Allouez kickoff event, October 2010.
- Heritage Hills Music on the Green in Allouez, June and August 2011.
- Open house kick-off in Plover, June 2011.
- One (1) year anniversary event at Allouez Village Hall, October 2011.
- History of the Automobile in Allouez, September 2012.
- Community Participation Reward Unveiling in Plover, October 2012.

In all three (3) communities, efforts ramped up in January 2012 to gather customer testimonials. Specific to Allouez, a business customer ambassador program was established in July 2012. The ambassador program consisted of businesses that previously participated in one of the programs and agreed to display signage promoting iCanConserve in the entrance of their building.

The Program Implementer reduced the marketing efforts in the City of Brillion by the fourth quarter of 2010 at the request of Brillion leaders, who expressed to WPS their sense of oversaturation (e.g. too many messages and contacts with businesses) of the iCanConserve Program.

By mid-2012, communication messages shifted to last calls, reminding businesses of the program deadlines and encouraging final participation.

2. Residential Customers

Customer solicitation for the residential programs took place through various means. The residential programs utilized mass marketing approaches including direct mail, WPS bill inserts, e-mail, newspaper ads, and community signage. WPS developed microsite webpages for each community to update with program information and to elicit calls to action.

The Home Energy Audit and Home Energy Review Programs utilized face-to-face contact with homeowners via the energy advocates. The relationships established and personalized one-on-one interactions contributed to the participation rate experienced by the program and overall customer satisfaction.

The Comprehensive Home Energy Assessment (Brillion) and Home Energy Review (Allouez and Plover) Programs ran a Neighborhood Energy Challenge from January through May 2012. The challenge targeted three (3) neighborhoods, each in Brillion and Plover, and four (4) in Allouez, challenging homeowners in each neighborhood to a friendly competition of completing the most whole-house retrofits. Participating homeowners in the winning neighborhoods in each community received a $30 gift card to a local business. Collateral materials for the programs, including brochures, yard signs, door hangers, flyers, and posters enhanced participation.

In November 2012, the Comprehensive Home Energy Assessment (Brillion) and Home Energy Review (Allouez and Plover) Programs developed a transition plan. The plan addressed homeowners that had an audit (Brillion) or review (Allouez or Plover) done, but did not proceed with the efficiency recommendations and may be interested in pursuing the improvements in the future. The energy advocates shared information on the WPS Territory-Wide Home Performance with ENERGY STAR® Program and Focus on Energy Residential Rewards Program with homeowners.

KEEP staff engaged the schools in the School to Home Program, contacting the principals at each school within each community and working directly with teachers at various levels in their classrooms to deliver energy efficiency programs and activities. All three (3) schools in Brillion worked with KEEP, while only elementary schools in Allouez and Plover participated, as middle and high schools are located outside of the village limits.

The statewide network of participating Focus on Energy trade allies assisted homeowners with the Heating Equipment Bonus Program incentive application process and answered any questions or addressed any issues.

The IHD Program initiated some stand-alone, website-based marketing, but relied more on a “piggy back” approach to marketing, including messages about the program on marketing materials developed for the Home Energy Audit and Home Energy Review Programs.

The Program Implementer and WPS participated at and sponsored events in support of residential programs including:

- “Meet Your Advocate” event in Brillion, January 2010.
- Brillion Fest, June 2010.
- Brillion 125th Anniversary event, July 2010.
- Allouez Kick Off event, October 2010.
- Heritage Hills Music on the Green in Allouez, June and August 2011.
- Brillion Open House event, April 2011.
- Plover Open House event, June 2011.
- One-year anniversary event in Allouez, October 2011.
- History of the Automobile event in Allouez, September 2012.

C. Trade Ally Participation

Trade allies, including HVAC, shell, insulation, lighting, and process professionals, participated in the iCanConserve Program, contributing to the installation of more than 12,000 energy-efficient measures. As explained below, the trade allies, already registered with the statewide Focus on Energy Program,

received instruction, where applicable, and detailed program information to participate in the community pilots. Requests for Proposals (RFP) engaged some of the trade allies.

The business programs utilized the existing Focus on Energy trade ally network and did not solicit new trade allies. The energy efficiency work conducted with Brillion, Allouez and Plover business customers mainly consisted of lighting improvements and the Focus on Energy trade allies provided an established network for the programs. The business programs' trade allies were used for delivery and installation and not for program sales, as the energy advisor filled that role.

The residential program utilized trade allies in multiple ways:

- Comprehensive Home Energy Assessment Program (Brillion): A competitive bidding process utilizing the Focus on Energy RFP electronic network notification system, website postings, and response scoring criteria selected HVAC and insulation and shell contractors. Local contractors were included in direct email outreach. Based on bid responses, the program selected one (1) HVAC contractor and two (2) insulation and shell contractors. The program assigned job scopes to the contractors, who scheduled individual appointments with the homeowners. The contractors billed the program for the entire job cost.
- Home Energy Review Program (Allouez and Plover): A competitive bidding process utilizing the Focus on Energy RFP electronic network notification system, website postings, and response scoring criteria selected HVAC and insulation and shell contractors. Local contractors were included in direct email outreach. Unlike Brillion, Allouez and Plover required a contractor team approach to test the theory that homeowner's time would be saved negotiating with one contractor and paying one bill. The theory proved the homeowner saved time; however, the contractors expressed frustration having to deal with another trade ally. HVAC and insulation and shell contractors partnered, with one (1) company taking the lead. The lead contractor acted as the team face to the homeowner, coordinating all of the work. Based on bid responses, the program selected four (4) contractor teams in Allouez and six (6) teams in Plover. The homeowner sign-up deadlines of June 30, 2012 (Brillion and Allouez) and July 31, 2012 (Plover) resulted in unprecedented volume in Allouez and Plover, therefore additional contractor solicitation took place to accommodate the volume. The Program Implementer issued two (2) more RFPs in July and August 2012, resulting in four (4) additional contractor teams in Allouez and one (1) in Plover. Incentives were based on maximum measure costs; however, contractors had the ability to charge whatever amount they wanted for their products and services. The program sent every job scope to all contractor teams who then provided a job quote to the homeowner. Homeowners were encouraged to solicit at least three (3) quotes from the pool of participating contractors. The homeowner made the selection of the contractor team for their job. The contractor billed the customer directly for their portion of the job cost.
- The School to Home Program did not utilize trade allies.
- Both the Heating and Cooling Early Retirement (Brillion) and Heating Equipment Bonus (Allouez) Programs used the existing network of Focus on Energy trade allies. Any participating Focus on Energy HVAC contractor could replace and install the qualifying equipment and submit (on behalf of or in conjunction with the homeowner) the application form. The program utilized HVAC trade allies as the primary recipient of program-related communications, conveying information on the program timeline, incentive amounts, and application process. All other program requirements matched the existing Focus on Energy program requirements, thereby requiring no special training for the trade allies.
- The IHD Program used a single electrician to conduct all project installations for Brillion and Allouez. The Program Implementer selected the electrician through a competitive bidding process. The program received applications for the IHD from interested homeowners and submitted a work request to the electrician. The electrician scheduled, installed, and serviced the IHD directly with the homeowner.

D. Participation Metrics

Table 12. Energy Efficiency Participation Metrics – Small Business Audit & Business Energy Review

	CY1 (Oct to Dec 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	Total
Brillion					
Incentives Provided to customers ($)	-	-	-	-	-
Incentives Provided to Trade Allies ($)	-	-	-	-	-
Number of Participating Customers	1	20	33	9	63
Number of Participating Trade Allies	1	1	2	1	5
Number of Projects/Measures Incentivized	1	20	49	20	90
Allouez					
Incentives Provided to customers ($)	-	-	-	-	-
Incentives Provided to Trade Allies ($)	-	-	-	-	-
Number of Participating Customers	-	4	32	35	71
Number of Participating Trade Allies	-	1	1	1	3
Number of Projects/Measures Incentivized	-	8	77	91	176
Plover					
Incentives Provided to customers ($)	-	-	-	-	-
Incentives Provided to Trade Allies ($)	-	-	-	-	-
Number of Participating Customers	-	-	12	36	48
Number of Participating Trade Allies	-	-	1	2	3
Number of Projects/Measures Incentivized	-	-	25	116	141

Table 13. Energy Efficiency Participation Metrics – Enhanced Business Incentives

	CY1 (Oct to Dec 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	Total
Brillion					
Incentives Provided to customers ($)	-	$9,307.87	$1,285.00	$129,875.33	$140,468.20
Incentives Provided to Trade Allies ($)	-	-	-	-	-
Number of Participating Customers	-	13	3	10	34
Number of Participating Trade Allies	-	11	4	4	19
Number of Projects/Measures Incentivized	-	28	15	17	60
Allouez					
Incentives Provided to customers ($)	-	-	$3,076.00	$109,339.77	$112,415.77
Incentives Provided to Trade Allies ($)	-	-	-	-	-
Number of Participating Customers	-	-	8	10	18
Number of Participating Trade Allies	-	-	9	14	23
Number of Projects/Measures Incentivized	-	-	15	30	45
Plover					
Incentives Provided to customers ($)	-	-	-	$170,477.09	$170,477.09

	CY1 (Oct to Dec 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	Total
Incentives Provided to Trade Allies ($)	-	-	-	-	-
Number of Participating Customers	-	-	-	18	18
Number of Participating Trade Allies	-	-	-	16	16
Number of Projects/Measures Incentivized	-	-	-	34	34

Table 14. Energy Efficiency Participation Metrics – Home Energy Audit, Comprehensive Home Energy Assessment and Home Energy Review

	CY1 (Oct to Dec 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	Total
Brillion					
Incentives Provided to customers ($)	-	-	-	-	-
Incentives Provided to Trade Allies ($)	-	$178,345.76	$442,030.99	$123,378.62	$743,755.37
Number of Participating Customers	-	154	168	45	367
Number of Participating Trade Allies	-	10	15	8	33
Number of Projects/Measures Incentivized	-	660	722	224	1,606
Allouez					
Incentives Provided to customers ($)	-	-	-	-	-
Incentives Provided to Trade Allies ($)	-	$0	$679,178.78	$845,754.62	$1,524,933.40
Number of Participating Customers	-	87	565	424	1,076
Number of Participating Trade Allies	-	5	23	11	39
Number of Projects/Measures Incentivized	-	317	3,316	3,030	6,663
Plover					
Incentives Provided to customers ($)	-	-	$1,750.00	$46,000.00	$47,750.00
Incentives Provided to Trade Allies ($)	-	-	$22,323.64	$423,673.38	$454,997.02
Number of Participating Customers	-	-	125	288	413
Number of Participating Trade Allies	-	-	9	13	22
Number of Projects/Measures Incentivized	-	-	569	2,188	2,757

Table 15. Energy Efficiency Participation Metrics – Heating and Cooling Early Retirement, Heating Equipment Bonus

	CY1 (Oct to Dec 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	Total
Brillion					
Incentives Provided to customers ($)	$10,750.00	$48,900.00	$25,200.00	$7,875.00	$92,725.00
Incentives Provided to Trade Allies ($)	-	-	-	-	-
Number of Participating Customers	14	60	30	17	121
Number of Participating Trade Allies	2	6	8	1	17
Number of Projects/Measures Incentivized	19	84	42	18	163
Allouez					
Incentives Provided to customers ($)	-	-	$6,350.00	$3,925.00	$10,275.00
Incentives Provided to Trade Allies ($)	-	$1,350.00	$1,750.00	$100.00	$3,200.00
Number of Participating Customers	-	27	35	14	76
Number of Participating Trade Allies	-	12	11	11	34
Number of Projects/Measures Incentivized	-	27	61	16	104

Table 16. Energy Efficiency Participation Metrics – In Home Display (IHD)

	CY1 (Oct to Dec 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	Total
Brillion					
Incentives Provided to customers ($)	-	$6,842.01	$1,098.03	$267.29	$8,207.33
Incentives Provided to Trade Allies ($)	-	-	-	-	-
Number of Participating Customers	-	24	5	3	32
Number of Participating Trade Allies	-	1	2	1	4
Number of Projects/Measures Incentivized	-	24	5	3	32
Allouez					
Incentives Provided to customers ($)	-	$5,228.16	$21,472.91	$6,935.90	$33,636.97
Incentives Provided to Trade Allies ($)	-	-	-	-	-
Number of Participating Customers	-	21	84	73	178
Number of Participating Trade Allies	-	1	2	1	4
Number of Projects/Measures Incentivized	-	21	84	73	178

Table 17. Energy Efficiency Participation Metrics – School to Home

	Total*
Brillion	
Number of Participating Students/Homes	133
Allouez	
Number of Participating Students/Homes	197
Plover	
Number of Participating Students/Homes	209

E. Program Expenditures

Budgets were established for the programs in each community, with tracking of actual versus projected spending occurring at the community level. Budgets were tracked monthly with funds shifting between programs or communities, if necessary. Through December 2012, the total actual expenditures within each community were less than projected. The Program Administrator will shift unused dollars at the end of the contract period to the WPS Territory-Wide Program, which runs through 2013.

Table 18. Business Program Expenditures

Line Item	CY1 (Sept. to Dec. 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	CY5 (Jan. to Feb. 2013)	Total
Labor	$9,345	$66,977	$105,766	$177,944	-	$360,032
Travel	-	-	-	-	-	-
Marketing	-	$47,163	$12,925	$16,879	-	$76,967
Incentives	-	$9,672	$5,727	$376,584	-	$391,984
Equipment	-	-	-	-	-	-
Other Direct Costs	$577	$8,714	$1,614	$16,076	-	$26,980
Subcontractors	$11,741	$200,081	$92,228	$269,730	-	$573,780
TOTAL	$21,663	$332,607	$218,260	$857,213	-	$1,429,743

Table 19. Residential Program Expenditures

Line Item	CY1 (Sept. to Dec. 2009)	CY2 (2010)	CY3 (2011)	CY4 (2012)	CY5 (Jan. to Feb. 2013)	Total
Labor	$114,435	$496,799	$945,930	$1,198,560	-	$2,755,725.
Travel	-	-	-	-	-	-
Marketing	$5,245	$56,543	$24,166	$17,306	-	$103,259
Incentives	$13,166	$135,120	$1,230,078	$1,604,557	-	$2,982,921
Equipment	-	-	-	-	-	-
Non Labor Implementation	$5,871	$28,010	$26,029	$6,967	-	$66,877
Subcontractors	$17,031	$210,728	$396,578	$408,040	-	$1,032,378
TOTAL	$155,748	$927,200	$2,622,781	$3,235,430	-	$6,941,159

Prior to 2011, Program Administration/Overhead was invoiced as a percentage of expenditures. Beginning in May 2011 Program Administrator transition, program administration was invoiced on hours billed.

Table 20. Program Administration Expenditures

Line Item	CY1 (Sept. to Dec. 2009)	CY2 -2010	CY3 -2011	CY4 -2012	CY5 - 2013 projections	Total
Business Program Overhead (0.75%)	$162	$2,495	$469	-	-	$3,126
Residential Program Overhead (0.75%)	$649	$6,063	$6,528	-	-	$13,239
Program Administration	-	-	$ 102,525	$ 311,077	$ 130,000	$543,602
TOTAL	$811	$8,558	$109,522	$311,077	$130,000	$559,967

IV. Customer and Trade Ally Satisfaction

A. Customers

Customer satisfaction with the iCanConserve Program was high. Customer responses received by the energy advisor and energy advocates indicate customers were pleased with the programs. The one-on-one interaction and attention to detail from energy advocates and the energy advisor provided a personal touch customers appreciated. Customer complaints accounted for less than one (1) percent of the total number of customers who took advantage of the program. The following offers a sample of the customer testimonials gathered throughout the duration of the program.

1. Business Customer Testimonials:

"The things we've done have made a big difference for our restaurant. Some of our customers have noticed the quality of light. It's brighter light." *Dave Schoonover, owner of Allouez Café.*

"The CP (Cerebral Palsy) Center staff has been fortunate to work with our Focus on Energy advisor. From the beginning, he has been extremely helpful in explaining the Small Business Audit, providing improvement recommendations and working closely with staff on paperwork to achieve the highest energy efficiency outcomes. We weren't aware of many of the energy-saving opportunities available until becoming involved with iCanConserve." *Susan Saari, Compliance Officer with the Allouez CP Center.*

"The audit made us more aware of things—if we leave the lights on now, we know we need to turn them off. It also made us more aware of the need to conserve in general. We're even looking at ways to recycle the cardboard that auto parts come in and downsize our dumpster." *Ken Enneper, owner of Enneper Garage & Body Shop Inc. in Brillion.*

"Three months down the road, I can see where these new compressors and the new system are going to bring down my energy bills quite a bit." *Chuck Roehrborn, owner of Roehrborn Meats in Brillion.*

2. Residential Customer Testimonials:

"We had a 1972 furnace that came with our house. We knew one of these winters, it was going to go out on us. ICanConserve came at the perfect time. Our energy advocate did a great job. She would call back periodically to see how the contractors were doing. I appreciated that." *Jerry Watseka, Allouez Home Energy Review participant.*

"I was so impressed. The iCanConserve staff was very friendly and I loved the displays. Anyone who had questions—the iCanConserve people were eager to provide answers." *Mary Ann Gooding, Allouez Open House attendee and subsequent Home Energy Review participant.*

"The biggest thing we learned about was our boiler. It was put in when the home was built in 1978 and we knew it was not energy efficient. However, we did not know how much energy it was wasting until iCanConserve. We were extremely impressed with the workers. They told me where everyone was going to be and what they were going to do. They did an excellent job and cleaned up too." *Sue Bores, Allouez Home Energy Review participant.*

"My energy advocate went beyond the call of duty for me. She came over to my home at 8:00 at night! She returned all my calls. She talked me through everything. When you have the possibility to make your home more energy efficient and the possibility of gaining from it, it makes sense. I'm very, very glad that I've done this. We need to conserve energy and I was very fortunate to have iCanConserve." *Penny Croghan, Allouez Home Energy Review participant.*

"Our assessment was very informative and thorough. We insulated in-between our walls and in the attic. We got a new hot water heater and a new bathroom vent. It's amazing! It's quieter in the house now that there is an insulation barrier between the inside and outside. And, our energy bill has definitely gone down." *Holly Schlender, Brillion Comprehensive Home Energy Assessment participant.*

"ICanConserve gives me a sense of security. Now, I do not have to worry about wasting my energy nor my money anymore. Our In Home Display opened our eyes about our energy use. We could actually see how much energy the stove, dryer, and other appliances used. It is neat having it. I liked the fact that I did everything I could to make my home energy efficient. Everything is updated now. I am all set." *Derek Emmer, Brillion IHD participant.*

"I like knowing things. How many things are silently running? Do the kids have something turned on in the basement? The In-Home Display makes me aware of the energy we're using at any one minute." *Cyril Clavers, Brillion IHD Participant.*

"It has become a mission for me to reduce our energy bill and share this excitement with my own children. The world is their future and we need to take care of it." *Donna Hawse, Brillion High School special education teacher.*

"I think, as teachers, we can make a big difference in helping the next generation become so much more energy knowledgeable." *Judy Christianson, Brillion High School family consumer science teacher.*

B. Trade Allies

Trade ally satisfaction with the iCanConserve Program was high, specifically due to the increased business the program provided to trade allies. The Enhanced Business Incentives Program and Heating Equipment Bonus Program afforded trade allies the opportunity to engage in more than one (1) project, demonstrating satisfaction through repeat usage.

The contractors participating in the Comprehensive Home Energy Assessment (Brillion) and Home Energy Review (Allouez and Plover) Programs had the most direct relationship with the program. At the start-up for each community, a teleconference was held to explain the program processes, address any issues, and answer questions. Throughout the duration of the pilot programs, frequent communication, averaging one (1) or two (2) contacts per month, were exchanged between the contractors and program staff to address specific issues and questions and for the Program Implementer to send program timeline and invoicing reminders to the contractors. The opportunity for frequent contact and the resulting rapport established between the Program Implementer and contractors allowed for an on-going exchange of ideas and sharing of information delivering continuous improvement to the program and a high level of service to customers. One such example included the Change Order process, where contractors submitted job scope changes to the Program Implementer. The process allowed for undiscovered efficiency opportunities to be addressed and included an approval process communicated between the homeowner, Program Implementer, and contractor. All three (3) parties benefited from the process and customer service was achieved.

Communication and feedback with the electrician contracted to deliver the IHD Program installations took place, to establish work orders and schedules, and address customer inquiries. This also resulted in high trade ally satisfaction and continuous improvement of the program in the field.

V. Key Partnerships

The Program Implementer and WPS formed relationships with city and village leaders, working closely (through kick off events, annual progress report meetings, community events and miscellaneous updates) with the Mayor of Brillion, the Allouez Parks, Recreation and Forestry Director, Village of Plover Administrator, and Village of Plover President. These relationships brought trust and understanding between program stakeholders and community leaders, which the community leaders then spread throughout their constituents. Having the community leaders' endorsement and support of the iCanConserve Program helped assuage doubt or questions that business owners or homeowners experienced.

On the business side, the Focus on Energy energy advisor established relationships with individual business owners and managers through solicitation phone calls and face-to-face interaction to perform energy audits and share efficiency recommendations. On the residential side, energy advocates worked closely with individual homeowners, having phone conversations to set up appointments, answer questions, and follow-up on progress, as well as face-to-face visits to perform the audit, discuss the efficiency recommendations, and deliver the final certificate of completion. The energy advisor had between one (1) to five (5) contacts with each business customer and the energy advocates had between two (2) to six (6) contacts with each homeowner.

Another business program, the redesigned Staffing Grant Program, established key relationships with the three (3) schools solicited to provide the interns. Northeast Wisconsin Technical College, University of Wisconsin Stevens Point, and Brillion High School each eagerly supported the Staffing Grant Program working effortlessly with the Program Implementer to provide willing, eager, and well-prepared students for the internship.

KEEP provided another key partnership for the Schools to Home Program. As a recognized national leader in the energy education field, KEEP's name and reputation lead to instant recognition and value, thereby quickening the upfront adoption and "getting to know you" phase associated with new programs.

VI. Successes

The key factors in achieving success in the iCanConserve Program were fourfold: partnerships, personal approach, flexibility, and expertise.

The effective collaboration among program stakeholders, specifically WPS, CUB, PSC, and Focus on Energy, as well as community leadership and implementation staff and contractors, were critical to the effective implementation of the iCanConserve Program. Cooperation and frequent communications amongst the program stakeholders, including weekly, monthly, and quarterly reports provided by the Program Implementer, as well as monthly phone conferences between the parties, helped formulate strong programs and attention to detail. In addition, through a shared dedication to customer service, businesses and residential customers were provided with effective customer care. The same level of commitment to shared success and communications ensured community stakeholders and field staff were able to translate program vision into implemented action. This was evident with the decision to allow a partial reward for those communities that did not reach their 60 percent Community Participation Reward Program goal. All program stakeholders shared the vision to reward each community for their efforts regardless of the final participation rate achieved, and saw that vision come to fruition through a compromised and easily implemented solution. When customer issues did arise, timely communication between WPS and program staff and contractors in the field resulted in a low incident of escalation of issues and satisfied customers.

The hands on, personal approach achieved through face-to-face interactions contributed to the success of the program. Businesses have very diverse and unique energy needs. For homeowners, the whole house retrofit process can be daunting, often requiring assistance in completing the necessary steps for program participation. While labor intensive, a personalized approach to addressing a customer's energy needs proved to be an effective way (over a 60 percent completion rate with whole house retrofits) to get customers to take action for both the business and residential sectors. Some of the labor included the physical installation of CFLs, showerheads and aerators, the review of the hard copy audit or assessment report and the attainment of the signature on and copy release of forms or applications.
The flexibility and smaller scale a community pilot program offers contributed to the program's success. Because smaller audiences (community versus statewide for example) were involved, adjustments and personalizations were able to be made. When program design or delivery elements proved ineffective, changes could be proposed and if approved, implemented within a reasonable timeframe. By definition, a pilot is a learning opportunity and by reacting to the lessons learned, new ideas can be tried and further insights can be gleaned. Those lessons then can be utilized when considering a similar program design, either at the community level or on a larger scale.

An example highlighting the adaptability of the pilot programs is the array of design changes made to the Home Energy Audit and Comprehensive Home Energy Assessment and Home Energy Review Programs in each community. Various design elements were tested, ranging from incentive structures to interaction with contractors. Ultimately, a whole house retrofit approach to energy efficiency was undertaken in all three (3) communities; however, multiple design and delivery aspects were built on and tested in each community.

Another example highlighting the benefits of engaging all stakeholders in continuous improvement, and arguably one of the greatest successes of the program, was the redesign of the Staffing Grant Program. When the initial program design received no applications, the program engaged all stakeholders to identify and address barriers to success, rather than cancel the program. As a student internship, the re-tooled program accomplished the original goals, to provide analyses and energy efficiency recommendations for municipal buildings. However, the use of students mentored by the Focus on Energy energy advisor eliminated the cost and supervisory responsibility from participating community facilities. Engaging regional educational institutions provided the program with ongoing support. The end results included audits and energy analyses performed on all municipal buildings within each community,

engaged maintenance and administrative staff within the communities, energy efficiency projects that will be implemented within each community and students with a broader understanding and knowledge base on which to build their careers. Community leaders, businesses, and WPS staff shared their positive feedback with the program. This program model was discussed as something that can and should be replicated.

Applying staff expertise also contributed to the overall success of the iCanConserve Program. One example is the School to Home Program. The Program partnered with KEEP, a nationally recognized energy and environmental program. KEEP's reputation as a leader in energy education contributed to the program's ability to interest school administration and teachers. All three (3) schools including 20 teachers in Brillion, five (5) elementary schools including 56 teachers in Allouez and four (4) elementary schools including 33 teachers plus the Boys and Girls Club in Plover participated. With dedicated and trained educational staff and engaging and effective activities, tools and resources, KEEP enlightened students, teachers and parents on the importance of energy efficiency and the ease and fun with which efficient practices can be sustained in the classroom and at home. KEEP established strong bonds with the teachers and administrative staff, particularly evident with the three (3) year ongoing support of the School to Home Program given by the Brillion High School principal, who recommended and encouraged his teachers' participation throughout the school year. Trust in the KEEP staff and their dedication to the program formed those bonds and made energy education from school to home a reality.

Previously mentioned factors such as: community residency of the energy advocates, added business for local contractors, partnerships formed, and reduced energy consumption all add up to a win-win situation for the communities and the program stakeholders.

VII. Challenges and Resolutions

As a pilot, the programs tested a wide variety of program elements. The challenges the program faced related to identifying the impact associated with program elements, where each element was not performing as expected and addressing the barriers.

1. Business

The business programs faced two main challenges. The first challenge was a lack of interest and no participation in the Community Supported Financing Program and the Staffing Grant Program (original design). The Program Implementer and WPS thought the programs were innovative and well suited for small businesses. It was hypothesized that additional access to capital, (in the case of the Community Supported Financing Program), and a dedicated energy management employee, (in the case of the Staffing Grant Program), would result in the implementation and completion of more efficiency projects. While both programs saw initial interest and acceptance, neither achieved the desired results, with financing institutions following corporate lead and deciding not to offer energy efficient specific loans and municipalities deciding they could not supervise nor fund an additional employee. The Program Implementer discussed program changes and alternatives with the program stakeholders in the first quarter of 2011. The discussions resulted in the cancellation of the Community Supported Financing Program not only because of the financial institutions back pedaling but also because of the lack of interest and requests for loans from business customers. These discussions also resulted in a redesign of the Staffing Grant Program due to interest by the communities to have their municipal buildings analyzed, yet not within the framework originally designed in the program.

The business programs also experienced a sharp decline in program interest in Brillion. After the first year of the program, Brillion businesses showed waning interest in the programs. Few businesses accepted the energy advisor's offer for a small business audit and the mayor communicated with WPS the community felt an overwhelming sense of oversaturation and skepticism toward the program. The program stakeholders recognized the issues in 2011 and presumed the overall duration of the program may be a contributing factor. However, to enable the community to contribute as much as possible towards the Community Participation Reward Program goal iCanConserve was maintained for the full program term.

2. Residential

There were four (4) notable challenges that faced the residential programs.

Three (3) challenges were related to process requirements for the Comprehensive Home Energy Assessment (Brillion) and Home Energy Review (Allouez and Plover) Programs. Health and safety issues associated with whole house retrofits and combustion air equipment can arise. Many homes in all the communities have atmospherically vented, gas-fired water heaters – some of which are relatively new and working properly (as confirmed by the initial assessment testing done by the consultant). However, if the house is leaky, after the air sealing work is completed, the now tighter house often times no longer allows for enough natural ventilation of the water heater. Therefore, a new power-vented water heater was frequently included as one of the mandated improvement recommendations. Some homeowners took issue with this program requirement to replace the water heater. As a result, a collateral piece was developed to help explain the situation for homeowners. Program technical staff were also utilized to explain the situation to homeowners, and energy advocates were given additional training to help talk to homeowners. In approximately 50 percent of the instances where this situation was identified, the homeowner chose not to move forward with the program.

Another health and safety challenge involved the presence of vermiculite and asbestos in homes. Both the Comprehensive Home Energy Assessment and Home Energy Review Programs included a process step addressing deferral items. If any member of the iCanConserve team (energy advocate, consultant, or contractor) came upon a situation in a home that they deemed a hazardous situation or safety concern, they issued a Deferral Form to the homeowner, stating that work would not commence until the hazardous situation was remedied by the homeowner. The greatest hazardous situation discovered was the presence of vermiculite or asbestos in existing insulation. The program required proper abatement or removal of the material by a licensed professional, which typically involved a high cost for the homeowner. Because of the cost involved, many homeowners chose not to proceed with the program.

The third challenge occurred near the end of the program. Because the entire process from homeowner sign-up to installation completion and post testing can take a few months, sign-up deadlines of June 30, 2012 (Brillion and Allouez) and July 31, 2012 (Plover) were established. Coincident with those deadlines, marketing messages of "last chance" and "hurry, do not delay" were used to encourage participation. Those messages were so effective that in Allouez and Plover, approximately one quarter of all the homeowner sign-ups occurred in June and July 2012. Brillion also experienced renewed interest. The unprecedented volume was unexpected, creating a concern that all the necessary work could not be completed by the program deadline of December 2012. To address the concern, the program issued two (2) RFPs in July and August 2012 soliciting additional contractors. Very close tracking and frequent communication with the contractors took place through December 2012 assuring all homeowners wanting to move forward and have the work completed

were accommodated, despite the fact that two (2) contractors each in Allouez and Plover had their availability booked prior to the end of the year.

The other challenge was the decline in program interest (more than 200 sign-ups in 2009-2010 and 50 in 2011) in Brillion. After the first year of the program, Brillion homeowners showed little to no further interest. As with the business programs, a sense of oversaturation prevailed and more customers appeared to be skeptical of the program. A three (3) year program duration with ongoing marketing messaging may be too long with residents growing weary. While program staff were delivering door hangers for the Neighborhood Energy Challenge, a few homeowners expressed "enough is enough" and rejected acceptance of the marketing materials. Despite having flexibility with most elements of the pilot, the ultimate duration was not changed and a "ride it out" approach was taken to try to allow for as much participation as possible to contribute towards the Community Participation Reward goal (which ultimately, after three (3) years, was not met).

3. Internal

Although not tied specifically to the design or implementation of the programs (e.g. not outward facing to the customer), a process issue created a challenge for program staff. In March 2012, the iCanConserve Programs' energy savings and incentives began to be tracked and paid via a new Focus on Energy database called SPECTRUM. As can be expected with any new database, glitches appeared along the way and continued throughout 2012. A system was put in place to capture issues and their resolutions, but at times, the issue resulted in delays in incentive payments and inaccessibility for users.

VIII. Continuous Improvement

As previously stated throughout this report, program design changes resulted in a group of programs that exceeded energy savings targets and engaged a high percentage of customers. Numerous program design elements tested hypotheses and successes, challenges and resolutions ensued. The community delivery approach accompanied by one-on-one, personalized interactions was touted by participants as something they liked and showed a sense of care and interest.

Program aspects such as overall duration, committed community member partnerships (in the case of the Community Supported Financing Program) and customer satisfaction and participation versus program cost (in the case of an energy advisor or energy advocate being more labor intensive and therefore more costly than a mass market approach) require further analysis and careful consideration balanced against a respective program's goals, objectives and budget.

The iCanConserve Program resulted in numerous "feel good" opportunities, which future program designs should strive for. From the feeling of knowing that the Staffing Grant Program helped students advance along their career path, teaching them new skills, and exposing them to situations and information they could not get in the classroom to having a pizza party with a group of fourth graders because they all returned their conservation kit surveys. The program created many positive situations, including additional mentoring of the Brillion High School student intern by WPS, and two (2) other interns receiving teaching assistant positions within their university in part due to their summer internship. Although not always measurable, intangible results are manifested and can be incorporated into the overall analysis and summary of a program's results.

Conclusion

As stated in the Introduction, the goal of the pilot programs was to determine the customer acceptance of pilot offerings and the pilots' transferability to a large-scale, service territory-wide basis. iCanConserve proved energy savings and customer satisfaction are definitely achievable through a community-based program delivery method. Through ongoing communication and flexibility, specific program design elements can be structured to meet the needs of individual business owners and homeowners while at the same time securing community-level engagement. Additional communities throughout the WPS service territory, statewide, and beyond could benefit from similar programs.