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Appendices Table Of Contents:

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Appendix A. Key Achievements And Figures For State Of Wisconsin And Focus on Energy

Program Participants

Residential: 1,011,259
Non-Residential: 6,429
Total: 1,017,688

Total Electric And Natural Gas Energy Use

Electric Sales to Wisconsin Retail Customers megawatt hours (MWh): 68,752,000

Wisconsin Aggregated Electric Utilities Noncoincident Peak Demand megawatts (MW): 14,577

Natural Gas Consumption (Therms): 3,336,000,000

Total Gross Verified Lifecycle Savings

Energy Savings (MWh): 649,898

Demand Reduction (MW): 94.22

Natural Gas Savings (Therms): 26,170,452

Total Net Verified Annual Savings

Energy Savings (MWh): 5,061,282

Demand Reduction (MW): 66.82

Natural Gas Savings (Therms): 228,419,472

Population Numbers

Statewide Census Population: 5,726,398

Eligible Residential Electric Accounts: 2,561,588

Eligible Residential Gas Accounts: 1,666,480

Eligible Nonresidential Electric Accounts: 337,965

Eligible Nonresidential Gas Accounts: 167,531

	Residential	Nonresidential	Total
Incentive Costs	$17,540,611	$31,233,437	$48,774,048
Administrative Cost	$4,216,256	$3,752,393	$7,968,649
Delivery Costs	$9,614,943	$15,322,583	$24,937,526
Incremental Costs (in thousand $)	$44,069,866	$137,324,482	$181,394,348
Total Nonincentive Costs	**$57,901,065**	**$156,399,457**	**$214,300,523**
Electric Benefits	$62,982,556	$231,487,510	$294,470,066
Gas Benefits	$45,814,017	$138,965,812	$184,779,829
Emissions Benefits	$30,961,768.92	$110,122,130.32	$141,083,899
Total TRC Benefits	**$139,758,343**	**$480,575,452**	**$620,333,795**
TRC Net Benefits	**$81,857,277**	**$324,175,995**	**$406,033,272**
TRC Ratio	**2.41**	**3.07**	**2.89**

*** Incentive costs are not included in TRC calculation**

Appendix B. Glossary Of Terms

Term	Definition
Attribution	The establishment of a causal relationship between action(s) taken by a group or Program and an outcome.
Avoided Costs	Costs avoided by the implementation of an energy-efficiency measure, program, or practice. These costs generally include generation or distribution costs.
Baseline	Conditions (including energy consumption) that would have occurred without implementation of the subject measure or project.
Benefit-Cost Ratio	Mathematical relationship between the benefits and costs associated with the implementation of energy-efficiency measures, programs, practices, or emissions reductions.
Claimed Savings	The energy savings the Program Administrator or Implementer reports before they are verified by the Evaluation Team. (These are also called "reported savings" or "tracked savings.")
Cost-Effectiveness	Indicator of relative performance or economic attractiveness associated with the implementation of energy-efficiency measures, programs, practices, or emissions reductions.
Custom Savings	Savings for nonprescriptive 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. Deemed savings are typically developed from data sources and analytical methods that are: (1) widely considered acceptable for the measure and (2) applicable to the situation.
***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 an evaluator reports after a completed energy-impact evaluation.
Freeriders	Participants who would have adopted the energy-efficient measure without the program.
Gross Savings	Change in energy consumption and/or demand that results from program related actions taken by participants in an efficiency program, regardless of whether they participated and unadjusted by any factors.
Interactive Effects	The influence in energy use between one technology application and the energy required to operate another application.
Locational Marginal Price (LMP)	The incremental cost to serve a unit of energy at a specific location at the time of delivery.
Lifecycle Savings	Energy savings—expressed either as verified gross or verified net—generated in the current program cycle. Savings incorporate annual savings and each measure's estimated useful life.
Lifetime Savings	Energy savings—expressed as either verified gross or verified net—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. Savings incorporate annual savings and each measure's estimated useful life.

Term	Definition
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. Evaluators generally considered these effects a 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.) Evaluators typically calculate the savings by applying the net-to-gross ratio to the gross verified savings.
Net-to-Gross Ratio (NTG)	The ratio of the verified net savings attributed to the program after evaluation to the verified gross savings.
Nonenergy Benefits (NEBs)	An array of valued attributes derived from energy-efficient measures in addition to energy savings, such as increased property value or reduced water usage.
Participant Spillover	Participants who, after an initial program experience, go on to adopt more energy-saving products or practices without program assistance.
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	Energy savings the Program Administrator or Implementer reports before they are verified by the Evaluation Team. Also referred to as tracked savings or claimed savings.
Standard Error	A measure of the variability in a data sample. In other words, how far a typical data point is from the mean of a sample.
Tracked Savings	Energy savings the Program Administrator or Implementer reports before they are verified by the Evaluation Team. These are also called reported savings or claimed savings.
Unclaimed Rewards	Incentives set aside for customers who fail to submit the paperwork to claim program incentives.
Verified Gross Savings	Energy savings verified by an independent evaluation team based on inspections and reviews of the number and types of implemented energy efficiency measures and the engineering calculations used to estimate the energy saved. Verified gross savings reflect the total calculated savings without considering the influence of freeriders or spillover.
Verified Net Savings	Energy savings that evaluators can confidently attribute to program efforts. For verified net savings, the evaluation team makes adjustments for outside influences, such as freeridership and spillover.

Appendix C. Net-To-Gross Ratios Used In Carryover And Legacy Analysis

The Evaluation Team used stipulated net-to-gross ratios, based on the results of the Focus on Energy 2010 evaluation to estimate net savings. The Table below shows the net-to-gross ratios the Evaluation Team used to calculate net savings for every measure category included in Focus on Energy programs. The measure categories with particularly low net to gross values are marked with an asterisk.

Net-To-Gross Ratios Used In Carryover And Legacy Analysis

Sector	Measure Category Name	Net-To-Gross
Nonresidential	Solar Electric	79%
Nonresidential	HVAC	66%
Nonresidential	Process	66%
Nonresidential	T8/T5 Fluorescent Lighting	60%
Nonresidential	Biogas	63%
Nonresidential	Wind	93%
Nonresidential	Motors & Drives	65%
Nonresidential	Whole Building	66%
Nonresidential	Energy Recovery	95%
Nonresidential	Solar Thermal	51%
Nonresidential	Lighting	60%
Nonresidential	Compressor Equipment	59%
Nonresidential	Refrigeration	51%
Nonresidential	Boiler Equipment	28%*
Nonresidential	Other	100%
Nonresidential	LED Lighting	60%
Nonresidential	Bonus	100%
Nonresidential	Aeration System	59%
Nonresidential	Lighting Controls	60%
Nonresidential	Building Shell	52%
Nonresidential	Refrigeration Controls	51%
Nonresidential	Biomass	39%*
Nonresidential	Hot Water	55%
Nonresidential	Agriculture	55%
Nonresidential	IT	67%
Nonresidential	Boiler Controls	28%*
Nonresidential	CFL	82%
Nonresidential	Food Service	58%
Nonresidential	High Intensity Discharge (HID)	86%

Nonresidential	Compressor Service	59%
Nonresidential	Laundry	54%
Nonresidential	HVAC Controls	42%*
Nonresidential	Waste Water Treatment	59%
Nonresidential	Pools	52%
Nonresidential	Non Energy	100%
Nonresidential	Design	100%
Nonresidential	Dishwasher	61%
Nonresidential	Boiler Service	28%*
Nonresidential	Vending, Plug Loads	67%
Nonresidential	Greenhouse	52%
Nonresidential	Conversion	100%
Nonresidential	Scheduling	46%*
Nonresidential	Fixtures	60%
Nonresidential	Water Heat	100%
Nonresidential	LED Holiday Light	60%
Residential	Furnace	38%*
Residential	Solar Electric	82%
Residential	Building Shell	79%
Residential	Other	86%
Residential	HVAC	57%
Residential	CFL	66%
Residential	Boiler Equipment	79%
Residential	Whole Building	100%
Residential	Solar Thermal	40%*
Residential	Non Energy	100%
Residential	Hot Water	65%
Residential	Wind	51%
Residential	Bonus	100%
Residential	Fixtures	79%
Residential	Refrigeration	65%
Residential	Conversion	71%
Residential	Lighting	70%
Residential	LED Holiday Light	95%
Residential	Dishwasher	100%
Residential	Motors & Drives	58%
Residential	T8/T5 Fluorescent Lighting	54%

Residential	Controls	100%
Residential	LED Lighting	99%
Residential	Energy Recovery	100%
Residential	Laundry	55%
Residential	Lighting Controls	59%
Residential	HVAC Service	100%
Residential	HVAC Controls	100%
Residential	Conversion - Other	100%
Residential	Boiler Service	38%*
Residential	Dehumidifier	72%
Residential	Water Heat	100%
Residential	High Intensity Discharge (HID)	100%
Residential	Ceiling Fan	100%
Residential	Energy Savings	100%

Appendix D. Summary Of Savings By Sector, By County

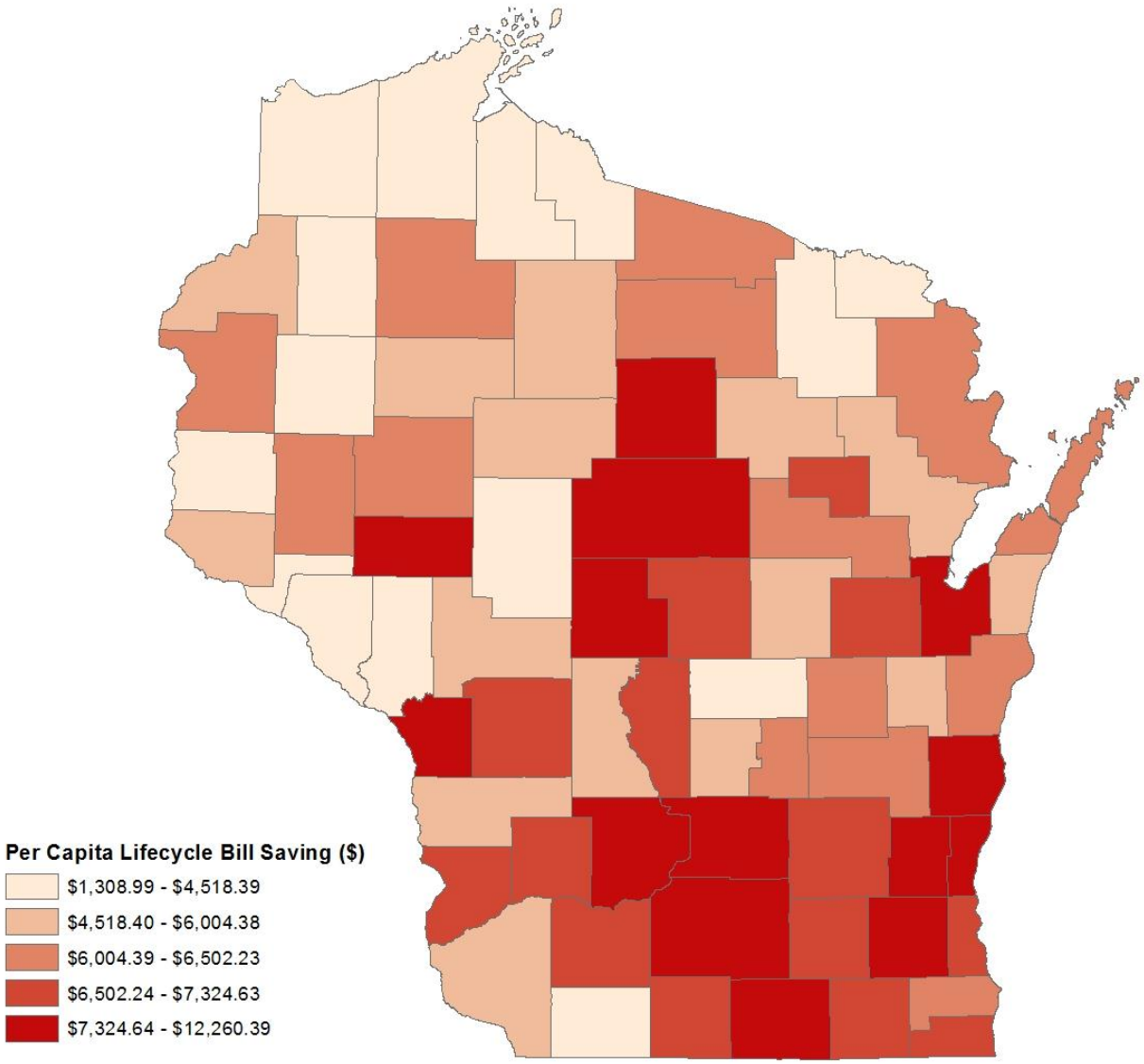
The following section includes nine maps based on the results of the 2012 evaluation: three county-level maps (per capita lifetime bill savings, 2012 participation rates, and per capita incentives paid in 2012) for three primary sectors (residential, industrial, and commercial). Commercial maps include commercial, schools, government, and agricultural entities.

Similar to the 2011 evaluation report, the bill savings are defined as evaluated lifecycle verified gross energy savings multiplied by the average retail rate of delivered energy in 2012 and normalized on a per capita basis. The incentive dollars are also reported on a per capita basis.

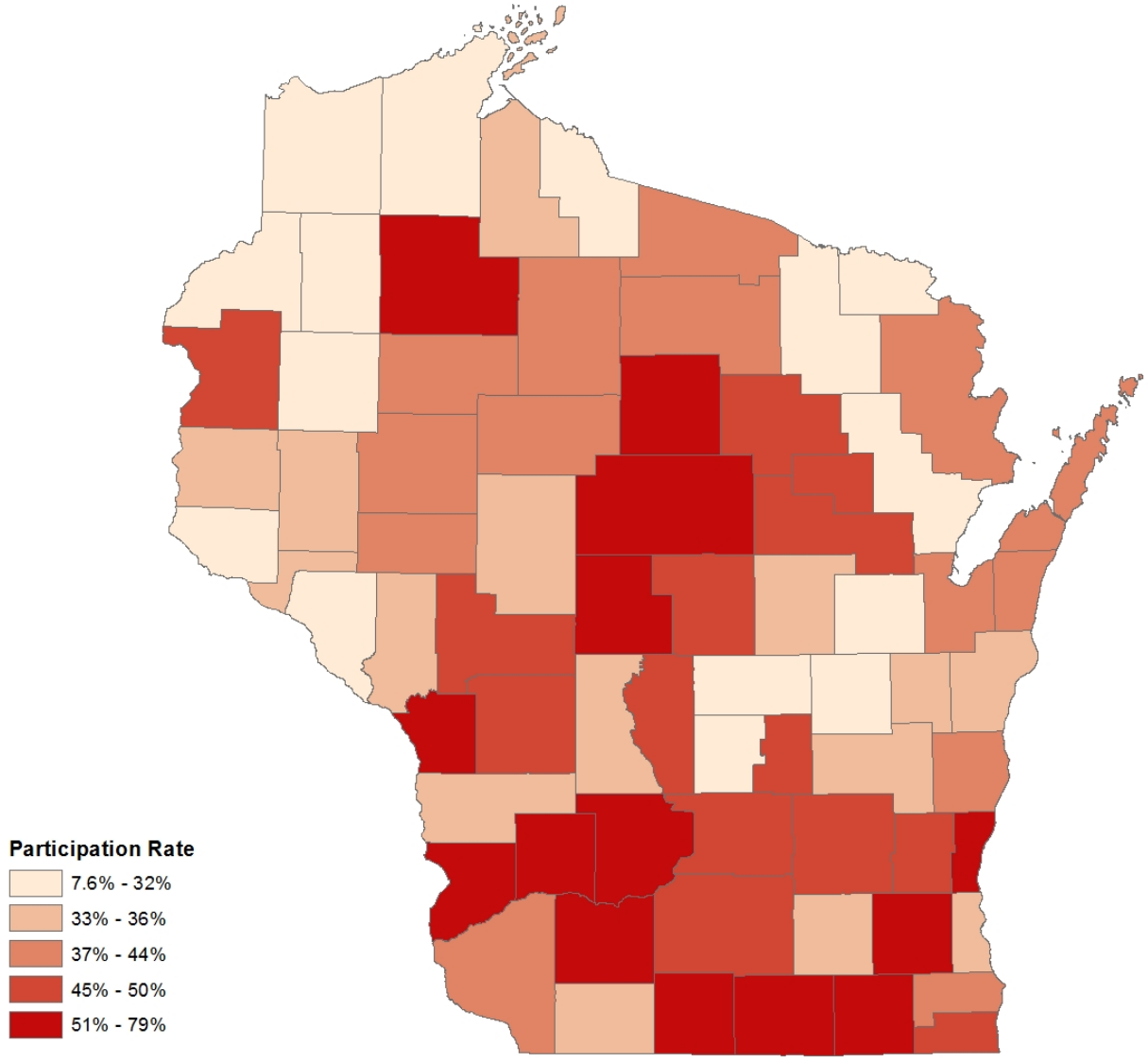
The per capita residential numbers are based on the number of households reported in the most current (2010) US Census. The per capita county numbers for commercial and industrial are based on the county-level total number of active businesses in the 2010 evaluation report. The participation rates are the county-level participation normalized by the county-and sector-level populations.

Residential

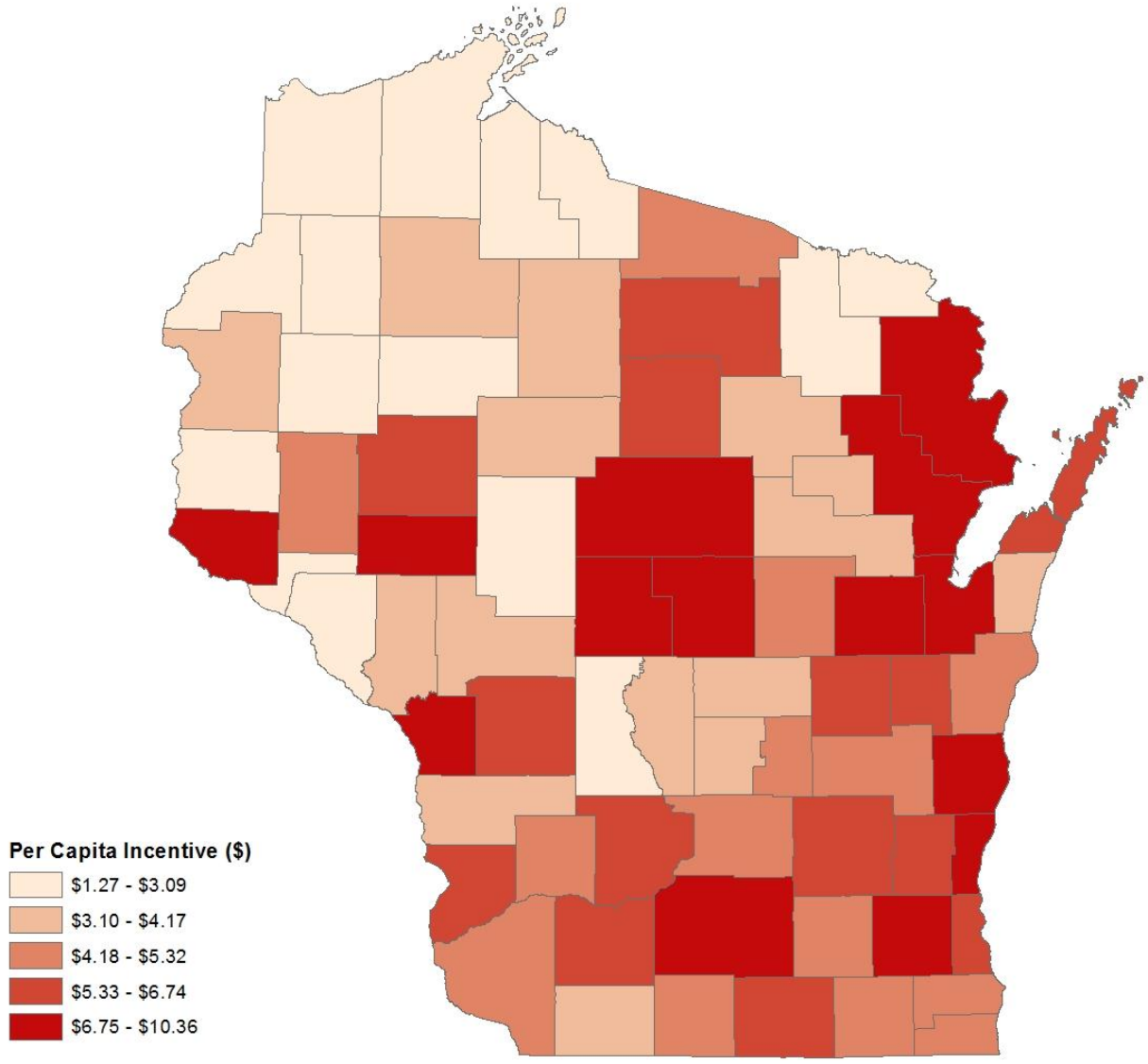
Residential Per Capita Energy Bill Savings By County



Residential Participation Rate By County

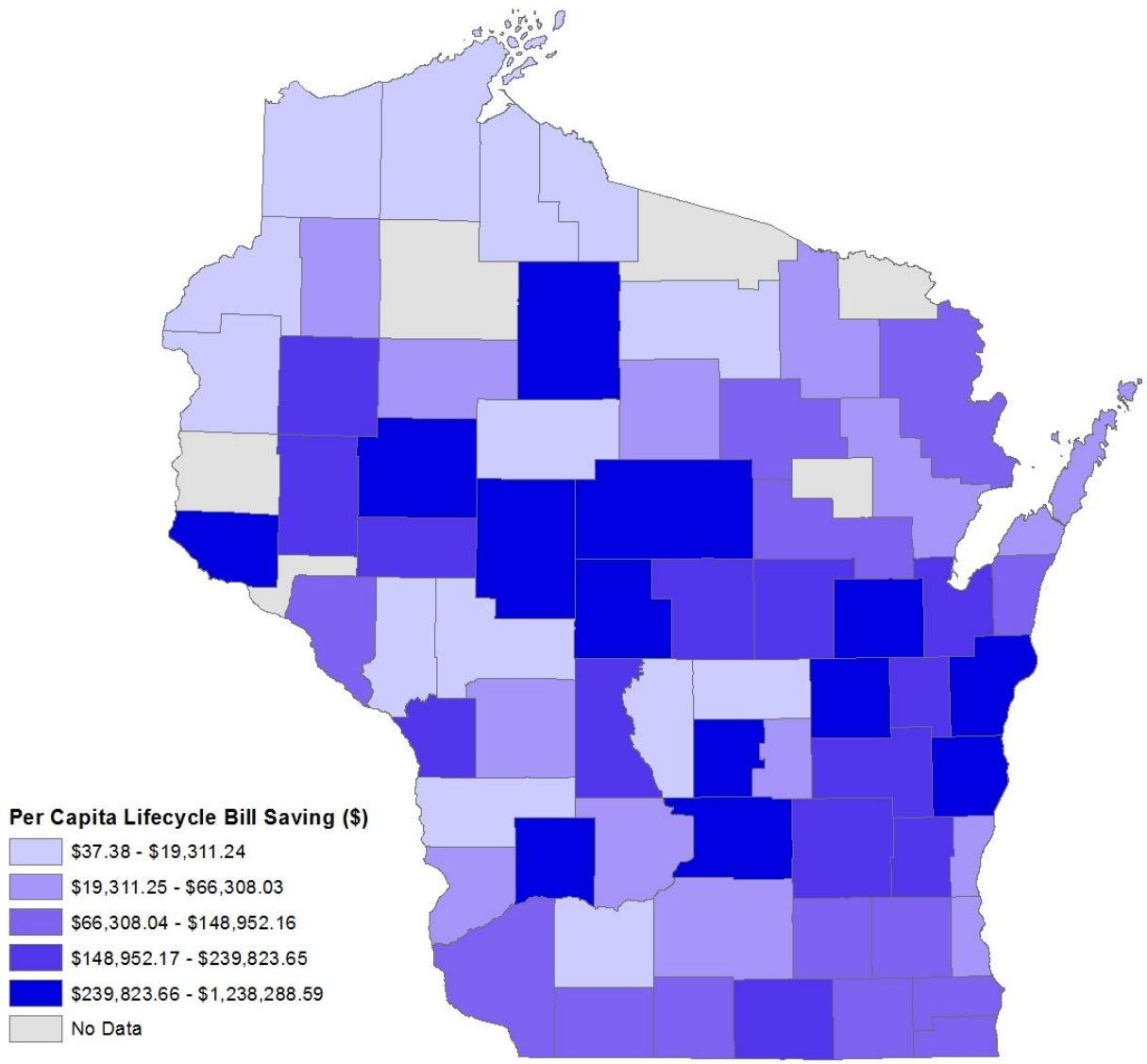


Residential Per Capita Incentive Dollars Awarded By County

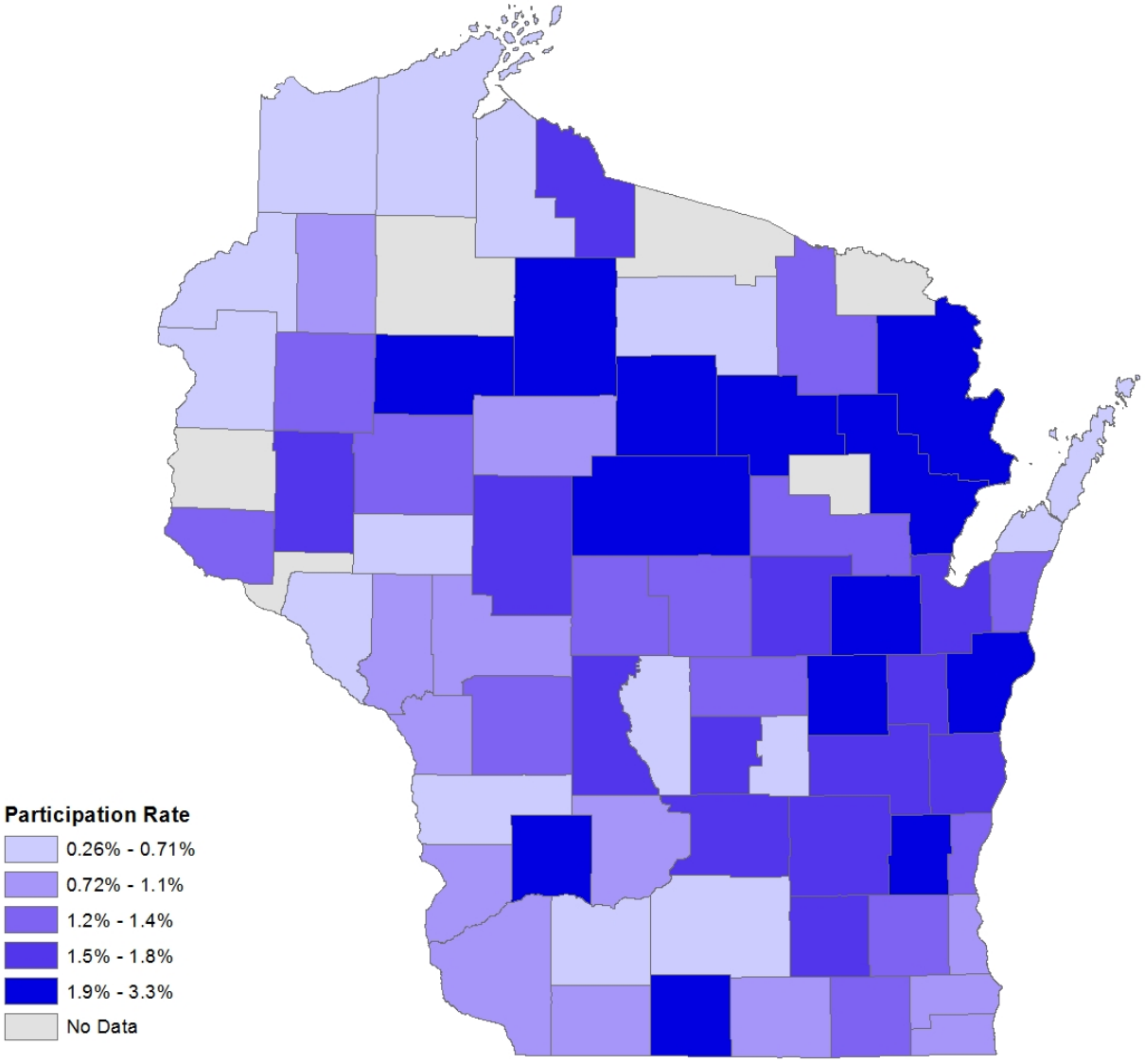


Industrial

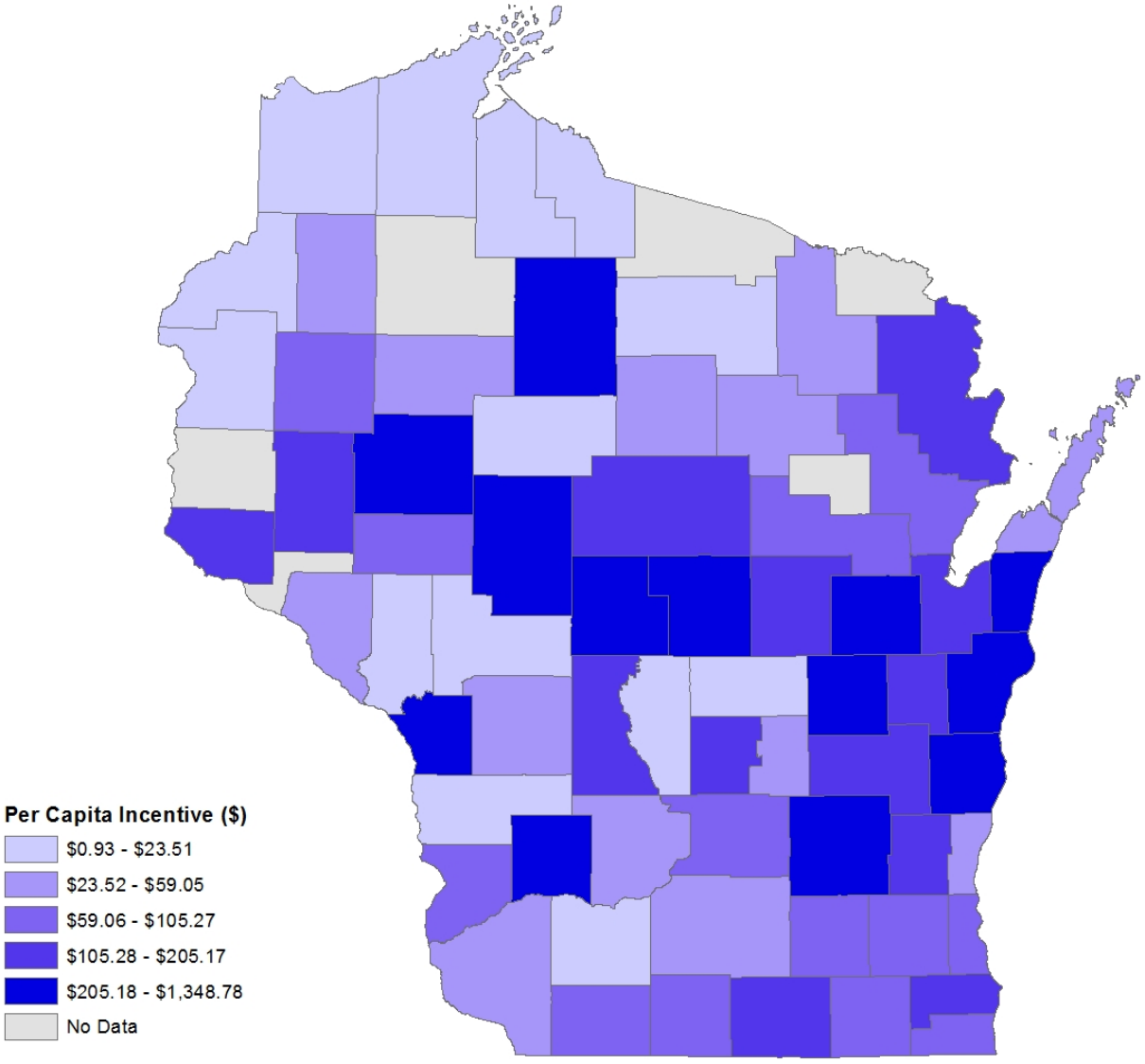
Industrial Per Capita Energy Bill Savings By County



Industrial Participation Rate By County

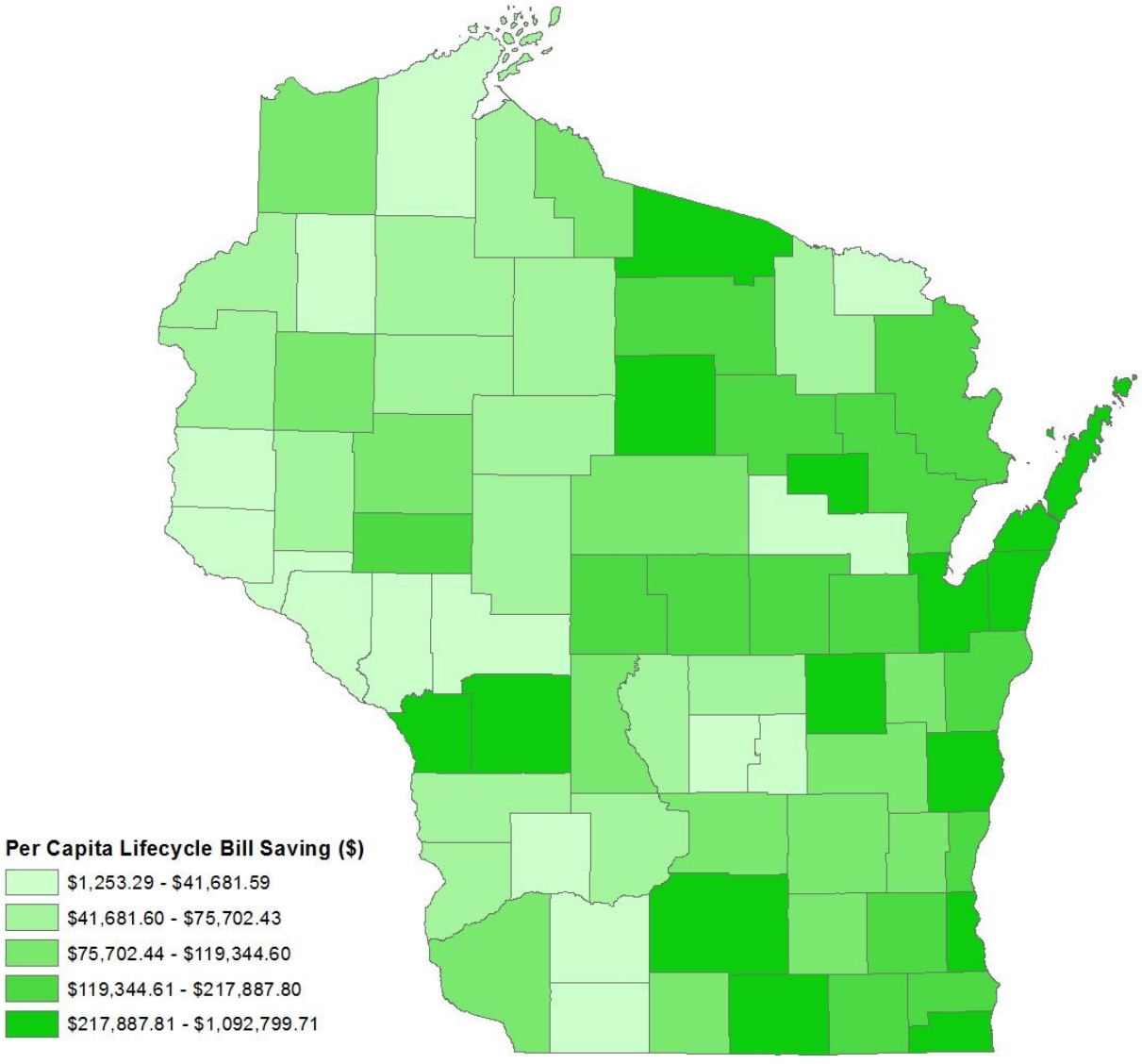


Industrial Per Capita Incentive Dollars Awarded By County

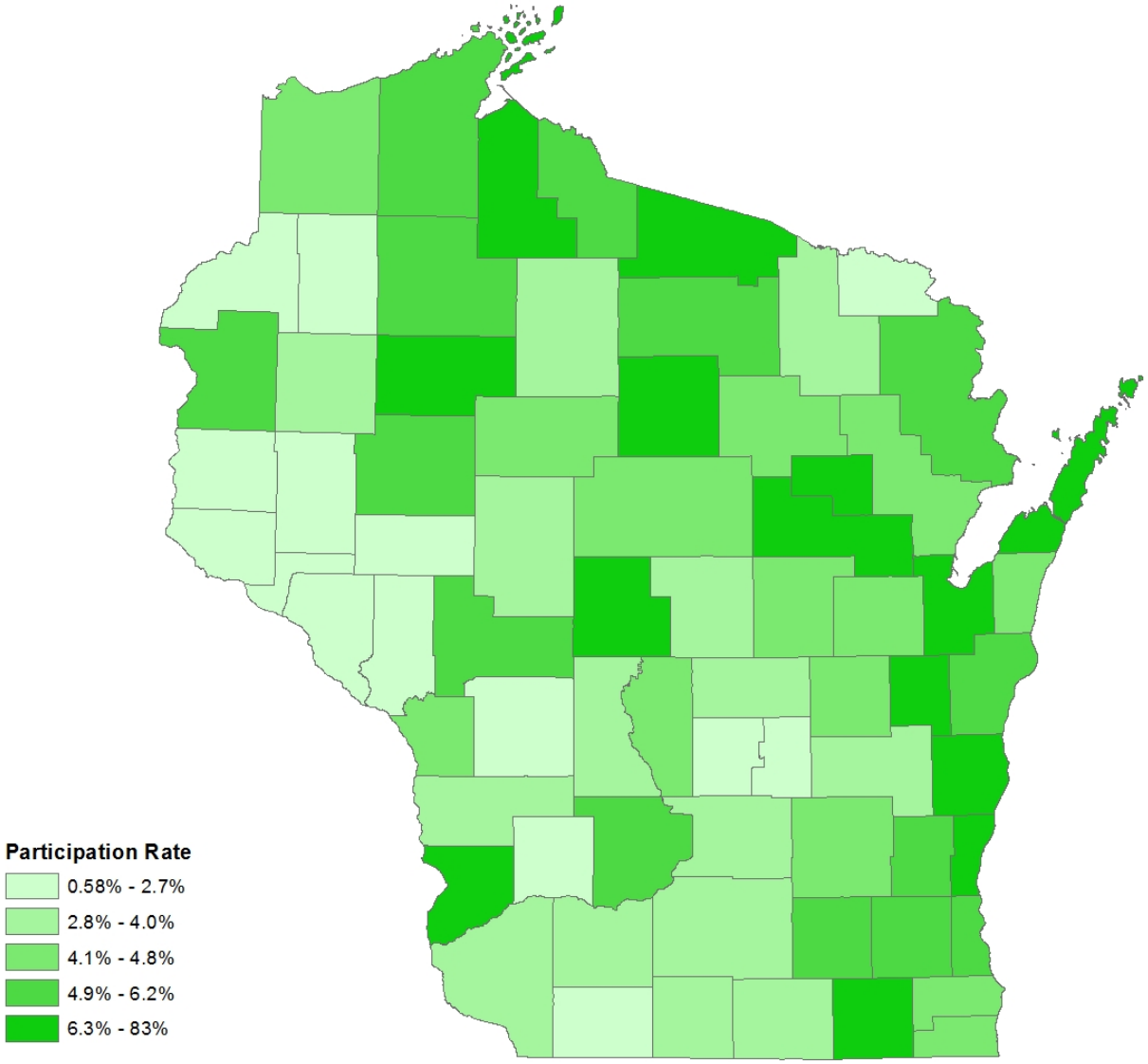


Commercial

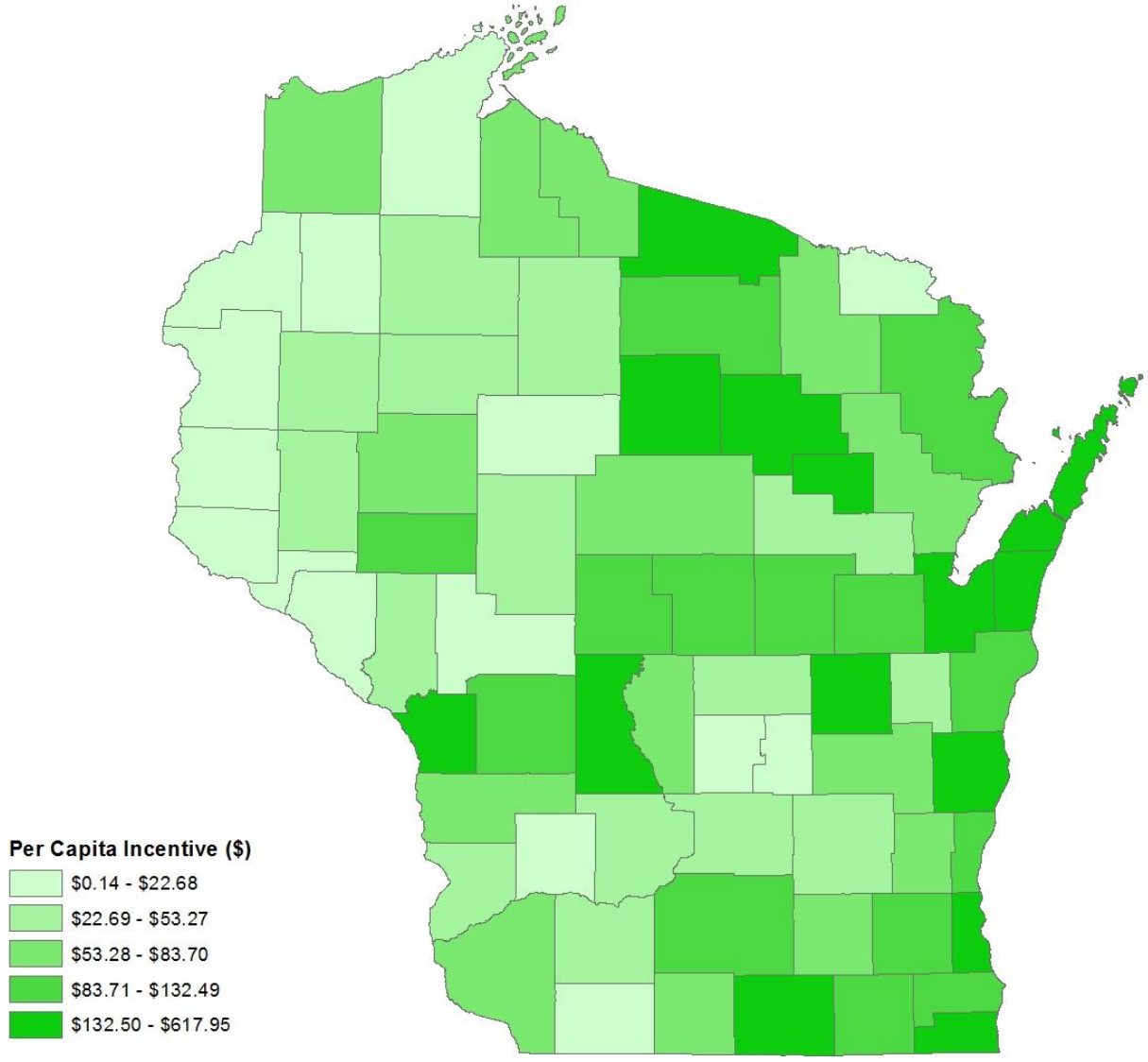
Commercial Per Capita Energy Bill Savings By County



Commercial Participation Rate By County



Commercial Per Capita Incentive Dollars Awarded By County



Appendix D: Table 1. Savings And Participation By County And Segment

County	Segment	Per Capita Lifecycle Bill Savings ($)	Participation Rate (%)	Per Capita Incentive ($)
ADAMS	Commercial	$51,144	4.3%	$61.38
ASHLAND	Commercial	$66,442	12.2%	$54.07
BARRON	Commercial	$81,829	2.8%	$51.06
BAYFIELD	Commercial	$30,338	4.8%	$20.49
BROWN	Commercial	$404,296	7.9%	$241.15
BUFFALO	Commercial	$18,416	0.6%	$6.48
BURNETT	Commercial	$63,795	2.4%	$22.68
CALUMET	Commercial	$86,831	6.3%	$53.27
CHIPPEWA	Commercial	$111,466	5.0%	$80.75
CLARK	Commercial	$60,270	2.8%	$28.67
COLUMBIA	Commercial	$83,123	3.5%	$51.09
CRAWFORD	Commercial	$47,532	7.5%	$23.59
DANE	Commercial	$237,670	3.7%	$129.75
DODGE	Commercial	$91,665	4.7%	$44.72
DOOR	Commercial	$395,960	6.2%	$294.63
DOUGLAS	Commercial	$119,345	4.3%	$69.83
DUNN	Commercial	$71,240	1.3%	$32.71
EAU CLAIRE	Commercial	$217,888	2.7%	$95.67
FLORENCE	Commercial	$17,367	1.8%	$5.10
FOND DU LAC	Commercial	$101,108	4.0%	$57.86
FOREST	Commercial	$62,201	3.9%	$72.81
GRANT	Commercial	$109,072	3.2%	$57.26
GREEN	Commercial	$101,435	3.3%	$58.44
GREEN LAKE	Commercial	$35,334	1.1%	$16.30
IOWA	Commercial	$27,835	3.1%	$27.16
IRON	Commercial	$114,346	5.0%	$55.42
JACKSON	Commercial	$14,836	5.4%	$17.42
JEFFERSON	Commercial	$98,805	4.8%	$62.43
JUNEAU	Commercial	$107,165	3.5%	$141.96
KENOSHA	Commercial	$264,243	4.4%	$151.12
KEWAUNEE	Commercial	$222,068	4.5%	$218.42
LA CROSSE	Commercial	$531,519	4.8%	$276.93
LAFAYETTE	Commercial	$30,105	2.1%	$14.99
LANGLADE	Commercial	$177,956	4.6%	$184.70
LINCOLN	Commercial	$252,084	11.5%	$144.49
MANITOWOC	Commercial	$160,047	5.3%	$132.49
MARATHON	Commercial	$94,193	4.1%	$59.78
MARINETTE	Commercial	$183,352	5.1%	$113.38

County	Segment	Per Capita Lifecycle Bill Savings ($)	Participation Rate (%)	Per Capita Incentive ($)
MARQUETTE	Commercial	$21,188	2.0%	$16.21
MENOMINEE	Commercial	$1,092,800	82.8%	$617.95
MILWAUKEE	Commercial	$320,387	5.8%	$179.47
MONROE	Commercial	$410,177	2.5%	$117.97
OCONTO	Commercial	$131,597	4.1%	$76.21
ONEIDA	Commercial	$157,942	6.1%	$100.75
OUTAGAMIE	Commercial	$182,644	4.7%	$117.93
OZAUKEE	Commercial	$216,940	6.5%	$108.17
PEPIN	Commercial	$29,798	1.3%	$15.16
PIERCE	Commercial	$41,682	1.3%	$12.09
POLK	Commercial	$42,958	4.9%	$20.43
PORTAGE	Commercial	$170,606	3.7%	$129.39
PRICE	Commercial	$56,989	3.8%	$51.38
RACINE	Commercial	$197,091	4.2%	$129.62
RICHLAND	Commercial	$12,289	2.2%	$8.60
ROCK	Commercial	$236,641	3.3%	$138.17
RUSK	Commercial	$43,424	7.1%	$28.62
SAUK	Commercial	$75,702	4.9%	$45.20
SAWYER	Commercial	$61,531	5.3%	$44.91
SHAWANO	Commercial	$33,647	8.4%	$22.84
SHEBOYGAN	Commercial	$279,835	6.5%	$234.65
ST. CROIX	Commercial	$1,253	2.6%	$0.14
TAYLOR	Commercial	$46,840	4.3%	$18.63
TREMPEALEA	Commercial	$40,057	0.9%	$23.97
VERNON	Commercial	$61,269	3.4%	$63.94
VILAS	Commercial	$435,694	7.6%	$202.15
WALWORTH	Commercial	$124,547	8.3%	$111.76
WASHBURN	Commercial	$27,686	1.7%	$21.19
WASHINGTO	Commercial	$110,233	5.6%	$83.70
WAUKESHA	Commercial	$214,747	6.2%	$112.27
WAUPACA	Commercial	$129,509	4.6%	$119.45
WAUSHARA	Commercial	$65,072	2.7%	$39.97
WINNEBAGO	Commercial	$245,419	4.7%	$193.33
WOOD	Commercial	$146,353	7.0%	$115.02
ADAMS	Industrial	$10,963	0.5%	$13.96
ASHLAND	Industrial	$1,537	0.3%	$1.22
BARRON	Industrial	$200,114	1.2%	$89.88
BAYFIELD	Industrial	$17,888	0.4%	$16.13
BROWN	Industrial	$164,193	1.8%	$126.85

County	Segment	Per Capita Lifecycle Bill Savings ($)	Participation Rate (%)	Per Capita Incentive ($)
BUFFALO	Industrial	$76,187	0.6%	$28.89
BURNETT	Industrial	$1,554	0.4%	$0.93
CALUMET	Industrial	$198,000	1.8%	$148.92
CHIPPEWA	Industrial	$442,946	1.1%	$380.81
CLARK	Industrial	$1,238,289	1.5%	$504.08
COLUMBIA	Industrial	$834,504	1.6%	$105.27
CRAWFORD	Industrial	$19,704	0.9%	$66.82
DANE	Industrial	$29,947	0.5%	$30.31
DODGE	Industrial	$156,053	1.6%	$233.41
DOOR	Industrial	$56,865	0.7%	$29.41
DOUGLAS	Industrial	$3,541	0.5%	$1.93
DUNN	Industrial	$175,470	1.4%	$187.96
EAU CLAIRE	Industrial	$167,534	0.6%	$98.99
FOND DU LAC	Industrial	$167,453	1.5%	$160.71
FOREST	Industrial	$40,800	1.2%	$28.36
GRANT	Industrial	$79,913	0.9%	$39.71
GREEN	Industrial	$66,996	2.0%	$62.38
GREEN LAKE	Industrial	$45,657	0.6%	$25.78
IOWA	Industrial	$11,669	0.3%	$23.51
IRON	Industrial	$8,191	1.7%	$4.87
JACKSON	Industrial	$37	1.0%	$6.38
JEFFERSON	Industrial	$112,552	1.6%	$101.58
JUNEAU	Industrial	$153,673	1.6%	$117.12
KENOSHA	Industrial	$72,859	0.8%	$74.99
KEWAUNEE	Industrial	$93,802	1.3%	$251.47
LA CROSSE	Industrial	$184,842	0.8%	$313.32
LAFAYETTE	Industrial	$110,536	1.0%	$81.18
LANGLADE	Industrial	$70,999	2.9%	$59.05
LINCOLN	Industrial	$51,309	2.0%	$41.90
MANITOWOC	Industrial	$243,106	3.3%	$285.37
MARATHON	Industrial	$327,246	2.0%	$203.08
MARINETTE	Industrial	$107,348	3.1%	$143.43
MARQUETTE	Industrial	$285,929	1.5%	$199.72
MILWAUKEE	Industrial	$57,182	0.8%	$73.29
MONROE	Industrial	$29,697	1.4%	$26.10
OCONTO	Industrial	$41,472	1.8%	$59.11
ONEIDA	Industrial	$19,311	0.3%	$15.86
OUTAGAMIE	Industrial	$305,986	1.8%	$253.57
OZAUKEE	Industrial	$66,308	1.4%	$51.44

County	Segment	Per Capita Lifecycle Bill Savings ($)	Participation Rate (%)	Per Capita Incentive ($)
PIERCE	Industrial	$348,373	1.2%	$111.86
POLK	Industrial	$7,665	0.3%	$6.59
PORTAGE	Industrial	$167,193	1.3%	$312.96
PRICE	Industrial	$517,828	3.0%	$1,348.78
RACINE	Industrial	$148,952	1.1%	$159.68
RICHLAND	Industrial	$591,244	2.8%	$367.78
ROCK	Industrial	$234,307	0.9%	$202.48
RUSK	Industrial	$40,729	2.4%	$45.07
SAUK	Industrial	$38,867	1.0%	$38.05
SHAWANO	Industrial	$109,504	1.1%	$94.27
SHEBOYGAN	Industrial	$350,089	1.5%	$304.90
TAYLOR	Industrial	$9,119	0.8%	$17.13
TREMPEALEA	Industrial	$7,685	1.0%	$7.95
VERNON	Industrial	$11,514	0.3%	$9.62
WALWORTH	Industrial	$89,465	1.3%	$70.42
WASHBURN	Industrial	$41,799	0.9%	$28.00
WASHINGTO	Industrial	$186,031	1.9%	$145.66
WAUKESHA	Industrial	$92,915	1.2%	$96.76
WAUPACA	Industrial	$239,824	1.6%	$205.17
WAUSHARA	Industrial	$5,029	1.1%	$6.12
WINNEBAGO	Industrial	$594,931	2.7%	$459.71
WOOD	Industrial	$575,813	1.1%	$336.51
ADAMS	Residential	$6,554	44.1%	$3.94
ASHLAND	Residential	$4,324	34.4%	$2.83
BARRON	Residential	$3,201	27.5%	$2.31
BAYFIELD	Residential	$3,770	23.2%	$2.53
BROWN	Residential	$7,701	40.4%	$10.10
BUFFALO	Residential	$3,002	20.0%	$2.35
BURNETT	Residential	$5,375	26.8%	$2.53
CALUMET	Residential	$5,987	33.3%	$5.79
CHIPPEWA	Residential	$6,267	37.2%	$6.30
CLARK	Residential	$4,207	32.6%	$2.81
COLUMBIA	Residential	$7,857	49.5%	$4.93
CRAWFORD	Residential	$7,267	55.2%	$6.11
DANE	Residential	$10,941	48.7%	$10.36
DODGE	Residential	$7,325	49.6%	$5.65
DOOR	Residential	$6,093	37.2%	$5.41
DOUGLAS	Residential	$4,077	31.8%	$2.87
DUNN	Residential	$6,433	33.3%	$4.95

County	Segment	Per Capita Lifecycle Bill Savings ($)	Participation Rate (%)	Per Capita Incentive ($)
EAU CLAIRE	Residential	$8,173	40.5%	$7.85
FLORENCE	Residential	$1,309	7.6%	$1.72
FOND DU LAC	Residential	$6,272	35.5%	$5.09
FOREST	Residential	$4,401	31.9%	$3.09
GRANT	Residential	$5,686	37.0%	$4.81
GREEN	Residential	$6,936	52.3%	$4.74
GREEN LAKE	Residential	$6,502	48.0%	$4.62
IOWA	Residential	$7,068	54.3%	$5.75
IRON	Residential	$4,332	19.2%	$1.27
JACKSON	Residential	$5,811	49.3%	$3.42
JEFFERSON	Residential	$6,626	36.3%	$5.19
JUNEAU	Residential	$4,625	33.3%	$2.98
KENOSHA	Residential	$6,929	47.8%	$5.30
KEWAUNEE	Residential	$5,369	36.8%	$3.78
LA CROSSE	Residential	$8,356	60.1%	$8.57
LAFAYETTE	Residential	$4,325	32.1%	$3.13
LANGLADE	Residential	$5,987	50.3%	$3.89
LINCOLN	Residential	$7,500	56.7%	$5.51
MANITOWOC	Residential	$6,195	34.6%	$5.27
MARATHON	Residential	$7,642	57.2%	$6.95
MARINETTE	Residential	$6,079	43.6%	$8.08
MARQUETTE	Residential	$5,058	31.4%	$3.32
MENOMINEE	Residential	$6,521	48.7%	$3.13
MILWAUKEE	Residential	$6,820	35.4%	$6.74
MONROE	Residential	$7,138	47.5%	$6.30
OCONTO	Residential	$5,783	31.2%	$7.55
ONEIDA	Residential	$6,100	42.6%	$6.14
OUTAGAMIE	Residential	$6,825	29.9%	$8.05
OZAUKEE	Residential	$12,260	79.3%	$10.03
PEPIN	Residential	$3,963	32.0%	$2.43
PIERCE	Residential	$5,910	21.9%	$6.75
POLK	Residential	$6,258	44.2%	$4.11
PORTAGE	Residential	$7,198	47.3%	$7.59
PRICE	Residential	$4,678	38.6%	$3.30
RACINE	Residential	$6,393	41.3%	$5.32
RICHLAND	Residential	$7,254	53.1%	$4.63
ROCK	Residential	$7,931	59.3%	$6.06
RUSK	Residential	$4,664	40.0%	$2.37
SAUK	Residential	$9,264	62.6%	$5.65

County	Segment	Per Capita Lifecycle Bill Savings ($)	Participation Rate (%)	Per Capita Incentive ($)
SAWYER	Residential	$6,266	50.7%	$3.67
SHAWANO	Residential	$6,172	45.5%	$3.56
SHEBOYGAN	Residential	$7,371	43.9%	$7.18
ST. CROIX	Residential	$4,179	36.2%	$2.36
TAYLOR	Residential	$5,418	41.9%	$3.84
TREMPEALEA	Residential	$4,163	32.6%	$4.17
VERNON	Residential	$6,004	36.0%	$4.14
VILAS	Residential	$6,265	41.3%	$4.67
WALWORTH	Residential	$7,283	53.4%	$4.63
WASHBURN	Residential	$3,603	30.3%	$1.96
WASHINGTO	Residential	$7,523	46.9%	$6.28
WAUKESHA	Residential	$11,111	58.5%	$8.88
WAUPACA	Residential	$5,207	36.4%	$4.19
WAUSHARA	Residential	$4,518	30.7%	$3.29
WINNEBAGO	Residential	$6,361	32.0%	$5.92
WOOD	Residential	$8,712	50%	$7.70

Appendix E. Summary Of Savings By Political District

The maps in this appendix summarize the evaluation findings by Assembly District and Senate District in the residential, commercial, and industrial sectors.

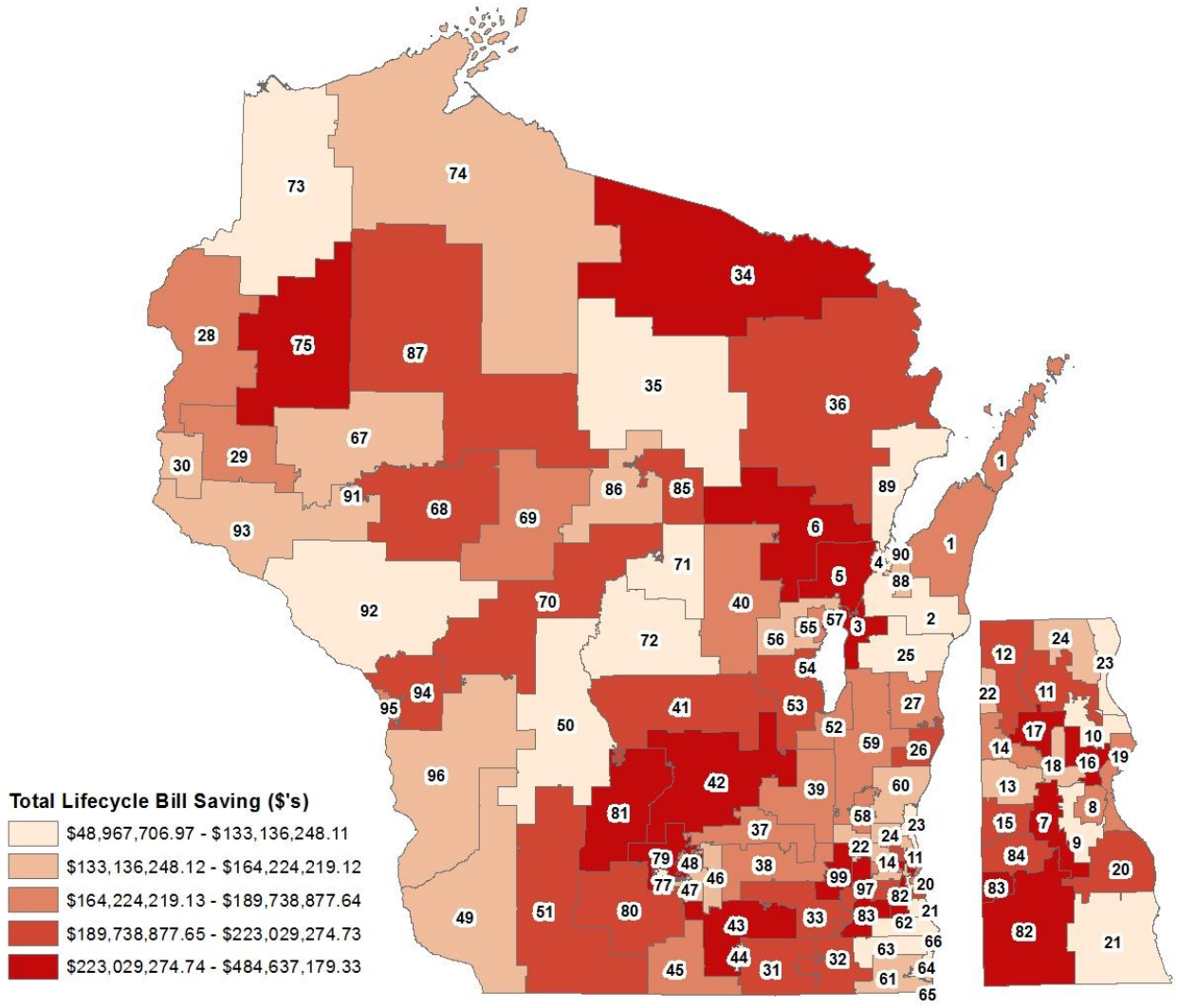
2012 Savings By Segment, By Assembly District

The following section includes eighteen maps based on the results of the 2012 evaluation: three Assembly District and three Senate District maps (total lifetime bill savings, total 2012 participation, and total incentive paid in 2012) each for three primary segments (residential, industrial, and commercial). Commercial maps include commercial businesses, schools, government, and agricultural entities.

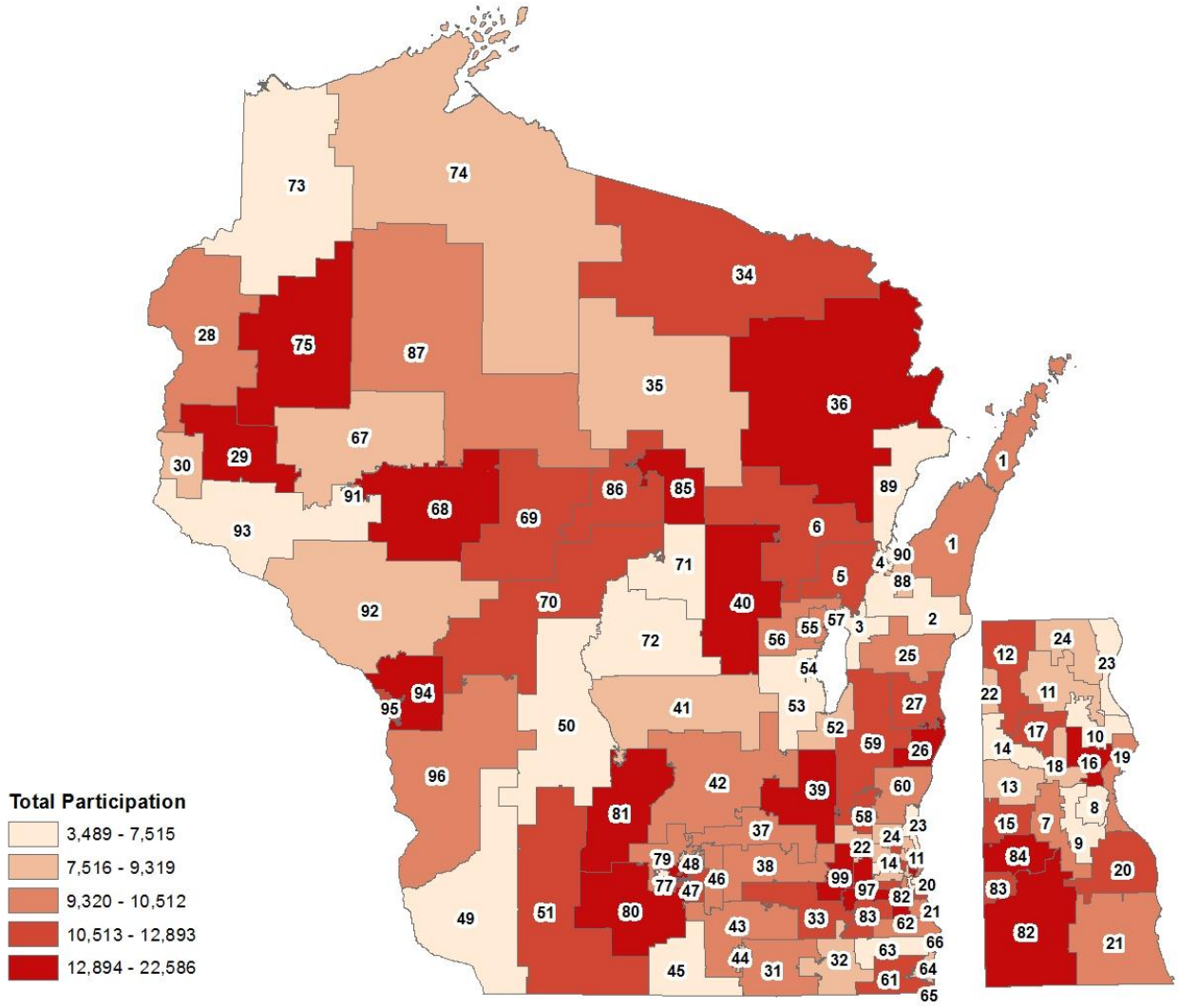
Due to recent redistricting efforts and time constraints on evaluation activities, the three key parameters for the Assembly and Senate Districts are all defined on a total and not per capita basis. Similar to the 2011 evaluation report, the bill savings are defined as evaluated lifecycle verified gross energy savings multiplied by the retail rate of delivered energy in 2012. The participation is defined as total participation within each Assembly / Senate District. The incentives are defined as total incentives within each Assembly / Senate District.

Residential

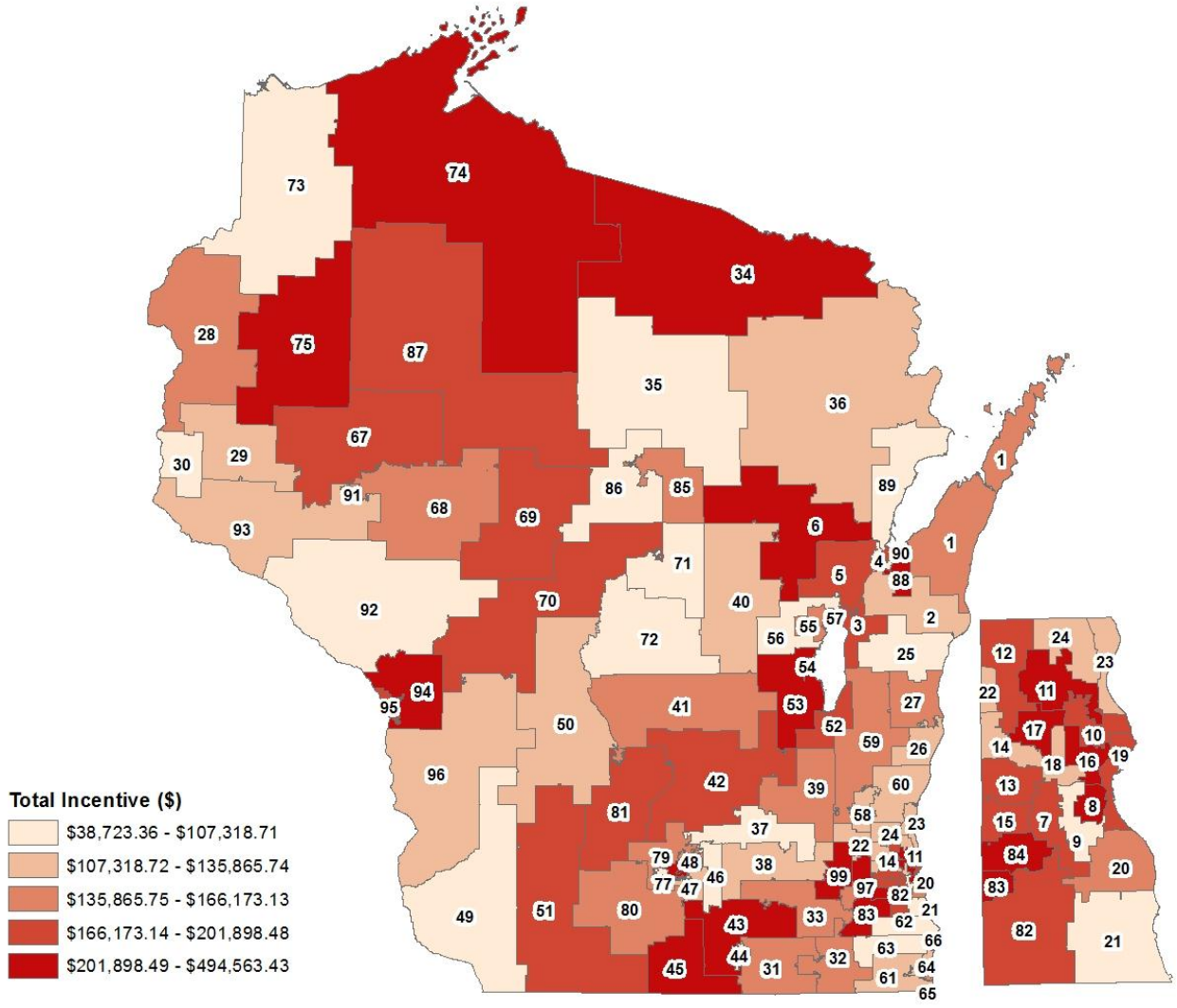
Residential Energy Bill Savings By Assembly District



Residential Participation By Assembly District

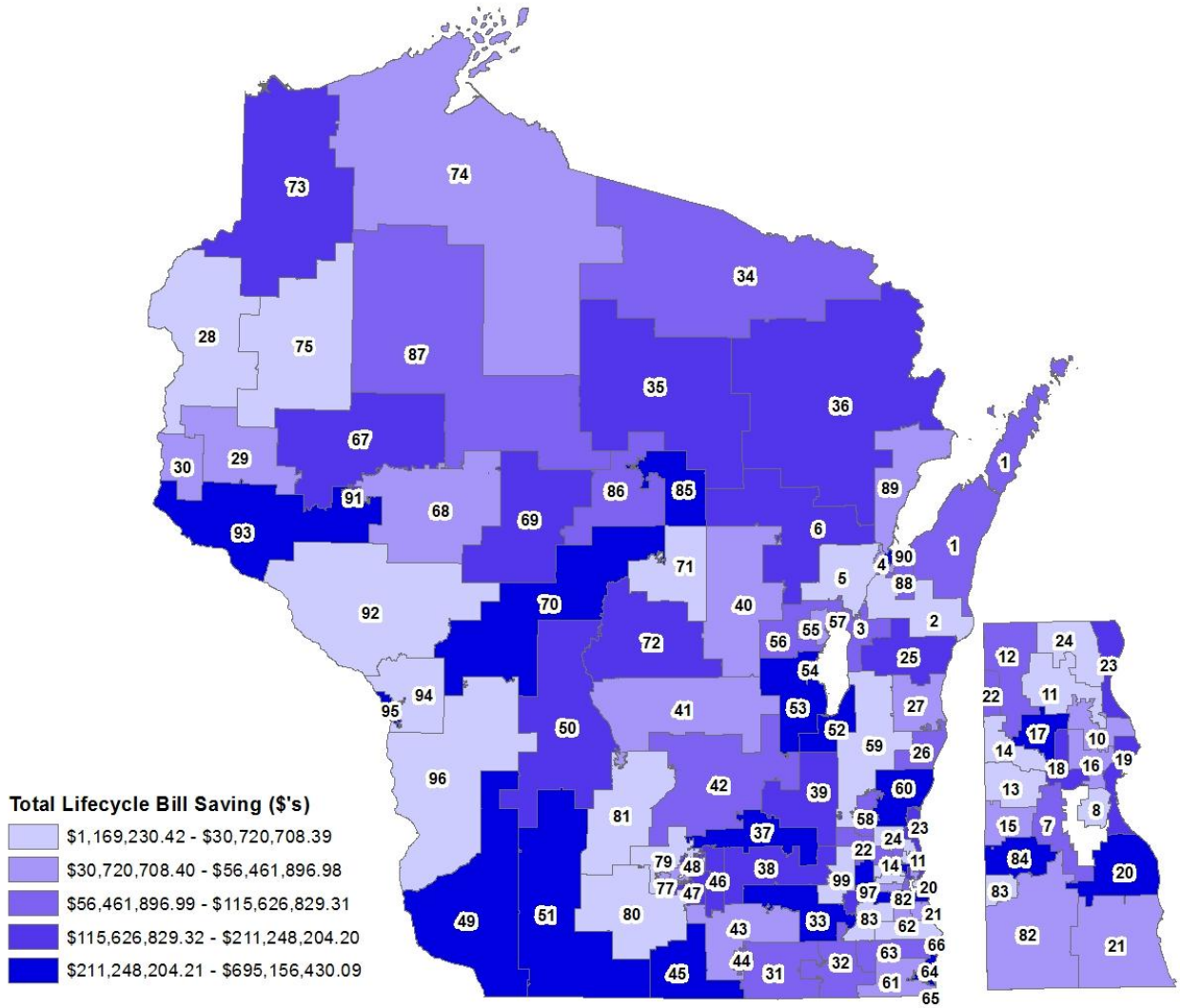


Residential Incentive Dollars Awarded By Assembly District

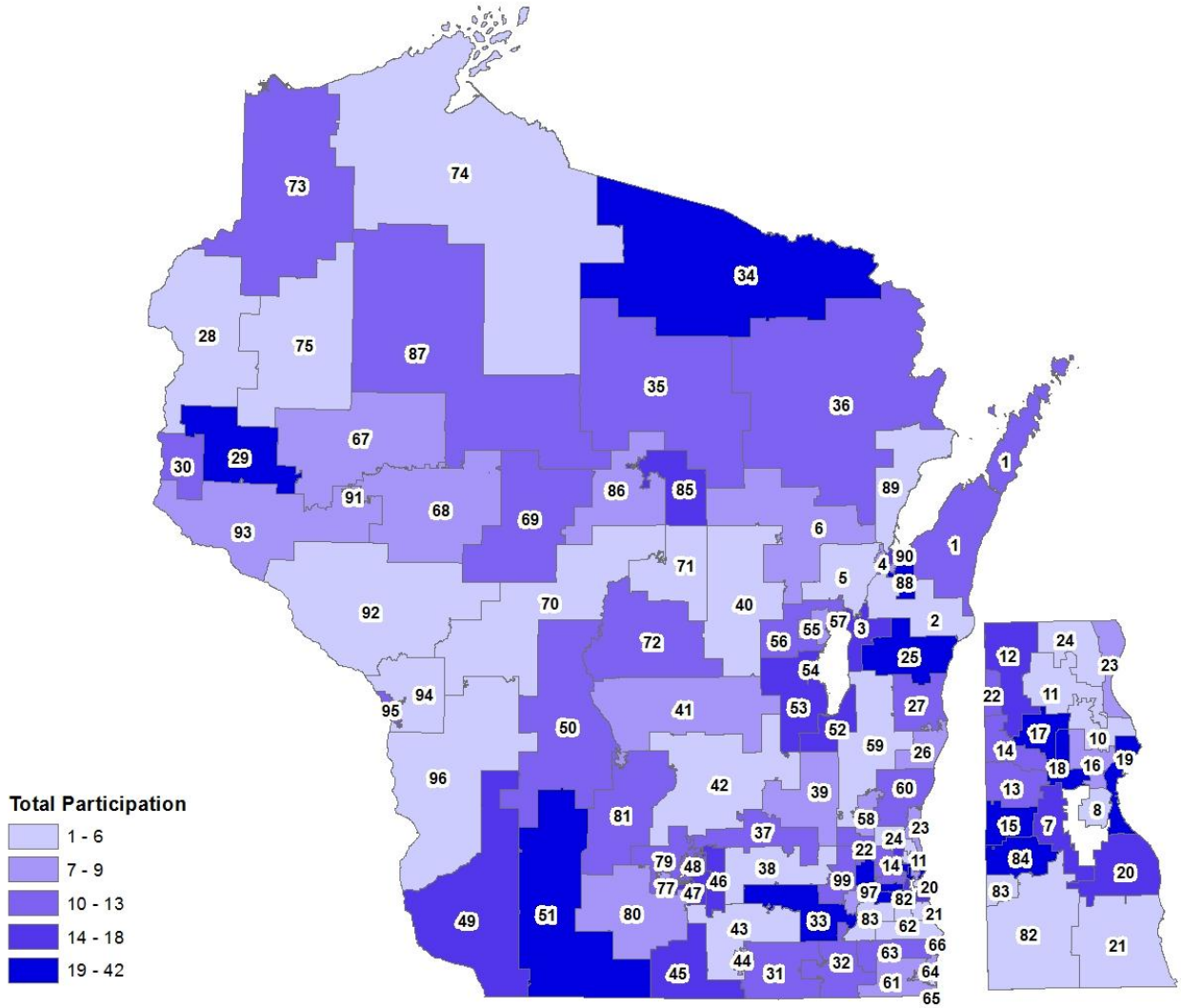


Industrial

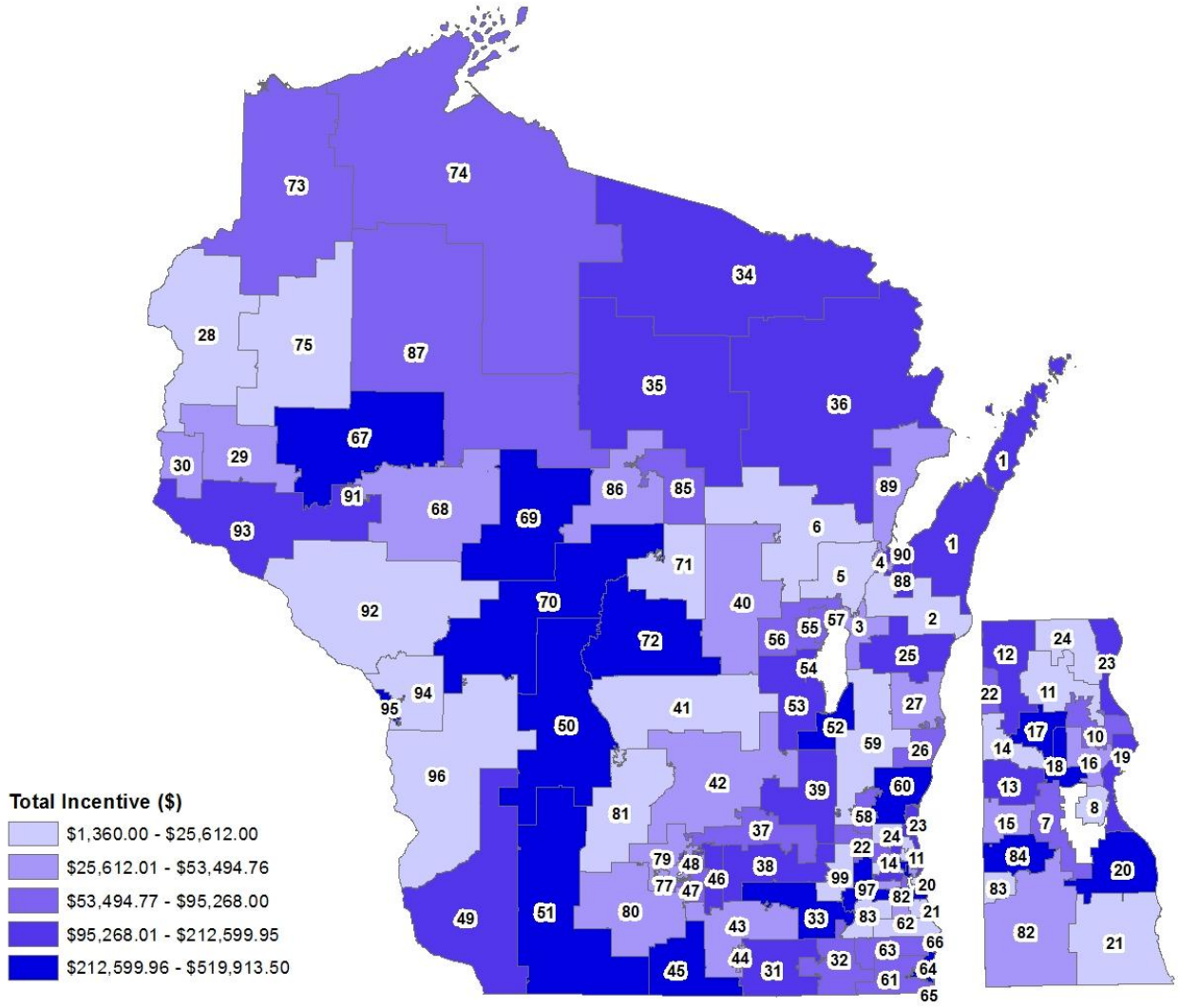
Industrial Energy Bill Savings By Assembly District



Industrial Participation By Assembly District

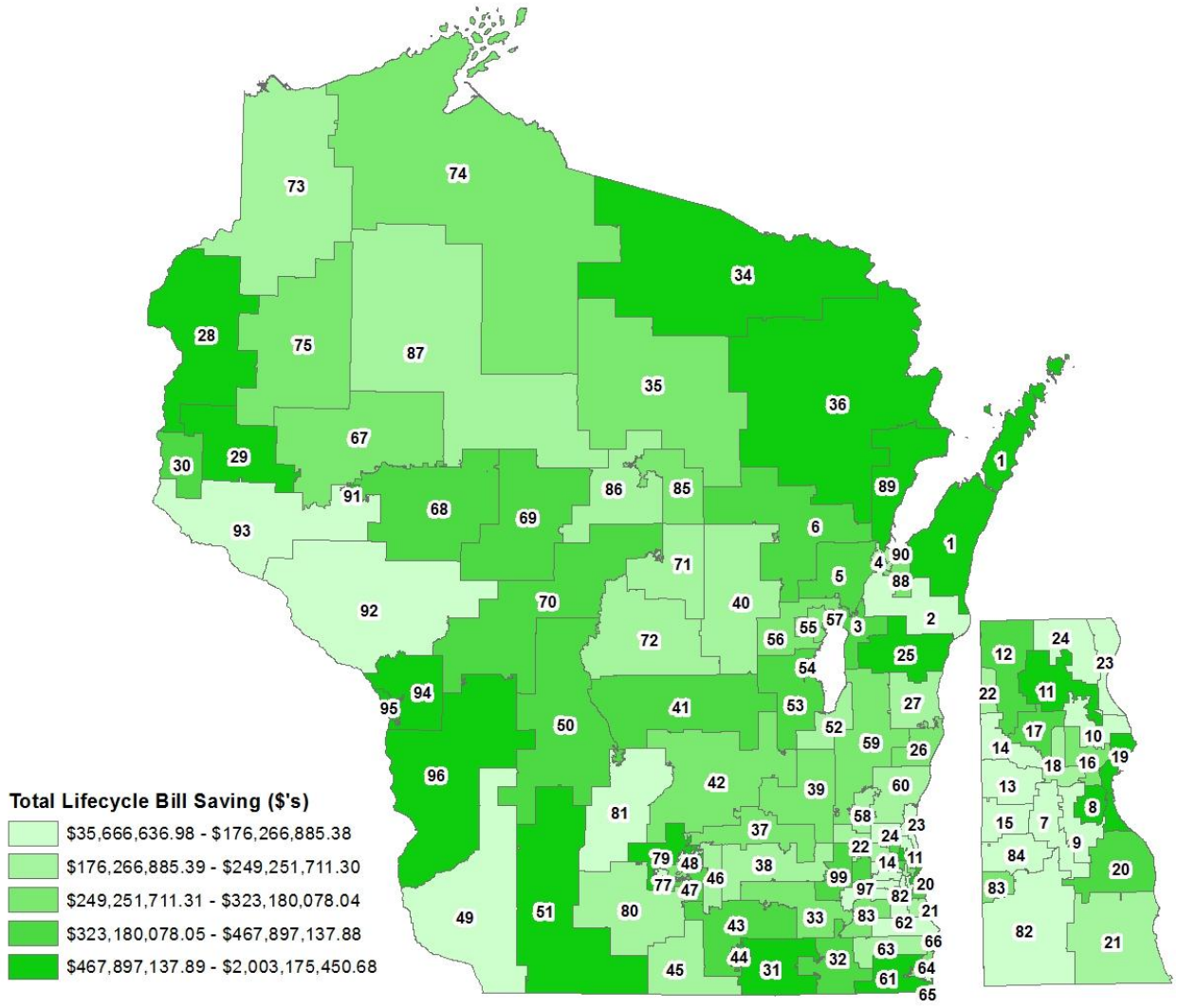


Industrial Incentive Dollars Awarded By Assembly District

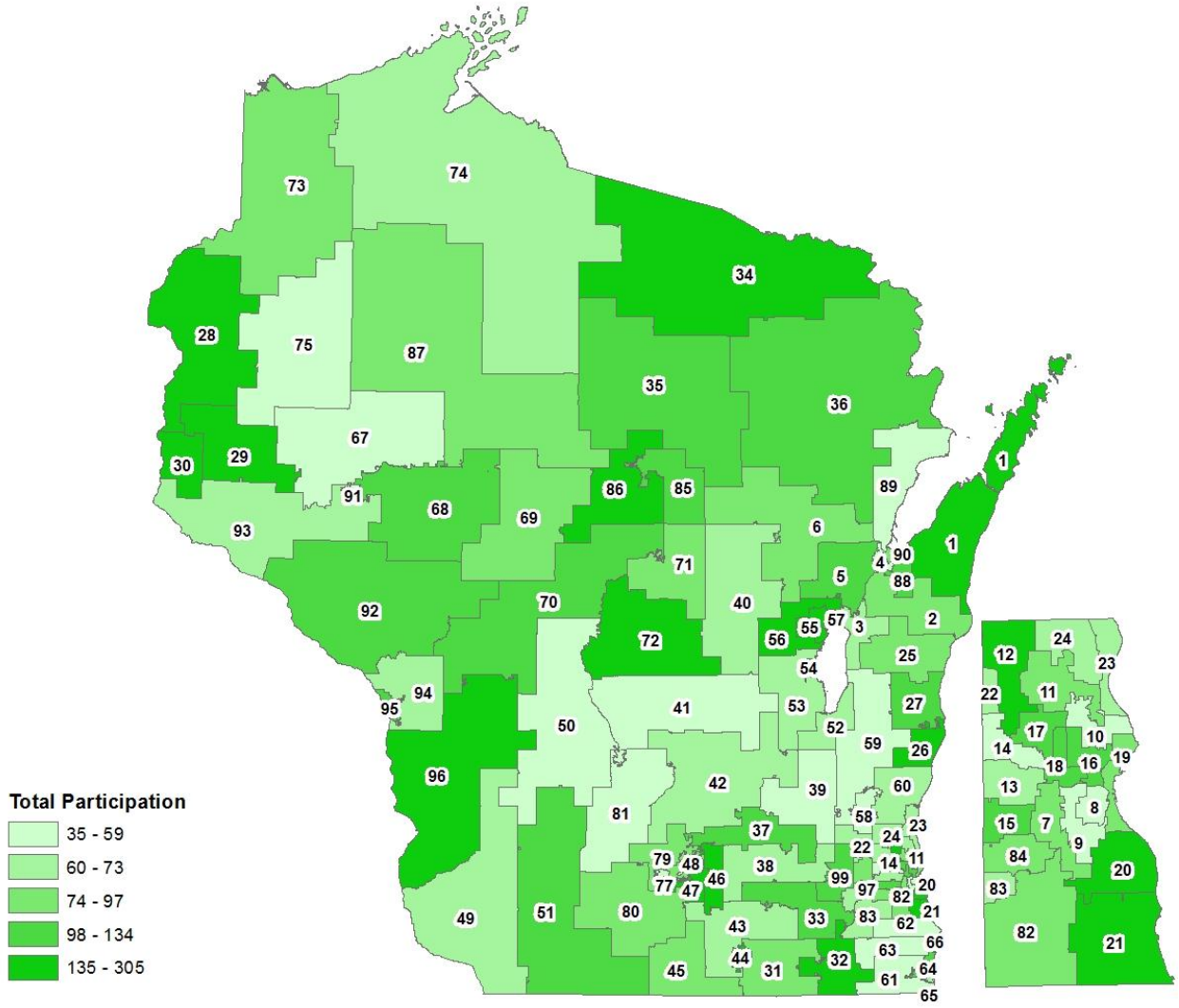


Commercial

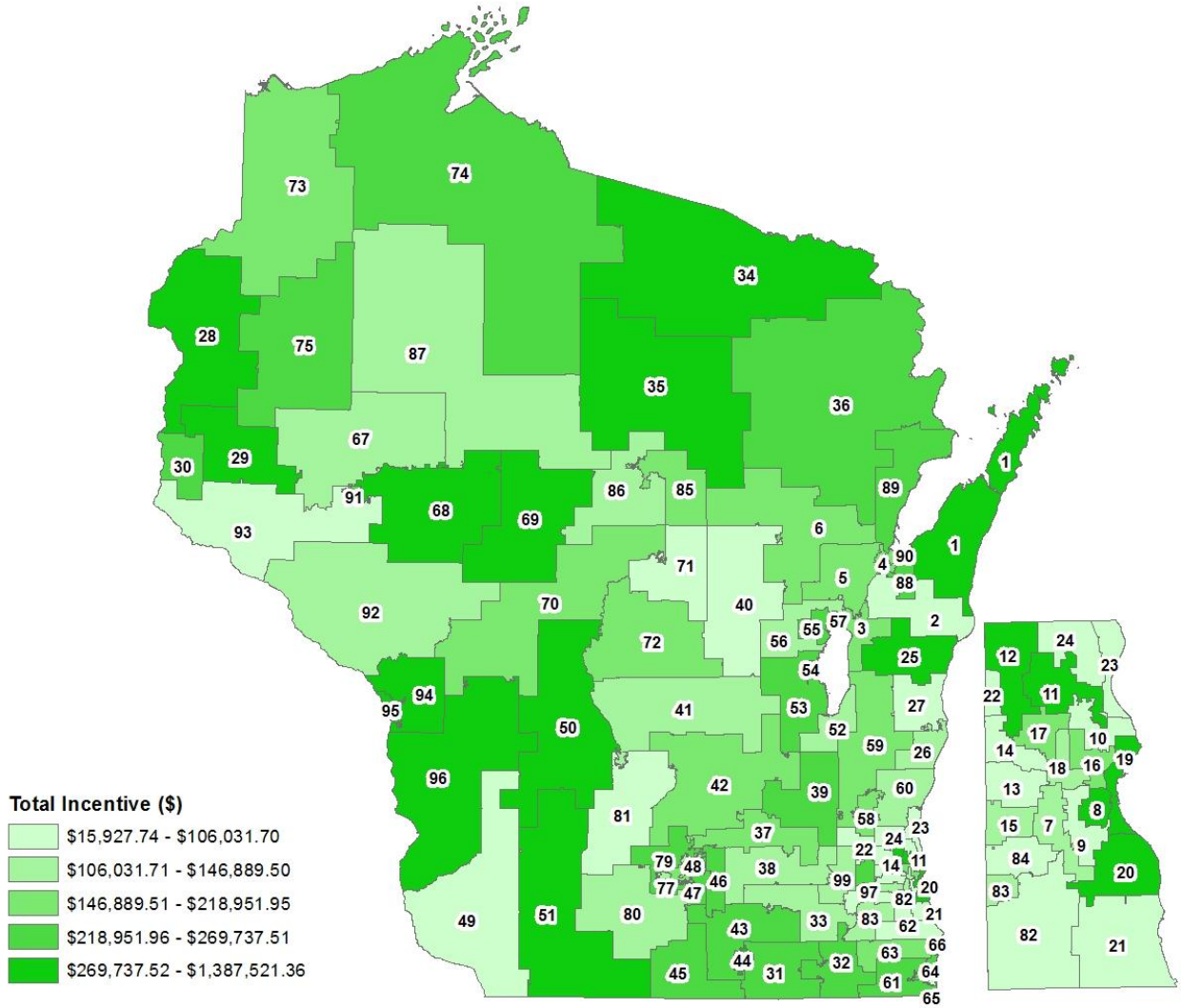
Commercial Energy Bill Savings By Assembly District



Commercial Participation By Assembly District



Commercial Incentive Dollars Awarded By Assembly District



Appendix E: Table 1. Savings And Participation By Assembly District And Segment

Assembly District	Segment	Lifecycle Bill Savings ($)	Participation	Incentive ($)
1	Commercial	$12,324,519	194	$715,841
1	Commercial	$2,003,175,450.68	218	$1,387,521.36
2	Commercial	$85,568,412.64	75	$57,013.70
3	Commercial	$436,440,500.61	70	$199,253.15
4	Commercial	$233,095,552.07	52	$158,751.88
5	Commercial	$453,650,319.90	104	$215,462.04
6	Commercial	$336,070,739.94	91	$167,277.09
7	Commercial	$139,522,507.81	77	$110,906.55
8	Commercial	$819,154,299.56	59	$482,592.01
9	Commercial	$61,835,133.47	53	$32,181.12
10	Commercial	$35,666,636.98	38	$15,927.74
11	Commercial	$848,782,323.32	75	$507,888.70
12	Commercial	$465,159,421.30	151	$278,559.31
13	Commercial	$174,946,603.91	64	$78,616.47
14	Commercial	$162,542,831.56	48	$92,451.88
15	Commercial	$163,317,410.74	97	$109,008.15
16	Commercial	$310,825,727.52	130	$201,803.62
17	Commercial	$372,946,912.39	119	$218,951.95
18	Commercial	$218,775,059.56	115	$146,889.50
19	Commercial	$481,120,544.23	81	$354,560.68
20	Commercial	$422,981,612.44	144	$420,953.24
21	Commercial	$183,550,675.39	166	$82,436.67
22	Commercial	$232,704,861.75	68	$106,031.70
23	Commercial	$106,116,105.86	64	$73,641.64
24	Commercial	$159,896,309.90	60	$87,550.46
25	Commercial	$522,122,916.78	80	$443,396.00
26	Commercial	$258,115,835.18	205	$106,998.82
27	Commercial	$196,682,146.08	109	$103,538.46
28	Commercial	$535,280,804.03	140	$282,341.20
29	Commercial	$570,324,854.99	222	$400,340.91
30	Commercial	$467,200,048.18	166	$264,132.53
31	Commercial	$628,972,988.36	89	$269,335.72
32	Commercial	$417,306,421.08	153	$259,674.99
33	Commercial	$259,558,789.03	130	$113,191.03
34	Commercial	$551,463,971.04	140	$325,313.35
35	Commercial	$307,817,487.59	118	$313,447.68
36	Commercial	$507,844,198.21	120	$231,731.11
37	Commercial	$301,140,892.75	101	$164,629.76

Assembly District	Segment	Lifecycle Bill Savings ($)	Participation	Incentive ($)
38	Commercial	$237,544,052.76	66	$136,271.21
39	Commercial	$264,020,995.88	48	$248,016.63
40	Commercial	$237,233,012.26	66	$93,491.62
41	Commercial	$345,650,011.74	53	$142,963.26
42	Commercial	$308,539,842.03	70	$152,694.52
43	Commercial	$360,752,131.69	66	$256,148.11
44	Commercial	$509,676,311.66	170	$274,864.11
45	Commercial	$231,959,482.18	91	$224,103.12
46	Commercial	$228,676,391.32	162	$246,421.74
47	Commercial	$386,714,109.12	183	$234,411.93
48	Commercial	$172,892,936.79	81	$131,747.65
49	Commercial	$130,580,927.30	62	$84,862.88
50	Commercial	$462,356,649.00	51	$394,480.06
51	Commercial	$564,469,399.99	116	$319,181.17
52	Commercial	$186,232,783.11	73	$123,593.61
53	Commercial	$351,684,000.15	69	$220,424.16
54	Commercial	$278,523,620.12	68	$190,505.51
55	Commercial	$261,411,029.08	135	$267,275.64
56	Commercial	$271,548,773.51	240	$137,852.00
57	Commercial	$327,501,070.99	98	$173,826.55
58	Commercial	$210,198,114.92	54	$153,994.60
59	Commercial	$265,797,522.09	41	$157,708.94
60	Commercial	$214,241,769.71	72	$146,710.42
61	Commercial	$480,862,384.15	44	$250,407.77
62	Commercial	$145,798,028.76	35	$99,708.63
63	Commercial	$234,319,965.07	53	$171,144.60
64	Commercial	$277,736,045.07	134	$230,640.37
65	Commercial	$175,414,759.32	73	$104,511.94
66	Commercial	$330,518,455.40	153	$179,304.36
67	Commercial	$323,180,078.04	39	$109,361.10
68	Commercial	$325,311,696.32	134	$276,787.73
69	Commercial	$348,203,690.12	79	$295,093.03
70	Commercial	$330,040,099.62	133	$204,139.05
71	Commercial	$182,284,219.24	75	$104,308.06
72	Commercial	$214,721,118.22	189	$165,751.20
73	Commercial	$249,251,711.30	97	$173,139.33
74	Commercial	$298,680,300.37	70	$256,074.16
75	Commercial	$265,057,819.72	58	$219,962.04
76	Commercial	$274,980,212.63	57	$129,927.11

Assembly District	Segment	Lifecycle Bill Savings ($)	Participation	Incentive ($)
77	Commercial	$307,824,524.36	89	$178,175.29
78	Commercial	$92,845,760.91	37	$127,361.16
79	Commercial	$586,014,064.18	89	$269,737.51
80	Commercial	$201,298,451.61	97	$110,747.15
81	Commercial	$130,465,254.90	35	$66,524.89
82	Commercial	$77,986,218.06	75	$68,042.93
83	Commercial	$266,304,760.51	62	$129,604.23
84	Commercial	$134,650,509.46	78	$92,752.25
85	Commercial	$304,218,159.75	102	$200,888.31
86	Commercial	$238,498,181.82	212	$134,378.45
87	Commercial	$180,643,270.84	83	$130,043.61
88	Commercial	$300,630,064.90	121	$241,948.42
89	Commercial	$484,259,474.37	45	$237,643.79
90	Commercial	$246,668,731.28	83	$204,956.85
91	Commercial	$605,467,162.01	54	$259,044.41
92	Commercial	$170,225,589.90	107	$119,677.33
93	Commercial	$176,266,885.38	63	$69,619.91
94	Commercial	$1,102,897,325.35	66	$446,462.05
95	Commercial	$579,088,230.58	97	$435,140.19
96	Commercial	$1,459,313,719.76	305	$576,373.55
97	Commercial	$82,869,401.25	67	$57,623.65
98	Commercial	$395,090,612.56	83	$236,793.96
99	Commercial	$467,897,137.88	117	$143,257.50
1	Industrial	$80,813,738.52	13	$104,407.00
2	Industrial	$9,933,702.81	6	$17,693.50
3	Industrial	$79,516,696.12	15	$47,737.80
4	Industrial	$36,273,388.66	8	$37,083.85
5	Industrial	$14,304,330.63	4	$3,502.50
6	Industrial	$180,566,400.70	8	$19,395.32
7	Industrial	$111,665,895.88	14	$69,416.06
8	Industrial	$5,862,204.00	1	$3,086.00
10	Industrial	$42,095,861.50	4	$60,765.19
11	Industrial	$23,819,774.12	3	$12,921.00
12	Industrial	$62,567,436.30	18	$127,854.98
13	Industrial	$15,941,387.16	11	$136,209.00
14	Industrial	$27,384,237.40	10	$19,032.00
15	Industrial	$55,713,296.87	20	$42,815.10
16	Industrial	$41,427,689.52	9	$25,943.00
17	Industrial	$228,075,824.92	38	$238,229.49

Assembly District	Segment	Lifecycle Bill Savings ($)	Participation	Incentive ($)
18	Industrial	$207,953,875.34	30	$285,558.29
19	Industrial	$153,567,583.09	19	$127,830.71
20	Industrial	$465,977,337.31	15	$393,876.42
21	Industrial	$31,101,712.31	3	$20,919.70
22	Industrial	$112,716,407.18	11	$79,144.00
23	Industrial	$169,755,263.18	8	$120,984.50
24	Industrial	$27,203,944.29	6	$21,215.63
25	Industrial	$157,724,658.64	19	$123,797.83
26	Industrial	$64,338,111.49	7	$63,112.92
27	Industrial	$52,606,631.69	10	$44,990.35
28	Industrial	$13,504,448.01	2	$9,931.30
29	Industrial	$56,461,896.98	19	$45,969.40
30	Industrial	$53,039,212.82	11	$41,239.37
31	Industrial	$104,624,893.70	11	$97,466.60
32	Industrial	$60,078,825.48	13	$78,644.21
33	Industrial	$344,176,870.13	22	$417,839.05
34	Industrial	$113,492,565.35	29	$104,984.50
35	Industrial	$155,064,883.33	10	$101,274.03
36	Industrial	$127,544,316.79	13	$97,889.55
37	Industrial	$695,156,430.09	12	$75,584.29
38	Industrial	$211,248,204.20	4	$114,551.00
39	Industrial	$138,753,443.63	7	$183,453.11
40	Industrial	$56,072,645.70	6	$53,494.76
41	Industrial	$39,566,750.44	7	$22,240.00
42	Industrial	$57,800,352.64	6	$47,155.63
43	Industrial	$34,356,558.87	5	$27,507.57
44	Industrial	$60,209,891.03	7	$31,340.00
45	Industrial	$444,775,091.63	17	$393,968.86
46	Industrial	$183,181,258.35	16	$122,038.73
47	Industrial	$166,905,924.49	14	$79,422.00
48	Industrial	$176,821,420.00	13	$173,661.00
49	Industrial	$409,487,269.95	17	$145,063.72
50	Industrial	$115,799,381.74	12	$292,010.36
51	Industrial	$623,713,395.84	42	$433,843.40
52	Industrial	$281,636,000.21	16	$256,513.48
53	Industrial	$234,224,755.28	17	$155,525.03
54	Industrial	$89,936,535.88	18	$63,973.80
55	Industrial	$53,148,950.44	8	$54,713.13
56	Industrial	$86,132,851.73	13	$95,268.00

Assembly District	Segment	Lifecycle Bill Savings ($)	Participation	Incentive ($)
57	Industrial	$115,626,829.31	15	$91,686.50
58	Industrial	$98,892,458.62	9	$68,384.74
59	Industrial	$11,682,170.23	4	$9,258.50
60	Industrial	$289,225,214.09	13	$311,431.93
61	Industrial	$35,313,420.31	7	$83,506.60
62	Industrial	$12,657,573.33	2	$1,540.00
63	Industrial	$70,557,916.54	10	$65,089.50
64	Industrial	$359,275,958.05	8	$272,257.50
65	Industrial	$570,708,314.04	6	$263,457.82
66	Industrial	$46,773,667.73	13	$31,789.00
67	Industrial	$163,701,437.71	9	$360,547.28
68	Industrial	$41,321,278.32	8	$34,652.50
69	Industrial	$156,453,396.32	13	$289,856.80
70	Industrial	$563,323,375.11	6	$320,117.50
71	Industrial	$16,139,350.76	5	$10,595.00
72	Industrial	$127,317,576.11	11	$323,681.29
73	Industrial	$148,398,600.50	11	$67,805.79
74	Industrial	$51,024,176.54	3	$68,984.41
75	Industrial	$2,088,805.71	2	$6,466.00
77	Industrial	$47,500,267.71	13	$46,312.31
78	Industrial	$45,723,611.08	7	$26,408.91
79	Industrial	$30,720,708.39	11	$30,350.10
80	Industrial	$13,521,938.32	7	$27,529.25
81	Industrial	$26,835,846.86	11	$25,612.00
82	Industrial	$46,655,408.09	6	$51,450.30
83	Industrial	$1,169,230.42	2	$1,360.00
84	Industrial	$340,352,394.06	21	$325,992.37
85	Industrial	$296,700,918.81	17	$73,148.01
86	Industrial	$69,133,214.95	9	$44,309.47
87	Industrial	$114,645,708.59	10	$71,806.09
88	Industrial	$90,717,961.42	29	$109,684.21
89	Industrial	$36,878,879.94	3	$38,115.87
90	Industrial	$359,360,528.46	16	$212,599.95
91	Industrial	$166,892,121.75	8	$92,079.00
92	Industrial	$14,363,568.80	5	$7,505.50
93	Industrial	$244,698,691.89	9	$162,796.20
94	Industrial	$14,722,225.91	2	$10,393.50
95	Industrial	$301,425,533.13	13	$519,913.50
96	Industrial	$7,201,061.76	3	$16,424.76

Assembly District	Segment	Lifecycle Bill Savings ($)	Participation	Incentive ($)
97	Industrial	$211,002,444.38	9	$319,608.74
98	Industrial	$213,930,251.96	24	$236,008.54
99	Industrial	$16,366,357.18	11	$15,570.00
1	Residential	$186,745,209.99	9,685	$157,817.17
2	Residential	$97,108,092.47	6,415	$114,208.35
3	Residential	$235,781,516.85	5,980	$201,898.48
4	Residential	$78,240,842.51	5,658	$80,865.26
5	Residential	$256,954,841.90	11,672	$192,570.68
6	Residential	$224,146,141.20	12,893	$225,988.91
7	Residential	$252,848,579.91	9,998	$167,185.12
8	Residential	$184,911,329.39	5,970	$228,205.55
9	Residential	$101,731,255.92	7,410	$105,046.11
10	Residential	$128,230,274.60	6,987	$181,496.44
11	Residential	$214,073,069.82	8,039	$269,102.99
12	Residential	$217,354,868.00	11,794	$197,800.69
13	Residential	$135,233,542.87	8,623	$173,580.59
14	Residential	$186,795,047.84	6,048	$111,966.43
15	Residential	$219,275,548.12	12,703	$181,267.91
16	Residential	$319,312,632.60	20,175	$294,102.28
17	Residential	$251,257,332.82	12,432	$217,380.28
18	Residential	$163,642,920.47	7,611	$122,674.13
19	Residential	$179,402,075.30	9,938	$194,044.72
20	Residential	$192,242,955.44	10,781	$148,715.53
21	Residential	$133,136,248.11	9,508	$87,541.47
22	Residential	$160,473,539.85	8,021	$120,958.01
23	Residential	$123,192,008.03	4,983	$119,456.93
24	Residential	$133,973,585.80	7,523	$134,370.05
25	Residential	$132,781,843.90	9,595	$100,292.25
26	Residential	$209,860,467.65	15,243	$125,214.45
27	Residential	$181,849,431.63	11,654	$146,338.42
28	Residential	$168,829,924.24	10,512	$147,516.36
29	Residential	$189,319,796.37	13,190	$126,100.11
30	Residential	$150,716,528.62	9,201	$106,894.99
31	Residential	$208,247,547.00	9,741	$147,386.61
32	Residential	$191,008,405.46	8,353	$156,987.89
33	Residential	$202,080,418.05	12,548	$150,807.66
34	Residential	$234,599,174.10	11,777	$334,866.94
35	Residential	$131,117,567.36	8,157	$103,020.43
36	Residential	$199,038,431.61	13,143	$117,125.63

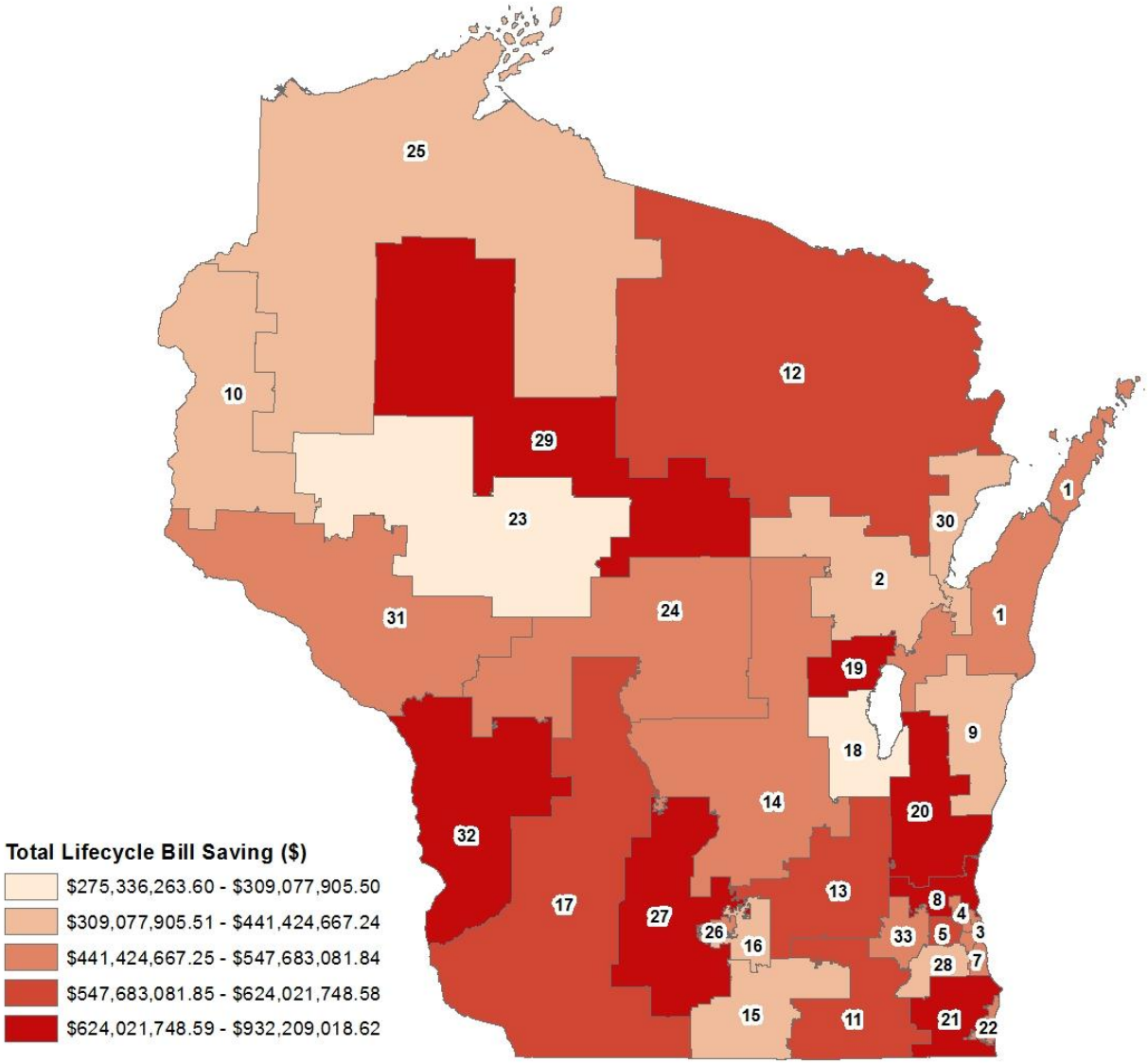
Assembly District	Segment	Lifecycle Bill Savings ($)	Participation	Incentive ($)
37	Residential	$168,377,878.61	9,649	$102,488.57
38	Residential	$166,068,376.79	9,606	$107,598.16
39	Residential	$189,450,921.50	14,291	$159,140.68
40	Residential	$183,411,554.65	13,561	$124,460.00
41	Residential	$214,729,406.31	8,702	$142,400.24
42	Residential	$229,281,071.85	10,387	$181,358.61
43	Residential	$258,980,900.88	10,381	$259,693.26
44	Residential	$132,968,386.80	8,343	$107,318.71
45	Residential	$189,738,877.64	6,087	$222,302.08
46	Residential	$145,103,303.84	9,557	$99,216.68
47	Residential	$163,347,917.46	12,367	$116,960.48
48	Residential	$176,131,583.17	8,624	$139,726.86
49	Residential	$139,308,968.21	6,607	$104,060.80
50	Residential	$112,662,119.46	6,104	$115,664.90
51	Residential	$223,029,274.73	11,152	$189,493.21
52	Residential	$178,371,339.95	8,365	$177,785.40
53	Residential	$222,621,133.89	6,511	$264,197.63
54	Residential	$175,813,485.48	8,855	$150,495.86
55	Residential	$180,916,388.23	10,431	$147,988.57
56	Residential	$146,881,690.94	10,206	$90,639.78
57	Residential	$230,365,613.12	14,072	$186,020.14
58	Residential	$179,148,435.63	10,749	$129,323.79
59	Residential	$175,424,176.29	10,613	$161,844.77
60	Residential	$162,098,982.16	9,562	$126,347.00
61	Residential	$160,910,189.62	10,619	$135,865.74
62	Residential	$123,887,449.31	9,440	$92,063.14
63	Residential	$98,664,969.53	6,705	$71,146.68
64	Residential	$129,774,598.90	8,254	$126,747.24
65	Residential	$156,479,009.79	7,693	$144,931.11
66	Residential	$153,166,102.36	9,039	$120,545.63
67	Residential	$155,079,529.81	8,261	$169,646.80
68	Residential	$200,560,462.87	12,910	$166,173.13
69	Residential	$172,944,578.60	10,585	$181,712.27
70	Residential	$211,099,316.63	11,909	$177,775.93
71	Residential	$111,167,595.84	7,421	$66,585.69
72	Residential	$112,182,632.30	7,515	$70,145.10
73	Residential	$85,731,130.75	6,741	$55,449.19
74	Residential	$155,421,542.15	8,712	$217,624.95
75	Residential	$356,880,248.73	13,255	$494,563.43

Assembly District	Segment	Lifecycle Bill Savings ($)	Participation	Incentive ($)
76	Residential	$260,456,316.34	11,403	$264,309.77
77	Residential	$484,637,179.33	22,586	$353,299.01
78	Residential	$48,967,706.97	3,489	$38,723.36
79	Residential	$238,948,791.59	9,499	$155,484.19
80	Residential	$206,523,602.60	13,669	$138,462.67
81	Residential	$253,359,744.66	15,405	$179,768.05
82	Residential	$255,830,726.61	15,220	$176,304.74
83	Residential	$311,334,743.96	11,810	$218,231.36
84	Residential	$201,526,271.93	13,642	$205,235.79
85	Residential	$193,440,064.83	13,091	$151,844.60
86	Residential	$133,729,615.14	10,747	$82,491.34
87	Residential	$198,079,366.78	9,372	$200,559.23
88	Residential	$164,224,219.12	9,319	$246,435.73
89	Residential	$71,268,880.10	5,217	$90,194.68
90	Residential	$123,547,598.10	5,642	$190,124.77
91	Residential	$159,248,208.48	9,901	$165,780.78
92	Residential	$104,867,712.29	8,021	$83,245.40
93	Residential	$146,637,786.91	6,243	$124,817.63
94	Residential	$219,358,022.37	16,091	$223,467.73
95	Residential	$175,567,471.26	11,681	$177,422.43
96	Residential	$152,757,588.21	9,752	$113,769.27
97	Residential	$210,717,045.71	15,277	$164,491.93
98	Residential	$291,859,157.87	13,341	$206,454.20
99	Residential	$295,000,073.34	15,375	$221,216.32
Unassigned		$89,565,217	3,273	$2,111,250.88

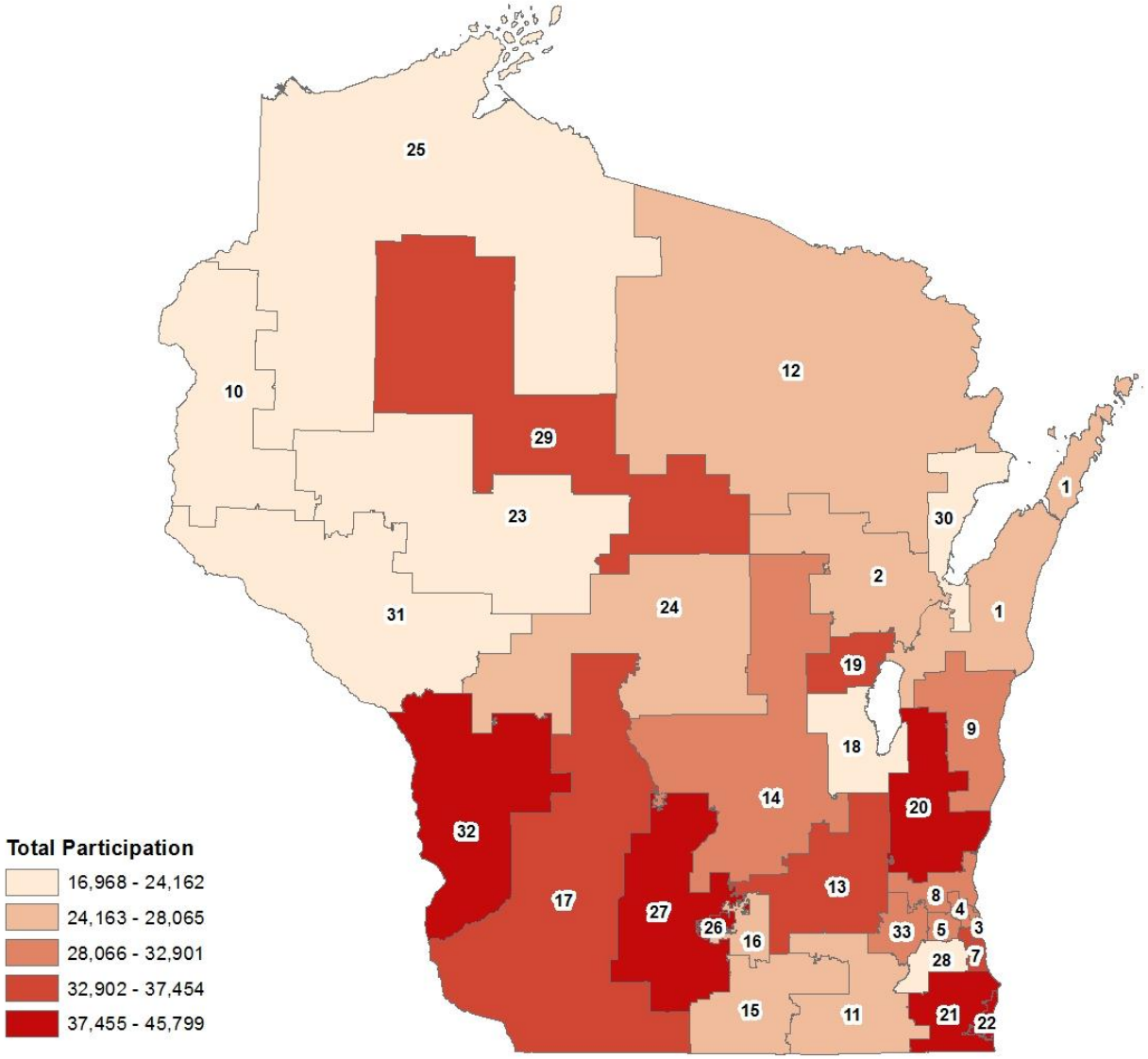
2012 Savings By Segment, By Senate District

Residential

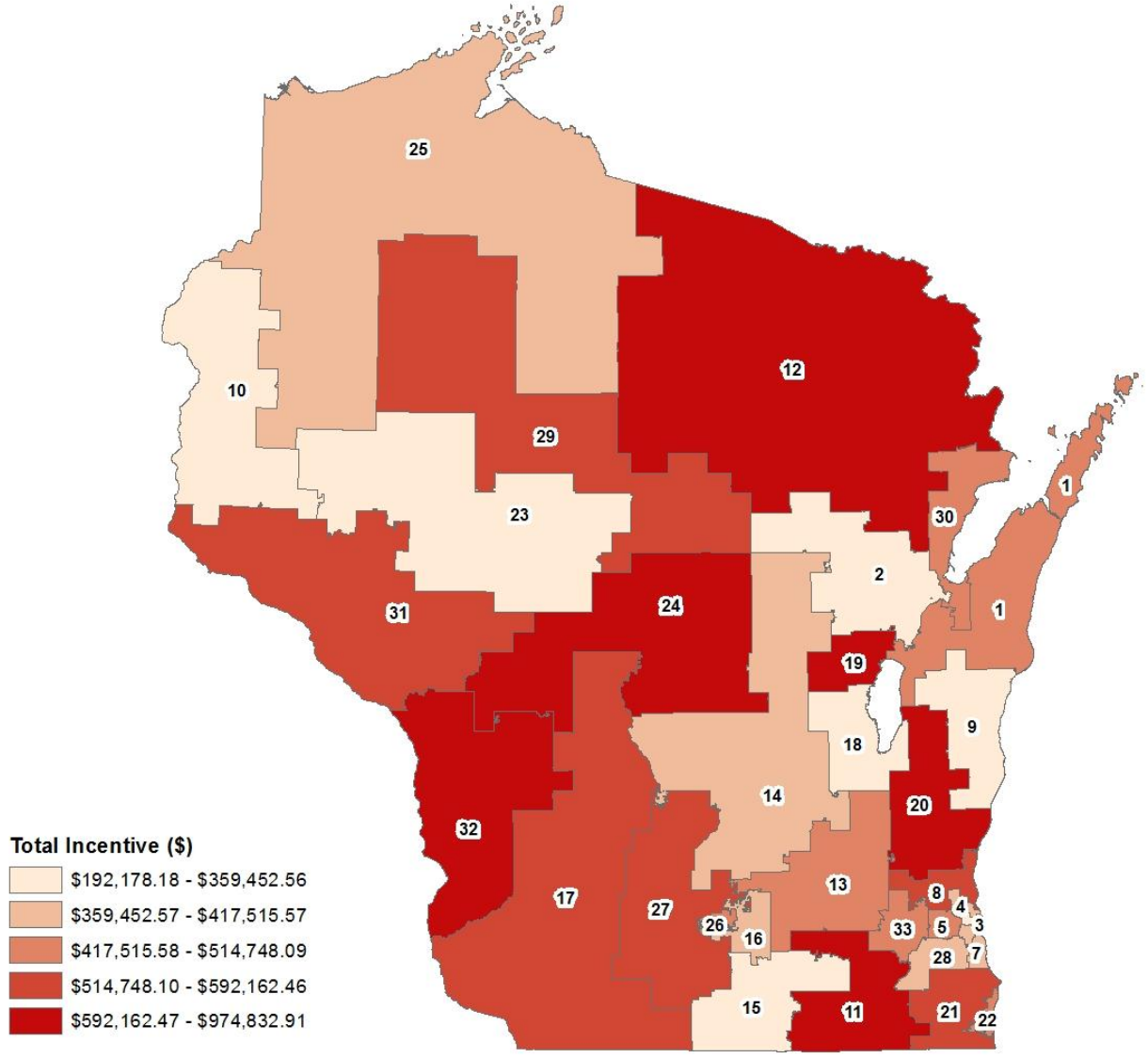
Residential Energy Bill Savings By Senate District



Residential Participation By Senate Districts

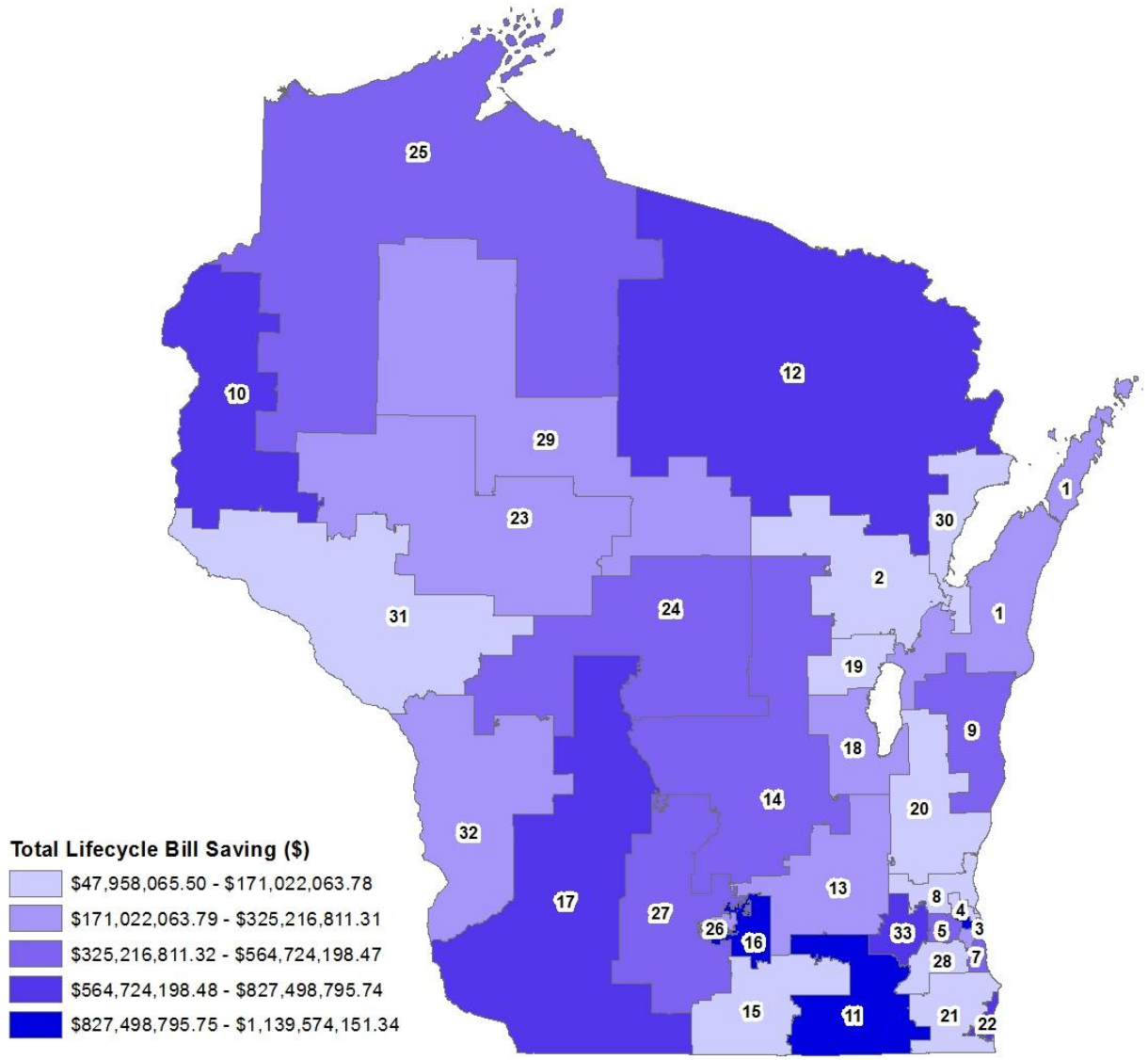


Residential Incentive Dollars Awarded By Senate District

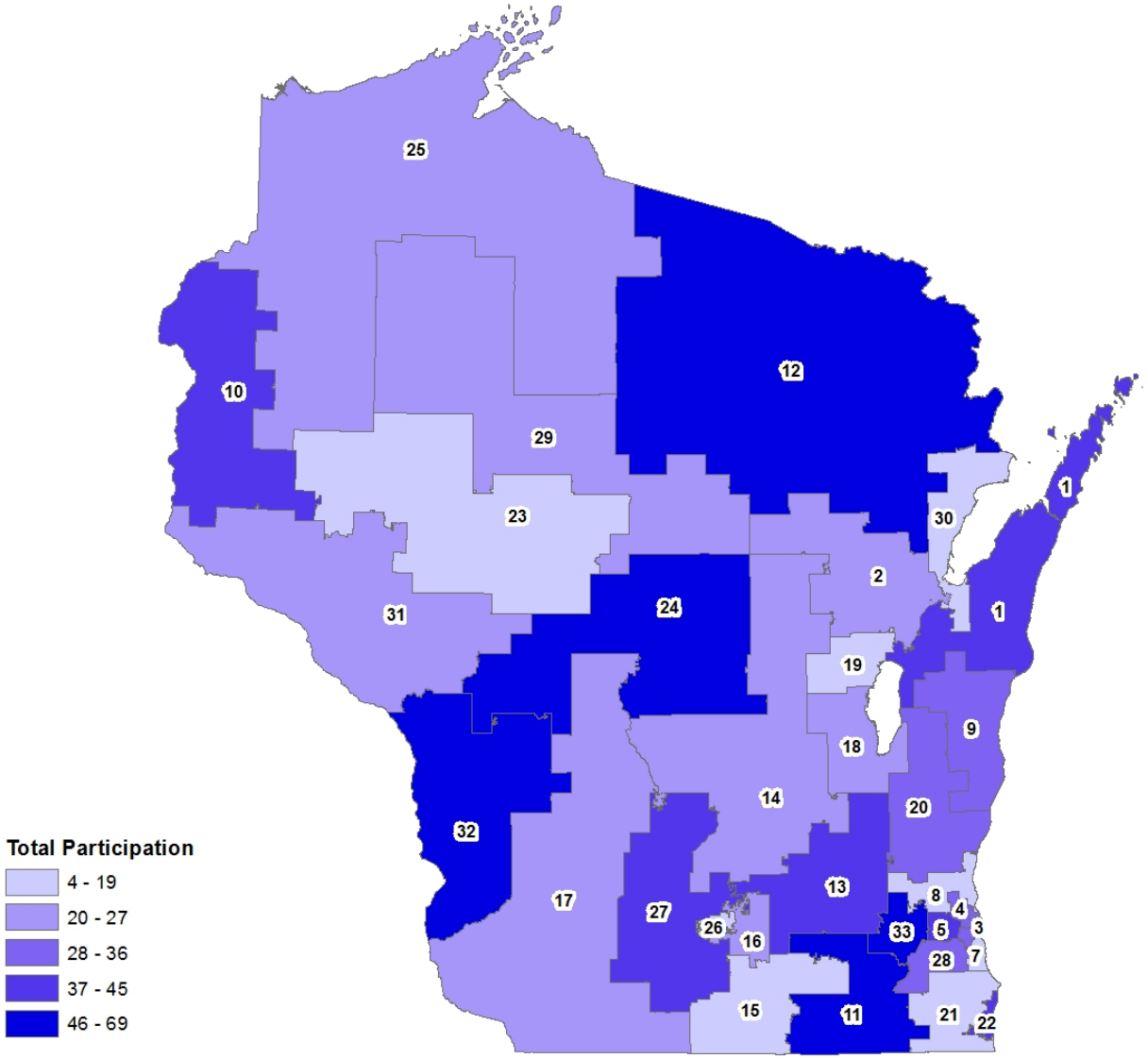


Industrial

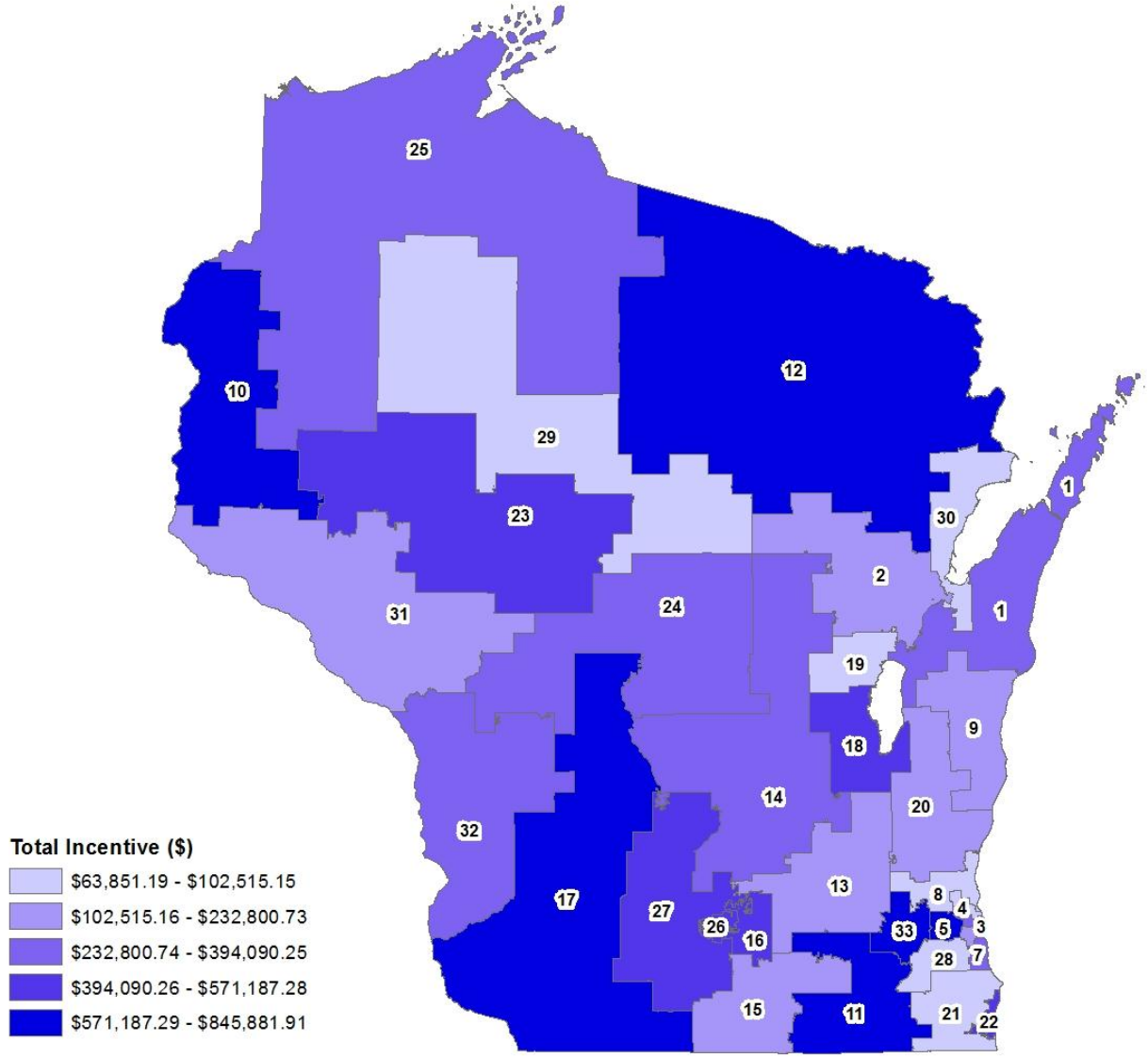
Industrial Energy Bill Savings By Senate District



Industrial Participation By Senate District

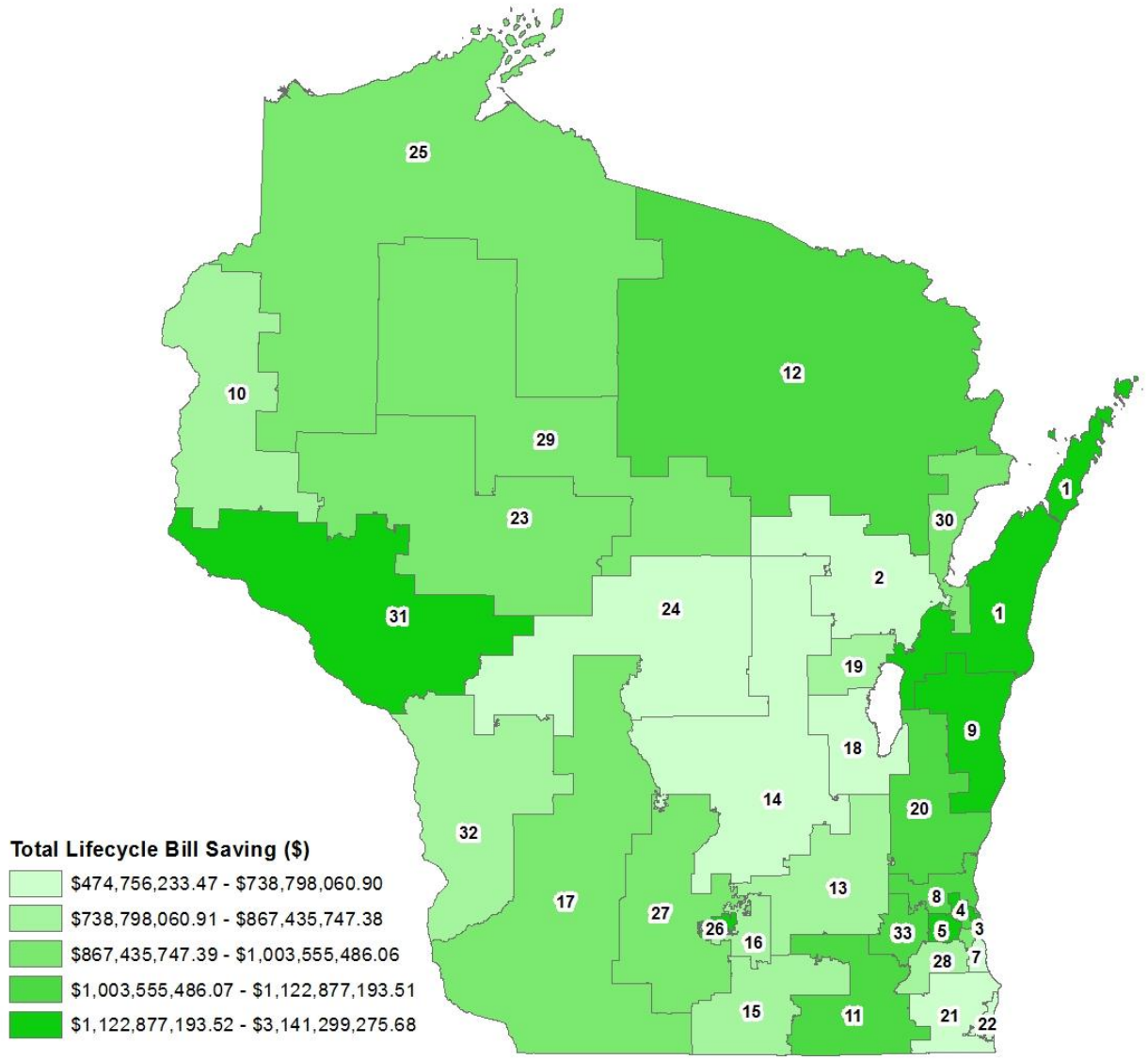


Industrial Incentive Dollars Awarded By Senate District

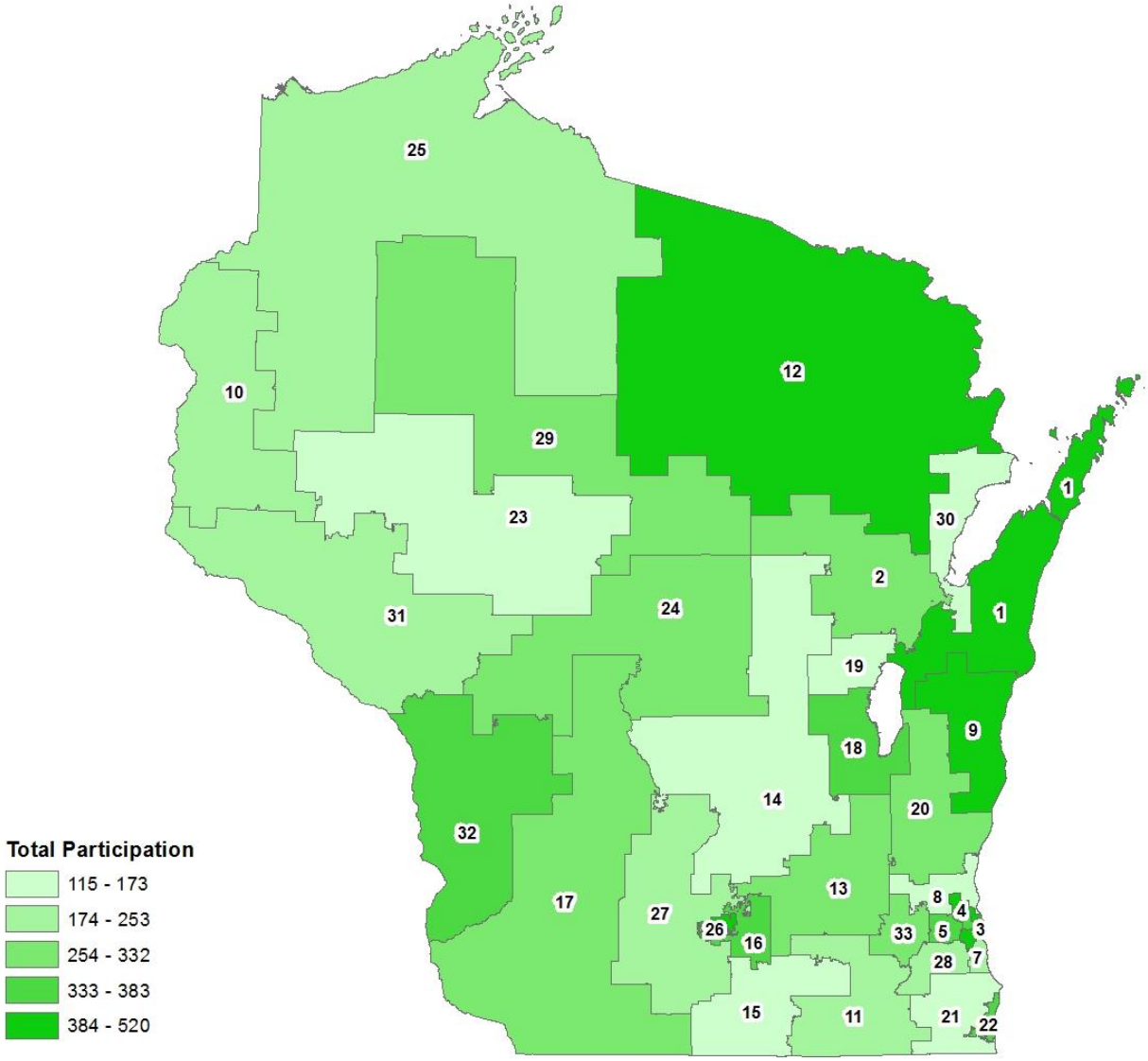


Commercial

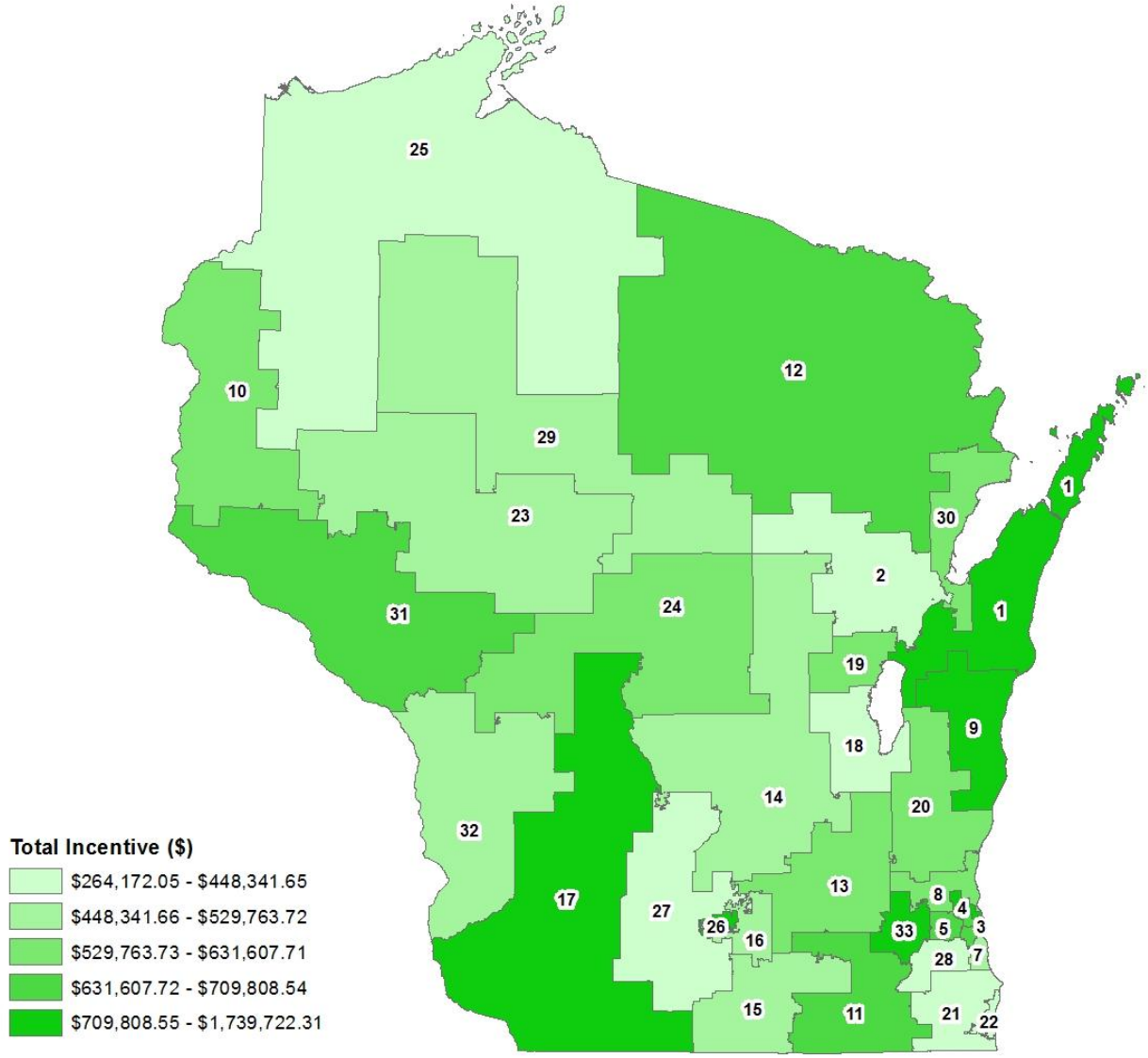
Commercial Energy Bill Savings By Senate District



Commercial Participation By Senate District



Commercial Incentive Dollars Awarded By Senate District



Appendix E: Table 2. Savings And Participation By Senate District And Segment

Senate District ID	Segment	Lifecycle Bill Savings ($)	Participation	Total Incentive ($)
1	Commercial	$2,574,450,973	426	$1,739,722.31
2	Commercial	$576,151,874	279	$276,018.84
3	Commercial	$976,920,898	384	$653,933.28
4	Commercial	$1,572,805,707	520	$946,814.65
5	Commercial	$1,305,838,198	364	$642,201.74
6	Commercial	$1,116,802,579	335	$709,808.54
7	Commercial	$738,798,061	174	$477,779.46
8	Commercial	$1,014,941,985	173	$551,805.89
9	Commercial	$1,125,066,849	507	$755,697.79
10	Commercial	$765,830,513	185	$611,090.59
11	Commercial	$1,102,386,183	233	$663,198.94
12	Commercial	$1,054,972,227	460	$687,268.47
13	Commercial	$867,435,747	292	$631,607.71
14	Commercial	$690,237,407	160	$458,413.96
15	Commercial	$860,980,378	124	$521,261.00
16	Commercial	$783,669,260	353	$514,456.67
17	Commercial	$1,003,555,486	332	$776,019.81
18	Commercial	$646,257,022	355	$443,198.59
19	Commercial	$838,715,031	170	$605,962.89
20	Commercial	$1,095,140,305	269	$558,660.35
21	Commercial	$474,756,233	162	$264,172.05
22	Commercial	$677,366,851	383	$428,019.01
23	Commercial	$900,285,457	115	$474,366.07
24	Commercial	$727,942,067	273	$576,948.88
25	Commercial	$951,959,637	214	$448,341.65
26	Commercial	$3,141,299,276	459	$1,457,975.79
27	Commercial	$945,857,152	253	$437,675.12
28	Commercial	$755,104,465	186	$415,018.73
29	Commercial	$929,243,424	260	$493,645.67
30	Commercial	$916,656,070	145	$530,700.87
31	Commercial	$1,186,271,759	179	$678,957.05
32	Commercial	$847,090,051	337	$529,763.72
33	Commercial	$1,122,877,194	323	$922,403.41
1	Industrial	$313,136,438	39	$353,246.48
2	Industrial	$171,022,064	20	$121,279.33
3	Industrial	$274,669,402	36	$231,901.10
4	Industrial	$123,005,558	32	$97,140.07
5	Industrial	$508,880,589	44	$593,949.86

Senate District ID	Segment	Lifecycle Bill Savings ($)	Participation	Total Incentive ($)
6	Industrial	$977,765,630	35	$274,747.87
7	Industrial	$406,074,294	17	$351,498.87
8	Industrial	$132,181,840	19	$97,078.20
9	Industrial	$410,297,074	36	$232,800.73
10	Industrial	$702,108,072	41	$610,735.08
11	Industrial	$1,139,574,151	69	$845,881.91
12	Industrial	$644,400,509	57	$594,221.36
13	Industrial	$258,712,316	41	$210,373.43
14	Industrial	$399,799,843	26	$389,075.17
15	Industrial	$118,528,910	19	$150,136.10
16	Industrial	$976,757,940	27	$567,504.32
17	Industrial	$761,098,050	25	$644,626.80
18	Industrial	$291,855,527	27	$402,082.08
19	Industrial	$52,654,804	4	$75,275.41
20	Industrial	$91,742,914	31	$104,191.66
21	Industrial	$74,660,485	19	$78,422.30
22	Industrial	$706,186,528	45	$443,449.85
23	Industrial	$246,303,929	18	$425,072.06
24	Industrial	$564,724,198	54	$394,090.25
25	Industrial	$425,954,382	22	$262,380.70
26	Industrial	$323,348,821	18	$546,731.76
27	Industrial	$441,299,054	43	$571,187.28
28	Industrial	$125,723,788	29	$102,515.15
29	Industrial	$306,536,627	26	$92,313.88
30	Industrial	$47,958,065	5	$63,851.19
31	Industrial	$67,145,399	24	$168,162.00
32	Industrial	$325,216,811	67	$306,987.59
33	Industrial	$827,498,796	63	$807,265.42
1	Residential	$527,291,510	26,461	$475,074.49
2	Residential	$427,586,827	25,051	$342,871.32
3	Residential	$524,491,743	36,490	$371,845.12
4	Residential	$508,866,249	32,901	$380,511.46
5	Residential	$601,336,371	30,639	$455,182.16
6	Residential	$498,533,878	30,945	$322,634.63
7	Residential	$538,930,853	37,454	$391,198.83
8	Residential	$702,991,379	29,463	$583,452.11
9	Residential	$441,424,667	30,265	$323,498.49
10	Residential	$428,102,671	21,332	$359,452.56
11	Residential	$624,021,749	26,024	$631,476.24

Senate District ID	Segment	Lifecycle Bill Savings ($)	Participation	Total Incentive ($)
12	Residential	$571,219,743	28,065	$647,808.80
13	Residential	$587,098,991	33,354	$484,506.39
14	Residential	$516,671,594	30,921	$417,515.57
15	Residential	$383,462,608	26,763	$299,075.56
16	Residential	$439,419,711	24,984	$392,223.99
17	Residential	$584,604,358	35,401	$525,661.33
18	Residential	$309,077,906	21,674	$192,178.18
19	Residential	$770,653,603	33,320	$974,832.91
20	Residential	$932,209,019	45,799	$648,908.49
21	Residential	$820,525,215	42,432	$574,304.15
22	Residential	$528,695,952	37,479	$439,571.74
23	Residential	$275,336,264	16,968	$298,575.11
24	Residential	$485,851,184	24,328	$637,119.72
25	Residential	$410,753,708	24,162	$373,843.81
26	Residential	$547,683,082	37,521	$514,659.43
27	Residential	$797,576,277	43,989	$592,162.46
28	Residential	$411,130,452	18,053	$396,972.09
29	Residential	$733,929,416	34,557	$585,734.44
30	Residential	$414,872,860	20,368	$514,748.09
31	Residential	$536,101,661	22,709	$554,650.01
32	Residential	$789,845,514	45,307	$692,750.47
33	Residential	$535,285,022	28,327	$465,432.85
Unassigned		$89,565,217	3,720	$2,111,251

Appendix F. Summary Of Savings By Segment, By Electric Utility Territory

The following section includes eighteen maps based on the results of the 2012 evaluation: three electric utility and three gas utility maps (per capita lifetime bill savings, total 2012 participation, and per capita incentive paid in 2012) each for three primary segments (residential, industrial, and commercial). Commercial maps include businesses, schools, government, and agricultural entities.

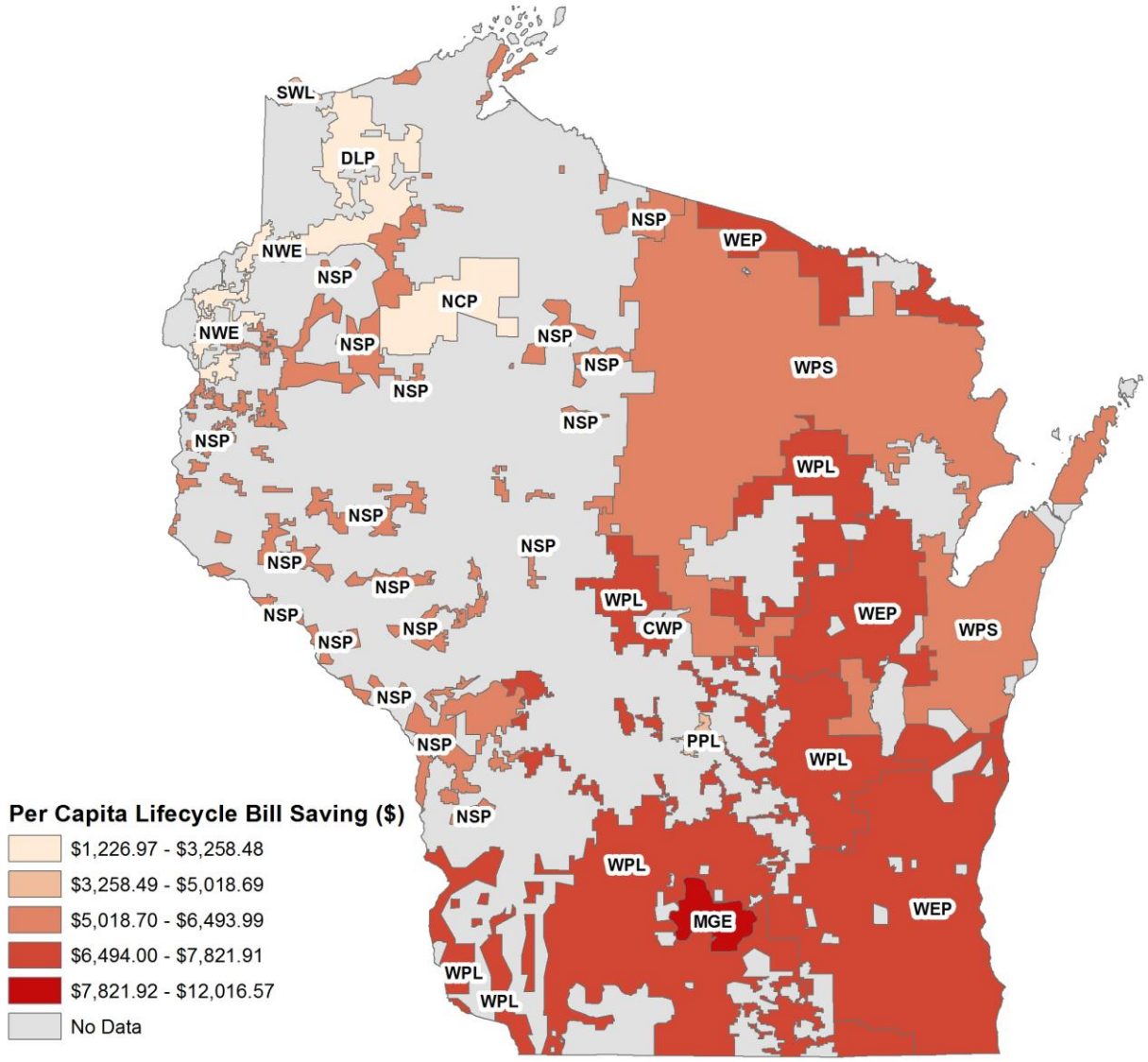
Similar to the 2011 evaluation report, the bill savings are defined as evaluated lifecycle verified gross energy savings multiplied by the retail rate of delivered energy in 2012 and normalized on a per capita basis. The incentive dollars and participation rates are also reported on a per capita basis.

The counts of eligible customers by segment from different sources are inconsistent due to varying definitions of those segments. The electric utility maps use counts of customers by segment from the EIA861 report, which is based upon data provided by utilities. The differences between utility and Focus on Energy definitions for each segment result in noticeably high participation rates for the industrial segment in the following section.

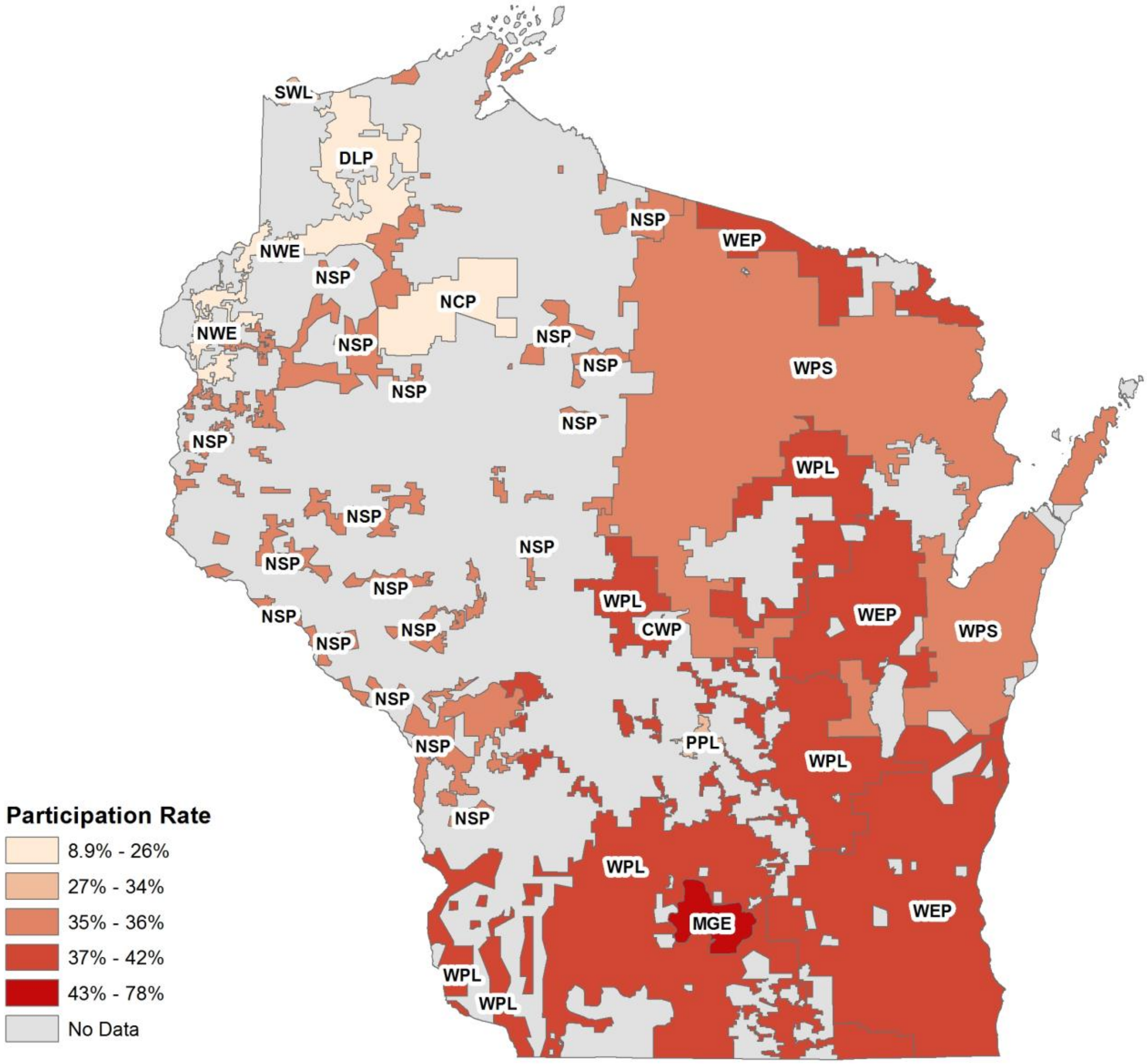
Please note that due to the large number of electric cooperatives (Coops) and municipal utilities (Munis) we chose to include only larger utility level labels for the preceding group of maps.

Residential

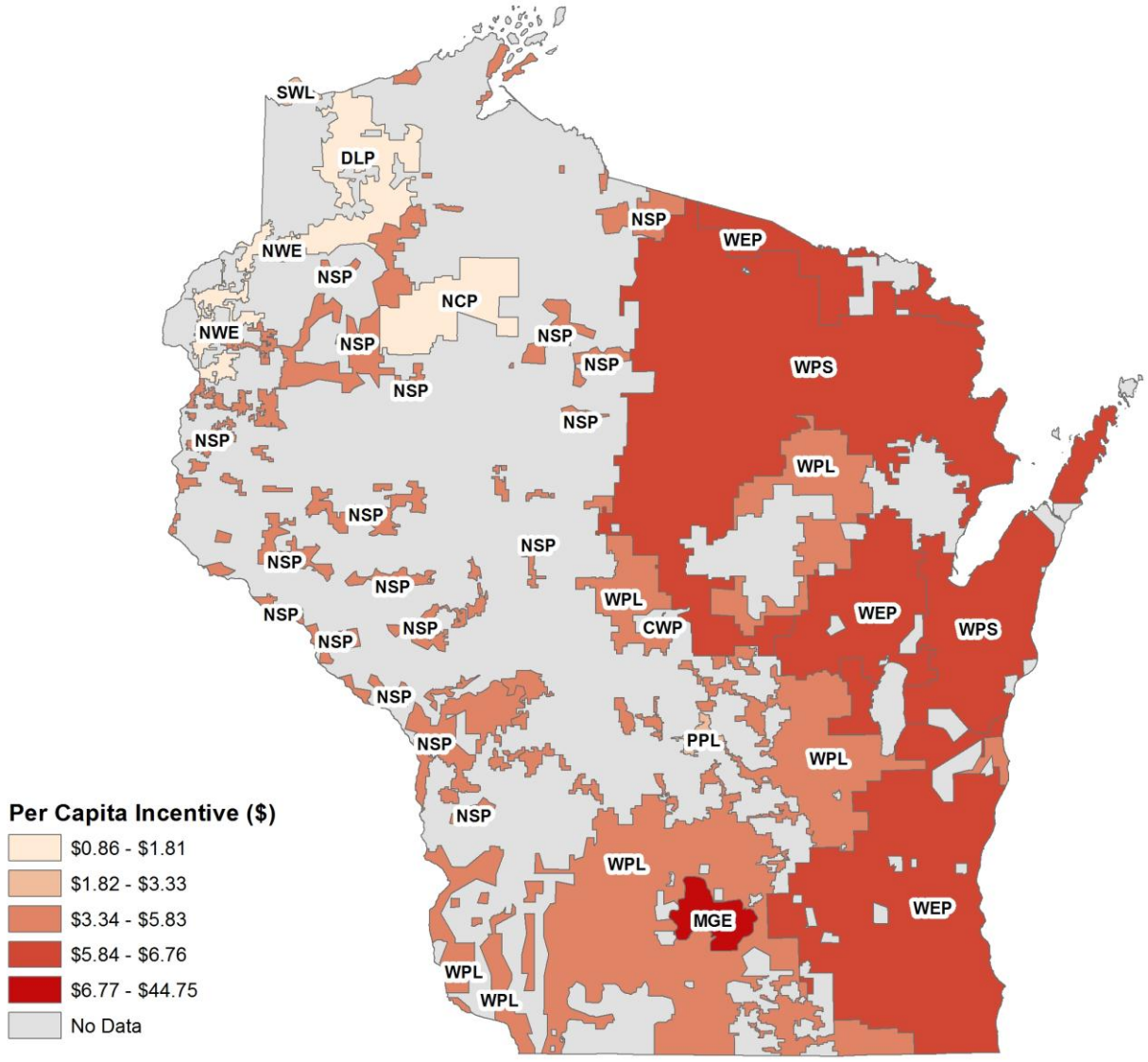
Residential Per Capita Energy Bill Savings By Electric Territory



Residential Participation Rate By Electric Territory

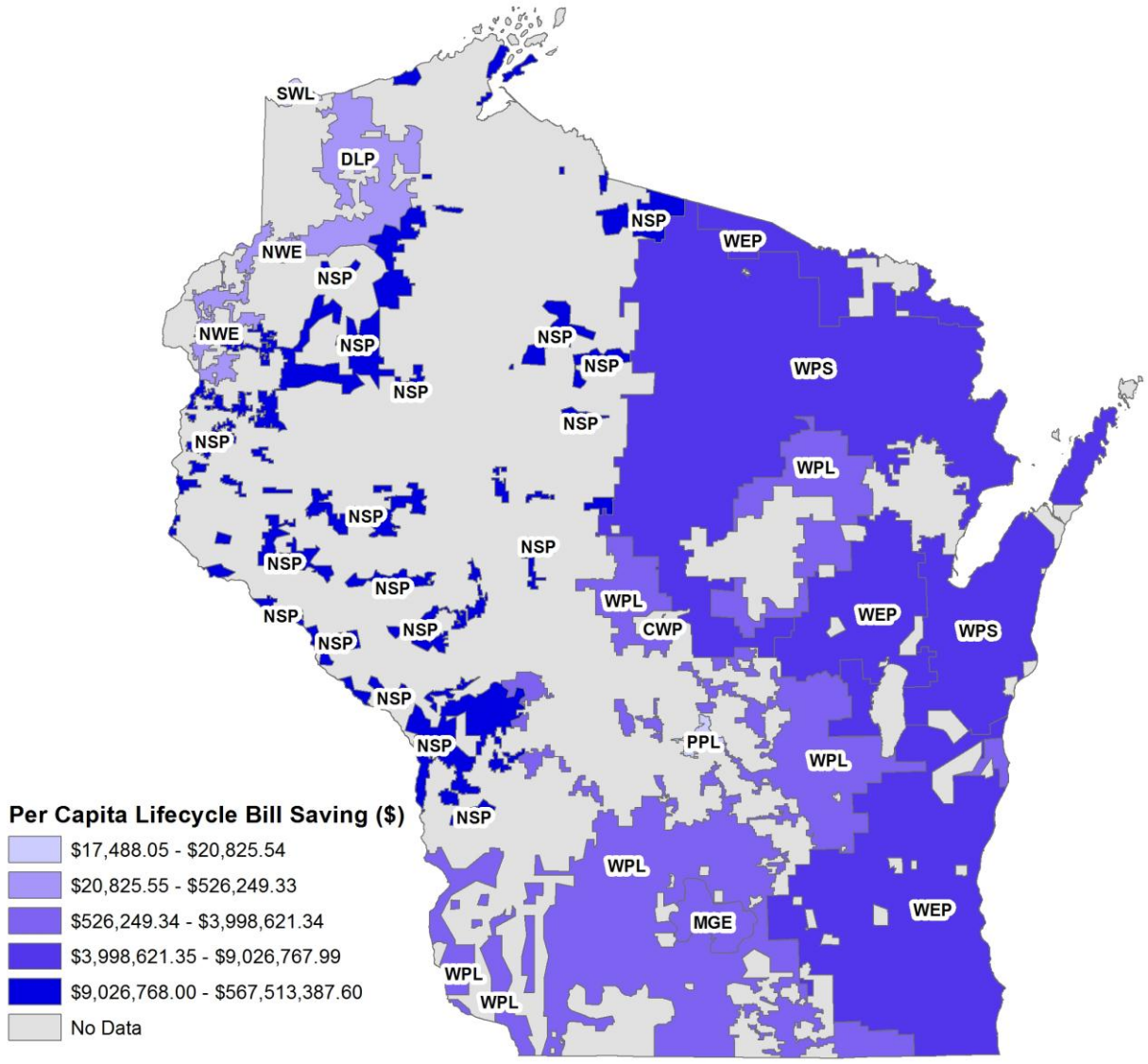


Residential Per Capita Incentive Dollars Awarded By Electric Territory

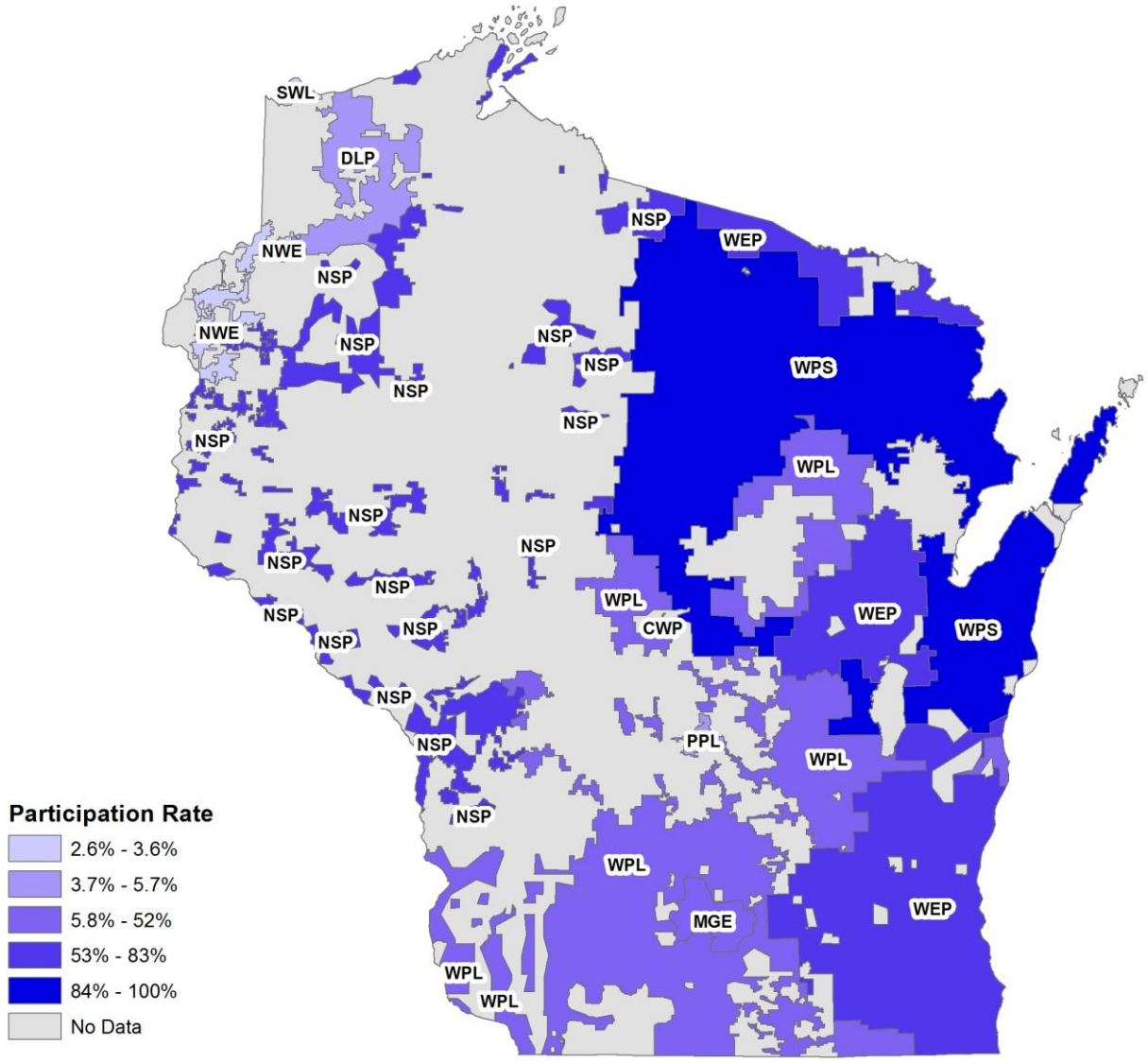


Industrial

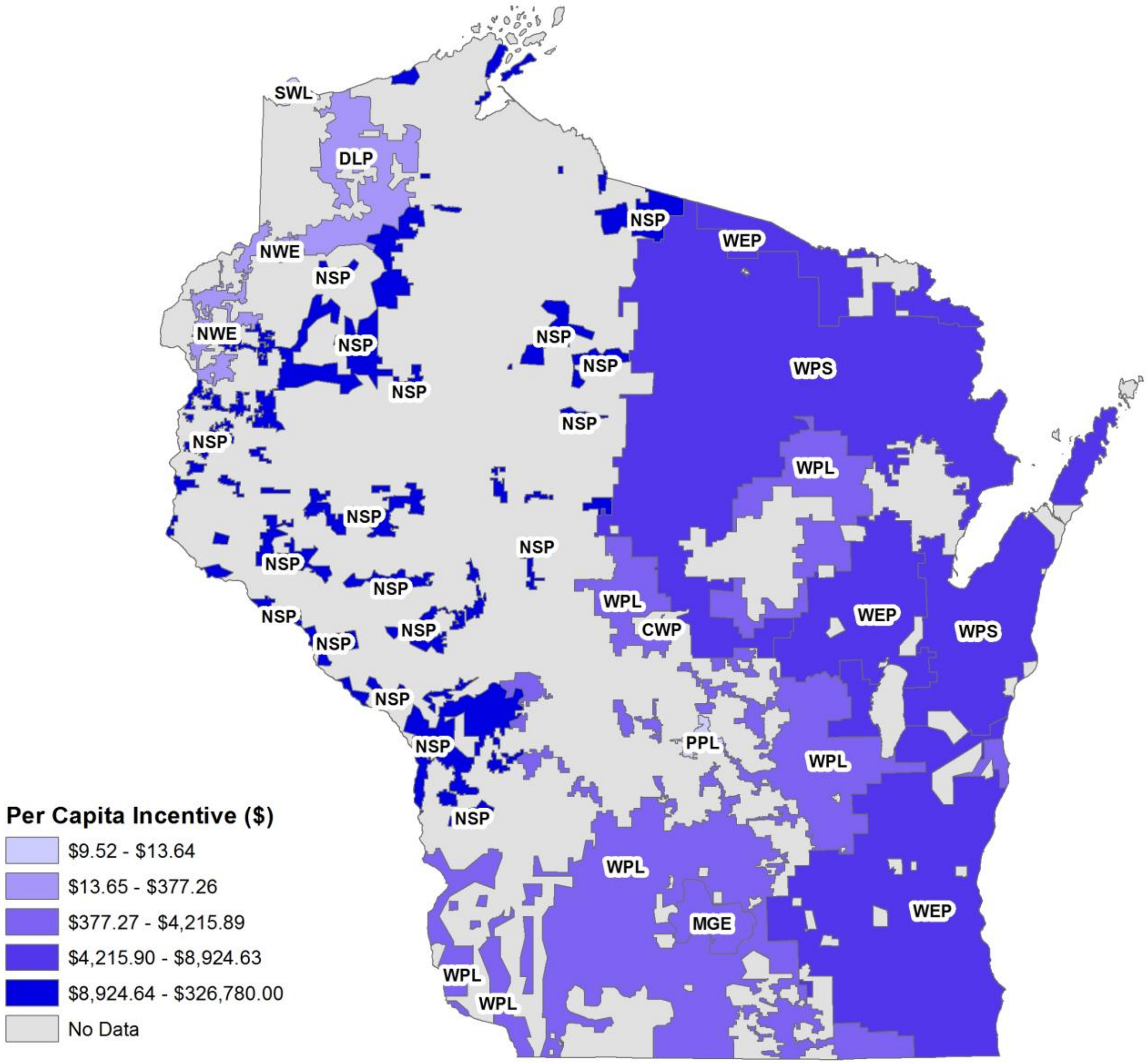
Industrial Per Capita Energy Bill Savings By Territory



Industrial Participation Rate By Electric Territory

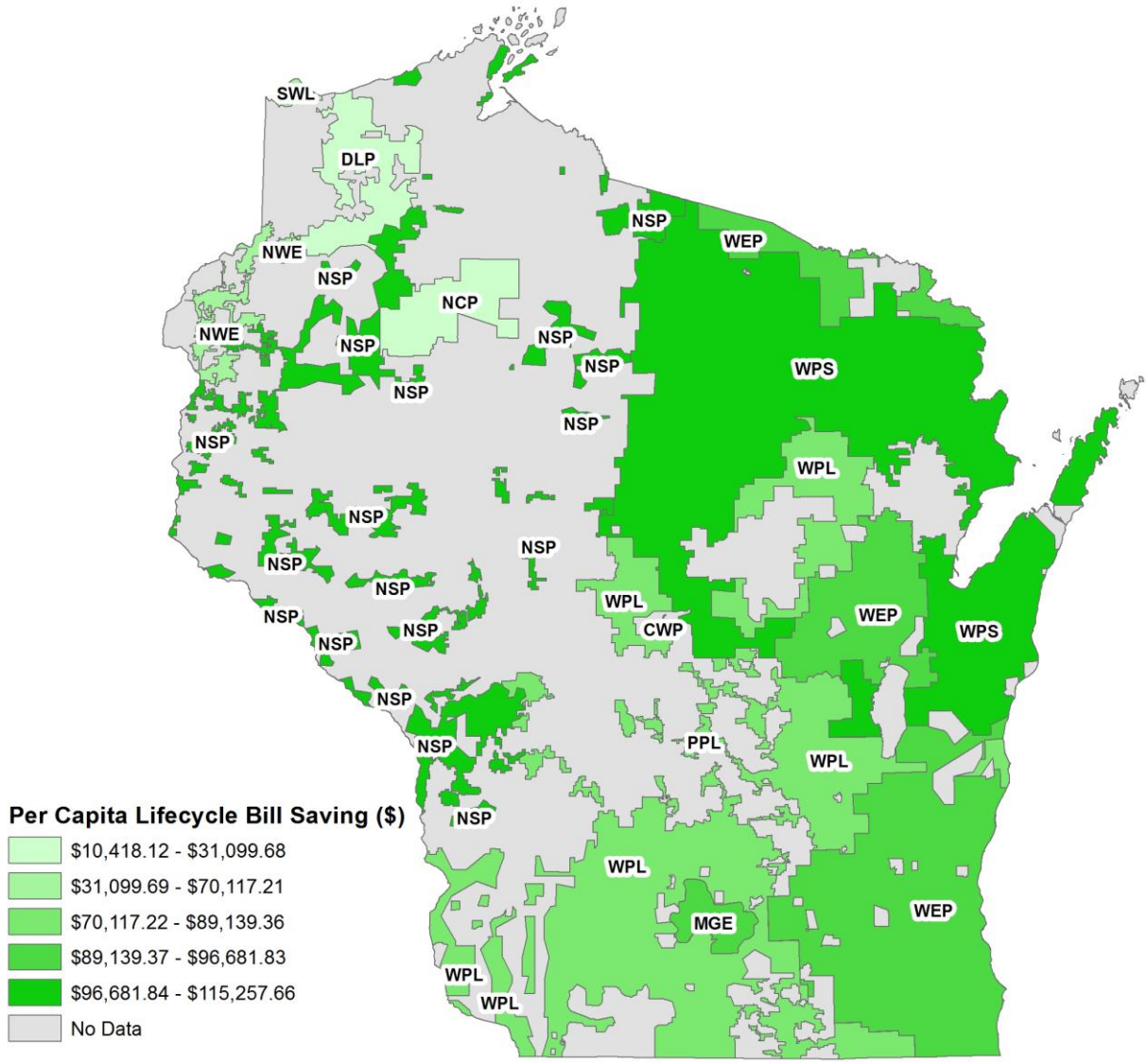


Industrial Per Capita Incentive Dollars Awarded By Electric Territory

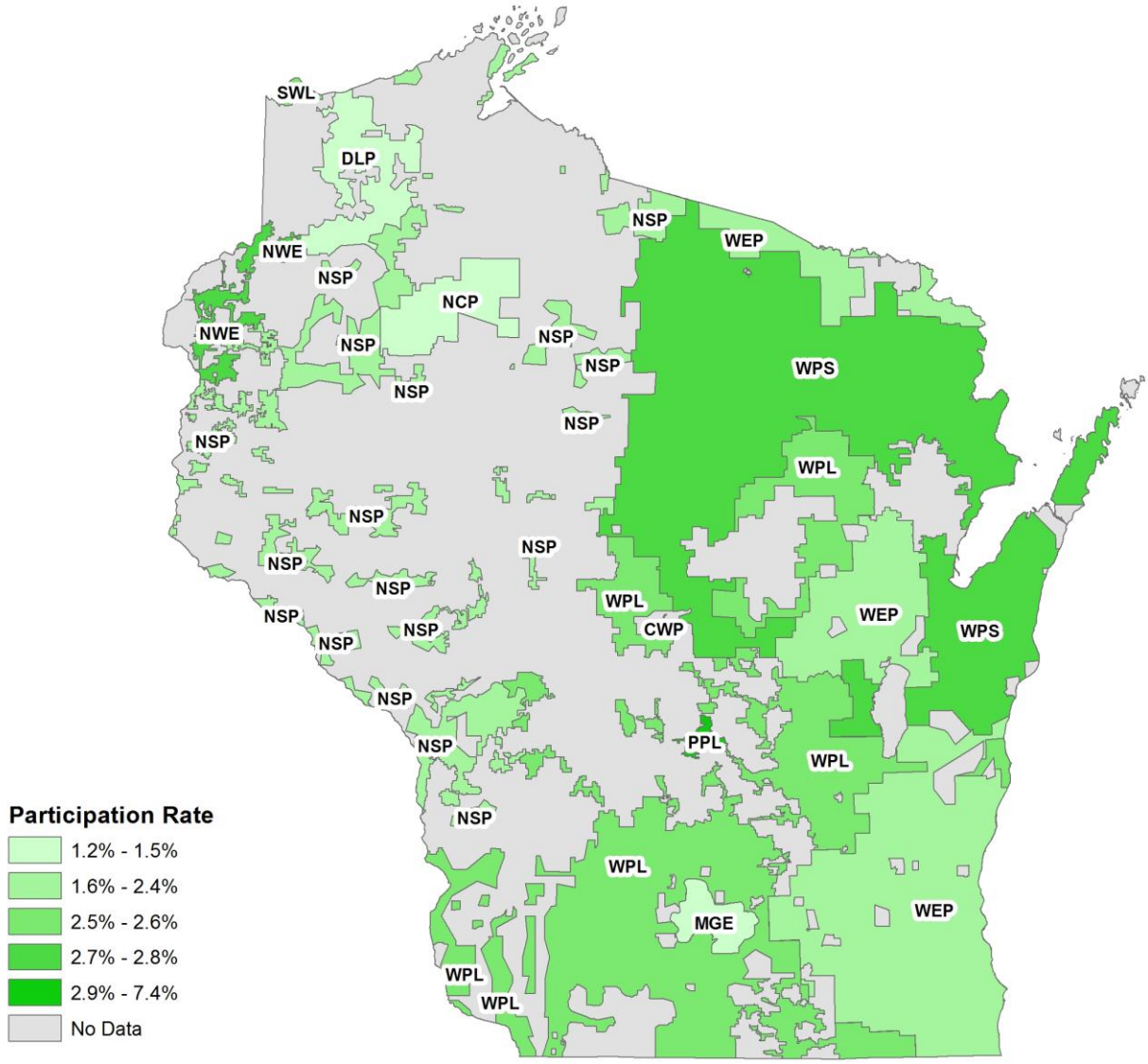


Commercial

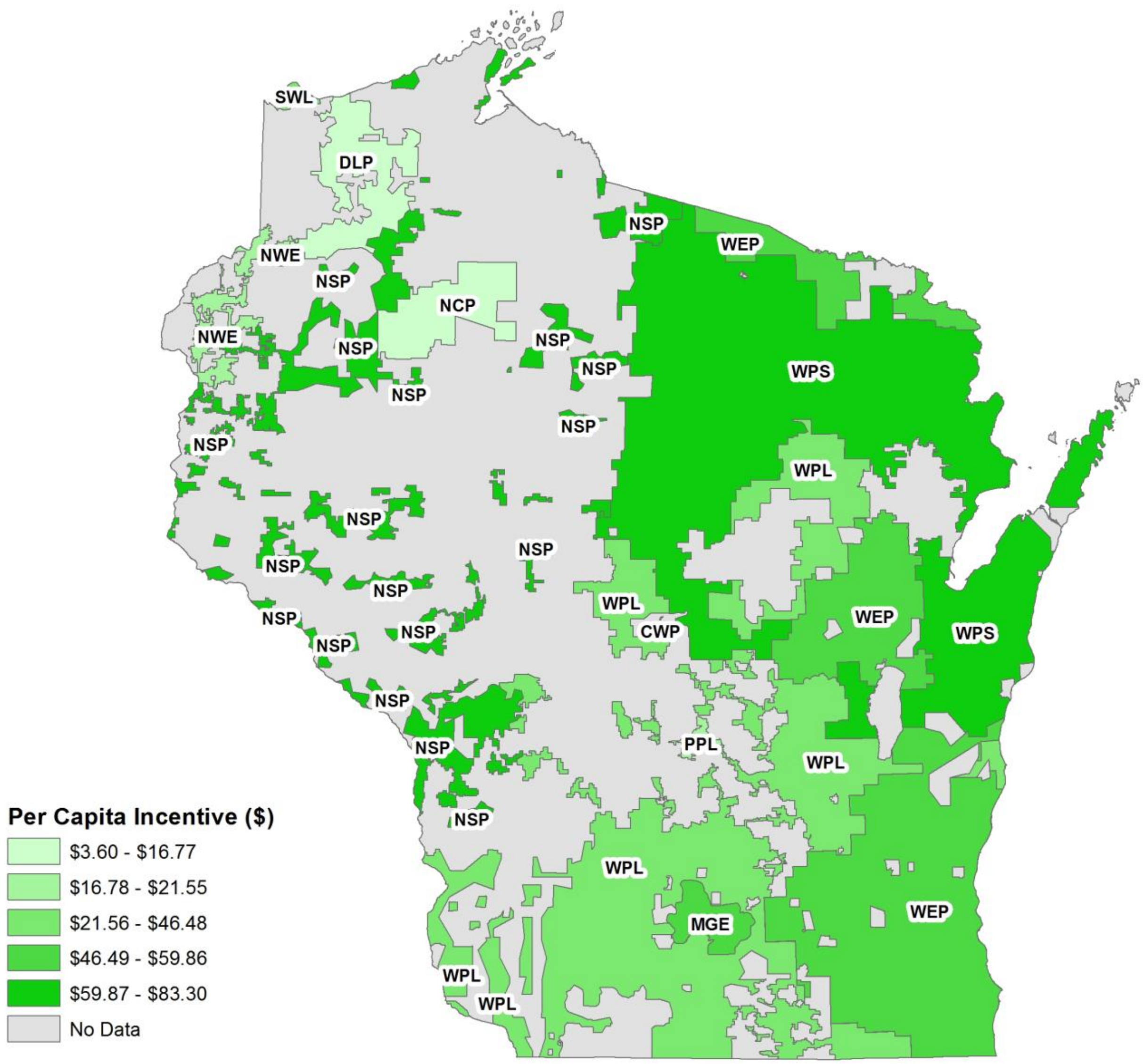
Commercial Per Capita Energy Bill Savings By Electric Territory



Commercial Participation Rate By Electric Territory

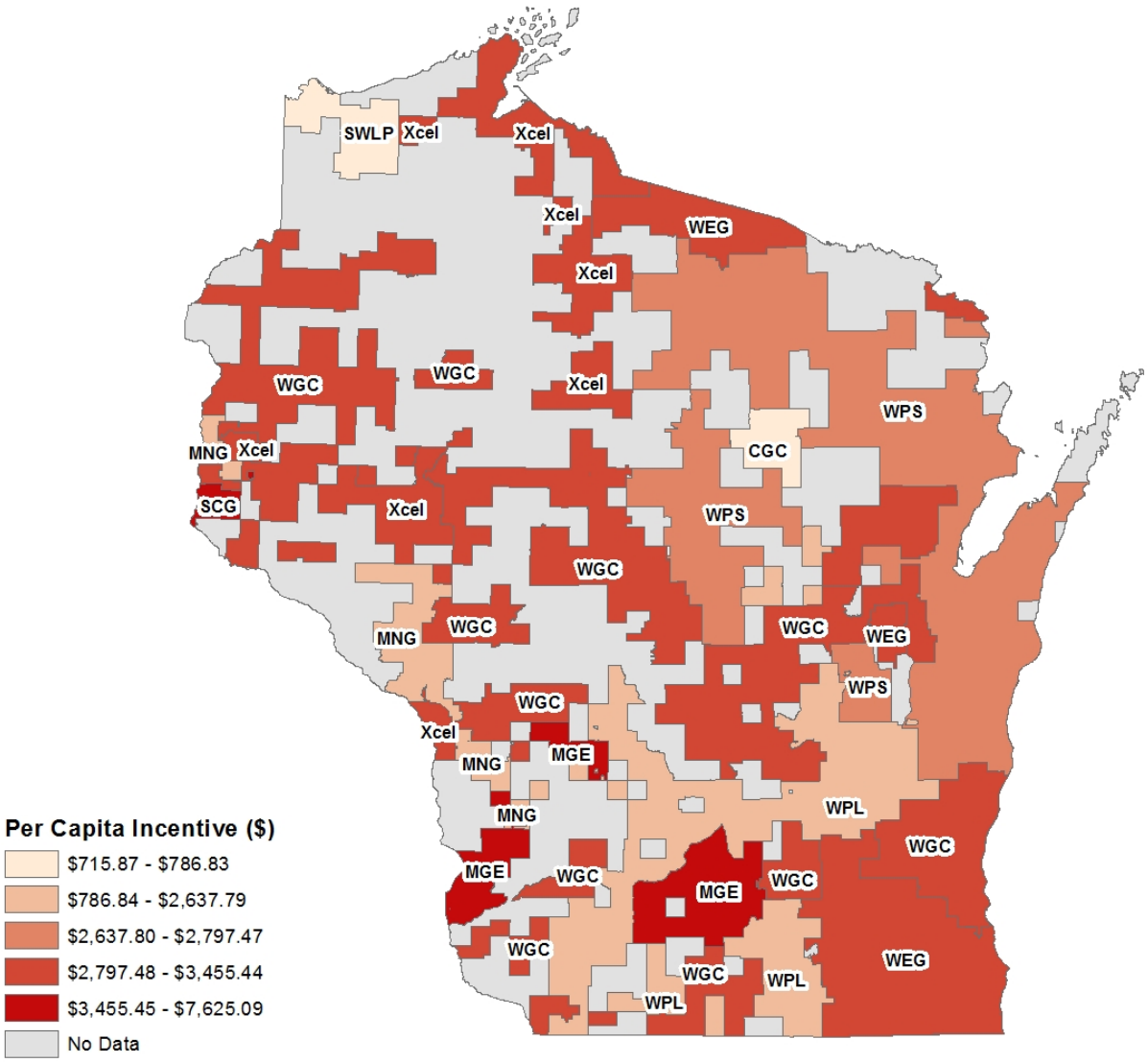


Commercial Per Capita Incentive Dollars Awarded By Electric Territory

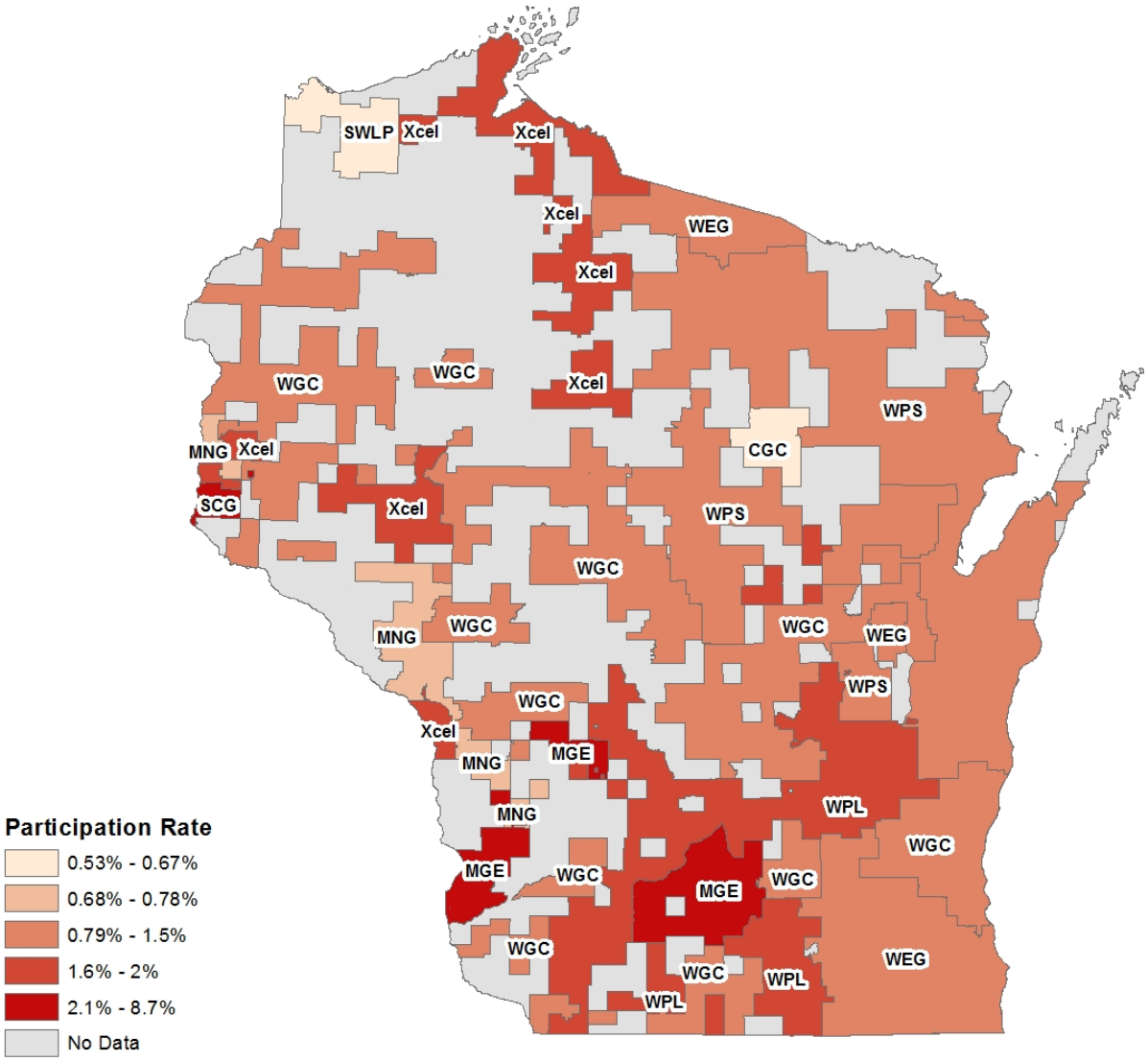


Residential

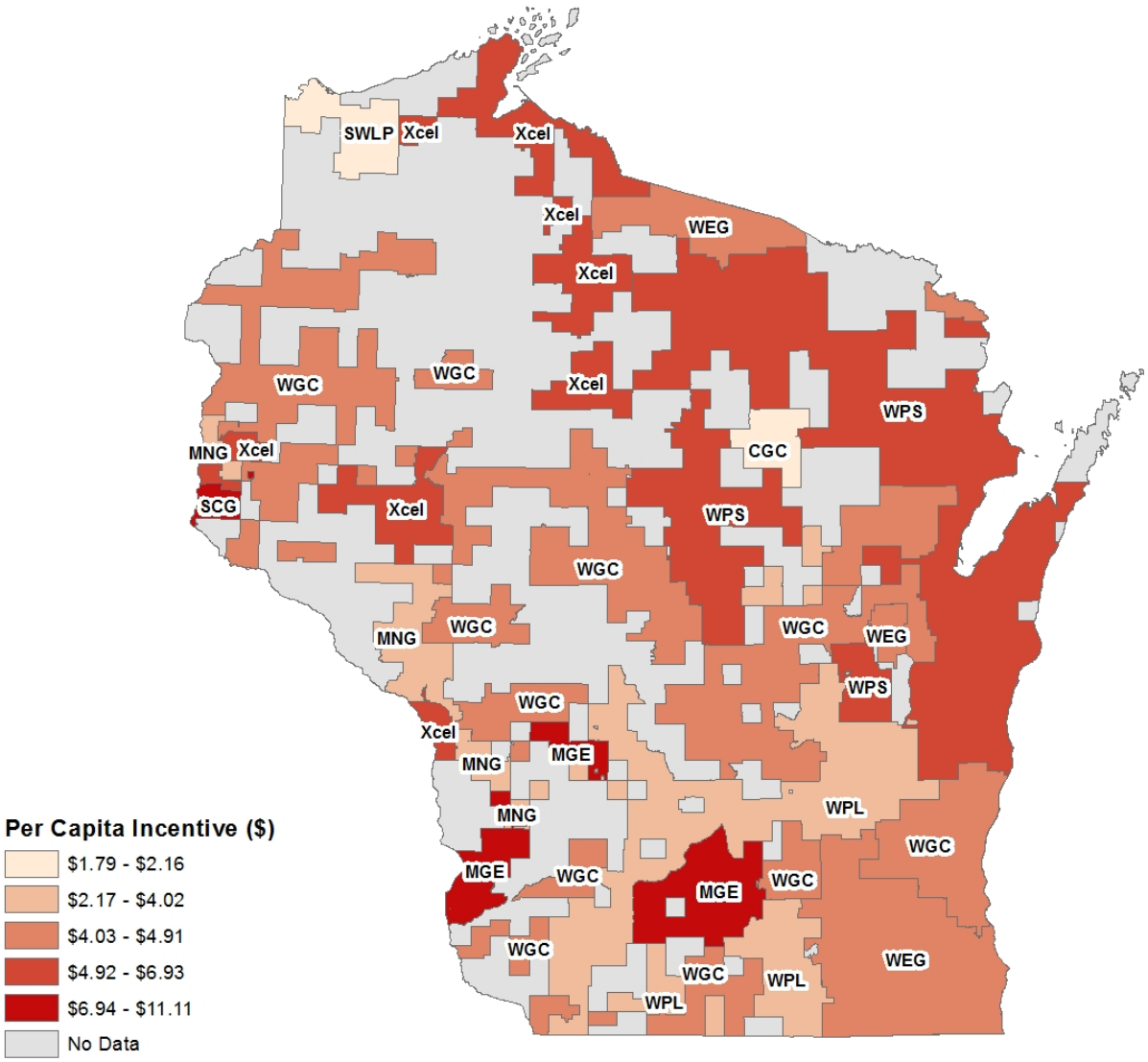
Residential Per Capita Energy Bill Savings By Gas Territory



Residential Participation Rate By Gas Territory

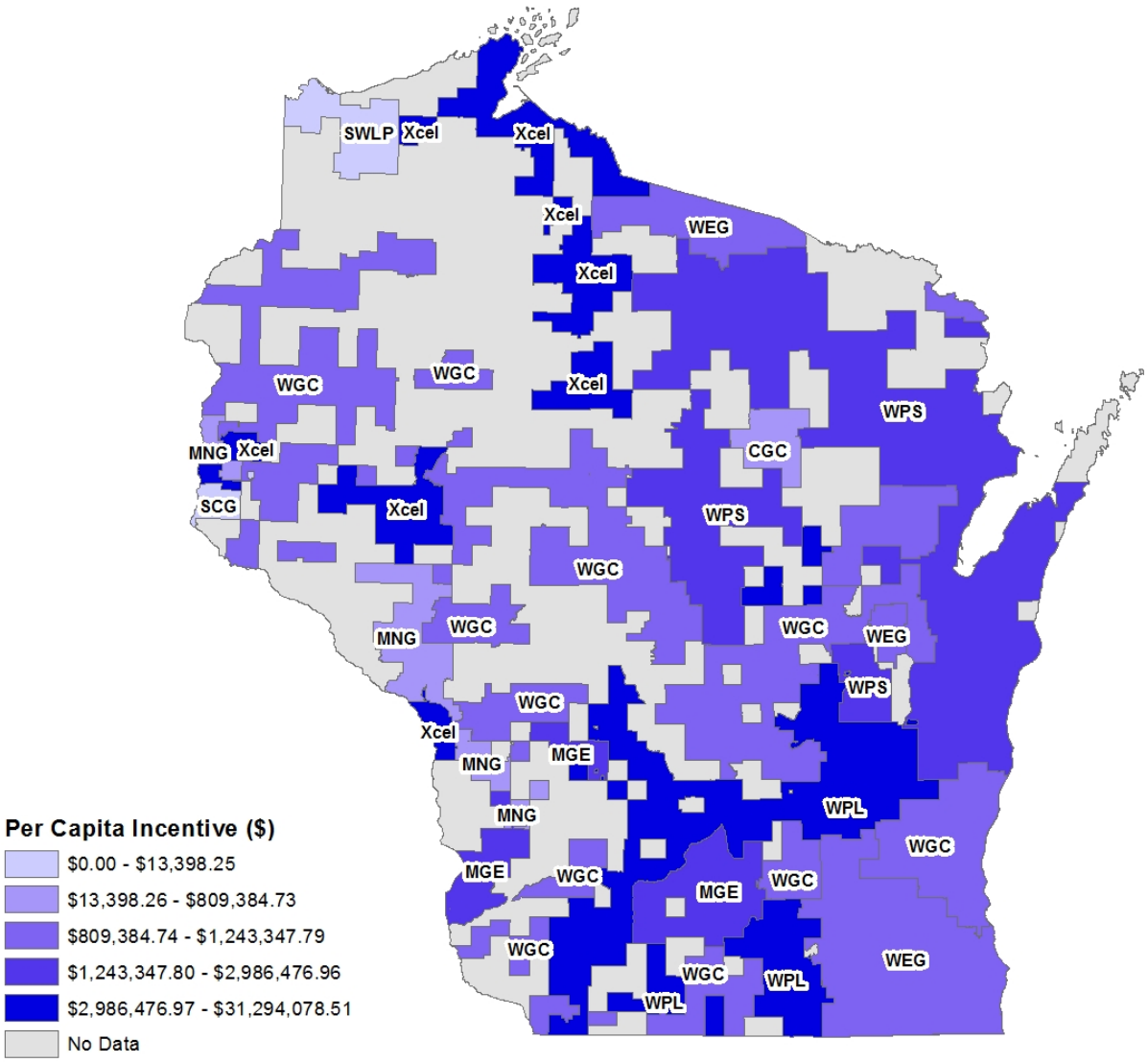


Residential Per Capita Incentive Dollars Awarded By Gas Territory

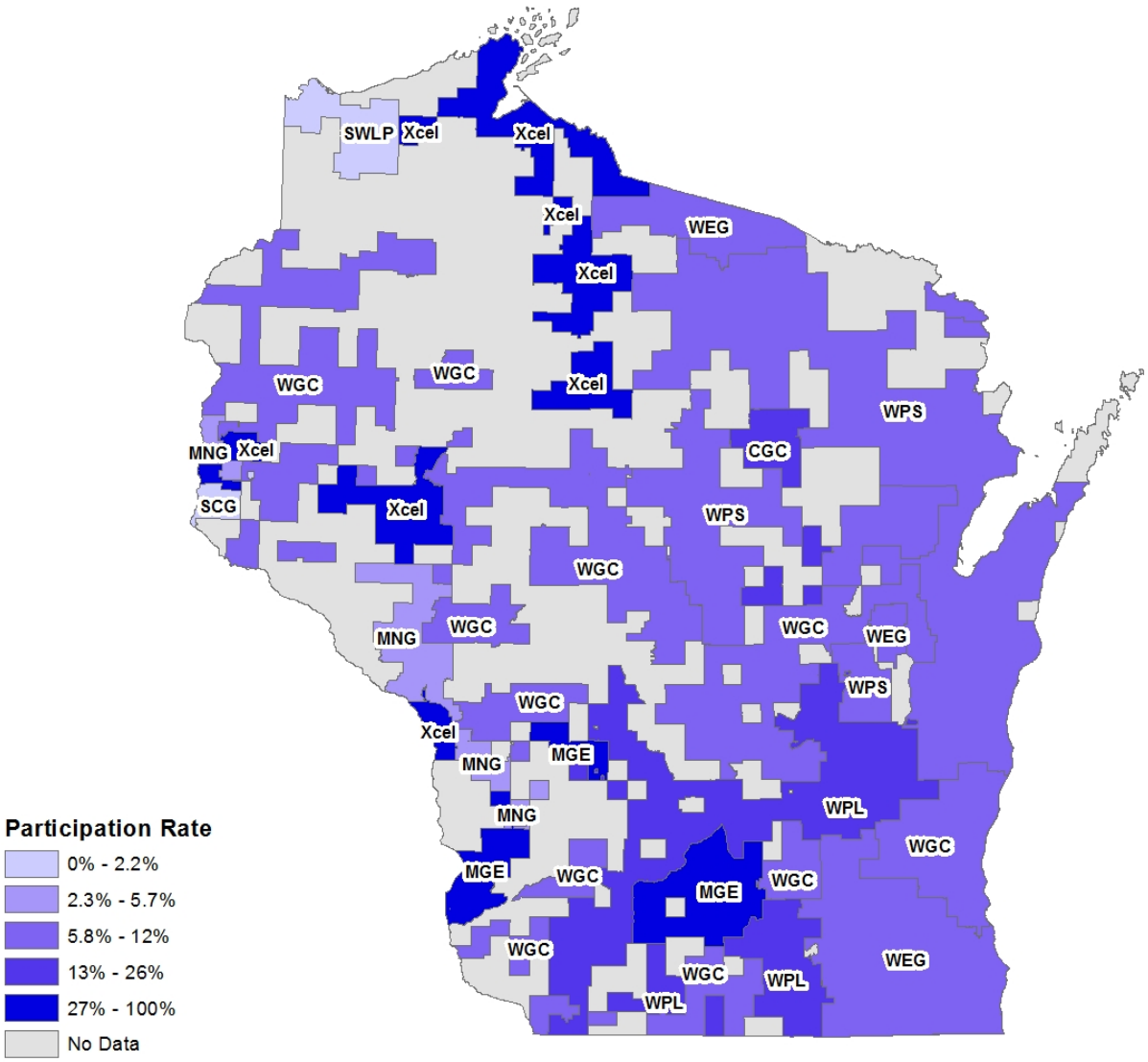


Industrial

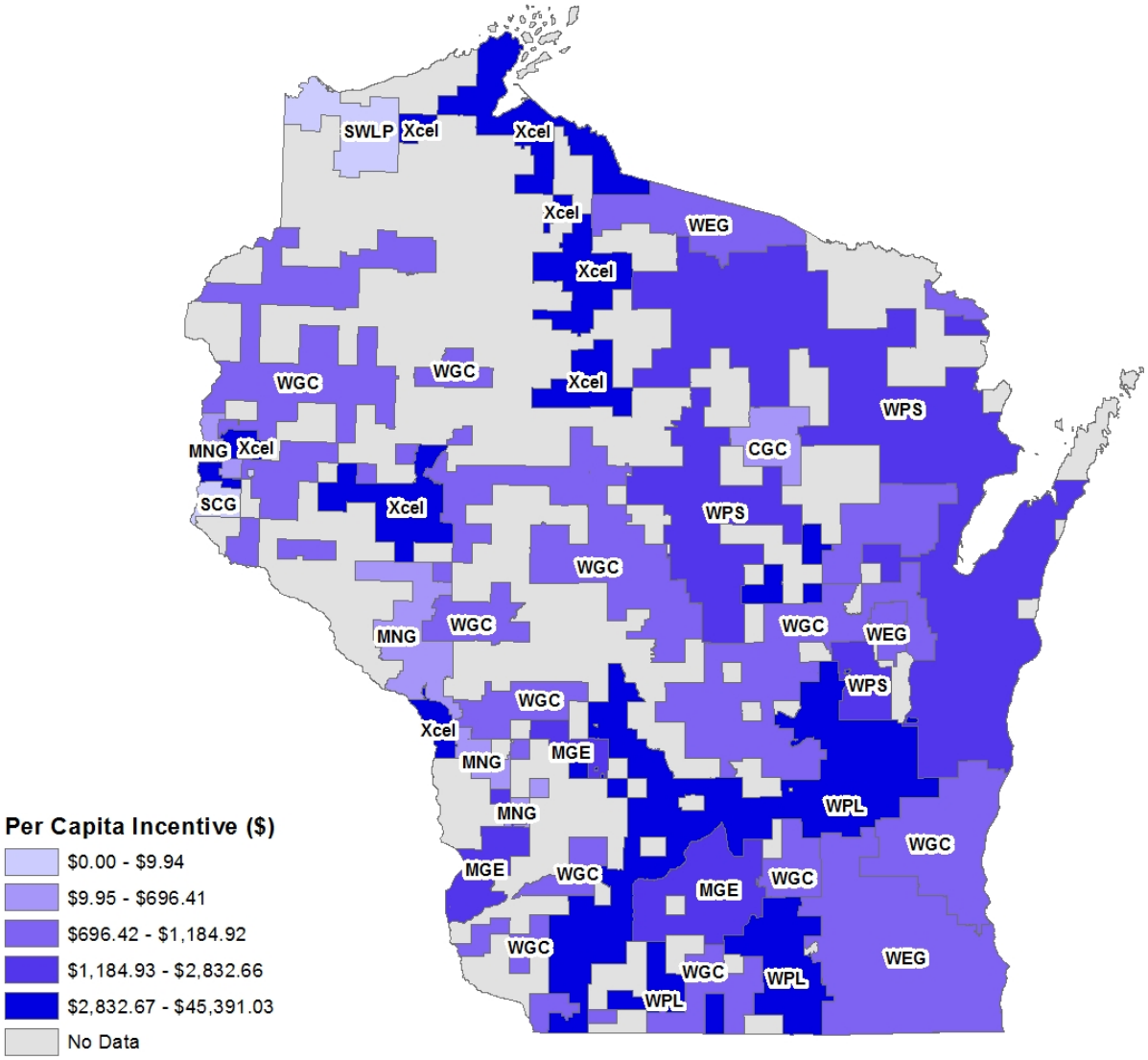
Industrial Per Capita Energy Bill Savings By Gas Territory



Industrial Participation Rate By Gas Territory

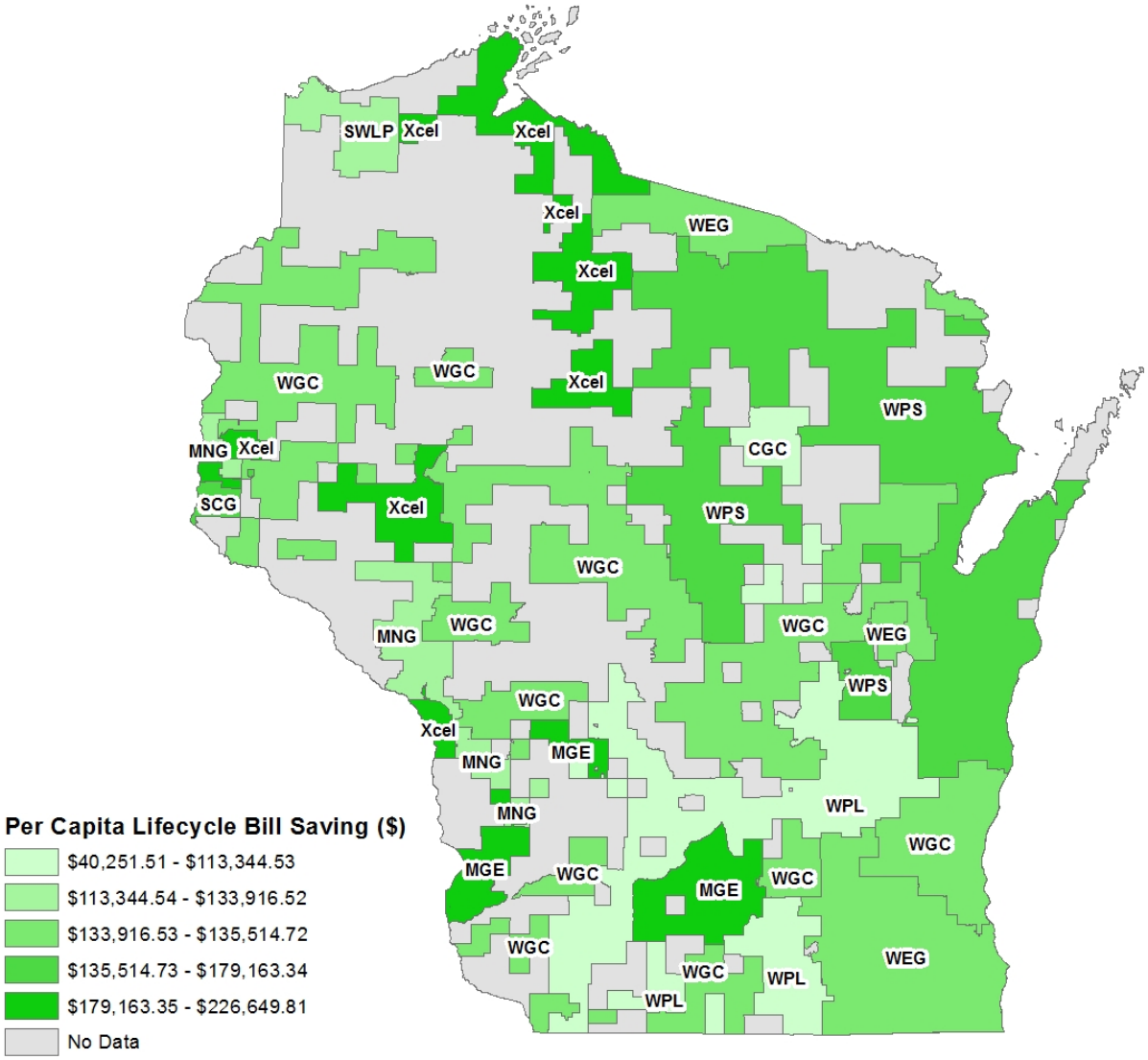


Industrial Per Capita Incentive Dollars Awarded By Gas Territory

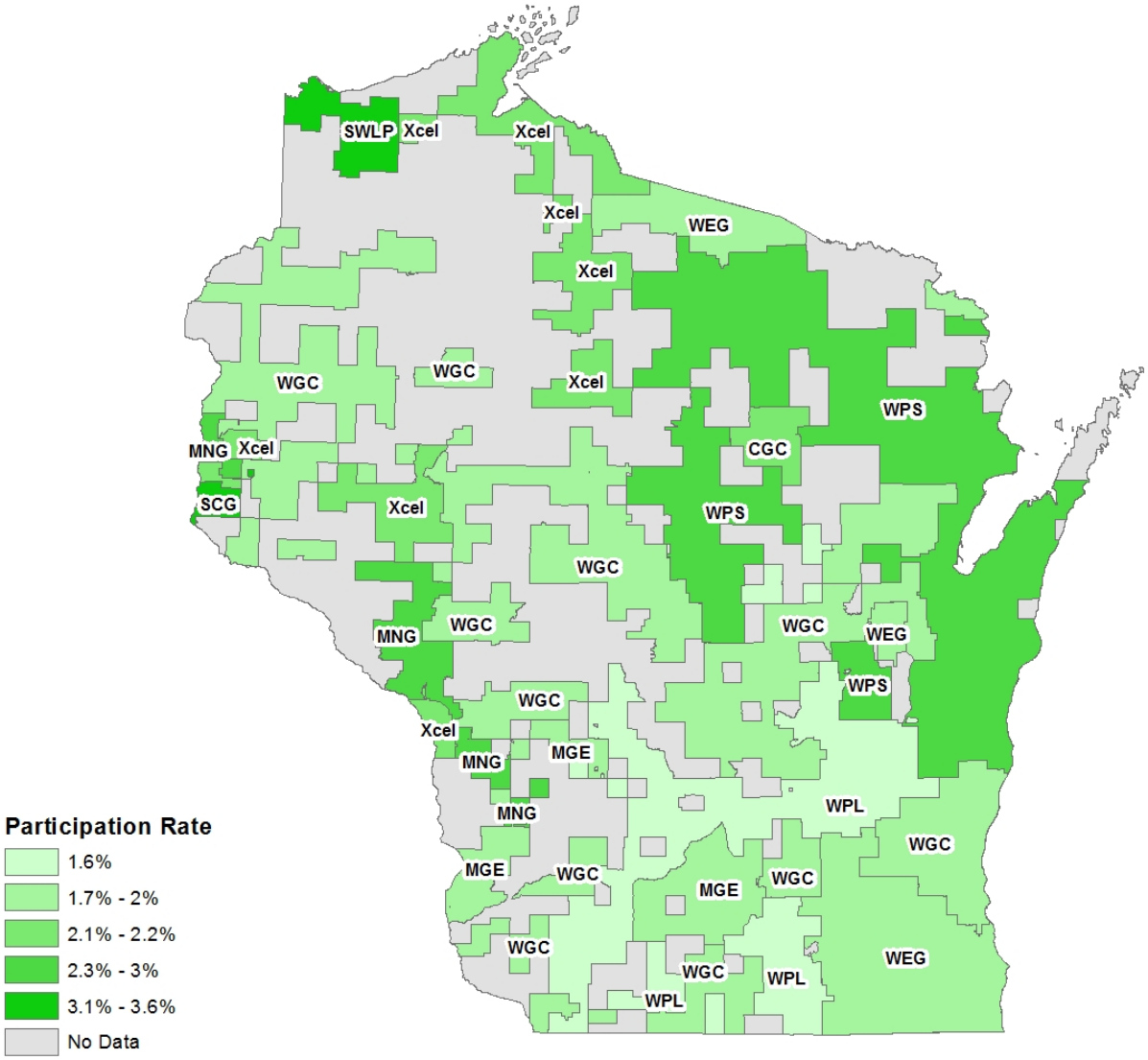


Commercial

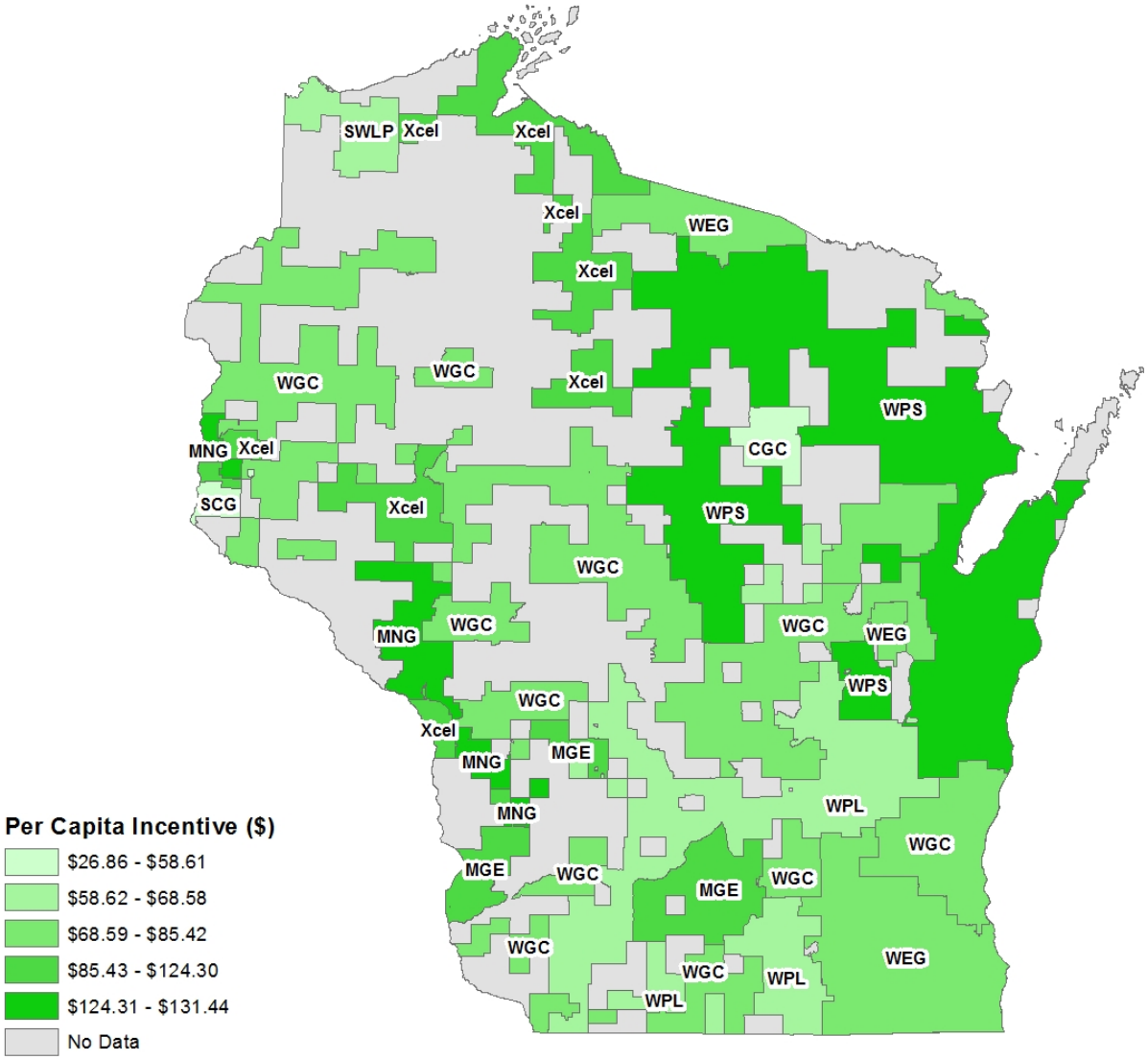
Commercial Per Capita Energy Bill Savings By Gas Territory



Commercial Participation Rate By Gas Territory



Commercial Per Capita Incentive Dollars Awarded By Gas Territory



Appendix F: Table 1. Savings And Participation By Territory And Segment

Territory	Utility Type	Segment	Per Capita Lifecycle Bill Savings ($)	Customer Participation Rate (%)	Per Capita Incentive ($)
Adams-Columbia Electric Cooperative	ELECTRIC	Commercial	$141,057	3%	$60.69
Algoma Utilities	ELECTRIC	Commercial	$39,492	2%	$14.56
Alliant Energy (WPL)	ELECTRIC	Commercial	$81,511	3%	$46.48
Arcadia Electric Utility	ELECTRIC	Commercial	$67,060	2%	$28.14
Argyle Municipal Electric Utility	ELECTRIC	Commercial	$457	2%	$1.61
Bangor Municipal Utility	ELECTRIC	Commercial	$37,927	1%	$14.29
Barron Light and Water Utility	ELECTRIC	Commercial	$19,313	5%	$8.93
Bayfield Electric Cooperative	ELECTRIC	Commercial	$73,580	100%	$8.30
Belmont Municipal Light And Water	ELECTRIC	Commercial	$18,294	1%	$6.28
Benton Electric And Water Utility	ELECTRIC	Commercial	$25,997	3%	$40.55
Black Earth Electric Utilities	ELECTRIC	Commercial	$20,213	2%	$10.19
Black River Falls Municipal Utilities	ELECTRIC	Commercial	$42,963	5%	$32.09
Bloomer Electric And Water Utility	ELECTRIC	Commercial	$13,431	1%	$2.87
Boscobel Utilities	ELECTRIC	Commercial	$30,638	3%	$19.62
Brodhead Water And Light	ELECTRIC	Commercial	$6,581	1%	$1.02
Cadott Light And Water Department	ELECTRIC	Commercial	$49,388	4%	$37.38
Cashton Municipal Light And Water	ELECTRIC	Commercial	$8,974,008	3%	$2,032.25
Cedarburg Light And Water Utility	ELECTRIC	Commercial	$83,755	5%	$73.57
Centuria Municipal Electric Utility	ELECTRIC	Commercial	$97	0%	$0.01
Clark Electric Cooperative	ELECTRIC	Commercial	$916,157	66%	$353.22
Clintonville Water And Electric Utility	ELECTRIC	Commercial	$174,425	4%	$63.38
Columbus Water And Light	ELECTRIC	Commercial	$132,045	4%	$75.49
Consolidated Water Power Co.	ELECTRIC	Commercial	$31,100	7%	$16.77
Cornell Municipal Electric Utility	ELECTRIC	Commercial	$200,115	5%	$121.90
Cuba City Light And Water	ELECTRIC	Commercial	$63,992	3%	$34.31
Cumberland Municipal Utility	ELECTRIC	Commercial	$73,976	3%	$50.60
Dahlberg Light And Power Co.	ELECTRIC	Commercial	$20,002	1%	$11.88
Dunn Energy Cooperative	ELECTRIC	Commercial	$689	1%	$0.07
Eagle River Light and Water	ELECTRIC	Commercial	$389,973	4%	$159.52
Eau Claire Energy Cooperative	ELECTRIC	Commercial	$36,697	3%	$18.45
Elkhorn Light And Water	ELECTRIC	Commercial	$80,976	2%	$37.94
Elroy Electric And Water Utility	ELECTRIC	Commercial	$255,955	6%	$79.20
Evansville Water And Light	ELECTRIC	Commercial	$139,966	2%	$37.27
Fennimore Water and Light Plant	ELECTRIC	Commercial	$118,285	3%	$54.83
Florence Utility Commission	ELECTRIC	Commercial	$20,376	2%	$5.62
Gresham Municipal Water And	ELECTRIC	Commercial	$33,617	7%	$18.02
Hartford Electric	ELECTRIC	Commercial	$29,244	5%	$51.41

Territory	Utility Type	Segment	Per Capita Lifecycle Bill Savings ($)	Customer Participation Rate (%)	Per Capita Incentive ($)
Hazel Green Light And Water Utility	ELECTRIC	Commercial	$45	0%	$0.00
Hustisford Utilities	ELECTRIC	Commercial	$54,770	4%	$54.45
Jackson Electric Cooperative (NonParticipant)	ELECTRIC	Commercial	$57	1%	$5.50
Jefferson Utilities	ELECTRIC	Commercial	$32,630	5%	$11.08
Juneau Utilities	ELECTRIC	Commercial	$111,653	2%	$57.82
Kaukauna Utilities	ELECTRIC	Commercial	$69,642	2%	$44.24
Kiel Utilities	ELECTRIC	Commercial	$241,371	5%	$266.83
La Farge Municipal Utilities	ELECTRIC	Commercial	$182,334	2%	$372.21
Lake Mills Light And Water	ELECTRIC	Commercial	$82,191	1%	$42.25
Lodi Utilities	ELECTRIC	Commercial	$70,221	3%	$24.77
Madison Gas And Electric (MGE)	ELECTRIC	Commercial	$92,266	2%	$58.44
Manitowoc Public Utilities	ELECTRIC	Commercial	$63,959	2%	$25.76
Marshfield Utilities	ELECTRIC	Commercial	$75,720	3%	$43.44
Mazomanie Electric Utility	ELECTRIC	Commercial	$183,125	1%	$82.32
Medford Electric Utility	ELECTRIC	Commercial	$83,775	6%	$31.25
Menasha Utilities	ELECTRIC	Commercial	$166,579	3%	$112.35
Mount Horeb Utilities	ELECTRIC	Commercial	$158,965	2%	$66.81
Muscoda Utilities	ELECTRIC	Commercial	$536	2%	$2.00
New Glarus Light And Water	ELECTRIC	Commercial	$129,669	4%	$100.85
New Holstein Utilities	ELECTRIC	Commercial	$99,483	7%	$74.29
New Lisbon Municipal Light And	ELECTRIC	Commercial	$81,807	2%	$48.08
New London Utility Commission	ELECTRIC	Commercial	$106,736	2%	$67.84
New Richmond Utilities	ELECTRIC	Commercial	$38,222	2%	$21.54
North Central Power Co.	ELECTRIC	Commercial	$10,418	1%	$3.60
Northwestern Wisconsin Electric Co.	ELECTRIC	Commercial	$49,197	3%	$21.55
Oakdale Electric Cooperative	ELECTRIC	Commercial	$37,506	4%	$125.48
Oconomowoc Utilities	ELECTRIC	Commercial	$248,494	6%	$167.86
Oconto Electric Cooperative	ELECTRIC	Commercial	$605,975	21%	$290.97
Oconto Falls Municipal Utilities	ELECTRIC	Commercial	$53,920	2%	$46.28
Pardeeville Public Utilities	ELECTRIC	Commercial	$105,932	4%	$14.55
Pierce Pepin Cooperative Services	ELECTRIC	Commercial	$65,784	2%	$16.84
Pioneer Power And Light Co.	ELECTRIC	Commercial	$76,621	4%	$19.57
Plymouth Utilities	ELECTRIC	Commercial	$259,913	6%	$257.15
Polk-Burnett Electric Cooperative	ELECTRIC	Commercial	$23,269	4%	$12.27
Prairie Du Sac Utilities	ELECTRIC	Commercial	$37,456	3%	$36.82
Price Electric Cooperative	ELECTRIC	Commercial	$8,732	6%	$2.79
Princeton Light And Water	ELECTRIC	Commercial	$37,943	1%	$12.76
Reedsburg Utility Commission	ELECTRIC	Commercial	$68,222	7%	$39.13

Territory	Utility Type	Segment	Per Capita Lifecycle Bill Savings ($)	Customer Participation Rate (%)	Per Capita Incentive ($)
Rice Lake Utilities	ELECTRIC	Commercial	$134,301	4%	$107.07
Richland Center Municipal Utility	ELECTRIC	Commercial	$28,154	3%	$19.33
Richland Electric Cooperative	ELECTRIC	Commercial	$20,464	10%	$12.36
River Falls Municipal Utility	ELECTRIC	Commercial	$137,311	3%	$44.94
Rock Energy Cooperative	ELECTRIC	Commercial	$627,364	2%	$246.50
Sauk City Utilities	ELECTRIC	Commercial	$193,126	3%	$69.00
Scenic Rivers Energy Coop	ELECTRIC	Commercial	$110,994	12%	$59.08
Shawano Municipal Utilities	ELECTRIC	Commercial	$33,203	6%	$17.23
Sheboygan Falls Utilities	ELECTRIC	Commercial	$56,266	2%	$36.97
Shullsburg Municipal Electric Utility	ELECTRIC	Commercial	$56,063	1%	$29.11
Slinger Utilities	ELECTRIC	Commercial	$292,301	3%	$87.23
Spooner Municipal Utilities	ELECTRIC	Commercial	$21,720	2%	$6.32
St Croix Electric Cooperative (Nonparticipant)	ELECTRIC	Commercial	$2,010	3%	$1.53
Stoughton Utilities	ELECTRIC	Commercial	$34,519	3%	$30.97
Stratford Water And Electric Utility	ELECTRIC	Commercial	$24,332	3%	$9.11
Sturgeon Bay Utilities	ELECTRIC	Commercial	$83,029	3%	$34.43
Sun Prairie Water And Light	ELECTRIC	Commercial	$165,035	2%	$66.82
Superior Water, Light And Power Co	ELECTRIC	Commercial	$70,117	2%	$41.45
Taylor Electric Cooperative	ELECTRIC	Commercial	$281,721	15%	$162.17
Trempealeau Municipal Utility	ELECTRIC	Commercial	$1,731	1%	$0.01
Two Rivers Water And Light	ELECTRIC	Commercial	$193,189	6%	$138.46
Vernon Electric Cooperative	ELECTRIC	Commercial	$83,124	8%	$55.85
Viola Municipal Electric Utility	ELECTRIC	Commercial	$172,756	3%	$167.60
Waterloo Utilities	ELECTRIC	Commercial	$154,913	2%	$47.20
Waunakee Utilities	ELECTRIC	Commercial	$176,553	2%	$63.42
Waupun Utilities	ELECTRIC	Commercial	$106,656	3%	$58.83
We Energies (WEPCO)	ELECTRIC	Commercial	$96,682	2%	$59.86
Westby Electric And Water Utility	ELECTRIC	Commercial	$198,384	11%	$167.72
Westfield Milling And Electric Light	ELECTRIC	Commercial	$12,519	1%	$5.00
Whitehall Electric Utility	ELECTRIC	Commercial	$261,052	2%	$232.97
Wisconsin Dells Water And Light	ELECTRIC	Commercial	$22,759	2%	$24.16
Wisconsin Public Service Corp.	ELECTRIC	Commercial	$115,258	3%	$83.30
Wisconsin Rapids Water Works And	ELECTRIC	Commercial	$88,057	3%	$47.68
Wonewoc Municipal Water And Light	ELECTRIC	Commercial	$734	2%	$0.07
Xcel Energy (NSP)	ELECTRIC	Commercial	$107,951	2%	$61.84
Adams-Columbia Electric Cooperative	ELECTRIC	Industrial	$76,617	0%	$53.66
Algoma Utilities	ELECTRIC	Industrial	$940,118	33%	$780.00

Territory	Utility Type	Segment	Per Capita Lifecycle Bill Savings ($)	Customer Participation Rate (%)	Per Capita Incentive ($)
Alliant Energy	ELECTRIC	Industrial	$2,430,731	14%	$1,508.91
Argyle Municipal Electric Utility	ELECTRIC	Industrial	$9,968,297	100%	$6,600.00
Bloomer Electric And Water Utility	ELECTRIC	Industrial	$24,806	4%	$26.91
Boscobel Utilities	ELECTRIC	Industrial	$0	0%	$0.00
Brodhead Water And Light	ELECTRIC	Industrial	$1,771,256	100%	$8,750.00
Cadott Light And Water Department	ELECTRIC	Industrial	$0	13%	$40.00
Cedarburg Light And Water Utility	ELECTRIC	Industrial	$11,915,497	100%	$6,912.00
Clark Electric Cooperative	ELECTRIC	Industrial	$0	0%	$0.00
Clintonville Water And Electric Utility	ELECTRIC	Industrial	$427,610	18%	$3,156.18
Columbus Water And Light	ELECTRIC	Industrial	$30,240,004	100%	$21,056.00
Consolidated Water Power Co.	ELECTRIC	Industrial	$567,513,388	100%	$326,780.00
Cornell Municipal Electric Utility	ELECTRIC	Industrial	$468,256	10%	$300.00
Cuba City Light And Water	ELECTRIC	Industrial	$0	0%	$0.00
Dahlberg Light And Power Co.	ELECTRIC	Industrial	$526,249	6%	$377.26
Eau Claire Energy Cooperative	ELECTRIC	Industrial	$8,121,580	29%	$7,508.92
Elkhorn Light And Water	ELECTRIC	Industrial	$442,579	14%	$305.87
Elroy Electric And Water Utility	ELECTRIC	Industrial	$1,670,145	12%	$1,138.82
Evansville Water And Light	ELECTRIC	Industrial	$14,337,963	100%	$11,997.38
Hartford Electric	ELECTRIC	Industrial	$29,530,326	100%	$27,922.38
Jackson Electric Cooperative (Nonparticipant)	ELECTRIC	Industrial	$1,897	50%	$323.88
Jefferson Utilities	ELECTRIC	Industrial	$1,862,471	100%	$4,537.50
Kaukauna Utilities	ELECTRIC	Industrial	$47,288,713	100%	$40,429.16
Kiel Utilities	ELECTRIC	Industrial	$3,558,100	25%	$1,244.43
Lodi Utilities	ELECTRIC	Industrial	$0	0%	$0.00
Madison Gas And Electric	ELECTRIC	Industrial	$3,998,621	52%	$4,215.89
Manitowoc Public Utilities	ELECTRIC	Industrial	$2,125,299	26%	$3,140.74
Marshfield Utilities	ELECTRIC	Industrial	$264,216	9%	$238.45
Medford Electric Utility	ELECTRIC	Industrial	$30,931	3%	$58.11
Menasha Utilities	ELECTRIC	Industrial	$29,027,386	64%	$22,657.55
Muscoda Utilities	ELECTRIC	Industrial	$41,407,148	100%	$15,652.50
New Glarus Light And Water	ELECTRIC	Industrial	$0	0%	$0.00
New Holstein Utilities	ELECTRIC	Industrial	$0	0%	$0.00
New Lisbon Municipal Light And	ELECTRIC	Industrial	$371,870	5%	$245.45
New London Utility Commission	ELECTRIC	Industrial	$6,153,800	40%	$3,909.31
New Richmond Utilities	ELECTRIC	Industrial	$8,714,729	100%	$6,462.50
Northwestern Wisconsin Electric Co.	ELECTRIC	Industrial	$194,188	4%	$128.57
Oakdale Electric Cooperative	ELECTRIC	Industrial	$76,365	10%	$55.00
Oconomowoc Utilities	ELECTRIC	Industrial	$3,871,261	100%	$4,180.58

Territory	Utility Type	Segment	Per Capita Lifecycle Bill Savings ($)	Customer Participation Rate (%)	Per Capita Incentive ($)
Pierce Pepin Cooperative Services	ELECTRIC	Industrial	$504,447	11%	$333.33
Pioneer Power And Light Co.	ELECTRIC	Industrial	$20,826	5%	$13.64
Plymouth Utilities	ELECTRIC	Industrial	$24,947,647	100%	$20,964.94
Polk-Burnett Electric Cooperative	ELECTRIC	Industrial	$79,851	20%	$48.00
Prairie Du Sac Utilities	ELECTRIC	Industrial	$2,196,213	100%	$7,520.00
Reedsburg Utility Commission	ELECTRIC	Industrial	$572,056	50%	$503.75
Rice Lake Utilities	ELECTRIC	Industrial	$171,189	3%	$107.55
Richland Center Municipal Utility	ELECTRIC	Industrial	$17,367,814	100%	$9,845.75
Richland Electric Cooperative	ELECTRIC	Industrial	$0	0%	$0.00
River Falls Municipal Utility	ELECTRIC	Industrial	$1,780,657	100%	$800.00
Rock Energy Cooperative	ELECTRIC	Industrial	$2,431,572	1%	$1,338.29
Scenic Rivers Energy Coop	ELECTRIC	Industrial	$49,947	7%	$26.67
Shawano Municipal Utilities	ELECTRIC	Industrial	$261,909	4%	$185.00
Sheboygan Falls Utilities	ELECTRIC	Industrial	$1,871,727	5%	$1,435.14
Slinger Utilities	ELECTRIC	Industrial	$0	0%	$0.00
Spooner Municipal Utilities	ELECTRIC	Industrial	$2,406	6%	$12.50
Stoughton Utilities	ELECTRIC	Industrial	$2,025,153	100%	$1,613.33
Stratford Water And Electric Utility	ELECTRIC	Industrial	$217,490	20%	$144.00
Sturgeon Bay Utilities	ELECTRIC	Industrial	$40,260,674	100%	$20,825.00
Sun Prairie Water And Light	ELECTRIC	Industrial	$2,019,176	100%	$1,675.00
Superior Water, Light And Power Co	ELECTRIC	Industrial	$17,488	3%	$9.52
Two Rivers Water And Light	ELECTRIC	Industrial	$9,299,420	100%	$7,350.83
Waunakee Utilities	ELECTRIC	Industrial	$1,796,800	75%	$666.00
Waupun Utilities	ELECTRIC	Industrial	$1,160,534	100%	$696.00
We Energies	ELECTRIC	Industrial	$5,093,973	58%	$4,874.87
Whitehall Electric Utility	ELECTRIC	Industrial	$321,192	100%	$505.00
Wisconsin Public Service Corp.	ELECTRIC	Industrial	$9,026,768	96%	$8,924.63
Wisconsin Rapids Water Works And	ELECTRIC	Industrial	$492,165	80%	$444.50
Xcel Energy (NSP)	ELECTRIC	Industrial	$20,894,945	83%	$18,036.18
Adams-Columbia Electric Cooperative	ELECTRIC	Residential	$3,578	16%	$1.95
Algoma Utilities	ELECTRIC	Residential	$1,481	5%	$0.99
Alliant Energy	ELECTRIC	Residential	$7,043	42%	$5.25
Arcadia Electric Utility	ELECTRIC	Residential	$543	1%	$0.84
Argyle Municipal Electric Utility	ELECTRIC	Residential	$5,341	46%	$2.90
Bangor Municipal Utility	ELECTRIC	Residential	$3,724	19%	$2.62
Barron Electric Cooperative (Nonparticipant)	ELECTRIC	Residential	$0	0%	$0.03
Barron Light and Water Utility	ELECTRIC	Residential	$14,515	100%	$7.66
Bayfield Electric Cooperative	ELECTRIC	Residential	$4,650	41%	$2.16

Territory	Utility Type	Segment	Per Capita Lifecycle Bill Savings ($)	Customer Participation Rate (%)	Per Capita Incentive ($)
Belmont Municipal Light And Water	ELECTRIC	Residential	$4,497	29%	$3.68
Benton Electric And Water Utility	ELECTRIC	Residential	$726	6%	$0.35
Black Earth Electric Utilities	ELECTRIC	Residential	$4,494	29%	$3.14
Black River Falls Municipal Utilities	ELECTRIC	Residential	$5,223	37%	$4.46
Bloomer Electric And Water Utility	ELECTRIC	Residential	$6,132	1%	$3.12
Boscobel Utilities	ELECTRIC	Residential	$1,422	8%	$2.17
Brodhead Water And Light	ELECTRIC	Residential	$3,290	25%	$2.00
Cadott Light And Water Department	ELECTRIC	Residential	$6,207	37%	$6.71
Cashton Municipal Light And Water	ELECTRIC	Residential	$7,034	63%	$3.50
Cedarburg Light And Water Utility	ELECTRIC	Residential	$12,403	84%	$10.01
Centuria Municipal Electric Utility	ELECTRIC	Residential	$539	4%	$0.25
Clark Electric Cooperative	ELECTRIC	Residential	$5,296	43%	$2.85
Clintonville Water And Electric Utility	ELECTRIC	Residential	$3,655	28%	$2.10
Columbus Water And Light	ELECTRIC	Residential	$8,068	23%	$2.69
Consolidated Water Power Co.	ELECTRIC	Residential	$10,376	78%	$44.75
Cornell Municipal Electric Utility	ELECTRIC	Residential	$2,640	23%	$6.04
Cuba City Light And Water	ELECTRIC	Residential	$5,092	19%	$4.81
Cumberland Municipal Utility	ELECTRIC	Residential	$3,480	28%	$2.45
Dahlberg Light And Power Co.	ELECTRIC	Residential	$1,227	9%	$0.86
Dunn Energy Cooperative	ELECTRIC	Residential	$3,672	33%	$2.07
Eagle River Light and Water	ELECTRIC	Residential	$6,020	48%	$3.90
East Central Energy Cooperative (Nonparticipant)	ELECTRIC	Residential	$1	0%	$0.08
Eau Claire Energy Cooperative	ELECTRIC	Residential	$10,223	38%	$6.14
Elkhorn Light And Water	ELECTRIC	Residential	$868	1%	$1.11
Elroy Electric And Water Utility	ELECTRIC	Residential	$2,854	23%	$2.34
Evansville Water And Light	ELECTRIC	Residential	$3,611	23%	$3.81
Fennimore Water and Light Plant	ELECTRIC	Residential	$8,398	22%	$5.97
Florence Utility Commission	ELECTRIC	Residential	$813	5%	$0.50
Gresham Municipal Water And	ELECTRIC	Residential	$5,064	38%	$2.47
Hartford Electric	ELECTRIC	Residential	$6,301	42%	$5.04
Hazel Green Light And Water Utility	ELECTRIC	Residential	$1,106	5%	$1.20
Hustisford Utilities	ELECTRIC	Residential	$2,779	2%	$3.79
Jackson Electric Cooperative (Nonparticipant)	ELECTRIC	Residential	$0	0%	$0.02
Jefferson Utilities	ELECTRIC	Residential	$6,146	39%	$4.37
Juneau Utilities	ELECTRIC	Residential	$3,307	20%	$3.11
Kaukauna Utilities	ELECTRIC	Residential	$4,125	20%	$4.18
Kiel Utilities	ELECTRIC	Residential	$5,844	25%	$5.53

Territory	Utility Type	Segment	Per Capita Lifecycle Bill Savings ($)	Customer Participation Rate (%)	Per Capita Incentive ($)
La Farge Municipal Utilities	ELECTRIC	Residential	$4,484	17%	$4.52
Lake Mills Light And Water	ELECTRIC	Residential	$7,523	6%	$3.49
Lodi Utilities	ELECTRIC	Residential	$5,511	38%	$5.41
Madison Gas And Electric	ELECTRIC	Residential	$12,017	54%	$12.87
Manitowoc Public Utilities	ELECTRIC	Residential	$4,327	14%	$3.39
Marshfield Utilities	ELECTRIC	Residential	$7,165	32%	$6.85
Mazomanie Electric Utility	ELECTRIC	Residential	$3,938	17%	$2.82
Medford Electric Utility	ELECTRIC	Residential	$6,528	50%	$4.68
Menasha Utilities	ELECTRIC	Residential	$3,763	13%	$3.44
Merrillan Electric & Water Utility	ELECTRIC	Residential	$384	1%	$0.18
Mount Horeb Utilities	ELECTRIC	Residential	$11,957	25%	$6.79
Muscoda Utilities	ELECTRIC	Residential	$4,402	35%	$2.60
New Glarus Light And Water	ELECTRIC	Residential	$6,790	54%	$7.10
New Holstein Utilities	ELECTRIC	Residential	$7,545	28%	$7.91
New Lisbon Municipal Light And	ELECTRIC	Residential	$1,693	12%	$1.42
New London Utility Commission	ELECTRIC	Residential	$6,729	48%	$4.47
New Richmond Utilities	ELECTRIC	Residential	$10,219	40%	$8.33
North Central Power Co.	ELECTRIC	Residential	$1,818	14%	$1.32
Northwestern Wisconsin Electric Co.	ELECTRIC	Residential	$3,258	26%	$1.81
Oakdale Electric Cooperative	ELECTRIC	Residential	$7,147	53%	$4.14
Oconomowoc Utilities	ELECTRIC	Residential	$6,840	33%	$7.19
Oconto Electric Cooperative	ELECTRIC	Residential	$5,468	31%	$3.59
Oconto Falls Municipal Utilities	ELECTRIC	Residential	$3,679	23%	$3.07
Pardeeville Public Utilities	ELECTRIC	Residential	$8,026	57%	$4.58
Pierce Pepin Cooperative Services	ELECTRIC	Residential	$1,713	1%	$1.22
Pioneer Power And Light Co.	ELECTRIC	Residential	$3,979	32%	$2.16
Plymouth Utilities	ELECTRIC	Residential	$5,982	28%	$3.55
Polk-Burnett Electric Cooperative	ELECTRIC	Residential	$3,678	19%	$2.02
Prairie Du Sac Utilities	ELECTRIC	Residential	$4,206	25%	$3.60
Price Electric Cooperative	ELECTRIC	Residential	$3,230	25%	$2.01
Princeton Light And Water	ELECTRIC	Residential	$3,276	23%	$4.13
Reedsburg Utility Commission	ELECTRIC	Residential	$6,554	35%	$5.19
Rice Lake Utilities	ELECTRIC	Residential	$2,605	18%	$3.00
Richland Center Municipal Utility	ELECTRIC	Residential	$7,159	49%	$5.75
Richland Electric Cooperative	ELECTRIC	Residential	$5,884	44%	$3.33
River Falls Municipal Utility	ELECTRIC	Residential	$9,620	32%	$12.15
Riverland Energy Cooperative (Nonparticipant)	ELECTRIC	Residential	$2	0%	$0.25
Rock Energy Cooperative	ELECTRIC	Residential	$4,323	31%	$2.89

Territory	Utility Type	Segment	Per Capita Lifecycle Bill Savings ($)	Customer Participation Rate (%)	Per Capita Incentive ($)
Sauk City Utilities	ELECTRIC	Residential	$3,209	19%	$3.45
Scenic Rivers Energy Coop	ELECTRIC	Residential	$3,050	22%	$2.43
Shawano Municipal Utilities	ELECTRIC	Residential	$6,575	50%	$3.69
Sheboygan Falls Utilities	ELECTRIC	Residential	$5,543	27%	$5.19
Shullsburg Municipal Electric Utility	ELECTRIC	Residential	$2,975	27%	$1.45
Slinger Utilities	ELECTRIC	Residential	$4,571	28%	$3.22
Spooner Municipal Utilities	ELECTRIC	Residential	$1,953	17%	$0.97
St Croix Electric Cooperative (Nonparticipant)	ELECTRIC	Residential	$4,906	44%	$3.06
Stoughton Utilities	ELECTRIC	Residential	$9,639	36%	$6.88
Stratford Water And Electric Utility	ELECTRIC	Residential	$11,048	79%	$8.71
Sturgeon Bay Utilities	ELECTRIC	Residential	$4,629	28%	$4.82
Sun Prairie Water And Light	ELECTRIC	Residential	$8,414	29%	$5.15
Superior Water, Light And Power Co	ELECTRIC	Residential	$4,664	34%	$3.33
Taylor Electric Cooperative	ELECTRIC	Residential	$6,311	48%	$4.20
Trempealeau Municipal Utility	ELECTRIC	Residential	$4,415	20%	$4.71
Two Rivers Water And Light	ELECTRIC	Residential	$5,366	28%	$5.34
Vernon Electric Cooperative	ELECTRIC	Residential	$5,113	21%	$2.66
Viola Municipal Electric Utility	ELECTRIC	Residential	$1,530	14%	$0.73
Waterloo Utilities	ELECTRIC	Residential	$6,499	7%	$1.91
Waunakee Utilities	ELECTRIC	Residential	$12,371	37%	$7.99
Waupun Utilities	ELECTRIC	Residential	$3,507	20%	$2.22
We Energies (WEPCO and WG)	ELECTRIC	Residential	$7,822	42%	$6.76
Westby Electric And Water Utility	ELECTRIC	Residential	$4,059	23%	$2.83
Westfield Milling And Electric Light	ELECTRIC	Residential	$1,040	1%	$2.95
Whitehall Electric Utility	ELECTRIC	Residential	$6,335	37%	$9.11
Wisconsin Dells Water And Light	ELECTRIC	Residential	$7,109	54%	$4.71
Wisconsin Public Service Corp.	ELECTRIC	Residential	$6,494	36%	$6.66
Wisconsin Rapids Water Works And	ELECTRIC	Residential	$9,471	54%	$8.49
Wonewoc Municipal Water And Light	ELECTRIC	Residential	$3,584	25%	$2.22
Xcel Energy (NSP)	ELECTRIC	Residential	$5,853	36%	$5.83
Adams-Columbia Electric Cooperative	ELECTRIC	Commercial	$141,057	3%	$60.69
Algoma Utilities	ELECTRIC	Commercial	$39,492	2%	$14.56
Alliant Energy	GAS	Commercial	$113,345	2%	$65.49
City Gas Co	GAS	Commercial	$40,252	2%	$26.86
Madison Gas And Electric	GAS	Commercial	$189,143	2%	$112.01
Midwest Natural Gas Inc	GAS	Commercial	$133,917	3%	$131.44
St Croix Valley Natural Gas Co	GAS	Commercial	$159,792	3%	$58.61
Superior Water, Light And Power Co	GAS	Commercial	$114,084	4%	$68.58

Territory	Utility Type	Segment	Per Capita Lifecycle Bill Savings ($)	Customer Participation Rate (%)	Per Capita Incentive ($)
We Energies	GAS	Commercial	$135,515	2%	$85.42
Wisconsin Public Service Corp.	GAS	Commercial	$179,163	3%	$124.54
Xcel Energy (NSP)	GAS	Commercial	$226,650	2%	$124.30
Alliant Energy	GAS	Industrial	$5,483,384	25%	$3,052.97
City Gas Co	GAS	Industrial	$809,385	26%	$696.41
Madison Gas And Electric (MGE)	GAS	Industrial	$2,986,477	41%	$2,832.66
Midwest Natural Gas Inc	GAS	Industrial	$482,795	6%	$273.81
St Croix Valley Natural Gas Co	GAS	Industrial	$0	0%	$0.00
Superior Water, Light And Power Co	GAS	Industrial	$13,398	2%	$9.94
We Energies (WEPCO and WG)	GAS	Industrial	$1,243,348	12%	$1,184.92
Wisconsin Public Service Corp.	GAS	Industrial	$1,655,413	12%	$1,513.40
Xcel Energy (NSP)	GAS	Industrial	$31,294,079	100%	$45,391.03
Alliant Energy	GAS	Residential	$2,638	2%	$4.02
City Gas Co	GAS	Residential	$716	1%	$2.16
Madison Gas And Electric	GAS	Residential	$7,625	6%	$11.11
Midwest Natural Gas Inc	GAS	Residential	$1,018	1%	$2.55
St Croix Valley Natural Gas Co	GAS	Residential	$6,434	9%	$10.69
Superior Water, Light And Power Co	GAS	Residential	$787	1%	$1.79
We Energies	GAS	Residential	$2,943	1%	$4.91
Wisconsin Public Service Corp.	GAS	Residential	$2,797	2%	$6.70
Xcel Energy (NSP)	GAS	Residential	$3,455	2%	$6.93

Appendix G. Detailed Findings

This section contains detailed first-year annual gross savings and lifecycle savings for the nonresidential and residential segments, as well as savings organized by program and measure category.

Overview Of Savings

Appendix G: Table 1. lists first-year annual savings: gross claimed, gross verified, and verified net. In CY 2012, on an annual gross claimed basis prior to verification, Focus on Energy achieved a total of 679,765,458kWh savings and 26,291,339 therms savings.

Appendix G: Table 1. CY 2012 First-Year Annual Savings By Segment [1]

		Nonresidential	Residential	Total
Gross	kWh	457,394,392	222,371,065	679,765,458
	kW	64,498	30,920	95,418
	Therms	22,186,392	4,104,947	26,291,339
Verified Gross	kWh	448,373,929	201,523,864	649,897,793
	kW	65,522	28,697	94,219
	Therms	22,043,941	4,126,511	26,170,452
Verified Net	kWh	334,417,343	126,367,389	460,784,732
	kW	48,518	18,299	66,817
	Therms	13,203,348	3,273,440	16,476,788

[1] Includes Legacy Programs and Carryover energy savings

Appendix G: Table 2. summarizes the first-year annual savings for CY 2012 and CY 2011. The verified gross electric, peak demand, and natural gas savings have increased from CY 2011 to CY 2012.

Appendix G: Table 2. First-Year Annual Verified Gross Savings By Segment - CY 2011 And CY 2012 [1]

		Nonresidential	Residential	Total
CY 2011	kWh	346,712,215	93,887,306	440,599,521
	kW	57,747	19,327	77,074
	Therms	13,831,960	2,875,242	16,707,202
CY 2012	kWh	448,373,929	201,523,864	649,897,793
	kW	65,522	28,697	94,219
	Therms	22,043,941	4,126,511	26,170,452

[1] Includes Renewables

Appendix G: Table 3. presents the lifecycle savings achieved by Focus in CY 2012. Lifecycle savings represent the savings the measures installed during CY 2012 will achieve during their useful lifetimes. Certain effective useful lifetimes (EULs) were carried forward from the 2011 evaluation and verified in program tracking records. The Evaluation Team adjusted certain measure specific EULs per CY 2012 evaluation findings.

Appendix G: Table 3. Lifecycle Savings By Segment, CY 2012 [1]

		Nonresidential	Residential	Total
Gross	kWh	5,505,953,792	1,711,773,194	7,217,726,986
	kW	64,498	30,920	95,418
	Therms	273,418,489	79,671,106	353,089,595
Verified Gross	kWh	5,390,366,110	1,578,656,352	6,969,022,462
	kW	65,522	28,697	94,219
	Therms	273,269,275	80,249,406	353,518,681
Verified Net	kWh	4,013,367,903	1,047,914,515	5,061,282,418
	kW	48,518	18,299	66,817
	Therms	163,421,705	64,997,767	228,419,472

[1] Includes Legacy Programs and carryover energy savings

Summary Of Savings By Program

Appendix G: Table 4. summarizes the first-year annual savings by program.

Appendix G: Table 4. Summary Of First-Year Annual Savings By Program, CY 2012

	Program	Gross			Verified Gross			Verified Net		
		kWh	kW	Therms	kWh	kW	Therms	kWh	kW	Therms
Residential Programs	Appliance Recycling	14,139,982	2,228	-	9,378,857	1,404	-	4,877,006	730	-
	Assisted Home Performance with ENERGY STAR	25,324	7	8,346	24,565	7	8,715	24,565	7	8,715
	Express Energy Efficiency	4,944,651	427	603,179	4,723,787	388	556,774	4,015,219	330	473,258
	Home Heating Assistance	82,530	32	20,046	82,528	32	20,045	82,528	32	20,045
	Home Performance with ENERGY STAR	608,162	183	229,734	595,415	184	228,621	506,103	156	194,328
	Multifamily Direct Install	3,708,358	195	221,255	4,054,062	396	264,559	3,932,705	383	257,198
	Multifamily Energy Savings (New)	3,226,395	434	229,454	3,193,158	430	223,346	2,094,145	282	146,475
	Multifamily Energy Savings (Carryover)	3,302,147	755	217,451	3,321,305	742	220,048	1,856,492	414	123,640
	New Homes	2,920,383	677	568,854	2,920,383	677	568,854	2,482,326	575	483,526
	Residential Lighting and Appliance	159,456,944	19,396	21,686	143,086,607	17,404	25,375	85,125,081	10,354	13,956
	Residential Rewards	8,461,331	2,929	1,094,179	8,461,083	2,929	1,094,021	6,801,974	2,361	912,654
	Residential Legacy	*21,494,858*	*3,657*	*890,763*	*21,682,114*	*4,104*	*916,152*	*14,569,246*	*2,674*	*639,645*
	Residential Programs Total	**222,371,065**	**30,920**	**4,104,947**	**201,523,864**	**28,697**	**4,126,511**	**126,367,389**	**18,299**	**3,273,440**
Nonresidential Programs	Business Incentive (New)	75,871,878	10,734	1,955,080	78,474,381	10,738	1,929,451	69,571,251	9,696	1,556,436
	Business Incentive (Carryover)	34,117,040	5,128	667,175	26,547,630	5,317	853,620	22,110,542	4,551	595,837
	Chain Stores and Franchises (New)	39,655,387	5,405	602,212	39,034,912	5,094	598,899	33,395,793	4,386	432,195
	Chain Stores and Franchises (Carryover)	6,905,316	752	1,995	7,206,841	923	3,259	3,640,551	468	1,466
	Large Energy Users (New)	32,376,278	4,909	658,937	34,615,255	5,195	650,524	32,538,339	4,884	611,492
	Large Energy Users (Carryover)	40,853,546	4,301	3,227,596	41,666,968	4,045	3,902,390	28,805,666	2,621	2,508,427
	Small Business Program	16,860,104	3,687	31,657	17,078,556	3,281	31,292	13,642,762	2,628	21,904
	Nonresidential Legacy	*210,754,843*	*29,583*	*15,041,740*	*203,749,388*	*30,929*	*14,074,507*	*130,712,439*	*19,284*	*7,475,589*
	Nonresidential Programs Total	**457,394,392**	**64,498**	**22,186,392**	**448,373,929**	**65,522**	**22,043,941**	**334,417,343**	**48,518**	**13,203,348**
Grand Total		**679,765,457**	**95,418**	**26,291,339**	**649,897,793**	**94,219**	**26,170,452**	**460,784,732**	**66,817**	**16,476,788**

Summary of Savings By Measure

Appendix G: Table 5 summarizes CY 2012 residential savings by measure category.

Appendix G: Table 5. Summary Of First-Year Annual Savings By Measure Category, Residential Segment [1]

Measure Category	Verified Gross							
	kWh	kWh %	kW	kW %	Therms	Therms %	Incentive Dollars	Incentive Dollars %
Appliance Recycling	9,380,220	4.7%	1,415	4.9%	-	0.0%	$402,690	2.5%
Boiler Equipment	(2,152)	(0.0%)	2	0.0%	187,744	4.5%	$126,557	0.8%
Boilers & Burners	-	0.0%	-	0.0%	244,063	5.9%	$320,246	2.0%
Bonus	-	0.0%	-	0.0%	-	0.0%	$69,328	0.4%
Building Shell	3,937,271	2.0%	1,229	4.3%	575,691	14.0%	$794,792	5.0%
Buydown[2]	143,107,396	71.0%	17,549	61.2%	25,756	0.6%	$5,150,039	32.3%
CFL[3]	13,497,139	6.7%	2,348	8.2%	-	0.0%	$294,290	1.8%
Controls	26,979	0.0%	-	0.0%	155	0.0%	$682	0.0%
Conversion[4]	237,507	0.1%	23	0.1%	(8,472)	(0.2%)	$29,550	0.2%
Conversion – Other[5]	2,624	0.0%	0	0.0%	-	0.0%	$250	0.0%
Dishwasher	154,102	0.1%	-	0.0%	8,688	0.2%	$26,390	0.2%
Domestic Hot Water	3,261,155	1.6%	(0)	0.0%	906,118	22.0%	$105,341	0.7%
Energy Recovery	182,443	0.1%	14	0.0%	18,094	0.4%	$13,163	0.1%
Energy Savings	1,636	0.0%	-	0.0%	280	0.0%	$0	0.0%
Fixtures	428,348	0.2%	17	0.1%	-	0.0%	$13,875	0.1%
Furnace	2,597,725	1.3%	597	2.1%	64,494	1.6%	$525,565	3.3%
Hot Water	1,242,389	0.6%	2	0.0%	127,441	3.1%	$110,516	0.7%
HVAC	8,221,530	4.1%	3,209	11.2%	1,148,048	27.8%	$3,953,707	24.8%
HVAC Controls	18,332	0.0%	-	0.0%	1,950	0.0%	$1,152	0.0%
Laundry	215,863	0.1%	-	0.0%	8,461	0.2%	$22,555	0.1%
LED Holiday Light	25,334	0.0%	3	0.0%	-	0.0%	$425	0.0%
LED Lighting	199,552	0.1%	28	0.1%	-	0.0%	$22,435	0.1%
Lighting	9,472,439	4.7%	963	3.4%	-	0.0%	$287,588	1.8%
Lighting Controls	380,256	0.2%	11	0.0%	-	0.0%	$12,376	0.1%
Motors & Drives	162,975	0.1%	111	0.4%	-	0.0%	$23,980	0.2%
New Construction	2,165,756	1.1%	559	1.9%	467,446	11.3%	$710,250	4.5%
Non Energy	-	0.0%	-	0.0%	-	0.0%	$3,028	0.0%

Measure Category	Verified Gross							
	kWh	kWh %	kW	kW %	Therms	Therms %	Incentive Dollars	Incentive Dollars %
Other	347,767	0.2%	64	0.2%	227,134	5.5%	$1,986,708	12.5%
Refrigeration	117,119	0.1%	22	0.1%	-	0.0%	$26,975	0.2%
Renewable Energy	1,201,398	0.6%	376	1.3%	12,739	0.3%	$643,904	4.0%
T8/T5 Fluorescent Lighting	127,045	0.1%	13	0.0%	-	0.0%	$4,771	0.0%
Training & Special	-	0.0%	-	0.0%	-	0.0%	$22,991	0.1%
Vending & Plug Loads	73,169	0.0%	6	0.0%	1,188	0.0%	$17,115	0.1%
Whole Building	740,550	0.4%	138	0.5%	109,494	2.7%	$206,800	1.3%

[1] Includes legacy programs and carryover.
[2] CFLs and Showerheads in the Residential Lighting and Appliances Program.
[3] Legacy program CFLs.
[4] Legacy Appliance and Plug Load Program.
[5] Legacy Appliance and Plug Load Program.

Appendix G: Table 6 lists CY 2012 nonresidential savings by measure category.

Appendix G: Table 6. Summary Of First year Annual Savings By Measure Category, Nonresidential Segment [1]

Measure Category	Verified Gross							
	kWh	kWh %	kW	kW %	Therms	Therms %	Incentive Dollars	Incentive Dollars %
Aeration[2]	10,017,713	2.2%	814.21	1.2%	-	0.0%	$660,103	2.1%
Agriculture	3,102,789	0.7%	3,471	5.3%	36,785	0.2%	$155,371	0.5%
Boiler	(46,657)	(0.0%)	(2)	(0.0%)	796,462	3.6%	$287,889	0.9%
Boiler Controls	21,709	0.0%	1	0.0%	237,581	1.1%	$83,400	0.3%
Boiler Equipment	1,728,478	0.4%	400	0.6%	3,676,906	16.7%	$284,405	0.9%
Boiler Service	7,151,847	1.6%	1,023	1.6%	2,455,407	11.1%	$381,892	1.2%
Boilers & Burners	2,714,225	0.6%	66	0.1%	715,188	3.2%	$418,058	1.3%
Bonus	-	0.0%	-	0.0%	-	0.0%	$376,663	1.2%
Building Shell	1,882,880	0.4%	1,097	1.7%	578,776	2.6%	$420,971	1.3%
CFL	1,512,704	0.3%	307	0.5%	-	-	$22,666	0.1%
Compressed Air, Vacuum Pumps	13,326,856	3.0%	2,865	4.4%	205,797	0.9%	$667,352	2.1%
Compressor Equipment	8,347,302	1.9%	1,038	1.6%	-	-	$554,358	1.7%
Compressor Service	10,353,287	2.3%	1,385	2.1%	-	-	$405,591	1.3%
Controls	1,832	0.0%	9	0.0%	-	-	$1,386	0.0%
Conversion	9,190	0.0%	2	0.0%	(378)	(0.0%)	$566	0.0%
Design	-	-	-	-	-	-	$14,461	0.0%
Dishwasher	159,230	0.0%	17	0.0%	3,038	0.0%	$9,450	0.0%
Domestic Hot Water	4,944,696	1.1%	997	1.5%	440,610	2.0%	$16,548	0.1%
Energy Recovery	2,433,562	0.5%	279	0.4%	1,667,388	7.6%	$74,114	0.2%
Food Service	1,350,614	0.3%	170	0.3%	110,338	0.5%	$165,807	0.5%
Greenhouse	-	-	-	-	2,434	0.0%	$1,300	0.0%
High Intensity Discharge (HID)	1,150,446	0.3%	205	0.3%	-	-	$55,367	0.2%
Hot Water	1,119,941	0.2%	187	0.3%	92,326	0.4%	$99,674	0.3%
HVAC	32,444,941	7.2%	7,798	11.9%	4,075,708	18.5%	$4,279,837	13.3%
HVAC Controls	-	-	14	0.0%	616	0.0%	$2,012	0.0%
Industrial - Custom	52,578	0.0%	-	-	37,444	0.2%	$13,934	0.0%
Industrial Ovens and Furnaces	-	-	-	-	22,502	0.1%	$11,800	0.0%
IT	8,213,774	1.8%	566	0.9%	4,511	0.0%	$414,470	1.3%
Laundry	483,768	0.1%	65	0.1%	101,234	0.5%	$61,068	0.2%

Measure Category	Verified Gross							
	kWh	kWh %	kW	kW %	Therms	Therms %	Incentive Dollars	Incentive Dollars %
LED Lighting	7,643,892	1.7%	892	1.4%	-	-	$390,071	1.2%
Lighting	103,110,130	23.0%	17,146	26.2%	-	-	$4,413,998	13.8%
Lighting Controls	5,485,216	1.2%	567	0.9%	-	-	$261,723	0.8%
Motors & Drives	43,580,275	9.7%	4,692	7.2%	(107)	(0.0%)	$1,833,622	5.7%
New Construction	652,078	0.1%	150	0.2%	92,955	0.4%	$114,132	0.4%
Non Energy	-	-	-	-	-	-	$67,029	0.2%
Other	(3,891,138)	(0.9%)	(3,969)	(6.1%)	(1,457)	0.0%	$2,508,580	7.8%
Pools	944,681	0.2%	142	0.2%	46,393	0.2%	$54,583	0.2%
Process	52,212,484	11.6%	4,994	7.6%	6,463,963	29.3%	$2,755,667	8.6%
Refrigeration	28,391,953	6.3%	3,503	5.3%	39,266	0.2%	$1,156,940	3.6%
Refrigeration Controls	3,549,325	0.8%	85	0.1%	-	-	$84,545	0.3%
Renewable Energy	34,108,257	7.6%	4,744	7.2%	28,548	0.1%	$4,474,319	13.9%
Scheduling	107,779	0.0%	6	0.0%	-	-	$3,450	0.0%
T8/T5 Fluorescent Lighting	56,809,960	12.7%	9,179	14.0%	-	-	$3,212,087	10.0%
Training & Special	-	-	-	-	-	-	$488,763	1.5%
Vending & Plug Loads	529,542	0.1%	-	-	-	-	$8,105	0.0%
Waste Water Treatment	50,222	0.0%	8.42	0.0%	-	0.0%	$4,099	0.0%
Whole Building	2,611,564	0.6%	607	0.9%	113,708	0.5%	$329,099	1.0%

[1] Includes legacy programs and carryover.
[2] Wastewater treatment aeration.

Appendix H. Cost-Effectiveness Details

In the current quadrennial cycle the Program Administrator has, with PSC approval, elected to use a cost-effectiveness calculator for program planning purposes. Consistency between planning and evaluation approaches is critical for an effective understanding of program performance relative to expectations. As a result, the same calculator was used for evaluation.

The Benefit Cost (B/C) test, also known as a Cost-Effectiveness Test, is used to compare the benefits of a demand side management program and/or investments, with the costs of the program and/or investments. Cost-effectiveness analysis measures the relative performance or economic attractiveness of an energy-efficiency investment compared to a baseline. Strategies that improve energy efficiency are always beneficial, as long as their costs are justified by their economic worth. Avoided cost analysis is widely used in the energy sector to assess the cost-effectiveness (or net benefits) of energy-efficiency management relative to conventional supply alternatives. When calculating the benefits of such programs, analysis begins with avoided costs assumptions and makes adjustments for administrative or programmatic costs as well as other costs associated with participating in energy-efficiency programs. Depending on the perspective taken in the analysis, competing views about benefits can emerge. Five standard tests are generally used for comparing demand and supply management alternatives, each representing a measure of cost-effectiveness from a unique perspective.

For this evaluation, the Total Resource Costs (TRC) test was applied. The TRC test is a commonly administered test that counts the avoided cost of supplying the displaced energy alongside the program and participant costs. The TRC test used in this evaluation is typically used to define what is cost-effective from a regulatory perspective. From a TRC perspective, a conservation measure or practice "fails" if net benefits are negative, meaning the costs of achieving the savings outweigh the value of the savings achieved.

The TRC is calculated based on the following formula:

$$TRC = [Value\ of\ Net\ Saved\ Energy\ (Avoided\ costs) + Value\ of\ Avoided\ Emissions] / [Program\ Costs\ (exclusive\ of\ incentives) + (Incremental\ Measure\ Cost * Net - to - Gross\ Ratio))]$$

Where:

Value of Energy Saved:

$$Value\ of\ Energy\ Saved = Net\ Energy\ Savings \times Utility\ Avoided\ Cost$$

The source for electric energy avoided costs included in the 2012 evaluation comes from the annualization forecast avoided cost model as developed by the Cadmus Group. This forecast relied on the Midwest Independent Transmission System Operator, Inc. (MISO) forecast of LMP for the years 2016, 2021, and 2026. The non-electric energy avoided costs were established by the Commission on January 13th, 2012 in Order 5-GF-191 (PSC REF#:158228). The verified gross energy savings are

decreased by the conventional attribution factor of net-to-gross to derive net savings. Net savings are then increased by the line loss factor of 8% to account for avoided distribution losses.

Emissions benefits are the only other benefit included in the TRC calculation. Determining the emissions benefits requires three key parameters: net energy savings, emissions factors, and the value of the reduced emissions. Emissions factors are simply the rate at which the criteria pollutants are emitted per unit of energy and are most often expressed in tons of pollutant per energy unit (for electric it is tons/MWH and for gas it is tons/MThm). The product of the emissions factor and the net energy savings is the total weight of air pollutant offset or avoided by the program. The product of the total tonnage of pollutant saved and the dollar value of the reduced emissions per ton is therefore the avoided emissions benefit.

$$Value\ of\ Avoided\ Emissions = [Net\ Saved\ Energy\ x\ Emissions\ Factor\ x\ Value\ of\ Emissions\ Allowance]$$

The gas and electric emission factors were revised from the 2011 evaluation report in accordance with the forecasted 2012 estimates derived from the report ***Focus on Energy Evaluation Emission Factors Update***.[1] The gas emission factors remained constant from the 2011 evaluation report. The 2012 NO_x and SO_2 emission allowance prices were collected from the EIA[2]. In 2012 the price of one NO_x allowance was $4.10 per ton while the price of a SO_2 allowance was $1.08 per ton. Due to the continued decline in and uncertainty surrounding forecasted NO_x and SO_2 allowance prices, the forecasted values remained constant at 2012 values. The CO_2 emission price was derived from the PSC November 10, 2010 Order in docket 5-GF-191 (PSC reference number 141173) that states "A levelized carbon value of $30 per ton shall be used in the benefit/cost modeling of energy efficiency programs."

Program Costs:

The 2012 program costs were provided to Cadmus from the accounting firm Wipfli. The program costs represent all costs associated with running the efficiency programs (including administration and delivery costs). Incentive costs are not included as program costs as they are deemed transfer payments.

Incremental Costs:

The gross incremental costs are the additional costs incurred by participants as a result of purchasing efficient equipment over and above a baseline non-qualified product. Gross incremental cost values used in this evaluation were derived from two primary sources: the Focus on Energy Benefit-Cost Analysis CY09 Evaluation Report (with the exception of renewable-based measures) and the program planning cost effectiveness calculators. All new CY2012 program measures were mapped to program planning measures and received incremental cost estimates from these calculators. The CY2011 incremental cost logic was applied to all CY2012 legacy and carryover-based program measures.

[1] PA Consulting Group, December 22, 2009

[2] http://www.eia.gov/todayinenergy/detail.cfm?id=4830

Similar to the 2011 evaluation effort, the renewable energy projects were assigned actual project cost values from the program tracking databases.

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 freeridership. The values for attribution factors for all legacy and carry over program measures, namely the net-to-gross ratios, were derived from the 2010 evaluation and carried forward to the 2012 evaluation on a measure by measure basis. New CY2012 program measures received net-to-gross ratios according to reviews performed by the Evaluation Team.

Appendix I. Cost-Effectiveness Analysis

The following tables provide the CY 2012 cost-effectiveness analysis by program. **Error! Not a valid bookmark self-reference.** provides residential new program and carryover program cost-effectiveness analysis. Incentive costs are provided below but are not included in the TRC calculation. The TRC ratio equals the total TRC benefits divided by total non-incentive costs.

Appendix I. Table 1. Residential New Program And Carryover Program Cost-Effectiveness Analysis

	Appliance Recycling	Assisted Home Performance	Express Energy Efficiency	Home Heating Assistance	Home Performance Program	Multifamily Energy Savings	Multifamily Direct Install	New Homes Program	Residential Lighting And Appliance	Residential Rewards	Residential Legacy
Incentive Costs	$404,730	$60,439	$855,079	$155,150	$2,434,449	$999,068	$970,050	$5,151,536	$3,937,558	$2,229,925	$970,050
Admin Costs	$485,493	$107,100	$298,910	$203,020	$444,924	$336,178	$313,548	$850,403	$673,316	$264,799	$313,548
Delivery Costs	$1,107,141	$244,236	$681,648	$462,977	$1,014,624.68	$766,636	$715,030	$1,939,298	$1,535,462	$603,860.45	$715,030
Incremental Measure Costs	$0	$65,557	$524,403	$105,954	$2,728,017	$758,209	$4,798,235	$9,652,511	$15,348,786	$8,981,610	$4,798,235
Total Non-Incentive Costs	**$1,592,634**	**$416,894**	**$1,504,961**	**$771,952**	**$4,187,565**	**$1,861,023**	**$5,826,813**	**$12,442,212**	**$17,557,564**	**$9,850,269**	**$5,826,813**
Electric Benefits	$1,867,503	$6,815	$1,420,809	$124,230	$419,844	$2,078,379	$4,024,689	$28,817,743	$11,921,705	$9,900,438	$4,024,689
Gas Benefits	$0	$36,664	$5,079,986	$371,070	$1,162,264	$2,791,234	$10,477,967	$149,807	$16,491,191	$11,765,520	$10,477,967
Emissions Benefits	$729,212	$9,551	$1,528,258	$101,758	$276,706	$1,232,518	$3,020,408	$11,918,845	$6,053,405	$5,395,946	$3,020,408
Total TRC Benefits	**$2,596,715**	**$53,030**	**$8,029,054**	**$597,058**	**$1,858,815**	**$6,102,131**	**$17,523,064**	**$40,886,396**	**$34,466,301**	**$27,061,904**	**$17,523,064**
TRC Benefits Minus Costs	**$1,004,082**	**($363,864)**	**$6,524,093**	**($174,893)**	**($2,328,750)**	**$4,241,108**	**$11,696,250**	**$28,444,183**	**$16,908,738**	**$17,211,635**	**$11,696,250**
TRC Ratio	**1.63**	**0.13**	**5.34**	**0.77**	**0.44**	**3.28**	**3.01**	**3.29**	**1.96**	**2.75**	**3.01**

Appendix I. Table 2 provides nonresidential new program and carryover program cost-effectiveness analysis. Incentive costs are provided below but are not included in the TRC calculation. The TRC ratio equals the total TRC benefits divided by total non-incentive costs.

Appendix I. Table 2. Nonresidential New Program And Carryover Program Cost-Effectiveness Analysis

	Business Incentive Program	Chain Stores And Franchises Program	Large Energy Users Program	Small Business Program	Nonresidential Legacy
Incentive Costs	$7,300,404	$2,035,702	$5,352,259	$2,306,427	$14,239,295
Admin Costs	$1,188,424	$294,815	$515,758	$340,285	$985,964
Delivery Costs	$4,852,830.77	$1,203,852.67	$2,106,056.20	$1,389,527	$4,026,102.05
Incremental Measure Costs	$33,808,457	$17,086,287	$12,894,503	$1,144,690	$94,696,681
Total Non-Incentive Costs	**$39,849,711**	**$18,584,955**	**$15,516,318**	**$2,874,503**	**$99,708,747**
Electric Benefits	$62,891,729	$24,333,599	$39,002,404	$8,657,438	$96,970,129
Gas Benefits	$23,806,769	$4,345,772	$37,391,547	$251,468	$75,649,163
Emissions Benefits	$27,483,017	$10,158,695	$21,788,644	$3,070,496	$48,943,479
Total TRC Benefits	**$114,181,515**	**$38,838,066**	**$98,182,595**	**$11,979,401**	**$221,562,771**
TRC Benefits Minus Costs	**$74,331,803**	**$20,253,111**	**$82,666,277**	**$9,104,899**	**$121,854,024**
TRC Ratio	**2.87**	**2.09**	**6.33**	**4.17**	**2.22**

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Appendix J. Net-To-Gross Analysis Approach

For programs where participating customer surveys were included in the CY 2012 evaluation plans, the Evaluation Team asked a series of freeridership questions and a series of spillover questions in the participant survey.[3]

- Freeriders are program participants who would have purchased an equally efficient measure at the same time without any influence from the program.
- Spillover comes from customers' decisions to invest in additional energy-efficiency measures without receiving a rebate through the program.

Freeridership Methodology

The Team developed a score for all participants based on their responses to the freeridership questions. The Team has developed a transparent approach using a probability matrix which assigns a single score to each participant, based on his or her objective responses.4 The Team derived the Targeted Markets participants' freeridership score by translating their responses into a matrix value and then applying a consistent, rules-based calculation to obtain the final freeridership score. This matrix approach provides these key benefits:

- The ability to derive a partial freeridership score. These scores are based on respondents' estimates of how likely they are to take similar actions in the absence of an incentive. Thus, the analysis can make use of "don't know" and "refused" responses rather than rejecting a data point.
- The ability to change weightings to test the sensitivity of responses to a variety of weighting scenarios.

The Team's process for determining freeridership score is as follows:

- Customers were categorized as 0% free riders in the following instances: (1) they had no plans to install the measure in absence of the program's incentives, and would not have installed the measure within the past two years; (2) they had specific plans to install the measure before learning about the program but would not have done so without program incentives; or (3) in absence of the program incentives, if the customer would not have purchased or installed equipment to the same level of efficiency.
- Customers were categorized as 100% free riders if they would have installed the measure without the program or if they had installed the measure before learning about the program.
- Customers received a partial freeridership score (ranging from 12% - 75%) if they had plans to install the measure and their decision was influenced by the program. (This influence may have been installation timing, the number of measures installed, or the efficiency levels of measures installed.) For customers who were highly likely to install a measure and for whom the program had less influence over their decision, the team assigned a higher freeridership percentage.

[3] Survey instruments are in Appendix L.

[4] Khawaja, S. The NAPEE Handbook on DSM Evaluation. 2007 edition, page 5-1.

After translating survey responses into matrix values to determine each participant's freeridership score, the Team calculated average freeridership estimates for each program's measure type (for example, lighting or industrial processes). Each measure type's freeridership estimate was weighted by the gross evaluated program savings of the participant's installed measures (accounting for evaluated realization rates). The Team then estimated the overall average freeridership (for each program in the Targeted Markets portfolio) by weighting the measure type's freeridership estimates by the distribution of the gross evaluated program population savings for each program measure type.

Spillover Methodology

The Team measured spillover by asking customers whether, as a result of their program participation, they decided to install additional efficiency measures or undertake any additional efficiency-improving activities. The Team then asked customers to report the program's relative influence on their decisions to pursue these additional savings (questions H1–H7 of the customer survey, included in Appendix L).

The Team applied deemed savings values to the spillover measures that customers said they installed as a result of their program participation. The Team calculated the spillover percentage for a program measure type through this approach: dividing the sum of additional spillover energy savings reported by participants across the whole program for a given program measure type, by the total reported gross energy savings achieved by program respondents for that program measure type, as reported in the customer survey. Formally, this relationship for each program measure type is:

$$Spillover\ \% = \frac{\sum \text{Spillover Measure EnergySavings for All Survey Respondents}}{\sum \text{Program Measure Energy Savings for All Survey Respondents}}$$

The Team estimated overall average spillover (for each program in the Targeted Markets portfolio) by the weighting the program's measure type spillover estimates by the gross evaluated program population savings distribution for each program measure type.

The Team combined this spillover information with the program-level freeridership results to achieve the net-to-gross (NTG) ratio, using the following calculation:

$$\text{NTG} = 1 - \text{Freeridership} + \text{Spillover}$$

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Appendix K. Residential Lighting and Appliances Program Net-to-Gross Analysis

Methodology

To estimate freeridership for Program CFLs the Evaluation Team performed econometric demand modeling using information from the tracking database supplemented with marketing event information provided by the Implementer. This approach uses a consumer demand model that predicts the demand for efficient bulb sales in absence of the Program. As outlined in the National Action Plan for Energy Efficiency,[5] econometric methods of estimating net savings are an option when comprehensive and detailed data are available.

The Evaluation Team modeled the data as a panel, with a cross-section of program package quantities modeled over time. Sales data intervals were aggregated from weekly to monthly as some sales were reported at four and five week intervals.

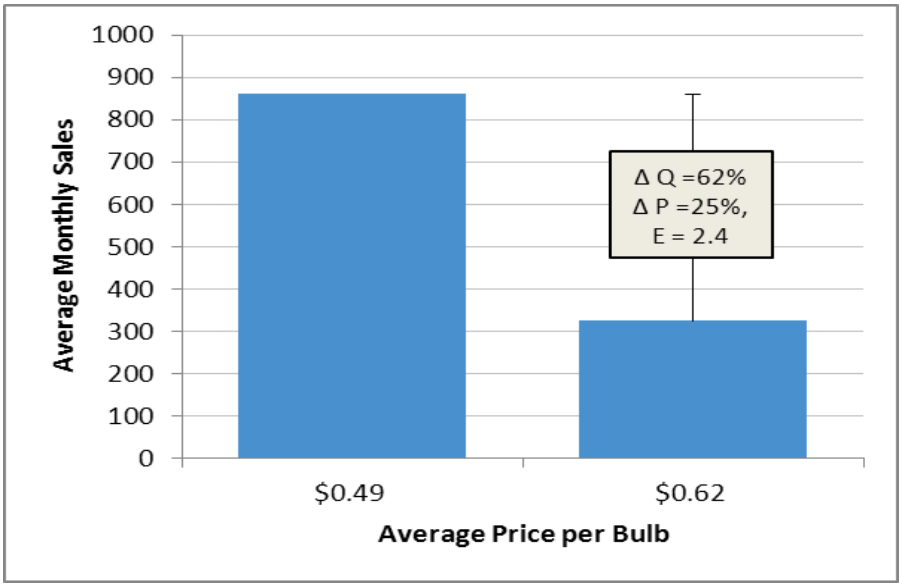
Nine percent of total sales were of bulbs that had a change in price during the evaluation period. These bulbs were representative of the Program sales as a whole, with similar distributions of both retailers and bulb types.. Coupons were removed from the analysis, since they accounted for a small percentage of total Program sales and insufficient data were available to estimate a coupon-specific net-to-gross ratio.

The Evaluation Team estimated the price elasticity of demand for bulbs across the Program and over time. The price elasticity of demand represents the responsiveness (elasticity) of the quantity demanded of a good (bulb) to a change in its price.[6] The Evaluation Team observed variations in price over time and between program bulbs to identify these elasticities. For example, Appendix J. Figure 1 shows the number of packages sold of a particular CFL at two different prices. The figure also shows percent change in price (ΔP) and sales (ΔQ), as well as the observed price elasticity (E).

[5] *National Action Plan for Energy Efficiency*. Model Energy Efficiency Program Impact Evaluation Guide. 2007. Available online: www.epa.gov/eeactionplan.

[6] Price elasticity of demand is formally defined as the ratio of the percent change in demand to a percent change in price.

Appendix J. Figure 1. Average Monthly Sales at Different Price Levels for Example CFL: Model #689234



Data Preparation

For each unique combination of retailer, model number, and incentive level, the Program dataset provided by the Implementer included the following fields relevant to our analysis:

- Original retail price
- Incentive provided by Focus on Energy
- Target retail price
- Number of bulbs per package
- Number of packages sold
- Model designation (specialty, LED, fixture, standard)
- Program month in which the product was sold

The data provided contained prices with and without Program incentives for all bulbs. Thus, price and demand variations within the program period formed the basis for the modeling. The Evaluation Team's approach allowed the Team to identify the market response to Program discounts. The Team tested two scenarios: including all bulbs in the analysis, and including only bulbs with varying prices during the evaluation period. Both scenarios yielded similar results.

Estimation

The Evaluation Team modeled product sales over time as a function of price, incentive, number of promotional events, and other relevant variables described below. The Team tested a variety of specifications to ascertain the impact of price (the main instrument affected by the program) on the

demand for bulbs.[7] This model assumed that bulb sales are a function of bulb characteristics, seasonal trends, and price.

The basic equation for the demand model was estimated as follows (for bulb SKU *i*, in period *t*):

$$\ln(Q_{it}) = \beta_1 + \beta_2 \ln(P_{it}) + \beta_3 Multi\ dum_i * \ln(P_{it}) + \beta_4 DIY\ dum_i * \ln(P_{it}) + \beta_5 Promo\ dum_{it} + \beta_6 POut\ dum_{it} + \sum_{\pi}(\beta_\pi model\ dum_{\mathrm{i}}) + \sum_{\delta}(\beta_\delta month\ dum_t) + \varepsilon_{it}$$

Where:

ln	= natural log
Q	= quantity of bulbs sold during the month[8]
P	= average retail price (after markdown) in that month
Multi dum	= a dummy variable equaling 1 if the pack size of bulb, *i*, is greater than 1; 0 otherwise
DIY dum	= a dummy variable equaling 1 if the retailer is a do-it-yourself[9] store; 0 otherwise
Promo dum	= a dummy variable equaling 1 if the bulb type, *i*, was either put on an end cap display and/or used for in-store promotion in time period t; 0 otherwise
POut dum	= a dummy variable equaling 1 if bulb type, *i*, sales were phased out in time period t; 0 otherwise
model dum	= a dummy variable equaling 1 for each unique retailer and model number; 0 otherwise
month dum	= a dummy variable equaling 1 in a given month; 0 otherwise

The β_2 - β_4 coefficients each represent a specific price elasticity of demand. The β_2 represents the price elasticity of demand for single-pack bulbs in non-DIY stores. The β_3 coefficient represents the difference in price elasticity of demand between single-pack and multi-pack bulbs. The β_4 coefficient represents the difference in price elasticity of demand between DIY and non-DIY stores.

The following tables show some of the goodness of fit statistics used to evaluate the model specification. Appendix J. Appendix J**. Table 3**. shows the R-square, which is a statistic that describes how well the regression line fits the data points – in this case, how well the regression line fits actual monthly package sales. Appendix J. Appendix J**. Table 4**. shows the analysis of variance, which is used to

[7] The focus of these diagnostics was to ensure the Team included all explanatory variables while maintaining model parsimony.
[8] For this analysis months were defined as 4-week intervals as retailer reporting periods were not consistent. Some retailers reported bulb sales weekly while others were 4 or 5 week intervals.
[9] Do-it-yourself (DIY) stores are defined as big box home-improvement retailers.

evaluate the overall fit of the model. While these statistics are important in evaluating the model specification, they are not an exhaustive list of model diagnostics, but rather are included as a basic representation of the appropriateness of the model.

Appendix J. Table 3. Demand Model Fit Statistics

Fit Statistic	Result
R-square	0.852
Root MSE	0.590
Denominator DF	333

Appendix J. Table 4. Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	349	6394.866	18.323	52.63	<.0001
Error	2582	898.972	0.348		
Corrected Total	2931	7293.838			

Using the demand model, the Evaluation Team predicted sales with and without the Program. The difference in predicted sales scenarios yields the sales lift (increase in sales) attributable to the Program. Freeridership is calculated based on the ratio of predicted sales without the program lift to predicted incented sales with the program:$FR = \frac{Predicted\ Sales\ without\ Program}{Predicted\ Sales\ with\ Program}$

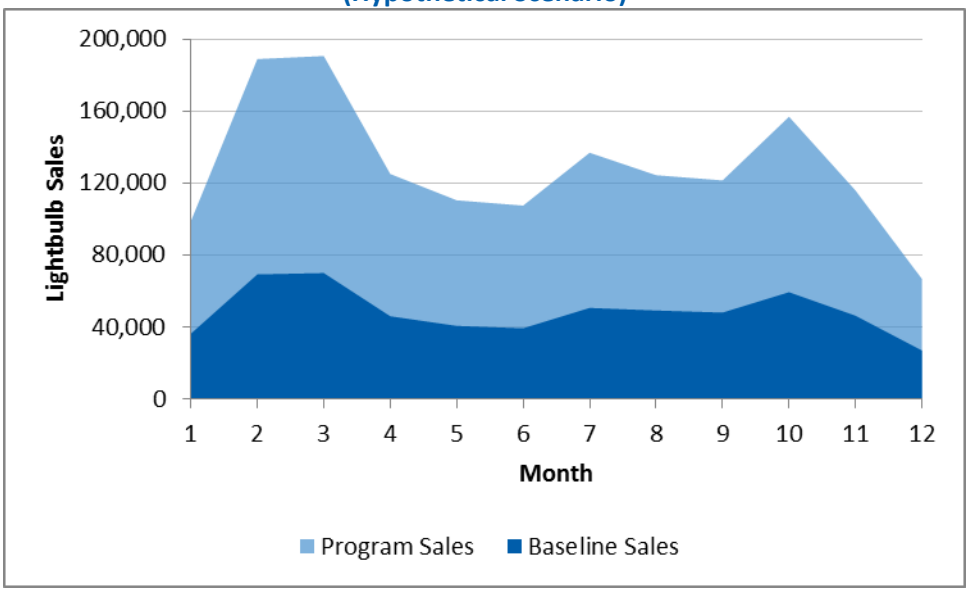
The β_5 coefficient captures some of the impact of the Program itself not necessarily attributed to price – specifically end cap displays and in-store promotions for specific bulb models. Data were available for in-store promotions and statewide marketing events, such as the State Fair. However, the model was not able to identify a separate effect for marketing events and demonstrations. This may have been due to the sales being aggregated to monthly level rather than weekly, the inability to map demonstrations to specific bulb SKUs, and/or many of the promotional events and price changes taking place at the same time as peaks in the number of hours for in-store demos. In future evaluation periods, the Evaluation Team will discuss this in greater detail with the Implementer in order to ascertain how the impact of these events might be quantified.

Results

Using the demand model, the Evaluation Team predicted what bulb sales would have been without program incentives. The Team attributed the difference between actual sales and projected sales to the Focus on Energy program. To complete this analysis, the Team used the model coefficients to predict sales as if prices had been at their original retail price and no end caps or in-store promotional events had taken place. The difference in predicted sales (weighted by gross annual kWh savings per SKU) between this hypothetical scenario and predicted sales with Program incentives and promotions

provides net sales attributable to the Program, illustrated in Appendix J. Figure 2. The ratio of these sales to the total Program sales is equal to freeridership.

Appendix J. Figure 2. Estimated Program Sales and Estimated Sales Without the Program (Hypothetical Scenario)



The Evaluation Team found Program-wide freeridership to be within values expected for mature upstream lighting programs and comparable with that of the previous evaluation: 38%. Appendix J. Table 5 provides values for standard CFLs and specialty CFLs.

Appendix J. Table 5. Program Net of Freeridership

Model Type	Freeridership	Net of Freeridership
Standard CFLs	39%	61%
Specialty CFLs	59%	41%

Net-To-Gross Benchmarking

Upstream lighting net-to-gross values are difficult to compare between programs, as estimation techniques vary widely. However, The Evaluation Team performed this same demand modeling methodology for the Efficiency Maine Trust, an East Coast consortium of utilities, and two Midwestern utilities. Appendix J. Table 6 compares net of freeridership results and the average incentives paid for evaluated bulb types among the five programs. As seen in the table below the Focus on Energy Program had high incentives as a share of total retail price. This caused above average net-to-gross results, when compared to the other programs.

Appendix J. Table 6. Incentive as a Share of Retail Price by Bulb Type

Upstream CFL Program	Bulb Type	Average Original Retail Cost per Bulb	Average Incentive per Bulb	Percent of Original Retail	Net of FR
Focus on Energy	Standard	$2.31	$1.24	54%	0.61
	Specialty	$5.63	$1.51	27%	0.41
East Coast Consortium	Standard	$2.03	$1.23	61%	0.59
	LEDs	$34.30	$9.69	28%	0.22
	Specialty	$5.23	$1.73	33%	0.33
	Reflector	$4.70	$1.82	39%	0.39
Efficiency Maine	Standard	$3.65	$1.02	28%	0.68
	Specialty	$6.77	$1.33	20%	0.08
Midwest Utility 1	LED	$36.99	$13.94	38%	0.83
	Specialty	$5.20	$1.90	37%	0.65
Midwest Utility 2	Standard	$2.11	$1.00	47%	0.51
	Specialty	$5.01	$1.56	31%	0.24

Appendix L. Program Materials Review

For each program, the Evaluation Team reviewed program materials. The materials review served to inform the Evaluation Team about program activities and processes during CY 2012, and allowed the Evaluation Team to assess the effectiveness of various program materials. To assess effectiveness, the Evaluation Team employed a best practice comparison technique using industry best practices as a benchmark against which to compare Focus on Energy's program materials. The review tables that follow use the assessment scale shown in the table below:

Assessment Scale For Program Materials Review

Status	Explanation
✓	Element present and aligned with best practice, indicator 100% met
v	Element missing pieces or not aligned with best practice, indicator partially met
–	Element completely missing or missing major pieces, indicator not met
NA	Does not apply

The Evaluation Team reviewed all program materials provided by either the Program Administrator or Program Implementer. However, in some cases (noted in the tables that follow), certain proprietary materials may have been omitted from the review.

Residential Segment

Multifamily Energy-Savings Program And Multifamily Direct-Install Program

Multifamily Energy-Savings Program And Multifamily Direct-Install Program Materials Review

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Implementation plan or annual plan	Organization is straightforward	✓	
	Topics will guide staff from design to implementation	✓	
Program operating manual or handbook	Eligibility requirements defined	✓	
	Process steps are sequential and clear	✓	
	Staff responsibilities and hand offs defined	✓	
	Checkpoints and processes are clear	✓	
	Resources for further help included	✓	
Process flowcharts and organizational charts.	Clear process steps (prescriptive component)	✓	There is a clear flowchart for the Program-incentive component, but there is no flowchart for the direct - install component.
	Clear process steps (direct-install component)	–	
	Clear responsibilities and reporting alignment	✓	
Training materials for program staff	Content is concise and relevant to audience	–	There are no training materials specific to this Program. The Program Implementer conducts training on the job, if necessary, or uses Focus on Energy's general materials.
	Targeted customers and expected benefits defined	–	
	Requirements for participation are clear	–	
	Process steps, responsibilities, and timing are clear	–	
	Checkpoints and QA processes are clear	–	
	Resources for further help included	–	
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	✓	
	Forms are easy to complete correctly	✓	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	✓	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Data collection and QA/QC protocols	Data are easy to enter at appropriate times in process	✓	
	Staff understands and uses collection procedures	✓	
	Staff uses error-checking processes and/or algorithms	✓	
	Verification processes are timely and accurate (or monitored for associated metrics)	✓	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Program education/marketing materials	Information is clear and concise	✓	Materials are only provided in English.
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	✓	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	NA	
Program information online/Website	Program information is obvious on the first- or second-level pages (home page or customer sector page)	✓	
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	✓	
	Application forms or locations are available	✓	
	Vocabulary is customer oriented and free of utility/technical terms	✓	
Trade Ally (TA) materials	Trade allies receive specific information to support their role	✓	Program staff provides Focus on Energy's general materials to Trade Allies, but these materials lack Program-specific information. Currently, there are no Program-specific Trade Ally materials that explain project eligibility. Currently, there are no Program-specific Trade Ally materials that provide details about the time required to process applications and rebates or to review projects.
	Materials summarize Program information from TA perspective	–	
	Requirements for customer and project eligibility are clear	–	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	✓	
	Materials provide clear expectations for the time required to process applications, review projects, process rebates, etc.	–	

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Multifamily Energy-Savings Program And Multifamily Direct-Install Program Manual/Handbook Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Roles and responsibilities clearly defined	Program staff	✓	Although some information is included about Trade Ally eligibility, customer satisfaction, and verification, there is no information that explicitly describes the expectations or roles of the Trade Allies.
	Implementer staff	✓	
	Trade allies/contractors	v	
Program requirements documented	Participant eligibility requirements	✓	
	Eligible program measures	✓	
	Incentive structure	✓	
	Timing of application	✓	
Program procedures clear and easy to follow	Step-by-step instructions	✓	
	Customer touch points	✓	
	Data collection and management	✓	
	Data systems and tools clearly defined (name, who will use, and when in the process)	✓	
	QA/QC, inspection and verification protocols	✓	
Additional information	Reference to program Website	✓	Contact information for Program staff is not in the manual.
	Program staff contact information	–	
	Partnership with other utilities' programs	✓	
	All acronyms clearly defined	✓	
	Key marketing materials included or referenced	✓	
Marketing plan in place	Marketing plan defined and mostly followed	✓	
	Buy-in demonstrated in support and funding	✓	
	Stakeholder/market research informed plan	✓	
Collateral clearly describes the program and benefits for the participant		✓	
Marketing roles and responsibilities clearly defined		✓	
Website provides complete information and is easy to navigate		✓	

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Fact sheets, brochures, and other collateral available (online, point of purchase [POP], or other displays)		✓	
Metrics established to measure effectiveness of marketing and outreach activities		✓	

Appliance Recycling Program

Appliance Recycling Program Materials Review

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Implementation plan or annual plan	Organization is straightforward	✓	
	Topics will guide staff from design to implementation	✓	
Program operating manual or handbook	Eligibility requirements defined	✓	
	Process steps are sequential and clear	✓	
	Staff responsibilities and hand offs defined	✓	
	Checkpoints and processes are clear	✓	
	Resources for further help included	✓	
Process flowcharts and organizational charts	Clear process steps	✓	
	Clear responsibilities and reporting alignment	✓	
Training materials for program staff	Content is concise and relevant to audience	✓	QA and verification processes are noted within training materials (both the operating training manual and refrigerator collection handbook), but they are not specifically annotated in a subsection of the documents.
	Targeted customers and expected benefits defined	✓	
	Requirements for participation are clear	✓	
	Process steps, responsibilities, and timing are clear	✓	
	Checkpoints and QA processes are clear	✓	
	Resources for further help included	NA	
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	NA	Customers can schedule a pick up online or can call to learn more about the Program and schedule an appointment. There is no application for the Appliance Recycling Program.
	Forms are easy to complete correctly	✓	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	✓	
Data collection and QA/QC protocols	Data are easy to enter at appropriate times in process	✓	
	Staff understands and uses collection procedures	✓	
	Staff uses error-checking processes and/or algorithms	✓	
	Verification processes are timely and accurate (or monitored for associated metrics)	✓	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Program education/marketing materials	Information is clear and concise	✓	Written materials are only available in English, but the Implementer's call center can facilitate calls in Spanish and French.
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	✓	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	✓	
Program information online/Website	Program information is obvious on the first or second-level pages (home page or customer sector page)	✓	The Website provides pick up information and service locations. However, as noted, there is no application for this Program.
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	NA	
	Application forms or locations are available	✓	
	Vocabulary is customer oriented and free of utility/technical terms	NA	
Trade Ally (TA) materials	Trade allies receive specific information to support their role	NA	The Appliance Recycling Program does not work with any trade allies.
	Materials summarize Program information from TA perspective	NA	
	Requirements for customer and project eligibility are clear	NA	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	NA	

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Appliance Recycling Program Manual/Handbook Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Roles and responsibilities clearly defined	Program staff	✓	
	Implementer staff	✓	
	Trade allies/contractors	✓	
Program requirements documented	Participant eligibility requirements	✓	
	Eligible program measures	✓	
	Incentive structure	✓	
	Timing of application	✓	
Program procedures clear and easy to follow	Step-by-step instructions	✓	
	Customer touch points	✓	
	Data collection and management	✓	
	Data systems and tools clearly defined (name, who will use, and when in the process)	✓	
	QA/QC, inspection and verification protocols	✓	
Additional information	Reference to program Website	✓	
	Program staff contact information	✓	
	Partnership with other utilities' programs	✓	
	All acronyms clearly defined	✓	
	Key marketing materials included or referenced	✓	

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Appliance Recycling Marketing Material Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Marketing plan in place	Marketing plan defined and mostly followed	✓	
	Buy-in demonstrated in support and funding	✓	
	Stakeholder/market research informed plan	✓	
Collateral clearly describes the program and benefits for the participant		✓	
Marketing roles and responsibilities are clearly defined		✓	
Website provides complete information and is easy to navigate		✓	
Fact sheets, brochures, and other collateral available (online, POP, or other displays)		✓	
Metrics established to measure effectiveness of marketing and outreach activities		✓	

Home Heating Assistance Program

Home Heating Assistance Program Materials Review

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Implementation plan or annual plan	Organization is straightforward	✓	
	Topics will guide staff from design to implementation	✓	
Program operating manual or handbook	Eligibility requirements defined	✓	The manual does not include checkpoints and processes for Trade Ally enrollment in the Program.
	Process steps are sequential and clear	✓	
	Staff responsibilities and hand offs defined	✓	
	Checkpoints and processes are clear	v	
	Resources for further help included	✓	
Process flowcharts and organizational charts.	Clear process steps	✓	
	Clear responsibilities and reporting alignment	✓	
Training materials for program staff	Content is concise and relevant to audience	✓	Training materials do not address process steps, checkpoints, or QA processes. The materials do not identify resources for Program assistance.
	Targeted customers and expected benefits defined	✓	
	Requirements for participation are clear	–	
	Process steps, responsibilities, and timing are clear	–	
	Checkpoints and QA processes are clear	–	
	Resources for further help included	✓	
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	✓	
	Forms are easy to complete correctly	✓	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	✓	
Data collection and QA/QC protocols	Data are easy to enter at appropriate times in process	✓	
	Staff understands and uses collection procedures	✓	
	Staff uses error-checking processes and/or algorithms	✓	
	Verification processes are timely and accurate (or monitored for associated metrics)	✓	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Program education/marketing materials	Information is clear and concise	✓	The materials are only in English.
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	NA	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	✓	
Program information online/Website	Program information is obvious on the first- or second-level pages (home page or customer sector page)	✓	
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	✓	
	Application forms or locations are available	✓	
	Vocabulary is customer oriented and free of utility/technical terms	✓	
Trade Ally (TA) materials	Trade allies receive specific information to support their role	✓	The Trade Ally materials do not specify time requirements for submitting or processing applications or rebates.
	Materials summarize Program information from TA perspective	✓	
	Requirements for customer and project eligibility are clear	✓	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	v	

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Home Heating Assistance Program Manual/Handbook Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Roles and responsibilities clearly defined	Program staff	✓	
	Implementer staff	✓	
	Trade allies/contractors	✓	
Program requirements documented	Participant eligibility requirements	✓	
	Eligible program measures	✓	
	Incentive structure	✓	
	Timing of application	✓	
Program procedures clear and easy to follow	Step-by-step instructions	✓	
	Customer touch points	✓	
	Data collection and management	✓	
	Data systems and tools clearly defined (name, who will use, and when in the process)	✓	
	QA/QC, inspection and verification protocols	✓	
Additional information	Reference to program Website	✓	Contact information for Program staff is not in the manual.
	Program staff contact information	–	
	Partnership with other utilities' programs	✓	
	All acronyms clearly defined	✓	
	Key marketing materials included or referenced	✓	

Home Heating Assistance Program Marketing Material Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Marketing plan in place	Marketing plan defined and mostly followed	✓	
	Buy-in demonstrated in support and funding	✓	
	Stakeholder/market research informed plan	✓	
Collateral clearly describes the program and benefits for the participant		✓	
Marketing roles and responsibilities are clearly defined		✓	
Website provides complete information and is easy to navigate		✓	
Fact sheets, brochures, and other collateral available (online, POP, or other displays)		✓	
Metrics established to measure effectiveness of marketing and outreach activities		✓	

Residential Lighting And Appliance Program

Residential Lighting And Appliance Program Materials Review

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Implementation plan or annual plan	Organization is straightforward	✓	
	Topics will guide staff from design to implementation	✓	
Program operating manual or handbook	Eligibility requirements defined	✓	The Program manual lists many field representatives by name and outlines duties for each, but notes some field representatives as "TBD" (to be determined). The Program manual does not contain checkpoints or reviews for the markdown and buy-down process. The manual does not list resources for Program assistance.
	Process steps are sequential and clear	✓	
	Staff responsibilities and hand offs defined	v	
	Checkpoints and processes are clear	v	
	Resources for further help included	–	
Process flowcharts and organizational charts.	Clear process steps	v	A process flowchart clearly documents the rebate process, but not the overall program process. The Program organizational chart does not contain process steps and only lists names and titles. Additionally, the organizational chart does not contain a clear reporting structure. Although the levels are clear, it is not clear which junior staff report to which senior staff.
	Clear responsibilities and reporting alignment	v	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Training materials for program staff	Content is concise and relevant to audience	✓	While other training materials exist, the Evaluation Team only reviewed the Program manual for training material for the Program Implementer. Program staff considered the other training materials proprietary and did not make them available to the Evaluation Team for review.
	Targeted customers and expected benefits defined	✓	
	Requirements for participation are clear	✓	
	Process steps, responsibilities, and timing are clear	✓	
	Checkpoints and QA processes are clear	✓	
	Resources for further help included	✓	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	✓	This section does not apply to the bulk of Program transactions because the point-of-sale system fulfills most rebates. However, some rebates are from an in-store coupon, which meets all of the best practice indicators.
	Forms are easy to complete correctly	✓	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	✓	
Data collection and QA/QC protocols	Data are easy to enter at appropriate times in process	✓	
	Staff understands and uses collection procedures	✓	
	Staff uses error-checking processes and/or algorithms	✓	
	Verification processes are timely and accurate (or monitored for associated metrics)	✓	
Program education/marketing materials	Information is clear and concise	✓	The materials are only in English.
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	v	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	✓	
Program information online/Website	Program information is obvious on the first- or second-level pages (home page or customer sector page)	✓	
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	✓	
	Application forms or locations are available	✓	
	Vocabulary is customer oriented and free of utility/technical terms	NA	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Trade Ally (TA) materials	Trade Allies receive specific information to support their role	NA	There are no trade allies in the Program.
	Materials summarize Program information from TA perspective	NA	
	Requirements for customer and project eligibility are clear	NA	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	NA	

Residential Lighting And Appliance Program Manual/Handbook Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Roles and responsibilities clearly defined	Program staff	✓	There are no Trade Allies in the Program.
	Implementer staff	✓	
	Trade allies/contractors	NA	
Program requirements documented	Participant eligibility requirements	✓	There are no applications for the Program.
	Eligible program measures	✓	
	Incentive structure	✓	
	Timing of application	NA	
Program procedures clear and easy to follow	Step-by-step instructions	✓	Although the manual explains data collection and management, it does not have a stand-alone data management section.
	Customer touch points	✓	
	Data collection and management	v	
	Data systems and tools clearly defined (name, who will use, and when in the process)	✓	
	QA/QC, inspection and verification protocols	✓	
Additional information	Reference to program Website	✓	Contact information for Program staff is not in the manual.
	Program staff contact information	–	
	Partnership with other utilities' programs	✓	
	All acronyms clearly defined	✓	
	Key marketing materials included or referenced	✓	

Residential Lighting And Appliance Program Marketing Material Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Marketing plan in place	Marketing plan defined and mostly followed	v	Although it contains an extensive discussion of marketing, the Program manual does not contain a separate marketing section.
	Buy-in demonstrated in support and funding	✓	
	Stakeholder/market research informed plan	✓	
Collateral clearly describes the program and benefits for the participant		✓	
Marketing roles and responsibilities are clearly defined		✓	
Website provides complete information and is easy to navigate		✓	
Fact sheets, brochures, and other collateral available (online, POP, or other displays)		✓	
Metrics established to measure effectiveness of marketing and outreach activities		–	The materials the Evaluation Team reviewed do not contain metrics for tracking the success of Program marketing.

Home Performance With ENERGY STAR And Assisted Home Performance With ENERGY STAR Programs

Home Performance With ENERGY STAR And Assisted Home Performance With ENERGY STAR Program Materials Review

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Implementation plan or annual plan	Organization is straightforward	✓	
	Topics will guide staff from design to implementation	✓	
Program operating manual or handbook	Eligibility requirements defined	✓	The Program manual does not list additional resources such as the Program Website, relevant call center phone numbers, and documents.
	Process steps are sequential and clear	✓	
	Staff responsibilities and hand offs defined	✓	
	Checkpoints and processes are clear	✓	
	Resources for further help included	v	
Process flowcharts and organizational charts.	Clear process steps	✓	
	Clear responsibilities and reporting alignment	✓	
Training materials for program staff	Content is concise and relevant to audience	✓	
	Targeted customers and expected benefits defined	✓	
	Requirements for participation are clear	✓	
	Process steps, responsibilities, and timing are clear	✓	
	Checkpoints and QA processes are clear	✓	
	Resources for further help included	✓	
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	✓	Participation does not require an application. The Website provides sufficient information for the rebate process and a short form for customers to request information about the Program.
	Forms are easy to complete correctly	✓	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	✓	
Data collection and QA/QC protocols	Data are easy to enter at appropriate times in process	✓	
	Staff understands and uses collection procedures	✓	
	Staff uses error-checking processes and/or algorithms	✓	
	Verification processes are timely and accurate (or monitored for associated metrics)	✓	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Program education/marketing materials	Information is clear and concise	✓	The materials are only in English.
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	NA	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	✓	
Program information online/Website	Program information is obvious on the first- or second-level pages (home page or customer sector page)	v	The Website's Program Eligibility Requirements section does not explicitly state that the applicant must be the homeowner. While the Website provides this information in other sections on the site, it should provide applicant requirements in the Eligibility Requirements section.
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	✓	
	Application forms or locations are available	✓	
	Vocabulary is customer oriented and free of utility/technical terms	✓	
Trade Ally (TA) materials	Trade Allies receive specific information to support their role	✓	The Trade Ally fact sheet generally refers to Program resources, but does not provide specific details (such as Website address, contact information for Regional Managers). The Trade Ally materials do not specify the time requirements associated with submitting or processing rebates.
	Materials summarize Program information from TA perspective	✓	
	Requirements for customer and project eligibility are clear	v	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	v	

Home Performance With ENERGY STAR And Assisted Home Performance With ENERGY STAR Program Manual/Handbook Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Roles and responsibilities clearly defined	Program staff	✓	
	Implementer staff	✓	
	Trade allies/contractors	✓	
Program requirements documented	Participant eligibility requirements	✓	The Customer Enrollment section of the operations manual does not specify timing for rebates, but this topic is addressed in the Key Performance Indicators section.
	Eligible program measures	✓	
	Incentive structure	✓	
	Timing of application	v	
Program procedures clear and easy to follow	Step-by-step instructions	✓	
	Customer touch points	✓	
	Data collection and management	✓	
	Data systems and tools clearly defined (name, who will use, and when in the process)	✓	
	QA/QC, inspection and verification protocols	✓	
Additional information	Reference to program Website	–	The Program manual does not list references to Program Website or information for contacting Program staff.
	Program staff contact information	–	
	Partnership with other utilities' programs	✓	
	All acronyms clearly defined	✓	
	Key marketing materials included or referenced	✓	

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Home Performance With ENERGY STAR And Assisted Home Performance With ENERGY STAR Marketing Material Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Marketing plan in place	Marketing plan defined and mostly followed	✓	
	Buy-in demonstrated in support and funding	✓	
	Stakeholder/market research informed plan	✓	
Collateral clearly describes the program and benefits for the participant		✓	
Marketing roles and responsibilities are clearly defined		✓	
Website provides complete information and is easy to navigate		✓	
Fact sheets, brochures, and other collateral available (online, POP, or other displays)		✓	
Metrics established to measure effectiveness of marketing and outreach activities		✓	

New Homes Program

New Homes Program Materials Review

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Implementation plan or annual plan	Organization is straightforward	✓	
	Topics will guide staff from design to implementation	✓	
Program operating manual or handbook	Eligibility requirements defined	v	The Program manual does not define builder eligibility, and the only inferred eligibility requirement entails signing the Program Trade Ally application. Neither the Program manual nor the guide list additional resources.
	Process steps are sequential and clear	✓	
	Staff responsibilities and hand offs defined	✓	
	Checkpoints and processes are clear	✓	
	Resources for further help included	–	
Process flowcharts and organizational charts	Clear process steps	v	The Program manual describes process steps, but the process flow diagram does not show process steps. An employee list identifies staff titles. However, the materials do not specify responsibilities and reporting structure.
	Clear responsibilities and reporting alignment	v	
Training materials for program staff	Content is concise and relevant to audience	✓	The materials explain and sequentially list process steps but do not mention the approximate timing of steps. Staff responsibilities within the Implementation team are not clear. The materials do not identify resources for further help.
	Targeted customers and expected benefits defined	✓	
	Requirements for participation are clear	v	
	Process steps, responsibilities, and timing are clear	✓	
	Checkpoints and QA processes are clear	–	
	Resources for further help included	NA	
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	NA	Program staff did not provide a workbook for this review or indicate any problems with completing the workbook.
	Forms are easy to complete correctly	✓	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	✓	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Data collection and QA/QC protocols	Data are easy to enter at appropriate times in process	✓	The Evaluation Team found materials describing the verification processes available to the building performance consultants; however, the materials did not describe a process for resolving issues.
	Staff understands and uses collection procedures	✓	
	Staff uses error-checking processes and/or algorithms	v	
	Verification processes are timely and accurate (or monitored for associated metrics)	✓	
Program education/marketing materials	Information is clear and concise	✓	The materials are only in English.
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	NA	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	✓	
Program information online/Website	Program information is obvious on the first- or second-level pages (home page or customer sector page)	✓	The content does not define equipment and measures because the Program offers great flexibility to builders and building performance consultants. Though the Website is oriented more toward homebuyers, the building performance consultants are responsible for the application forms.
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	NA	
	Application forms or locations are available	✓	
	Vocabulary is customer oriented and free of utility/technical terms	NA	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Trade Ally (TA) materials	Trade Allies receive specific information to support their role	✓	Program staff provides support to builders and building performance consultants on a one-to-one basis and in quarterly meetings. The building standards brochure does not have Trade Ally-specific resources, and the fact sheet directs people to the Website. The fact sheet and the Building the Dream brochure list the process steps (including inspections). However, these materials are oriented toward customers rather than Trade Allies.
	Materials summarize Program information from TA perspective	✓	
	Requirements for customer and project eligibility are clear	–	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	v	

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New Homes Program Manual/Handbook Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Roles and responsibilities clearly defined	Program staff	✓	
	Implementer staff	✓	
	Trade Allies/contractors	✓	
Program requirements documented	Participant eligibility requirements	✓	
	Eligible program measures	✓	
	Incentive structure	✓	
	Timing of application	✓	
Program procedures clear and easy to follow	Step-by-step instructions	✓	Program staff members do not interact directly with customers.
	Customer touch points	NA	
	Data collection and management	✓	
	Data systems and tools clearly defined (name, who will use, and when in the process)	✓	
	QA/QC, inspection and verification protocols	✓	
Additional information	Reference to program Website	✓	
	Program staff contact information	–	
	Partnership with other utilities' programs	✓	
	All acronyms clearly defined	✓	
	Key marketing materials included or referenced	✓	

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New Homes Program Marketing Material Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Marketing plan in place	Marketing plan defined and mostly followed	✓	The marketing plan does not discuss funding or buy-in, and in Program staff interviews, there was mention of insufficient funding for marketing efforts. It is unknown whether stakeholder or market research informed the plan.
	Buy-in demonstrated in support and funding	v	
	Stakeholder/market research informed plan	–	
Collateral clearly describes the program and benefits for the participant		✓	
Marketing roles and responsibilities are clearly defined		✓	
Website provides complete information and is easy to navigate		v	The Website contains a limited amount of information, but it provides links to all of the marketing materials available to customers.
Fact sheets, brochures, and other collateral available (online, POP, or other displays)		✓	
Metrics established to measure effectiveness of marketing and outreach activities		–	Materials do not define specific metrics.

Residential Rewards Program

Residential Rewards Program Materials Review

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Implementation plan or annual plan	Organization is straightforward	✓	
	Topics will guide staff from design to implementation	✓	
Program operating manual or handbook	Eligibility requirements defined	✓	The Program manual provides clear steps for reward processing, but it does not provide steps for the customer and Trade Ally processes. The manual provides checkpoints for the reward process, but it does not provide customers and Trade Allies with checkpoints and processes for activities that precede the submission of an application. The manual lists resources for the qualified products lists, but does not provide resources (such as call center phone numbers or documents) for customers seeking additional assistance.
	Process steps are sequential and clear	v	
	Staff responsibilities and hand offs defined	✓	
	Checkpoints and processes are clear	v	
	Resources for further help included	v	
Process flowcharts and organizational charts.	Clear process steps	v	The application process flowchart has clear steps, but it does not include customer and Trade Ally checkpoints for activities that precede the submission of an application.
	Clear responsibilities and reporting alignment	✓	
Training materials for program staff	Content is concise and relevant to audience	✓	
	Targeted customers and expected benefits defined	✓	
	Requirements for participation are clear	✓	
	Process steps, responsibilities, and timing are clear	✓	
	Checkpoints and QA processes are clear	✓	
	Resources for further help included	✓	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	✓	
	Forms are easy to complete correctly	✓	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	✓	
Data collection and QA/QC protocols	Data are easy to enter at appropriate times in process	✓	
	Staff understands and uses collection procedures	✓	
	Staff uses error-checking processes and/or algorithms	✓	
	Verification processes are timely and accurate (or monitored for associated metrics)	✓	
Program education/marketing materials	Information is clear and concise	✓	
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	✓	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	✓	
Program information online/Website	Program information is obvious on the first- or second-level pages (home page or customer sector page)	✓	
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	✓	
	Application forms or locations are available	✓	
	Vocabulary is customer oriented and free of utility/technical terms	✓	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Trade Ally (TA) materials	Trade Allies receive specific information to support their role	✓	The applications list the time requirement expectations. However, Trade Ally materials do not provide time requirements for submitting or processing applications or rebates.
	Materials summarize Program information from TA perspective	✓	
	Requirements for customer and project eligibility are clear	✓	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	v	

CADMUS

Residential Rewards Program Manual/Handbook Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Roles and responsibilities clearly defined	Program staff	✓	
	Implementer staff	✓	
	Trade allies/contractors	✓	
Program requirements documented	Participant eligibility requirements	✓	
	Eligible program measures	✓	
	Incentive structure	✓	
	Timing of application	✓	
Program procedures clear and easy to follow	Step-by-step instructions	✓	Materials list customer checkpoints for reward processing, but do not list the customer and Trade Ally processes that occur before submitting a reward request.
	Customer touch points	v	
	Data collection and management	✓	
	Data systems and tools clearly defined (name, who will use, and when in the process)	✓	
	QA/QC, inspection and verification protocols	✓	
Additional information	Reference to program Website	✓	The manual does not list contact information for Program staff.
	Program staff contact information	–	
	Partnership with other utilities' programs	✓	
	All acronyms clearly defined	✓	
	Key marketing materials included or referenced	✓	

CADMUS

Residential Rewards Marketing Material Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Marketing plan in place	Marketing plan defined and mostly followed	✓	
	Buy-in demonstrated in support and funding	✓	
	Stakeholder/market research informed plan	✓	
Collateral clearly describes the program and benefits for the participant		✓	
Marketing roles and responsibilities are clearly defined		✓	
Website provides complete information and is easy to navigate		✓	
Fact sheets, brochures, and other collateral available (online, POP, or other displays)		✓	
Metrics established to measure effectiveness of marketing and outreach activities		✓	

Express Energy Efficiency Program

Express Energy Efficiency Program Materials Review

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Implementation plan or annual plan	Organization is straightforward	v	The Program plan was incomplete at the time of this review.
	Topics will guide staff from design to implementation	v	
Program operating manual or handbook	Eligibility requirements defined	v	Criteria do not state that customers are only eligible for a limited time when the Program is active in their area. The manual's How the Program Works section has some background for subcontractor selection, community targeting, and data collection. The manual defines responsibilities by organization (such as Program Administrator or Implementer) but not by staff level. Also, the manual does not describe some responsibilities clearly (such as scheduling customer appointments) or assign responsibilities to specific staff. Additionally, the manual does not identify checkpoints other than in a graphic flow chart with no supporting detail.
	Process steps are sequential and clear	–	
	Staff responsibilities and hand offs defined	v	
	Checkpoints and processes are clear	–	
	Resources for further help included	✓	
Process flowcharts and organizational charts	Clear process steps	–	The process flow chart is clear and comprehensive overall; however, it contains no mention of the online scheduling function.
	Clear responsibilities and reporting alignment	✓	
Training materials for program staff	Content is concise and relevant to audience	✓	Presentation of the materials is generally concise and well organized. However, the materials do not describe the requirements for customer participation or the customer process. There is no content in the slide presentations titled Corporate Safety Policy and Personal Protective Equipment.
	Targeted customers and expected benefits defined	–	
	Requirements for participation are clear	–	
	Process steps, responsibilities, and timing are clear	–	
	Checkpoints and QA processes are clear	–	
	Resources for further help included	✓	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	✓	
	Forms are easy to complete correctly	✓	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	v	
Data collection and QA/QC protocols	Data are easy to enter at appropriate times in process	✓	Currently, Program staff members enter data into SPECTRUM by hand. Once SPECTRUM is capable of bulk upload, Conservation Services Group will be able to enter data more efficiently. Staff interviews indicate the process is evident, but the Evaluation Team did not have access to the QA/QC manual referenced in the operations manual.
	Staff understands and uses collection procedures	✓	
	Staff uses error-checking processes and/or algorithms	v	
	Verification processes are timely and accurate (or monitored for associated metrics)	✓	
Program education/marketing materials	Information is clear and concise	✓	The materials are only in English. At least one community partner requested that materials be available in Spanish and possibly Hmong.
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	–	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	✓	

Program Materials	Indicators	Status ✓,v,—, or NA	Notes
Program information online/Website	Program information is obvious on the first- or second-level pages (home page or customer sector page)	✓	
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	✓	
	Application forms or locations are available	✓	
	Vocabulary is customer oriented and free of utility/technical terms	NA	
Trade Ally (TA) materials	Trade Allies receive specific information to support their role	NA	Since the Implementer or subcontractors directly implement the program, trade allies are not necessary.
	Materials summarize Program information from TA perspective	NA	
	Requirements for customer and project eligibility are clear	NA	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	NA	

Express Energy Efficiency Program Manual/Handbook Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Roles and responsibilities clearly defined	Program staff	✓	The manual refers alternately to Implementer, subcontractor, and Trade Allies. However, Trade Allies are not involved in this Program in the conventional sense. The manual should consistently refer to Implementer staff or subcontractors. The role of the community marketing partners is not described or defined.
	Implementer staff	v	
	Trade allies/contractors	NA	
Program requirements documented	Participant eligibility requirements	✓	
	Eligible program measures	✓	
	Incentive structure	✓	
	Timing of application	NA	
Program procedures clear and easy to follow	Step-by-step instructions	–	Staff interviews indicate the process is evident, but the Evaluation Team did not have access to the QA/QC manual referenced in the operations manual.
	Customer touch points	–	
	Data collection and management	✓	
	Data systems and tools clearly defined (name, who will use, and when in the process)	✓	
	QA/QC, inspection and verification protocols	–	

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Additional information	Reference to program Website	–	The manual does not list the Website or contact information for Program staff.
	Program staff contact information	–	
	Partnership with other utilities' programs	NA	
	All acronyms clearly defined	–	The manual does not define acronyms.
	Key marketing materials included or referenced	–	The manual mentions marketing materials but does not provide details.

Express Energy Efficiency Program Marketing Material Review

Key Elements	Indicators	Status ✓,v,—, or NA	Notes
Marketing plan in place	Marketing plan defined and mostly followed	NA	The Evaluation Team did not receive a marketing plan for review.
	Buy-in demonstrated in support and funding	NA	
	Stakeholder/market research informed plan	NA	
Collateral clearly describes the program and benefits for the participant		✓	
Marketing roles and responsibilities are clearly defined		✓	
Website provides complete information and is easy to navigate		✓	
Fact sheets, brochures, and other collateral available (online, POP, or other displays)		✓	
Metrics established to measure effectiveness of marketing and outreach activities		NA	The Evaluation Team did not receive any marketing effectiveness metrics.

Nonresidential Segment

Business Incentive Program

Business Incentive Program Materials* Review

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
Program implementation manual, operating guidelines, or handbook	Manual is comprehensive and complete (see detailed review of program manual in the next table)	v	The Program's operations manual is comprehensive with separate appendices including: samples of customer incentive and inspection forms, letters, workbooks, and measure detail. However, the manual is still in draft form (last updated 6/28/12).
Policies, procedures, and resources for staff training	Documented, concise, and relevant to audience	✓	In addition to procedures detailed in the Program manual, several of Focus on Energy's general procedural documents are available on the Program Administrator's SharePoint site to guide staff through nonresidential program delivery. However, these documents are not referenced in the Business Incentive Program manual.
	Targeted customers and expected benefits defined	✓	
	Requirements for participation are clear	✓	
	Process steps, responsibilities, and timing are clear	✓	
	Checkpoints and QA processes are clear	✓	
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	✓	Forms are easily accessible for download directly at the Website. The forms include few instructions, although they do list several requirements and terms and conditions. In addition, there is no guidance on the Website demonstrating how to fill out forms. There are multiple forms available for Business Incentive Program projects online, but only a few are available as fillable PDFs. The lack of electronically fillable fields and
	Forms are easy to complete	v	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	–	

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
			inability to save information in the forms may require that customers fill out a new form for each project.
Data collection and QA/QC protocols	Procedures for customer data collection are in place to enable program evaluation	v	Participant data is available, but nonparticipant data is not available. Customer contact information is not available for many projects. Detailed QA/QC and verification protocols are available in the operations manual and in the Business Incentive Program QA/QC Plan.
	Data collection procedure documentation is well organized and easy to follow	✓	
	There are error-checking processes and/or algorithms	✓	
	Program staff and trade allies receive clearly defined and detailed verification and inspection guidelines	✓	

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
Program marketing, outreach, and education materials	Marketing plan is available with event calendar and budgets identified	✓	In addition to detailed marketing information in the Program manual, a separate comprehensive marketing plan is available with calendar of events, budgets, and target markets described.
	Marketing roles are clearly defined	✓	
	Target markets identified	✓	
	Collateral (fact sheets, brochures, etc.) clearly describes the program and benefits for the participant	✓	
	Information is clear and concise	✓	
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	✓	
	Metrics established to measure effectiveness of marketing strategy	✓	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	NA	

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
Program information online/Website	Program information is obvious on the first- or second-level pages (home page or customer sector page)	✓	Program information and applications are easily accessible on the program Website. There are frequently asked questions (FAQs) on the Business Incentive Program Website; however, no case studies or testimonials are available.
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	✓	
	Application forms are available	✓	
	Case studies, testimonials, FAQs available and prominently located	v	
Trade ally (TA) materials	Program brochures are available to assist with customer outreach	✓	There are no materials containing information about timelines for application and payment processing.
	Materials summarize Program information from TA perspective	✓	
	Requirements for customer and project eligibility are clear	✓	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	✓	
	Materials provide clear expectations for the time required to process applications, review projects, process rebates, etc.	–	

* Business Incentive Program Focus on Energy Operations Manual V1.0, 6-28-2012; BIP Quality Assurance and Quality Control Plan 7-31-12; BIP Quality Assurance and Quality Control Plan 7-31-12; Focus on Energy Business Incentive Program, 2012 Tactical Marketing Plan, September 2012. Focus on Energy Business Incentive Program Summary of Appendix II; Business Fact Sheet, Business Incentive Program Overview; Business Programs Summary of Services & Incentives; Focus on Energy Trade Allies, Valuable partners of Focus on Energy; Business Incentive Website, http://www.focusonenergy.com/Business/Incentive.aspx.

Business Incentive Program Manual/Handbook Review

Key Elements	Indicators	Status (✓,v,—, or NA)	Notes
Roles and Responsibilities	Roles, responsibilities, and hand-offs are clearly defined for key staff:		
	Program Administrator staff	✓	
	Implementer staff (including Energy Advisors)	✓	
	Utility account managers	✓	
	Trade allies/contractors	✓	
	Other stakeholders* (specify: ____)	NA	
Process Flowcharts and Organizational Charts	Clear process steps and checkpoints defined from implementation to incentive processing	v	Numbered lists outline and define the steps. There is a logic model, but there are no flowcharts for program processes. There are separate staffing charts for the various Implementer staff and subcontractors, but there is not a chart showing the hierarchy with all parties included.
	Clear responsibilities and reporting alignment demonstrated	v	
Program Requirements	Topics guide staff from design to implementation	✓	The manual lists measure types and details specific measures in the appendices. The manual provides qualitative goals (such as cost-effective savings and customer service), but does not provide established metrics for these goals. Key performance indicators are incomplete.
	Program overview provided with goals and eligibility requirements identified	✓	
	Eligible program measures and incentive structure well defined	✓	
	Trade ally participation requirements defined	✓	

Key Elements	Indicators	Status (✓,v,—, or NA)	Notes
Program Procedures	Step-by-step instructions provided from application timing to payment processes	v	There is information about customer application submission requirements, but no guidelines on internal review and processing timelines. Although the manual details and defines post-inspection guidelines well, it does not clearly identify pre-inspection sampling requirements.
	Data collection, systems, tools, and management clearly defined (name, who will use, and when in the process)	✓	
	QA/QC, inspection and verification protocols clearly defined	v	
	Customer and trade ally touch points	✓	
Additional Resources	Reference to program Website is referenced	✓	The manual does not provide contact information for program staff.
	Program staff contact information provided	–	
	Partnership with other utilities' programs identified	NA	
	All acronyms clearly defined	✓	
	Key marketing strategies/materials included or referenced	✓	

* Other stakeholders may include qualified service providers, retailers, design team members, or others who participate in program delivery, but are not part of the formal utility and implementation contractor program team.

Chain Store And Franchises Program

Chain Store And Franchises Program Materials* Review

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
Program implementation manual, operating guidelines, or handbook	Manual is comprehensive and complete (see detailed review of program manual in the next table)	✓	The Program manual is very detailed. The appendices include samples of customer incentive and inspection forms, letters, workbooks, measure detail, etc.
Policies, procedures, and resources for staff training	Documented, concise, and relevant to audience	✓	Several of Focus On Energy's general procedural documents are available on the Program Administrator's SharePoint site to guide staff through nonresidential program delivery. However, the Program manual does not reference these documents.
	Targeted customers and expected benefits defined	✓	
	Requirements for participation are clear	✓	
	Process steps, responsibilities, and timing are clear	✓	
	Checkpoints and QA processes are clear	✓	
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	v	The Program Website links to a Web page that includes applications for all of the programs and requires the user to find the appropriate forms for the Chain Store and Franchise (CSF) Program.
	Forms are easy to complete	✓	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	✓	

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
Data collection and QA/QC protocols	Procedures for customer data collection are in place to enable program evaluation	v	Participant data are available, but nonparticipant data are not available. Participant contact information is not complete. Detailed QA/QC protocols are available in the operations manual.
	Data collection procedure documentation is well organized and easy to follow	✓	
	There are error-checking processes and/or algorithms	✓	
	Program staff and trade allies receive clearly defined and detailed verification and inspection guidelines	✓	

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
Program marketing, outreach, and education materials	Marketing plan is available with event calendar and budgets identified	✓	In addition to the marketing plan, a separate document details the Program's business strategy and target customers. Some, but not all, marketing initiatives in the marketing plan include tracking strategies.
	Marketing roles are clearly defined	✓	
	Target markets identified	✓	
	Collateral (fact sheets, brochures, etc.) clearly describes the program and benefits for the participant	✓	
	Information is clear and concise	✓	
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	✓	
	Metrics established to measure effectiveness of marketing strategy	v	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	NA	
Program information online/Website	Program information is obvious on the first- or second-level pages (home page or customer sector page)	v	The Program Website links to a Web page that includes application forms for all of the programs. The forms are organized by project type (such as lighting and HVAC) rather than program. This makes it difficult for the user to find the appropriate forms. Case studies from 2009 and 2010 are available online, but they are not directly linked from CSF page; and difficult to find.
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	✓	
	Case studies, testimonials, FAQs available and prominently located	v	

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
Trade ally (TA) materials	Program brochures are available to assist with customer outreach	✓	A Trade Ally Webinar is available and explains programs, but there is not a written summary. Trade Ally materials do not list expectations regarding time requirements for submitting or processing applications or rebates.
	Materials summarize Program information from TA perspective	v	
	Requirements for customer and project eligibility are clear	✓	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	✓	
	Materials provide clear expectations for the time required to process applications, review projects, process rebates, etc.	v	

*Materials reviewed: Focus on Energy Chain Stores and Franchises Program Operations Manual V2.0, Appendices I and II, 11/9/12; Program 2012 Tactical Marketing Plan, 6/28/2012; Documents and Deliverables Style Guide, 4/9/12; Equipment Pre-Qualification Procedure, 2/17/2012; Incentive Approvals Procedure, 2/17/2012; Program Change Procedure, 12/20/2011; Project Pre-Approvals Procedure, 11/26/2011; Focus on Energy Program Website http://www.focusonenergy.com/Business/franchises.aspx; Program Overview Factsheet; Trade Ally Application; Trade Ally Website http://www.focusonenergy.com/Tradeally/

Chain Store And Franchises Program Manual/Handbook Review

Key Elements	Indicators	Status (✓,v,—, or NA)	Notes
Roles and Responsibilities	Roles, responsibilities, and hand-offs are clearly defined for key staff:		The manual does not identify Program Administrator staff. Utility Account Managers do not have a clearly defined role within the Program.
	Program Administrator staff	–	
	Implementer staff (including Energy Advisors)	✓	
	Utility account managers	–	
	Trade allies/contractors	✓	
	Other stakeholders* (specify: ____)	NA	
Process flowcharts and organizational charts	Clear process steps and checkpoints defined from implementation to incentive processing	✓	The operations manual includes several process flowcharts (such as logic models, project workflows, organizational charts).
	Clear responsibilities and reporting alignment demonstrated	✓	
Program Requirements	Topics guide staff from design to implementation	✓	
	Program overview provided with goals and eligibility requirements identified	✓	
	Eligible program measures and incentives well defined	✓	
	Trade ally participation guidelines defined	✓	
Program Procedures	Step-by-step instructions provided from application timing to payment processes	✓	The manual includes verification sampling guidelines under the Quality Assurance and Quality Control section. Although the manual details and defines post-inspection guidelines well, it does not clearly identify pre-inspection sampling requirements.
	Customer and trade ally touch points identified	✓	
	Data collection, systems, tools, and management clearly defined (name, who will use, and when in the process)	✓	
	QA/QC, inspection and verification protocols clearly defined	✓	

Key Elements	Indicators	Status (✓,v,—, or NA)	Notes
Additional Resources	Program Website is referenced	v	References file locations are online, but they are not on the Program site. Some phone numbers are included in the Inter-program Referral and Transfer Process section. The manual includes undefined acronyms: HVAC, O&M, VFD (p. 13); CRM, FES, CFO (p.14), LED (p. 27), PSC (p. 30). Marketing materials are not included or referenced in the Program manual, but are covered in a separate Marketing Plan.
	Program staff contact information provided	–	
	Partnership with other utilities' programs identified	NA	
	All acronyms clearly defined	v	
	Key marketing strategies and materials included or referenced	✓	
* Other stakeholders may include qualified service providers, retailers, design team members, or others who participate in program delivery, but are not part of the formal utility and implementation contractor program team.			

Large Energy Users Program

Large Energy Users Program Materials* Review

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
Program implementation manual, operating guidelines, or handbook	Manual is comprehensive and complete (see detailed review of program manual in the next table)	✓	The Program operations manual is comprehensive and complete.
Policies, procedures, and resources for staff training	Documented, concise, and relevant to audience	✓	Focus On Energy's procedural documents are available on the Program Administrator's SharePoint site to guide staff through nonresidential program delivery. However, these documents are not referenced in the Large Energy Users Program manual.
	Targeted customers and expected benefits defined	✓	
	Requirements for participation are clear	✓	
	Process steps, responsibilities, and timing are clear	✓	
	Checkpoints and QA processes are clear	✓	
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	v	Application forms are readily available online, but are not intuitive for customers to use. In particular, customers could easily overlook custom forms.
	Forms are easy to complete	✓	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	✓	
Data collection and QA/QC protocols	Procedures for customer data collection are in place to enable program evaluation	v	Participant data is available, but nonparticipant data is not available. Participant contact information is not available for many projects. Data collection guidelines are not easily accessible and consistently documented. In addition to the Program manual, there is also a
	Data collection procedure documentation is well organized and easy to follow	v	
	There are error-checking processes and/or algorithms	✓	
	Program staff and trade allies receive clearly defined and detailed verification and inspection guidelines	✓	

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
			quality assurance manual that provides step-by-step verification guidelines.
Program marketing, outreach, and education materials	Marketing plan is available with event calendar and budgets identified	✓	There is a detailed marketing plan with events, calendars, and budgets. The Website describes the Program and benefits; however, a program brochure is not readily available. The marketing plan describes measurement tools but does not provide metrics.
	Marketing roles are clearly defined	✓	
	Target markets identified	✓	
	Collateral (fact sheets, brochures, etc.) clearly describes the program and benefits for the participant	–	
	Information is clear and concise	✓	
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	✓	
	Metrics established to measure effectiveness of marketing strategy	✓	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	NA	
Program information online/Website	Program information is obvious on the first- or second-level pages (home page or customer sector page)	v	It requires multiple clicks to get to information about the Large Energy Users program. However, FAQs are easily located on the Large Energy Users program Website. The Focus On Energy Website contains general case studies and best practices; however, these are not easily located in proximity to the Large Energy Users Website page.
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	✓	
	Application forms are available	✓	
	Case studies, testimonials, FAQs available and prominently located	v	

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
Trade ally (TA) materials	Program brochures are available to assist with customer outreach	v	A dedicated Trade Ally Website contains detailed fact sheets and applications. However, other than a prescriptive incentives fact sheet, no customer outreach collateral materials are readily available. A biweekly newsletter provides updates for all programs. Individual equipment incentive application forms list submission timing requirements. Trade Ally materials do not list the requirements.
	Materials summarize Program information from TA perspective	✓	
	Requirements for customer and project eligibility are clear	✓	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	✓	
	Materials provide clear expectations for the time required to process applications, review projects, process rebates, etc.	v	

* Focus on Energy Large Energy Users program documents reviewed: 2012 Policies and Procedure Manual (2/13/2012); Business Programs Summary of Services and Incentives (10/4/2012); Competitive Energy Efficiency Incentive 2013 – Large Energy Users Program; Custom Incentive Technical Review; FM-001 PROCEDURE: Invoice Approval for Implementers and Grantees (Rev. 11/28/11); Focus on Energy 2012 Marketing Manual – January 2012; Focus on Energy Website (last reviewed February 4, 2012); Incentive Agreement Amendment Form; Large Energy Program Quality Assurances and Measurement Verification Plan (DRAF -3/19/12); Large Energy Users Program Operations Manual (DRAFT-7/27/12); Marketing and Communications Program Plan – Large Energy Users Program April 2012-December 2012 (DRAFT – 11/02/12); Performance Based Assessment (7/8/2011); Prescriptive and Custom Applications; TM-003 PROCEDURE: Project Pre-Approvals (Rev. 10/26/11); Trade Ally Application.

Large Energy Users Program Manual/Handbook Review

Key Elements	Indicators	Status (✓,v,—, or NA)	Notes
Roles and Responsibilities	Roles, responsibilities, and hand-offs are clearly defined for key staff:		The manual does not identify the utility account manager role.
	Program Administrator staff	✓	
	Implementer staff (including Energy Advisors)	✓	
	Utility account managers	–	
	Trade allies/contractors	✓	
	Other stakeholders* (specify: ____)	NA	
Process flowcharts and organizational charts	Clear process steps and checkpoints defined from implementation to incentive processing	v	An appendix provides an organizational chart and prescriptive process flowchart. No custom process flowchart is available.
	Clear responsibilities and reporting alignment	✓	
Program Requirements	Topics guide staff from design to implementation	✓	The appendix lists Program goals. Program goals are not in the overview. The manual details the overall program eligibility requirements,; however, customers are referred to prescriptive incentive application forms for additional information. There is limited discussion of Trade Ally participation requirements and guidelines.
	Program overview provided with goals and eligibility requirements identified	v	
	Eligible program measures and incentive structure well defined	✓	
	Trade ally participation requirements defined	v	

Key Elements	Indicators	Status (✓,v,—, or NA)	Notes
Program Procedures	Step-by-step instructions provided from application timing to payment processes	✓	The manual provides detailed information about project, application intake, and incentive processing. The incentive application forms describe the timing for submission, but the Program manual does not. The manual identifies the data system as a new tool with additional features still in development. The manual does not cohesively address the operable features and use of the tool in one section.
	Data collection, systems, tools, and management clearly defined (name, who will use, and when in the process)	v	
	QA/QC, inspection and verification protocols clearly defined	✓	
	Customer and trade ally touch points	✓	
Additional Resources	Reference to program Website	v	Although there are occasional references to the Program Website, the manual does not provide an overview. The manual does not list contact information. The program manual does not reference the comprehensive marketing manual.
	Program staff contact information	✓	
	Partnership with other utilities' programs	✓	
	All acronyms clearly defined	v	
	Key marketing strategies and materials included or referenced		

* Other stakeholders may include qualified service providers, retailers, design team members, or others who participate in program delivery, but are not part of the formal utility and implementation contractor program team.

Small Business Program

Small Business Program Materials* Review

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
Program implementation manual, operating guidelines, or handbook	Manual is comprehensive and complete (see detailed review of program manual in the next table)	✓	The Program manual is comprehensive and provides details about all of the Program components.
Policies, procedures, and resources for staff training	Documented, concise, and relevant to audience	✓	In addition to the procedures the Program manual details, several Focus on Energy general procedural documents are available on SharePoint to guide staff through nonresidential program delivery. However, the Small Business Program operations manual does not reference these documents.
	Targeted customers and expected benefits defined	✓	
	Requirements for participation are clear	✓	
	Process steps, responsibilities, and timing are clear	✓	
	Checkpoints and QA processes are clear	✓	
Application and rebate forms, customer contracts	Forms are readily available or easy to access online	✓	
	Forms are easy to complete	✓	
	Requirements are clear	✓	
	Repeat entries/paperwork is minimized where possible	✓	
Data collection and QA/QC protocols	Procedures for customer data collection are in place to enable program evaluation	v	Participant data is available, but nonparticipant data is not available. The Small Business Program tracking system is well documented. It uses an iPad application that allows for direct data entry during an assessment. This reduces the likelihood of entry error.
	Data collection procedure documentation is well organized and easy to follow	✓	
	There are error-checking processes and/or algorithms	✓	
	Program staff and trade allies receive clearly defined and detailed verification and inspection guidelines	✓	

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes
Program marketing, outreach, and education materials	Marketing plan is available with event calendar and budgets identified	✓	A comprehensive marketing plan is available which includes an event calendar, budgets, and information about target markets. The target customer population does not require materials to be in alternate languages.
	Marketing roles are clearly defined	✓	
	Target markets identified	✓	
	Collateral (fact sheets, brochures, etc.) clearly describes the program and benefits for the participant	✓	
	Information is clear and concise	✓	
	Materials simply convey brand	✓	
	Value proposition is appropriate for target customers	✓	
	Metrics established to measure effectiveness of marketing strategy	✓	
	Alternate versions are available where appropriate to reach different customer segments or non-English speaking customers	NA	
Program information online/Website	Program information is obvious on the first- or second-level pages (home page or customer sector page)	✓	
	Requirements for participation are clear	✓	
	It is clear what equipment or measures the Program supports	✓	
	Application forms or locations are available	✓	
Trade ally (TA) materials	Program brochures are available to assist with customer outreach	✓	The Small Business Program has a dedicated, comprehensive Trade Ally Website with an enrollment fact sheet, an enrollment form, and program staff contact information.
	Materials summarize Program information from TA perspective	✓	
	Requirements for customer and project eligibility are clear	✓	
	Multiple communication channels provide resources specific to TAs (Websites, liaisons, etc.)	✓	
	Materials provide clear expectations for the time required to process applications, review projects, process rebates, etc.	✓	

Program Materials	Indicators	Status (✓,v,—, or NA)	Notes

*Focus on Energy Operations Manual Small Business Program, August 31, 2012; Process Flowchart, Trade Ally and Customer; Nonresidential Staples Small Business Program Plan; Organizational Chart Small Business; Focus on Energy Small Business Program Marketing Plan, May 14, 2012; Focus on Energy Small Business Program Product Specification Sheets and Details; Focus on Energy Small Business Program iPad Specifications; Small Business Program Trade Ally Application; Small Business Program Trade Ally Confirmation of Training; Small Business Program Trade Ally Training.

Small Business Program Manual/Handbook Review

Key Elements	Indicators	Status (✓,v,—, or NA)	Notes
Roles and Responsibilities	Roles, responsibilities, and hand-offs are clearly defined for key staff:		A comprehensive Program manual includes descriptions of administrative and Energy Advisor roles; however, the manual summarizes the roles later in the document.
	Program Administrator staff	✓	
	Implementer staff (including Energy Advisors)	✓	
	Utility account managers	NA	
	Trade allies/contractors	✓	
	Other stakeholders* (specify: ____)	NA	
Program Requirements	Topics guide staff from design to implementation	✓	
	Program overview provided with goals and eligibility requirements identified	✓	
	Eligible program measures and incentive structure well defined	✓	
	Trade ally participation requirements defined	✓	
Process flowcharts and organizational charts	Clear process steps and checkpoints defined from implementation to incentive processing	✓	The Small Business Program has a comprehensive process flowchart which details customer and trade ally timelines and responsibilities for successful completion of Small Business Program projects. However, the Program manual does not reference the flowchart.
	Clear responsibilities and reporting alignment	✓	
Program Procedures	Step-by-step instructions provided from application timing to payment processes	✓	The Program manual provides step-by-step details of Program procedures from customer to Trade Ally engagement.
	Data collection, systems, tools, and management clearly defined (name, who will use, and when in the process)	✓	
	QA/QC, inspection and verification protocols clearly defined	✓	
	Customer and trade ally touch points	✓	

Key Elements	Indicators	Status (✓,v,—, or NA)	Notes
Additional Resources	Reference to program Website is provided	✓	The manual does not list contact information, but it does list the regional advisors' names.
	Program staff contact information is listed	–	
	Partnership with other utilities' programs identified	✓	
	All acronyms clearly defined	✓	
	Key marketing strategies and materials included or referenced	✓	

* Other stakeholders may include qualified service providers, retailers, design team members, or others who participate in program delivery, but are not part of the formal utility and implementation contractor program team.

Appendix M. Survey Instruments By Program

Placeholder- in PDF format

Appendix N. Calendar Year 2013 Evaluation Activities

The Calendar Year (CY) 2013 evaluation includes a range of measurement and verification activities. Appendix 0: Table 1. summarizes planned evaluation activities, these plans may be updated based on additional requirements of the Public Service Commission, The Administrator, Implementers, and/or Evaluation Findings.

Appendix 0: Table 1. Summary Of Evaluation Activities CY 2013

	Residential	Nonresidential	Total
On-Site Measurement and Verification	114	164	278
Project Audit and Verification Surveys	N/A	196	196
Participant Survey Completes	555	146	701
Partial and Nonparticipant Survey Completes	76	10	86
Stakeholder Interviews[1]	31	48	79
Trade Ally and Market Actor Interviews	68	105	173

[1] Values represent number of individuals interviewed.

Appendix O. SPECTRUM Findings

In the CY 2011 evaluation, the Evaluation Team identified the need to transition to a single central tracking database for all programs in the Focus on Energy portfolio. This activity was already in progress prior to the start of the evaluation year and the first release of the centralized database occurred on December 1, 2011. Subsequent releases in 2012 have continued to improve the system. WIPFLI LLC was engaged to develop this comprehensive system, known as the State Program for Energy Conservation Tracking and Utility Management (SPECTRUM), to provide the following functions:[10]

- Efficient processing of applications for all Focus on Energy programs
- Administering Focus on Energy customer, incentive, and application information.
- Setting up and tracking workflow.
- Facilitating reporting and query functions for qualified users.
- Automating transfer of incentive payments and check information with accounting software.
- Accommodating core customer management/relations functionality.

In its first year of use, the SPECTRUM development team successfully addressed a number of early issues. SPECTRUM supports application approval and payment processes as well as many user query and reporting needs. However, the Evaluation Team (the Team) identified a number of concerns in interviews with program stakeholders and in the acquisition and processing of data to support the evaluation work.

This memorandum identifies the findings of the Team with respect to the SPECTRUM database to support the CY 2012 evaluation and provides recommendations for future improvements. The Program Administrator and Program Implementers share many of these same challenges as they use SPECTRUM data to track and manage programs. This memo addresses other user concerns within the individual program process evaluation discussions.

Data Accessibility

Data accessibility for energy-efficiency program management and evaluation refers to the ability to retrieve data needed while programs are operating and again, relatively quickly, after an evaluation period ends. It also includes the ability to extract additional details, subsets of information, or other custom views to investigate questions identified as priorities for analyses. The Evaluation Team encountered significant challenges in extracting data from SPECTRUM for use in the evaluation work. These challenges are consistent with ones the Program Administrator has reported. Challenges include:

- The amount of data that staff can extract at one time is extremely limited. It is not possible to download a complete set of evaluation data, or even a complete year of a single program's data for large programs at this time. For evaluation purposes, for example, the Team extracts the data and

[10] SPECTRUM User Training Manual Version 1.1. Revised January 11, 2012.

imports it into a separate relational database management system where evaluators can analyze and manipulate it. The Program Administrator conducts a similar operation to support ongoing management and reporting obligations.

- SPECTRUM was not designed to provide access to entire program datasets. A multistep process is required to extract data and save it in an Excel format. The process can take up to an hour and a half for one program data set. This step has to be repeated many times.
- An option to extract data in .csv format rather than Excel is much faster, but is not available since the SPECTRUM output file is not RFC 4180 compliant. It is possible to create a .csv output file but data does not align correctly when imported into a spreadsheet.
- The ability to create custom report views is limited. Program staff is not properly trained to generate reports; and there are limitations and restrictions in terms of the views that staff can generate. Requests for complex reports must go to WIPFLI, and have typically required several weeks before fulfillment.
- The Advanced Query Find Query tool also has severe limitations in usability for evaluation needs.

Limitations On The Amount Of Data Extracted

Wipfli developed and provided the Evaluation Team with a report to extract program data from SPECTRUM for use in the evaluation analyses. However, the Team could not successfully execute the report for the large datasets needed without a system crash. Generally, the Team had to limit the report generation to a single program. For larger programs, the Team designed multiple unique extracts by limiting date ranges to quarterly or even monthly participation. For the measure data review conducted, evaluators pulled information by measure group or some other subset. The system would not respond if the Team attempted to include more records in a report. A single extract could take several hours due to the following issues:

- Only 3,000 to 5,000 records could be extracted at a time, depending upon the number of parameters requested (in 2012, the Program Administrator reported 390,000 residential customers served and 24,500 participating businesses – each would have at least one record).
- Data exports are identified as an MS Excel file format but are actually a web page until the file is resaved as Excel format after downloading. This extra step adds time to the processing of reports.
- The layout of information extracted in the Excel files, while being visually attractive, uses merged columns and formatting. This makes it difficult to transfer or convert data into a form that enables the data to be processed and manipulated. A single data column may become multiple columns with merged cells, increasing the complexity of pre-processing to convert the data into a form that can be easily integrated into the database used for the evaluation work.

Format Problems With .CSV Extracts

The time and bandwidth required to download MS Excel files from the site was rather large, due much in part to the time required for the system to prepare the MS Excel file for download and also due to the document metadata which increased the file size.

The time required for the system to prepare a .csv file and the download time required for such files was significantly shorter than the Excel files. However, this was not without its own difficulties. The .csv files produced by the system were not RFC 4180 compliant. This caused problems when attempting to import them due to rogue double-quote characters (") inside of quoted fields. These rogue characters were most often inserted into text fields in place of the word or abbreviation of "inch". Less common rogue cases of the character appeared in seemingly random fields in place of a single-quote character (such as a last name containing a single-quote character—D'Amico" was changed to "D"Amico") or even within a field without quotes, such as an ID number. From the perspective of a manual review, this is not a problem. However, for automated downloads this causes early termination of a quoted text field which results in garbling the data as it is read into a RDBMS or other system that expects a .csv to be compliant or nearly compliant with RFC 4180.

Using these files would have resulted in a much larger pre-processing time as the Team would have had to undertake one of two methods for addressing the problem: 1) a person would have to manually scrub the file for these problematic characters or 2) a programmer would have to author a challenging pre-processing script to locate and correct these problems.

Limited Functionality In Query Tools

The Team also encountered limitations in the ability to use SPECTRUM's advanced find query tool to extract the quantities of data needed or to create desired data queries:

- The ability to combine data from multiple tables in SPECTRUM is extremely limited.
- The advanced find tool does not provide the ability to write manual or custom queries. WIPFLI does provide this support, but requests take at least a few weeks to fulfill.

Data Integrity

Data integrity refers to the correctness and consistency of stored data. The Evaluation Team conducted a quality assurance review of SPECTRUM measure data and identified the following problems:

- Redundant entries with different savings assumptions for the same active measure ID.
- Some measures appeared active in the system after their expiration date.
- The nomenclature used to name measures is not consistent and there do not appear to be data entry filters to prevent duplicate entries with slight variations in a measure name and savings assumptions for a unique measure identification number.
- The system created duplicate records when staff cancelled and reissued checks.
- Optional Fields were created in SPECTRUM to offer the ability to track data for which there is no specific field in the system. Programs use the fields for different types of information, making it impossible to consolidate and sort data and difficult to verify completeness.

The Evaluation Team provided specific corrections needed to improve the integrity of measure data in SPECTRUM as a companion effort to the CY 2012 Evaluation Report. SPECTRUM staff noted cleanup activities were recently completed.

During the reconciliation of the program tracking data the Evaluation Team discovered duplicate entries in some situations where program staff cancelled and reissued incentive checks. The system replicated

the complete record, including measure and savings data, without a status or other indicator of the duplication. The number of duplicate records represented approximately 5% of the energy savings recorded in the database. The Team learned that reports provided to the Program Administrator correctly eliminated the duplicate entries, however the report provided to the Program Evaluator did not.

Data Completeness

The Evaluation Team found that many critical parameters needed for process and impact evaluation are in the data dictionary for SPECTRUM, but few of the parameters actually were populated with data at the end of CY 2012. SPECTRUM uses two application types (Standard and Custom) and does not provide the opportunity to enter measure-specific data. The Team found that program staff collected much of the data needed on application forms, but only made the data accessible as single PDFs (once they were scanned and added to the system). Not all application forms were available as attachments accessible via SPECTRUM. As a result, it is difficult and costly to access needed data for analysis.

Additionally, several programs continue to be tracked in separate Implementer-owned and managed databases, and only summary data is exported and tracked in SPECTRUM. This undermines a significant portion of the benefit of having a single portfolio-wide tracking database.

Nonresidential Database Analysis

The Team compared data needed for evaluation to fields provided in the extract report and the fields defined in the SPECTRUM data dictionary dated September 9, 2012. Table 7 and Table 8 list data typically required for evaluation analyses, noting if SPECTRUM includes a field for this data and the percent of the CY 2012 program records with data for the nonresidential programs. Generally, program staff collects data in the incentive application forms, but does not make this data available in SPECTRUM.

Table 7. Nonresidential Program Tracking Data Evaluability (Values In Red Are Below Desirable Thresholds)

Type	Data For Tracking And Evaluation	SPECTRUM	Percent Populated
Project Management Information	Program Name	Yes	100%
	Sector	Yes	100%
	Application ID	Yes	100%
	Application Name	Yes	100%
	Application Type (Standard/Custom)	Yes	100%
	Application Status (In Progress, Paid, etc.)	Yes	100%
	Application Received Date	Yes	**47%**
	Application Approval Date (Preapproved)	Yes	**2%**
	Installed Date (Installed/Purchased Date)*	Available	N/A
	Installation/Completion Date	Available	N/A
	Site verified/Inspected		
	Incentive Payment Request Date*	Available	N/A
	Payment Approved Date	Yes	100%
	Paid Date	Yes	100%
	Energy Advisor	Yes	**29%**
	Utility Account Executive (Representative)	Available	N/A
Trade Ally Information	Trade Ally (Provider) ID	Yes	**100%**
	Provider Name	Yes	**94%**
	Provider Contact	Yes	**12%**
	Provider Contact Phone	Yes	**6%**
	Provider Contact Email	Yes	**7%**
Customer and Facility Information	Customer Unique ID	Yes	100%
	Customer/Business Name	Yes	100%
	Project Site Address (City, State, Zip)	Yes	100%
	Primary Contact Name (First, Last)	Yes	**50%**
	Phone	Yes	**48%**
	Email Address	Yes	**37%**
	Heating Fuel Type	Yes	**10%**
	Water Heating Fuel Type	Yes	**18%**
	Type of Facility/Property Usage	Yes	**0%**
	Building Size (Square Feet)[11]	Yes	**6%**
	Total Square Feet Affected by Measure	**No**	N/A
	Occupancy	**No**	N/A
	Electric Utility Name	Yes	100%
	Electric Utility Account ID	Yes	100%
	Gas Utility Name	Yes	78%
	Gas Utility Account ID	Yes	78%

[11] Includes responses of 0, 1, or NA in addition to blank fields

Table 8. Nonresidential Program Tracking Data Evaluability (Measure Information)
(Values In Red Are Below Desirable Thresholds)

Type	Data For Tracking And Evaluation	SPECTRUM	Percent Populated
Measure Information	Project Type		
	Measure Group	Yes	100%
	Measure Category	Yes	100%
	Measure Name	Yes	100%
	Measures Quantity Installed (Actual Units)	Yes	100%
	Equipment Details (Manufacturer, Model)	Yes	**0%**
	Fuel Type Saved	Yes	99%
	Estimated Savings (First Year)		
	• kW	Yes	**0%**
	• kWh	Yes	**0%**
	• Therms	Yes	**0%**
	Actual Savings (First Year)		
	• kW	Yes	**>99%**
	• kWh	Yes	**>99%**
	• Therms	Yes	
	Measure Life	**No**	
	Incentive Cost	Available	**0%**
	Measure Cost (Actual Cost)	Yes	**100%**

*Not in current evaluation extract

The Program Administrator noted that requests for new measures can take months before they appear in the system. This creates problems tracking projects underway and ensuring complete data is entered later.

Particular challenges for evaluation in the nonresidential program tracking data in SPECTRUM are:

- SPECTRUM does not include effective useful life (EUL), which complicates verifying consistent calculation of lifetime savings.[12] Missing data for heating fuel types and building size limits ability to validate energy savings for many measure groups (or adds cost by requiring access to individual project paperwork).
- 90% of records are blank for heating fuel type.
- 94% are missing building size (square feet).
- 82% of records are for measure groups that may require heating fuel and building size to calculate savings.

[12] Lifecycle savings will be included in SPECTRUM beginning in 2013, however there is not a field available to capture EULs.

- Missing contact names and contact phone or email information make it difficult to communicate with the proper person to arrange on-site verification or conduct surveys.
- 50% of records are missing a customer contact name.
- 52% do not have a customer phone number.
- Missing dates for receipt of applications and approvals make it difficult to verify customer and trade ally concerns or confirm if targets for processing times are being met.
- 53% of records are missing an application received date.
- 98% of records are missing a preapproval date.
- Incentive request date appears to be an available field but the report the Evaluation Team reviewed did not include this data.
- Missing information about Energy Advisors and Utility Account Representatives makes it difficult to assess resource alignment and capacity concerns.
- 71% of records do not identify an Energy Advisor (this may reflect the emphasis on outreach through Trade Allies for some programs).
- A field for utility representative appears to be available but the Evaluation Team did not receive this data.
- Although 100% of the records do have a provider (Trade Ally) ID, 6% do not include a provider name and 88% do not include a provider contact name or phone number. The Trade Ally Module was not developed until February 2013.

Residential Database Analysis

Like issues identified in SPECTRUM data, the Evaluation Team identified similar concerns for participating households. For records associated with residential programs, a sample of issues identified include:

- 95% of records for insulation and building shell measures do not have square footage.
- 83% of records do not include a phone number.
- 17% of all records do not have actual costs for measures.
- 16% of records for insulation and building shell measures do not have heating fuel type.

In addition, a number of fields needed for calculations did not exist or were not complete in SPECTRUM. As a result, the Program Administrator had to track information in multiple databases and the Evaluation Team had to download individual project files to obtain values. The following are examples of problems identified for the Residential Rewards program alone:

- 17% of the records were missing make and model number.
- Heating capacity and annual fuel utilization efficiency were not available for boilers or furnaces.
- Energy factors were not available for either tankless or domestic water heaters.
- Cooling capacity, heating capacity, cooling energy efficiency ratio (EER) and heating coefficient of performance (COP) were not available for ground source heat pumps.
- Fields specific to solar PV and solar hot water heater energy savings evaluation are not available in SPECTRUM (for example, tilt, azimuth, shading).

Selected program-specific evaluations for CY 2012 include additional information; however, the Team did not document missing variables or variables that required manual retrieval from documents across measures for all programs.

Evaluation Outcomes And Recommendations

Outcome 1: It should be possible to extract complex data from SPECTRUM much more quickly. The Microsoft Dynamics CRM tool offers the ability to manage massive amounts of data, but large extracts are not possible using the report tools. The Evaluation Team is spending time and effort assembling extracts that should be spent validating and analyzing data. Similarly, program staff are struggling to obtain the information they need, on a timely manner, to make decisions related to program design.

Recommendation: Explore use of an Application Programming Interface (API) or other solutions. A number of tools are available to transfer data into or out of Microsoft Dynamics CRM. One Microsoft Dynamics expert[13] working in a utility environment recommended InaPort (http://www.inaport.com/Products/Inaport-for-Microsoft-CRM.aspx) or Scribe (http://www.scribesoft.com/Integration-Products) as examples, and there are others available for consideration. Both of these options have an approximate cost of $3500, plus a few days of programming time.

Alternate Recommendation: Enable RFC 4180 compliant file extracts from SPECTRUM. Determine if simply changing settings will enable .csv file extracts. This will eliminate the problem with the double-quote character causing data to populate columns incorrectly. Alternatively, eliminate the use of the double-quote characters in any text fields within SPECTRUM. Another solution is to offer uncommon or white space delimiters such as pipe (|, ASCII character code 124) or tab (ASCII character code 9). Either of these would allow the text fields to remain unquoted at the beginning and end of the field, thus preserving in-text use of the double-quote character without modification to the text field as it is stored within SPECTRUM's database.

This recommendation would enable faster extracts but may not solve the larger problem of limitations in the number of records that a user can extract in one request.

Outcome 2: Protocols for creation of new or updated measure information need improvement to prevent conflicting entries and multiple nomenclatures for an energy-efficiency measure. It should not be possible to assign new attributes to an existing measure ID without reviewing and retiring the previous data.

Recommendation: Implement appropriate controls or process changes to prevent or detect data integrity issues for measure data. Determine if issues identified in the CY 2012 review existed in prior

[13] The Evaluation Team interviewed a former Microsoft Dynamics CRM consultant with Neudesic, now working with a southwestern electric water utility. Contact information or referrals to other Dynamics CRM consultants available on request.

data systems or can still occur for new entries or updates made in SPECTRUM. Create data entry protocols, filters and/or internal algorithms to identify improved control strategies.[14] If program staff cannot implement controls at this time, consider creating reports by Measure ID and Name that staff can review periodically to identify instances of multiple entries per ID or unintended nomenclature variations.

Outcome 3. Incomplete and unavailable data fields make it difficult and costly to evaluate program results. Manual retrieval of individual application forms or contact information for participants is highly inefficient and costly for the sample sizes and number of program participants. Increased online application processing made possible with the new Focus on Energy Website should improve population of SPECTRUM fields where they exist. However, participants can still submit applications in hard-copy or PDF form and the custom program applications will not be available online at this time. In addition, SPECTRUM does not include all of the variables needed for evaluation.

Recommendation: Conduct a measure-level review of critical data needed for evaluation to ensure it is collected on application forms and populated in SPECTRUM. Document the data required to support engineering calculations or other evaluation of estimated savings for all prescriptive energy-efficiency measures and any measure types frequently included in custom applications. This should be done on a measure by measure level, recognizing that different information needs to be collected for different technologies. Some evaluation data needs have been identified by program in Volume II of the CY 2012 Evaluation Report. Determine if data is collected, or can be reasonably collected, in application forms. Where needed, create variables and/or tables in SPECTRUM to store the additional variables and make the data easily accessible for later use. This effort should be completed early in the evaluation cycle in order to allow the developer sufficient time to implement changes and program staff to capture needed data in a timely and cost-effective manner.

Recommendation: Establish data integrity and completeness goals for Program Implementers. Manual entry will still be required for some program measures or forms received in hard-copy or PDF format. Establishing a transparent goal for data completeness and accuracy will reinforce the importance of complete information. Consider generating quarterly reports by program summarizing data completeness for critical fields and tracking improvements and performance over time.

[14] In April 2013 the Public Service Commission delegated this task to the Administrator