



**Public Service Commission Report to the Legislature**

**Energy Efficiency and Renewable Resource Program  
Activities in Wisconsin**

**January–December 2018**

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2018 Report (January-December 2018)

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## WISCONSIN UTILITIES' ENERGY EFFICIENCY AND RENEWABLE RESOURCES PROGRAM SUMMARY (FOCUS ON ENERGY)

Focus on Energy (Focus) works with eligible Wisconsin residents and businesses to install cost-effective energy efficiency and renewable energy projects. Focus technical assistance and financial incentives help to implement projects that otherwise would not be completed, or to complete projects sooner than scheduled. Focus efforts help Wisconsin residents and businesses control the state's growing demand for electricity and natural gas, manage rising energy costs, promote in-state economic development, and protect our environment.

Additional information regarding Focus can be found at [www.focusonenergy.com](http://www.focusonenergy.com).

### HISTORY

Originally formed by the Wisconsin Legislature in 1999 and funded by the Utility Public Benefits fund, Focus delivers energy efficiency and renewable energy services for [residential](#) and [business](#) customers throughout the state. In 2001, the Department of Administration rolled out the *Focus on Energy Program* statewide. In partnership with consumers, utilities, businesses, non-profit organizations, and all government levels, the programs help residents and businesses make smart energy choices and reduce energy waste.

Under [2005 Wisconsin Act 141](#) (Act 141), oversight of Focus was transferred to the Public Service Commission (Commission). Act 141 requires investor-owned electric and natural gas utilities to spend 1.2 percent of their annual gross operating revenues on energy efficiency and renewable resource programs. The utilities formed a non-profit board called the Statewide Energy Efficiency and Renewables Administration (SEERA) to fulfill its obligations under Act 141. Act 141 also requires municipal utilities and retail electric cooperatives to collect an average of \$8 per meter to fund energy efficiency programs. Municipal utilities and retail electric cooperatives can collect the dollars and participate in the Focus program or can elect to operate their own Commitment to Community (CTC) programs.

Per Act 141, Focus aims to:

- Reduce the amount of energy used per unit of production in Wisconsin, while improving energy reliability;
- Enhance economic development and make Wisconsin firms more competitive;
- Reduce the environmental impacts of energy use;
- Expand the ability of markets to deliver energy efficient and renewable energy goods and services to consumers and businesses; and,
- Deliver quantified financial returns on public investments in energy improvements.

### 2015-2018 QUADRENNIAL PERIOD

An award-winning, nationally-recognized program, Focus works with both public and private sectors and encourages Wisconsin residents and businesses to make informed energy decisions. By

providing incentives, technical resources, and information, Focus aids residents in lowering their cost of living and businesses in improving their bottom lines. This drives millions of dollars in energy savings, and helps to improve our state’s environmental health and preserve our natural resources. Highlights from the quadrennium include:

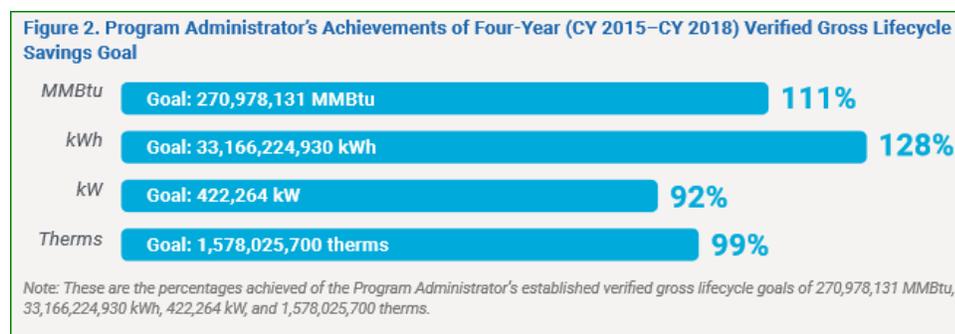
- A recent federal study of state energy efficiency programs found that Wisconsin ran the most cost-effective energy efficiency programs in the country, achieving the highest rate of energy savings per dollar spent<sup>1</sup>
- The number of small business participating in Focus grew by 46% from 2015-2018
- 29% growth in the percentage of rural Focus residential participants from 2015 to 2018
- 60% of Trade Allies reported growth in their businesses since becoming involved with Focus on Energy

Calendar Year (CY) 2018 was the final year of the second quadrennial period for the Focus program which began in 2015. The benefit/cost analysis for the four-year period was 3.62, which means every dollar invested in energy efficiency during those four years yielded \$3.62 in benefits. The table below shows energy savings for each of the four years as well as total energy savings for the quadrennium. The 42 billion kilowatt-hours (kWh) and 1.5 billion therms in energy savings accounted for 28,531,208 tons of avoided carbon dioxide which is the equivalent of taking six million cars off the road for one year.

### Quadrennial Verified Gross Lifecycle Savings by Calendar Year<sup>2</sup>

Year	kWh	kW	Therms	MMBtu
2015	8,806,768,180	91,504	469,246,674	76,973,360
2016	9,514,934,930	92,316	398,833,329	72,348,291
2017	11,719,265,179	97,351	292,878,320	69,273,965
2018	12,288,180,882	108,409	401,982,740	82,125,547
<b>TOTAL</b>	<b>42,329,149,171</b>	<b>389,580</b>	<b>1,562,941,063</b>	<b>300,721,163</b>

Figure 2 below shows the verified gross lifecycle savings achievement (2015-2018), compared to the Program Administrator’s (Aptim Government Solutions, LLC, APTIM) goals.



<sup>1</sup> Report available at: <http://www.swenergy.org/Data/Sites/1/media/lbnl-cse-report-june-2018.pdf>

<sup>2</sup> Life cycle savings represent the savings that will be achieved by the measures installed during CY 2018 over their useful lifetimes. Reports before 2011 listed annual savings or savings by measure for one year. The Commission determined in the Quadrennial Planning Process I to report life cycle savings since it represents future savings which is more useful for planning purposes.

## 2018 FOCUS ENERGY SAVINGS – PORTFOLIO RESULTS

Some of the highlights for 2018 include:

- For every dollar invested in energy efficiency, Focus provided \$3.66 in benefits; when economic benefits are added, the ratio increases to \$5.16 to 1
- Customer satisfaction levels are high and continue to increase. Across all Focus programs, customer satisfaction was measured at 9.1 on a 10-point scale
- Increased participation in 13 of 16 core programs, with 128,885 residential participants and 6,135 nonresidential participants

### Verified Gross Lifecycle Energy Savings: January 1-December 31, 2018

Portfolio	Participants	Verified Gross kWh*	Verified Gross kW*	Verified Gross Therms*	MMBtu	Benefit Cost Ratio
Non-Residential	6,135	7,230,617,097	69,050	296,995,006	54,370,366	4.95
Residential	128,885+	4,700,961,332	36,298	66,886,674	22,728,347	2.37
Rural	55,698	207,682,845	1,472	6,013,281	1,309,942	1.46
Pilots	43,399	148,919,608	1,589	32,087,779	3,716,892	5.41
<b>FOCUS TOTAL</b>	<b>234,117</b>	<b>12,288,180,882</b>	<b>108,409</b>	<b>401,982,740</b>	<b>82,125,547</b>	<b>3.66</b>

+ For CY 2018, the Evaluation Team determined participation for light bulbs using data from the CY 2015 residential general population survey. The survey collected data on the number of bulbs purchased annually by 609 Wisconsin residents. Using the average number of bulbs purchased annually per household (5.8 LEDs) and the total number of bulbs purchased from the Program Implementer's tracking system, the Evaluation Team estimated the number of households that participated in the program in CY 2018 to be 920,738.

\* Verified gross savings numbers are savings that have gone through an engineering review by evaluators to determine whether the reported gross savings were reasonable.

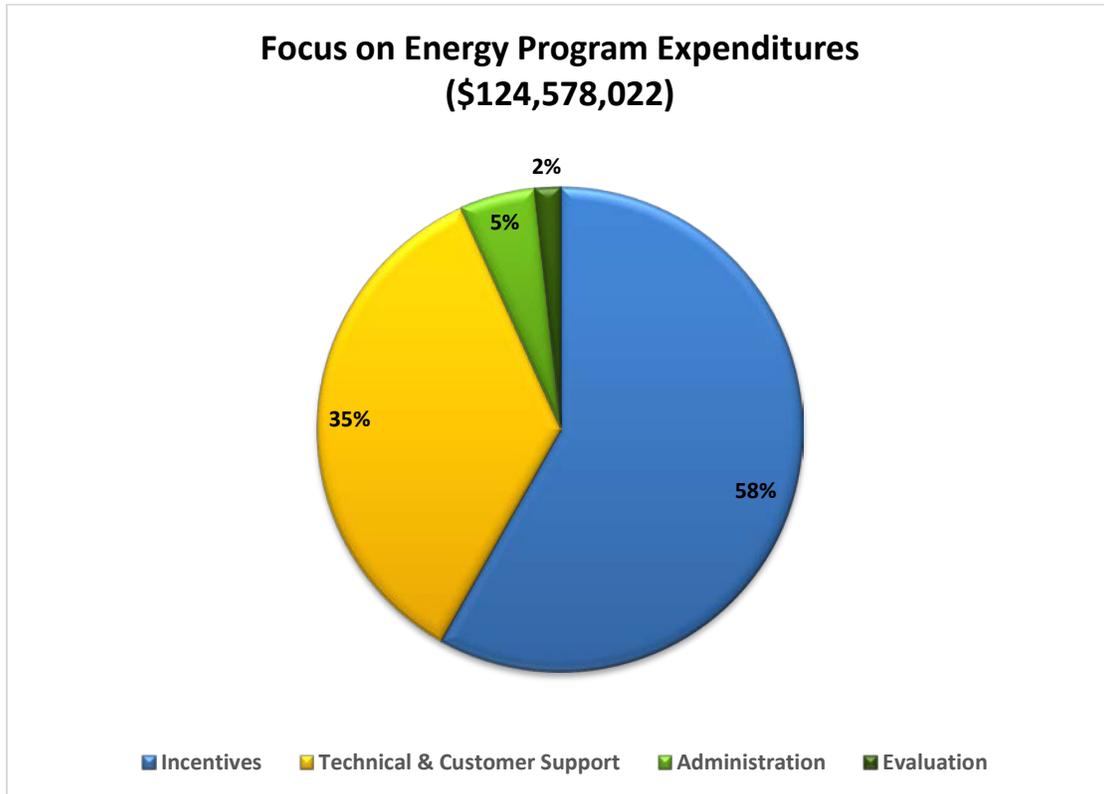
## Expenditures

Expenditure categories were revised in 2016 to provide clarity and more accurately reflect program costs. The program expenses are broken out by the following budget categories and definitions below:

- **Administrative** costs are the costs not directly associated with a specific program activity, but are necessary to the development and administration of programs, including record keeping, payroll, accounting, auditing, billing, business management, budgeting and related activities, overhead allocation and other costs necessary to direct the organization of the program, but do not include program evaluation.
- **Technical & Customer Support** costs are those associated with project identification, engineering calculation and modeling, inspection of installed projects, trade ally contractor outreach, technical training, marketing and customer service.

- **Incentives** costs are cash incentives payable to customers and Trade Allies and instant discounts received at point of purchase at participating retail locations.
- **Evaluation** costs are those associated with independently verifying program energy savings and supporting continuous program improvement through analysis of markets, technologies and program operations.

The chart below illustrates expenditures for the Focus program as a whole in 2018.



## Economic and Environmental Benefits from the Focus Program

Program cost-effectiveness remains high, even as Focus has ramped up higher-cost efforts to reach rural customers with new programs. The benefits from avoided energy costs and avoided emissions substantially exceeded the costs of program spending and participant project costs. The Focus program achieved \$3.66 in benefits for every \$1 in costs in 2018; when economic benefits are added, the ratio increases to \$5.16 to 1. Non-economic benefits include the prevention of the following emissions:

- 8,352,635 tons of carbon dioxide;
- 5,342 tons of nitrogen oxide; and,
- 11,446 tons of sulfur dioxide.

## Nonresidential (Business) Energy Efficiency Programs

All types of businesses, large and small, can benefit from the energy efficiency expertise provided by Focus staff. Focus works with eligible Wisconsin businesses to install cost-effective energy efficiency and renewable energy projects. Its efforts help businesses reduce energy waste, protect our environment, control the state's growing demand for electricity and natural gas, and promote in-state economic development. Programs are organized by type of business delivery method, which is more closely aligned with utility customer classes. This makes it easier to target customer classes using utility data. Programs in 2018 included:

- Large Energy Users;
- Business Incentive Program;
- Agriculture, Schools and Government;
- Small Business Program;
- Design Assistance Program (New Construction);
- Renewable Energy Competitive Incentive Program; and,
- Renewable Rewards.

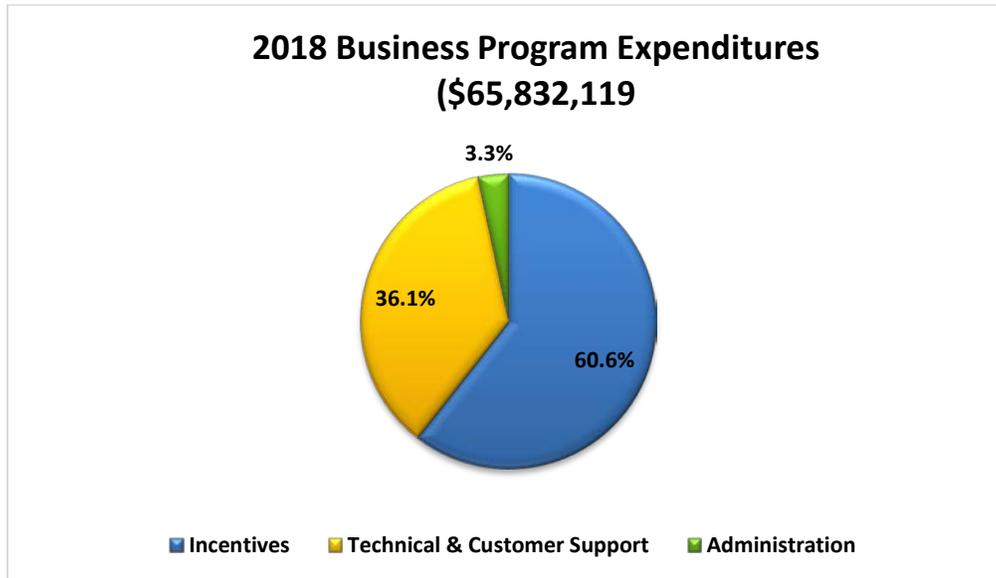
These Focus programs help Wisconsin businesses by:

- Demonstrating practical ways to implement energy strategies;
- Rewarding businesses with financial incentives for these strategies;
- Providing no-cost or low-cost energy tips;
- Offering training opportunities on energy efficiency; and,
- Leveraging Focus funds by applying for federal grants from the U.S. Department of Energy, and in some cases using Focus incentives as a funding match.

### 2018 Verified Gross Lifecycle Nonresidential Savings (with Renewables)

Portfolio	Participants	Verified Gross kWh	Verified Gross kW	Verified Gross Therms	MMBtus	B/C Ratio
Nonresidential	6,135	7,230,617,097	69,050	296,995,006	54,370,366	4.95

## Expenditures



## RESIDENTIAL ENERGY EFFICIENCY PROGRAMS

In 2018, demand for the broader portfolio of Residential programs continued to rise, helping residents reduce energy waste and save money by providing information and incentives necessary to prompt smart energy choices. Whether residents purchased ENERGY STAR® qualified LED bulbs, made efficiency upgrades to an existing home, or requested a Simple Energy Efficiency kit, Focus experts offered the insight, technical assistance, and financial incentives to get them started. The following programs were offered in the Residential sector during 2018:

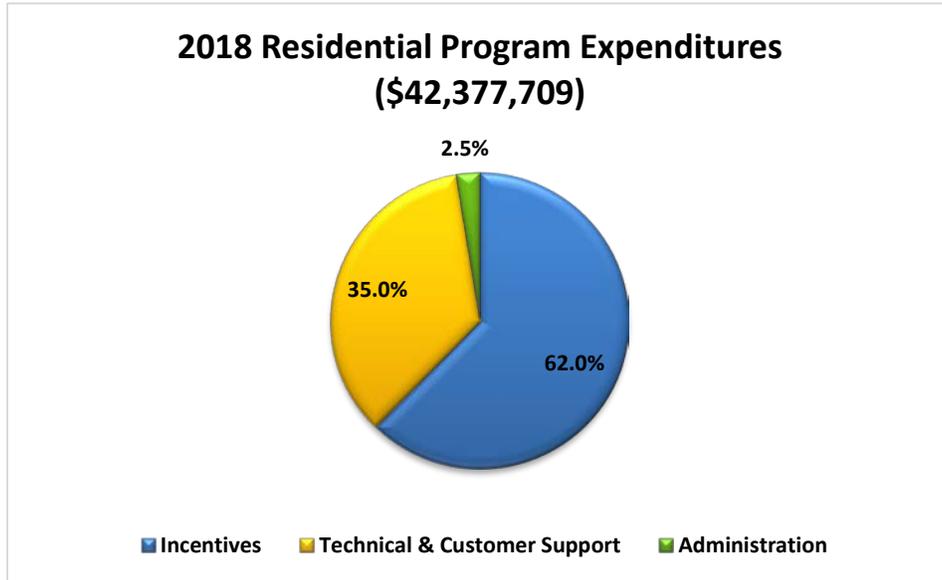
- Appliance Recycling;
- Simple Energy Efficiency (Single Family and Renters);
- Home Performance with ENERGY STAR®;
- Retail Lighting and Appliances program;
- New Homes;
- Multifamily Energy Savings;
- Residential Renewables; and,
- Design Assistance Program (Multifamily).

### 2018 Verified Gross Lifecycle Residential Savings (with Renewables)

	Participants+	Verified Gross kWh	Verified Gross kW*	Verified Gross Therms	MMBtu	Benefit/Cost Ratio
Residential Programs	128,885	4,700,961,332	36,298	66,886,674	22,728,347	2.37

+ This number represents unique participants and does not include the Retail Lighting and Appliance participants which if added in, would total 920,738.

## Expenditures



## RENEWABLE PROGRAMS

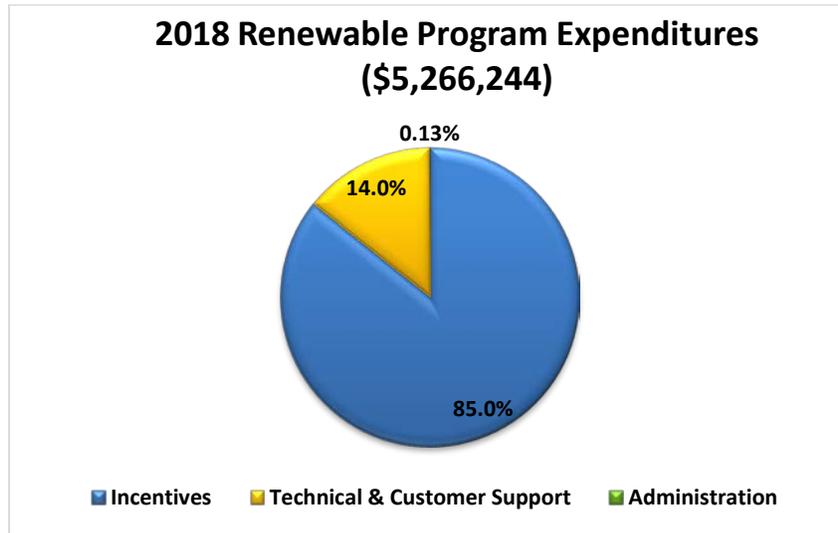
Act 141 requires that Focus include renewable resource programs for Business and Residential end-use customers.

At its December 1, 2016 meeting, the Commission determined that the estimated balance of the Renewable Loan Fund (\$7,734,140 as of October 2016) should be used for incentives in 2017 and 2018. The Commission allocated \$1.1 million in residential incentives in both 2017 and 2018, \$2.1 million in business incentives in 2017, and \$3.4 million in business incentives for 2018. The Commission also capped solar photovoltaic incentives for 2017 and 2018 at 12 percent of total system costs. Finally, the Commission increased the capacity cap for business prescriptive solar photovoltaic incentives from 4 kilowatts (kW) to 8 kW ([PSC REF#: 295733](#)).

### 2018 Verified Gross Lifecycle Renewable Impacts

	Participants	Verified Gross kWh	Verified Gross kW	Verified Gross Therms	Benefit/ Cost Ratio
Non-residential Renewables	208	15,038,172	5,032	0	<b>1.45</b>
Residential Renewables	831	7,394,210	2,569	0	
<b>TOTAL</b>	<b>1,039</b>	<b>22,432,382</b>	<b>7,601</b>	<b>0</b>	

## Expenditures



## RESEARCH PORTFOLIO

Per a January 2012 Commission decision, the Environmental and Economic Research and Development Program (EERD) was directed to focus research on the more immediate goal of Focus program design and delivery rather than the long term goal of planning for the state's energy future. At the time of that decision, the Commission also reduced the annual EERD budget from \$1,900,000 to \$100,000 per year through 2014. The \$100,000 annual budget was then approved for the 2015-2018 program period during the second Quadrennial Planning Process. There was no change to the mechanism for soliciting new research projects; therefore, the EERD program continued to solicit new projects through a competitive procurement process.

In 2018, APTIM did not solicit ideas for new research topics due to the third Quadrennial Planning Process and the Program Administrator rebid process. However, the following projects that were selected in September 2017, were completed in 2018 and can be found at:

<https://focusonenergy.com/about/research>

- *Small Embedded Data Centers in Wisconsin: A Market Characterization Study*, by Seventh Wave/Slipstream, with a budget of \$45,290.
- *Characterizing the Renewable Energy Landscape in Wisconsin*, by Tetra Tech, with a budget of \$78,400.
- *Light Level Analysis in Buildings*, by Seventh Wave/Slipstream, with a budget of \$69,694.
- *Midsized Business Market Segmentation Project*, by EMI Consulting, with a budget of \$98,388.

## RURAL BROADBAND PROGRAM

In the fall of 2016, the Commission opened docket 5-FE-102 to investigate the improvement of access to Focus programs by customers in rural areas of the state (for background, please see [PSC REF#: 295733](#).) As part of the investigation, Commission staff identified 582 zip codes in Wisconsin that are considered rural by the census bureau and/or include a significant share of census blocks that are eligible for federal grants to address broadband underservice. When comparing Focus participation in these zip codes to more urban zip codes, the Commission determined they were underserved. As a result, the Commission determined that \$27.7 million should be allocated to a two-year pilot in 2017 and 2018 for specialized programs designed to serve customers in those zip codes. It also determined that the rural programs would be included with the other core Focus business and residential programs for evaluation purposes. The table below shows the programs and budgets approved by the Commission, and the expenditures for each:

Program	Description	Budget
Connected Device Kit Program	Aims to increase demand of residential customers in rural areas to establish or upgrade broadband service	\$16 Million
Communications Provider Initiative	Works with broadband service providers to upgrade their facilities to be more energy efficient	\$ 4 Million
Community Small Business Offering	Dedicated staff provide community-based outreach to work with utilities, public service organizations or local governments to encourage rural small businesses to participate	\$3.17 Million
Direct-mail Home Energy Assessments	Reaches seniors and low-income residents that are unlikely to have access to broadband. Sends them via direct mail, a paper based assessment of their home to complete, mail back, and receive recommendations on how to improve their home's energy efficiency	\$283,000
Rural Home Performance	Using the results from the direct-mail assessments, aims to deliver air sealing and insulation improvements to rural customers. Can also receive incentives for high-efficiency heating and cooling equipment.	\$1.1 Million
Online Analytics Platform	Empowers business customers by communicating energy consumption data through an online energy analytics platform.	\$580,000
Rural Customer Outreach	Dedicated outreach campaign aimed at increasing the awareness of Focus with rural customers using online and traditional media channels (print, television, newspapers.)	\$867,000

The majority of Rural Broadband Programs ended on December 31, 2018. There were modifications to the above programs in 2018, most notably, \$1 million was redirected from the Connected Device Kit Program to fund flood relief efforts in the fall. Therefore, the Home Performance with ENERGY STAR® Flood Relief program and the Rural Small Business Flood Relief program gave customers through April 2019 to send in applications to replace eligible damaged equipment (furnaces, lighting etc.) Once these programs closed, the Rural Broadband

program had carryover of \$12.4 million, with approximately half coming from the Connected Device Kits program. This program which featured internet enabled energy efficiency technologies, required extensive work to develop relationships with internet service providers that were not familiar with the Focus program and therefore had several barriers that affected participation.

## FOCUS 2018 FINANCIAL SUMMARY

During the 2018 contract period, the Focus program provided technical assistance; incentives; and energy efficiency and renewable energy information to over 234,117 business and residential customers in Wisconsin<sup>3</sup>. This resulted in lifecycle savings of 12,288,180,882 kWh of electricity and more than 401 million therms of natural gas. Annual kW savings were 108,409.

### Administrative Costs

The chart below summarizes the administrative costs for the Focus program in 2018, which accounts for five percent of total spending.

Compliance Agent	\$251,873
SPECTRUM <sup>4</sup>	\$1,385,040
Fiscal Agent	\$554,893
Commission Staff Oversight	\$395,392
SEERA Expenses	\$12,472
APTIM Administrative Costs	\$2,120,376
Implementer Administrative Costs	\$1,292,961
<b>TOTAL</b>	<b>\$6,013,007</b>

The Financial Sheet below summarizes revenue, expenditures and Focus obligations for the 2018 contract period. Please note that the expenses for both the Residential and Business Programs include renewable resource program expenditures in addition to the energy efficiency program expenditures. In any given program year, not all dollars contributed are budgeted to programs in order to cover contractual obligations to be paid the following year.

### 2018 Focus Financial Sheet<sup>1</sup>

REVENUE	
Investor Owned Utilities	\$98,750,155
Municipal Electric Providers/Electric Cooperatives	\$3,226,642
Education and Training Revenue	\$19,091
<b>TOTAL REVENUE</b>	<b>\$101,995,888</b>

<sup>3</sup> This figure does not include the estimated 920,738 households that participated in Retail Lighting and Appliance program.

<sup>4</sup> State Program for Energy Customer Tracking, Resource Utilization and data Management (SPECTRUM) System

<b>EXPENSES</b>	
Residential Programs	\$42,377,709
Non-Residential Programs	\$65,832,119
Environmental and Economic Research and Development	\$201,004
Rural Broadband Programs	\$11,499,750
Evaluation	\$2,067,774
Other Program Support <sup>2</sup>	\$2,599,670
<b>TOTAL EXPENSES</b>	<b>\$124,578,026</b>
Carry-Over Funds Core <sup>3</sup>	\$2,334,290
Carry-Over Funds Rural Broadband <sup>4</sup>	\$12,334,290
Focus Contractual Obligations <sup>5</sup>	\$17,685,826

<sup>1</sup> Taken from the SEERA *Expense Report, Expenses through December 31, 2018*.

<sup>2</sup> Includes Fiscal Agent; Compliance Agent; Commission; SEERA; consulting services; software; SPECTRUM development and maintenance; bank fees and depreciation.

<sup>3</sup> Carry-Over funds remaining at the end of the contract period were obligated to core programs in the 2019 calendar year.

<sup>4</sup> Carry-Over funds remaining at the end of the contract period were obligated for Rural Agricultural Programs in the 2019 calendar year.

<sup>5</sup> Contractual Obligations refer to contracts with customers for the receipt of incentives when a project is installed/completed. Large projects can take up to 16 months from start to finish and therefore span from one calendar year to the next. This amount is taken from SPECTRUM.

## **MUNICIPAL ELECTRIC AND RETAIL ELECTRIC COOPERATIVE REPORTING FOR COMMITMENT TO COMMUNITY PROGRAMS (CTC)**

Act 141 requires municipal utilities and retail electric cooperatives to collect an annual average of \$8 per meter for energy efficiency programs. The monthly fee may not exceed 1.5 percent of the total of every other charge for which the customer or member is billed for that month or \$375 per month, whichever is less. Each municipal utility or retail electric cooperative can choose to send the dollars collected to the Focus fund or keep them and operate its own CTC programs. Although Act 141 excludes load management from the definition of energy efficiency, it allows municipal and retail electric cooperatives to include load management in their CTC program offerings.

Act 141 requires that an electric cooperative or municipal utility operating its own CTC program file a report that includes the following: 1) an accounting of fees charged to customers or members in the year, 2) expenditures on CTC programs, 3) a description of CTC programs established for the year, and 4) the effectiveness of the CTC programs in reducing demand for electricity by customers or members.

In 2018, CTC programs were operated by 13 retail electric cooperatives. The other 11 cooperatives, all 41 WPPI Energy (WPPI) municipal electric utilities, and all 41 non-WPPI municipal utilities sent their energy efficiency funds to Focus. The table below summarizes energy savings and expenditures for all 13 CTC programs operated by cooperatives.

**2018 Retail Electric Cooperative CTC Summary**

	<b>kW (with Load Mgt.)</b>	<b>Annual kWh (with Load Mgt.)</b>	<b>Program Admin.</b>	<b>Program Delivery</b>	<b>Incentives</b>	<b>General marketing</b>	<b>Load Mgt. Costs</b>	<b>Wholesale Supplier Credit</b>
<b>Coop CTC Totals</b>	1,233	9,335,695	\$39,548	\$168,884	\$771,143	\$146,148	\$534,450	\$256,651

It should be noted that the energy savings estimates are calculated by the cooperatives and are not subject to the same evaluation procedures as the Focus savings. As a result, Commission staff cannot verify these CTC energy savings claims and does not recommend adding these savings to the Focus savings for the purposes of calculating statewide energy savings.