



Public Service Commission Report to the Legislature
Energy Efficiency and Renewable Resource Program
Activities in Wisconsin

Calendar Year 2021

TABLE OF CONTENTS

2021 Report (January-December 2021)

| | |
|---|----|
| Focus on Energy Program Summary | 3 |
| History | 3 |
| 2021 Focus on Energy Savings – Overall Program Results | 4 |
| ▪ Lifecycle kilowatt hour and therm savings | |
| ▪ Annual kilowatt savings | |
| ▪ Number of program participants | |
| ▪ MMBtu savings | |
| ▪ Benefit-cost ratios | |
| 2021 Focus on Energy Program Expenditures | 5 |
| Impacts of COVID-19 in 2021 on Non-residential and Residential Programs | 6 |
| Non-residential (Business) Energy Efficiency and Renewable Programs | 7 |
| ▪ Lifecycle kilowatt hour and therm savings | |
| ▪ Annual kilowatt savings | |
| ▪ Non-residential program expenditures | |
| Residential Energy Efficiency and Renewable Programs | 8 |
| ▪ Lifecycle kilowatt hour and therm savings | |
| ▪ Annual kilowatt savings | |
| ▪ Residential program expenditures | |
| Renewable Energy Programs | 9 |
| ▪ Lifecycle kilowatt hour and therm savings. | |
| ▪ Annual kilowatt savings | |
| ▪ Renewable program expenditures | |
| Economic and Environmental Benefits of the Focus on Energy Program | 11 |
| Research Portfolio | 12 |
| 2021 Financial Summary | 12 |
| ▪ Administrative costs | |
| ▪ Financial sheet | |
| Municipal and Electric Cooperatives Commitment to Community (CTC) Programs | 14 |
| Utility Voluntary Programs | 14 |
| Wisconsin Home Energy Assistance Program (WHEAP) – Weatherization Program | 19 |

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 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.

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 retail 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 their 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 elect to contribute those funds to Focus and participate in Focus programs, or use the funds to operate their own Commitment to Community 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.

2021 FOCUS ENERGY SAVINGS – OVERALL PROGRAM RESULTS

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 helps residents lower their cost of living and helps businesses improve their bottom lines. This drives millions of dollars in energy savings and helps improve our state’s environmental health and preserve our natural resources.

Focus programs were restructured beginning in 2021 to better serve customers and improve administrative efficiencies. The new structure has three sectors:

- Residential sector, servicing single-family and multifamily homes;
- Nonresidential sector, servicing commercial, industrial, schools, government, and agribusiness customers; and
- Midstream sector, servicing residential and nonresidential customers via distributors.

These three sectors are further broken out into Solutions and Offerings in Table 1 below.

Table 1: 2021 Focus on Energy Structure by Sector

| Sector | Solution | Offering |
|-------------------------------|----------------------|---|
| Residential | Direct to Customer | *Online Market Place *Packs *Retail *Rural Retail Events *Farmhouse Kits |
| | Trade Ally Solutions | *Heating and Cooling (Tier I & Tier II) *Air Sealing & Insulation *Renewable Energy, Residential |
| | New Construction | *Residential New Construction |
| Residential & Non-residential | Midstream | *Via Distributors |
| Non-residential/Business | Business & Industry | *Agribusiness *Commercial and Industrial *Large Industrial |
| | Schools & Government | *Schools include K-12 Public & Private: Colleges & Universities Public & Private *Government includes Local, State, Federal and Tribes |
| | New Construction | *Design Assistance/Review *Prescriptive |
| | Trade Allies | *Renewable Energy |

Some of the highlights for 2021 include:

- For every dollar invested in energy efficiency, Focus provided \$2.35 in benefits; when economic benefits are added, the benefit ratio increases to \$4.84 to 1; and
- Customer satisfaction levels are high and continue to increase. Across all Focus programs, customer satisfaction was measured at 9.5 on a 10-point scale.

Table 2: Verified Gross Lifecycle Energy Savings: January 1-December 31, 2021

| Portfolio | Participants | Verified Gross kWh* | Verified Gross kW* | Verified Gross Therms* | MMBtu | Benefit Cost Ratio |
|--------------------|------------------|----------------------|--------------------|------------------------|-------------------|--------------------|
| Non-Residential | 4,283 | 6,494,125,244 | 59,379 | 273,584,829 | 49,516,438 | 2.82 |
| Residential | 1,112,700+ | 2,817,322,462 | 32,514 | 65,066,257 | 16,119,330 | 1.65 |
| Midstream | 1,555 | 43,336,920 | 263 | 6,051,445 | 753,010 | 1.52 |
| FOCUS TOTAL | 1,118,538 | 9,354,784,626 | 92,156 | 344,702,531 | 66,388,778 | 2.35 |

+ This number includes 949,459 participants in the Retail Lighting and Appliance program.

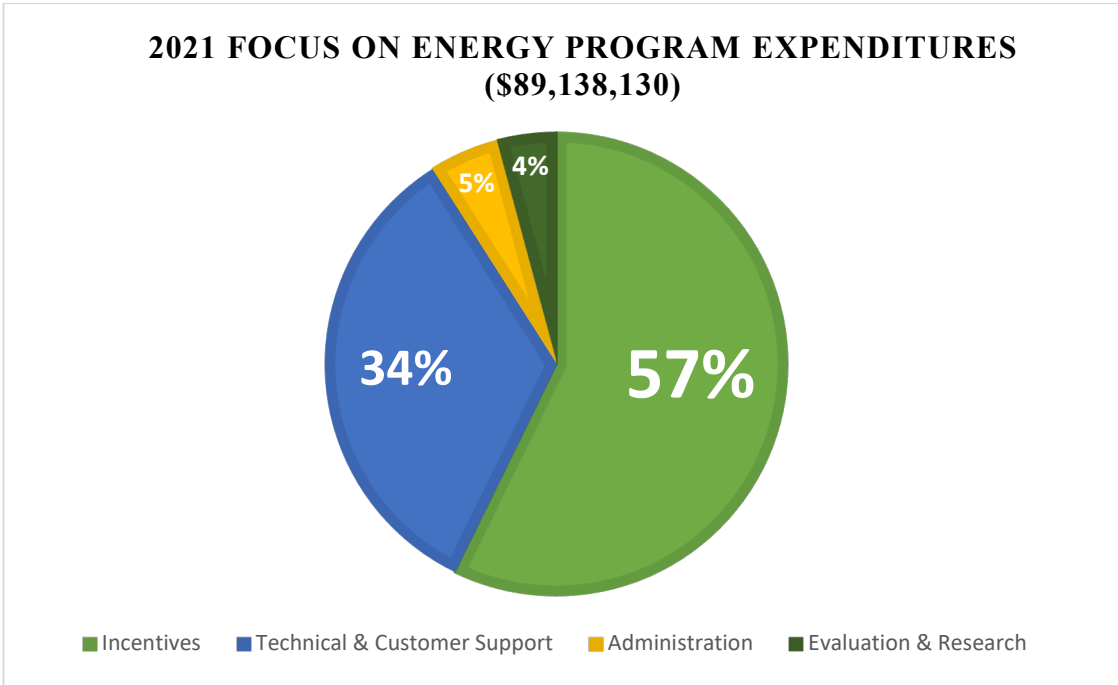
* Verified gross savings numbers are savings that have gone through an engineering review by evaluators to determine whether the reported gross savings were reasonable.

Expenditures

Expenditure categories were revised in 2016 to provide clarity and more accurately reflect program costs. The four categories include: Administrative, Technical & Customer Support, Incentives, and Evaluation & Research. The definitions of each are as follows:

- **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** are cash payments to customers and trade allies and instant discounts received at the point of purchase at participating retail locations.
- **Evaluation** costs are associated with independently verifying program energy savings and supporting continuous program improvement through analysis of markets, technologies, and program operations.
- **Research** costs are those associated with energy efficiency and renewables research and screening of new solutions through the Environmental & Economic Research & Development and Pilot offerings.

The chart below illustrates expenditures for the Focus program in 2021.



Impacts of COVID-19 in 2021 on Non-residential and Residential Programs

While 2020 was characterized primarily by inaccessibility to customer facilities and unemployment, the global impacts of COVID-19 persisted in 2021 in the form of supply chain disruptions, workforce shortages, and general economic uncertainty. These conditions were especially impactful to the Business & Industry program, which delivered approximately 43 percent of the total Focus Program savings in 2021. Both Schools & Government and Trade Ally Solutions over-delivered in 2021, surpassing their savings goals, but it was not enough to overcome the savings deficit created by cancelled and delayed Business & Industry projects and lower than anticipated Direct-to-Customer program participation. The supply chain disruptions and uncertain conditions of 2021 also pushed many savings into the fourth quarter, with over 28 percent of the total annual achievement happening in the final month of the year.

Some of the more significant impacts of COVID-19 related issues on Focus programs include:

- 11 Large Industrial projects, which were expected to be complete in 2021, were cancelled due to COVID-19 related reasons, and 32 projects scheduled to be complete in 2021 were extended into 2022.
- The Design Assistance program had fewer project completions than anticipated and delayed project timelines due to supply chain and labor issues.
- The Direct-to-Customer program had planned in-store pop-up events, which were canceled due to COVID-19.

NON-RESIDENTIAL (BUSINESS) ENERGY EFFICIENCY AND RENEWABLE 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. As mentioned above, Focus programs were reorganized in 2021 and Table 3 below shows the non-residential sector Solutions and Offerings:

Table 3: Nonresidential (Business) Solutions and Offerings

| Sector | Solution | Offering |
|--------------------------|----------------------|--|
| Non-residential/Business | Business & Industry | *Agribusiness *Commercial and Industrial *Large Industrial |
| | Schools & Government | *Schools include K-12 Public & Private: Colleges & Universities Public & Private *Government includes Local, State, Federal and Tribes |
| | New Construction | *Design Assistance/Review *Prescriptive |
| | Trade Allies | *Renewable Energy |

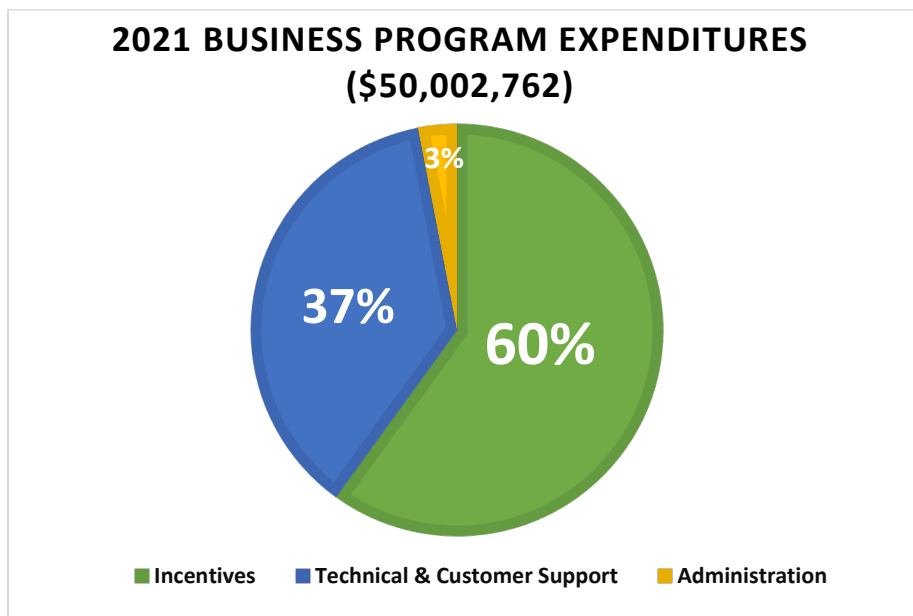
These Focus programs help Wisconsin businesses by:

- Working with companies 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
- Offering support for the preparation of applications for federal grants from the U.S. Department of Energy and ensuring that Focus incentives can be used as a funding match, if appropriate.

2021 Verified Gross Lifecycle Non-residential Savings (with Renewables)

| Portfolio | Participants | Verified Gross kWh | Verified Gross kW | Verified Gross Therms | MMBtus | B/C Ratio |
|-----------------|--------------|--------------------|-------------------|-----------------------|------------|-----------|
| Non-residential | 4,283 | 6,494,125,244 | 59,379 | 273,584,829 | 49,516,438 | 2.82 |

Expenditures



RESIDENTIAL ENERGY EFFICIENCY AND RENEWABLE PROGRAMS

Focus offers a variety of Residential programs designed to help residents reduce energy waste and save money by providing information and incentives necessary to prompt smart energy choices. Wisconsin residents can participate directly by purchasing ENERGY STAR[®] qualified LED bulbs at retail stores, ordering a free energy-saving pack online, or purchasing energy-saving products at the Focus Online Marketplace. Some efficiency upgrades to existing homes – like a new furnace or air sealing and insulation - require assistance. Through the Trade Ally Solutions sector, Focus experts can offer insight, technical assistance, and financial incentives to get homeowners started. Table 4 below shows the 2021 Residential Solutions and Offerings.

Table 4: 2021 Residential Solutions and Offerings

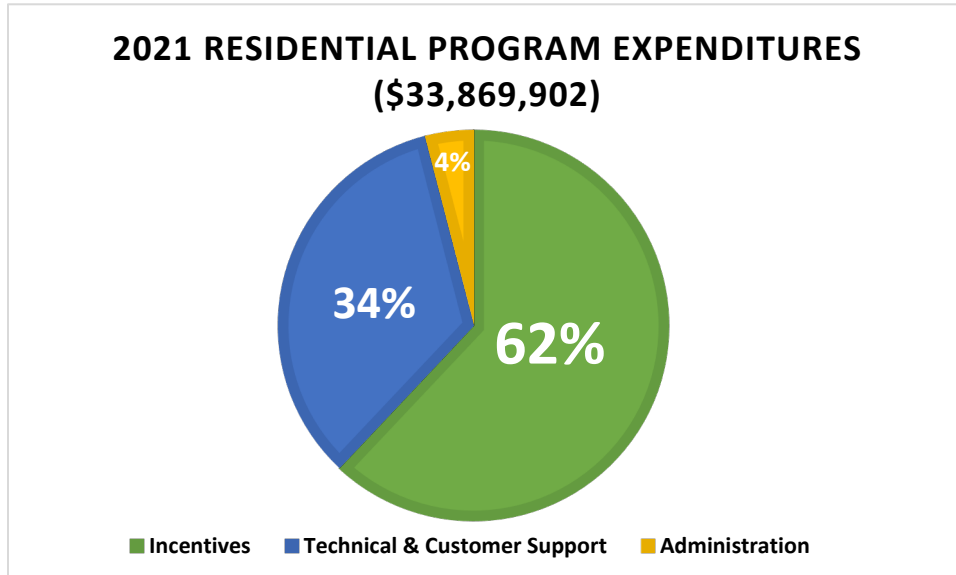
| Sector | Solution | Offering |
|-------------|----------------------|--|
| Residential | Direct-to-Customer | *Online Market Place *Packs *Retail Lighting and Appliances *Rural Retail Events *Farmhouse Kits |
| | Trade Ally Solutions | *Heating and Cooling (Tier I & Tier II) *Air Sealing & Insulation *Renewable Energy |
| | New Construction | *Residential New Construction |

Table 5: 2021 Verified Gross Lifecycle Residential Savings (with Renewables)

| | Participants | Verified Gross kWh | Verified Gross kW | Verified Gross Therms | MMBtu | Benefit/Cost Ratio |
|----------------------|------------------------|--------------------|-------------------|-----------------------|------------|--------------------|
| Residential Programs | 1,112,700 ⁺ | 2,817,322,462 | 32,514 | 65,066,257 | 16,119,330 | 1.65 |

+ This number includes 949,459 participants in the Retail Lighting and Appliance program.

Expenditures



RENEWABLE PROGRAMS

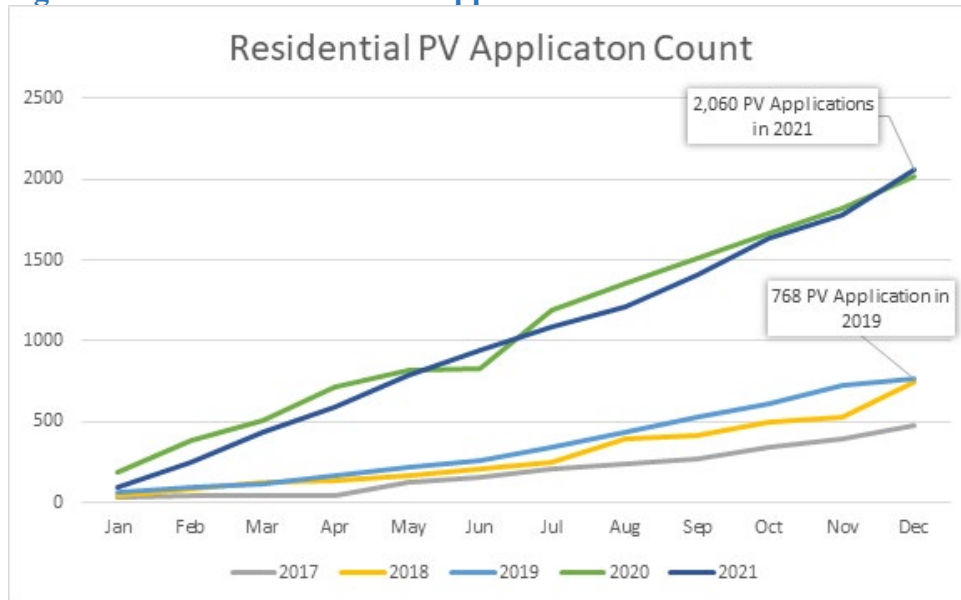
Act 141 requires that the statewide program (Focus) includes renewable resource programs for Business and Residential end-use customers. While the design and delivery of renewable incentive programs has varied over the years, in 2021, Focus offered two tracks for renewable customers as a result of Commission decisions at the end of 2019. (PSC REF#: 380465)

The first is the Solar PV prescriptive track where there is a set dollar amount per kW for residential and business customers. The second track is the Renewable Energy Competitive Incentive Program (RECIP), which provides incentives for cost-effective renewable energy systems installed at eligible Wisconsin businesses through a competitive request for proposals (RFP) process. RECIP offered three RFPs in 2021 in January, May, and September for biomass, biogas, solar thermal, and wind technologies. In a decision in October 2021, the Commission ordered that the RECIP process be discontinued and be replaced with the custom approach used in the core energy efficiency programs beginning in 2022.

Going into 2021, the Program Administrator had been anticipating very high participation in the solar PV program, given that it was supposed to be the last year of the Investment Tax Credit

(ITC) for residential customers. Though the dynamic changed somewhat with the extension of the ITC, participation remained high in 2021 as many installers had a backlog of residential customers. As shown in Figure 1, a total of 2,060 residential solar PV projects were completed through the program in 2021.

Figure 1: Residential Solar PV Applications 2017-2021



Nearly 100 Focus Trade Allies completed residential solar PV projects in 2021. Additionally, 660 projects were also eligible for rural bonuses. Despite the high number of solar PV installations, the Residential Renewable Rewards offering was unable to achieve its goals due to a shortage of Trade Ally labor, scheduling delays, and delays in utility inspections, which require state inspectors (of which there are three statewide and for whom the demand was high).

The Business Renewable Rewards offering saw a total of 201 solar PV projects completed in 2021. A total of 55 agriculture customers were able to take advantage of the rural agriculture renewable bonus resulting in 61 percent of the allocated rural renewable energy bonus incentive budget being spent. While overall there was an increase in solar PV projects for business customers in 2021 compared to previous years, savings and incentives fell short of annual goals. Similar to the Residential Renewable Rewards offering, contractors were unable to complete enough installations to meet goals due to labor shortages, delays in scheduling installations because of COVID-19, delays in utility inspections, and supply chain issues impacting the ability to get the products needed to complete larger jobs.

The Special Sector Solar offering, which targets schools, governments, non-profits, and tribal nations who do not qualify for the federal Solar ITC, launched in the fall of 2021. Twenty-three projects were completed using these incentives in 2021, and 20 projects are already reserved for 2022. Table 6 shows total renewable incentive and non-incentive expenditures (solar PV and RECIP) for 2021 and Table 7 shows the number of participants, savings, and the benefit/cost ratio.

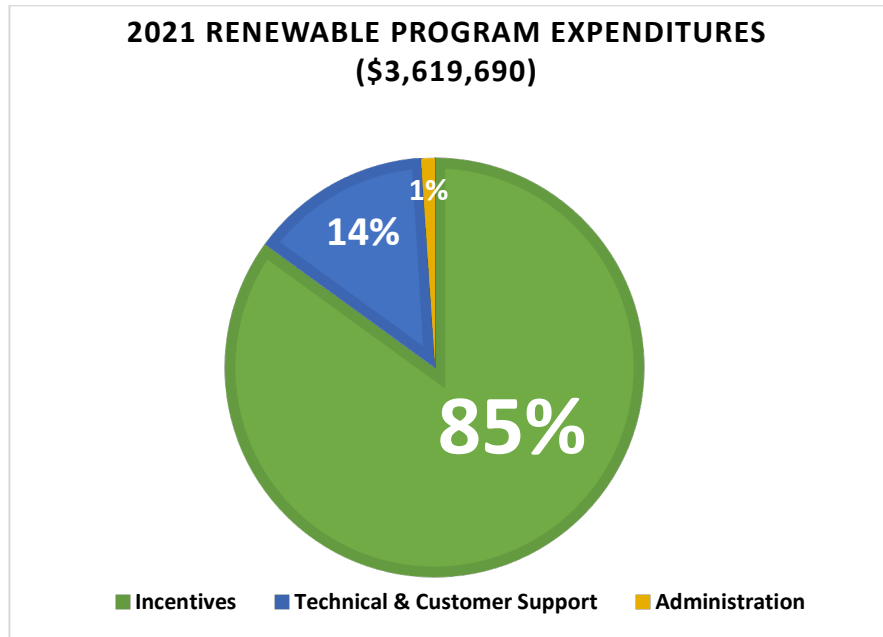
Table 6: 2021 Total Renewable Expenditures

| Type of Cost | Expenditures |
|--|--------------------|
| Incentives | |
| Prescriptive Solar PV- Residential Rewards | \$1,047,576 |
| Prescriptive Solar PV- Business Rewards | \$1,749,992 |
| RECIP | \$289,966 |
| Sub-Total Incentives | \$3,087,534 |
| Non-Incentive | \$552,156 |
| Grand Total | \$3,619,690 |

Table 7: 2021 Verified Gross Lifecycle Renewable Impacts

| Sector | Participants | Verified Gross kWh | Verified Gross kW | Verified Gross Therms | Benefit/ Cost Ratio |
|----------------------------|--------------|--------------------|-------------------|-----------------------|---------------------|
| Non-residential Renewables | 262 | 404,094,598 | 5,211 | 0 | 1.48 |
| Residential Renewables | 2,794 | 508,066,568 | 6,820 | 0 | |
| TOTAL | 3,056 | 912,161,155 | 12,031 | 0 | |

Expenditures



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 \$2.35 in benefits for every \$1 in costs in 2021; when economic benefits

are added, the ratio increases to \$4.84 to 1. Even more, non-economic benefits include the prevention of the following emissions:

- 4,550 tons of sulfur dioxide (SO₂)
- 3,408 tons of Nitrogen Oxides (NO_x)
- 7,323,422 tons of carbon dioxide (CO₂)

RESEARCH PORTFOLIO

In January 2012, the Commission decided that the Environmental and Economic Research and Development Program (EERD) should 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 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 has continued to solicit new projects through a competitive procurement process.

While there was not a new bidding cycle, the five projects selected in 2020 submitted final reports in 2021 and are listed below. Complete reports can be found at: [Research | Focus on Energy](#).

- *Multifamily and Single-Family Air Source Heat Pumps* (\$114,500)
- *Residential Dehumidification in Wisconsin* (\$69,088)
- *Behavioral and Technology Based Load Management Opportunity Case Studies* (\$65,000)
- *Cold Climate Variable Refrigerant Flow Systems* (\$85,000)
- *Next Generation C&I Programs: Energy Management Information Systems (EMIS)* (\$66,900)

FOCUS 2021 FINANCIAL SUMMARY

During the 2021 contract period, the Focus program provided technical assistance, incentives, and energy efficiency and renewable energy information to over 1,152,950 business and residential customers in Wisconsin.¹ This resulted in verified gross lifecycle savings of 11,692,416,671 kWh of electricity and more than 390 million therms of natural gas. Annual kW savings were 100,481.

¹ This figure includes the estimated 949,459 households that participated in Retail Lighting and Appliance program.

Administrative Costs

The chart below summarizes the administrative costs for the Focus program in 2021, which accounts for five percent of total spending.

| Administrative Costs | Expenditures |
|--------------------------------------|--------------------|
| Compliance Agent | \$283,751 |
| SPECTRUM Database & General Software | \$812,818 |
| AEG Transition* | (\$324,734) |
| Fiscal Agent (includes banking fees) | \$437,821 |
| PSC Staff Oversight | \$398,800 |
| SEERA Miscellaneous Expenses | \$6,125 |
| APTIM Administrative Costs | \$2,047,089 |
| Implementer Administrative Costs | \$702,761 |
| | \$4,364,431 |

*These funds were obligated in 2020, but not expended. After 2020, the AEG data system project terminated, therefore in 2021 the accrued expense was credited.

The Financial Sheet below summarizes revenue, expenditures, and Focus obligations for the 2021 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.

2021 Focus Financial Sheet¹

| REVENUE | |
|--|---------------------|
| Investor-owned Utilities | \$96,443,044 |
| Municipal Electric Providers | \$2,400,154 |
| Electric Cooperatives | \$1,053,220 |
| Education and Training Revenue | \$4,000 |
| TOTAL REVENUE | \$99,900,418 |
| EXPENSES | |
| Residential Programs (excluding rural) | \$32,080,766 |
| Non-residential Programs (excluding rural) | \$44,909,045 |
| Environmental and Economic Research & Development Program (EERD) | \$290,488 |
| Rural Programs | \$6,882,854 |
| Evaluation | \$3,360,396 |
| Other Program Support ² | \$1,614,581 |
| TOTAL EXPENSES | \$89,138,130 |
| Carry-over Funds ³ | \$10,260,393 |
| Focus Contractual Obligations ⁴ | \$16,139,011 |

¹ Taken from the audited SEERA *Expense Report, Expenses through December 31, 2021*.

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

³ Carry-over funds remaining at the end of the contract period were obligated to programs in the 2022 and 2023 calendar years.

⁴ 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 one or more calendar years. This amount is 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 Commitment to Community (CTC) programs. Although Act 141 excludes load management from the definition of energy efficiency, it allows municipal utilities and retail electric cooperatives to include load management in their CTC program offerings.

Act 141 requires an electric cooperative or municipal utility operating its own CTC program to 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 2021, 11 cooperatives, all 41 WPPI Energy (WPPI) municipal electric utilities, and all 41 non-WPPI municipal utilities sent their energy efficiency funds to Focus. CTC programs were operated by 13 retail electric cooperatives². Reports for these cooperatives can be found on the PSC website <https://psc.wi.gov> and typing in docket number 5-GF-177 on the E-Services Portal. The energy savings estimates are calculated by the cooperatives and are not subject to the same evaluation procedures as the Focus savings are. As a result, Commission staff cannot verify these CTC energy savings claims and does not recommend adding these savings to Focus savings for the purposes of calculating statewide energy savings.

UTILITY VOLUNTARY PROGRAMS

Pursuant to Wis. Stat. § 196.374(2)(b)2., investor-owned utilities (IOUs) may, with Commission approval, fund and administer voluntary energy efficiency or renewable resource programs that are in addition to the statewide Focus on Energy (Focus) programs. In 2021, four IOUs implemented voluntary programs: Northern States Power Company-Wisconsin (NSPW), We Energies, Wisconsin Public Service Corporation (WPSC), and Wisconsin Power and Light Company (WP&L).

NORTHERN STATES POWER COMPANY-WISCONSIN

NSPW offered four voluntary programs in 2021:

- **Residential Community Conservation Program.** This program is designed to provide additional incentives to NSPW's residential customers and to bring Focus programs to

² Barron Electric Cooperative, Bayfield Electric Cooperative, Central Wisconsin Electric Cooperative, Chippewa Valley Electric Cooperative, Dunn Electric Cooperative, East Central Energy Cooperative, Jackson Electric Cooperative, Jump River Electric Cooperative, Price Electric Cooperative, Polk Burnett Electric Cooperative, Riverland Electric Cooperative, St. Croix Electric Cooperative, and Washington Island Cooperative.

smaller or rural areas of its service territory that otherwise may not have been reached. In 2021, NSPW paid a bonus incentive to customers who participated in Tier I and Tier 2 of the Home Performance with Energy Star program. The bonus incentive was equal to 60% of Focus on Energy’s incentive to eligible residential customers and the combined total incentive (from Focus and NSPW) could not exceed 90% of total project costs.

- **Commercial Community Conservation Program.** This program was complementary to the Focus Business and Industry program (B & I) and provided opportunities for business customers and non-managed industrial customers throughout its service territory, which included a bonus incentive equaling up to 50% of Focus on Energy’s incentive, up to \$4,000, with total combined program rewards not to exceed \$4,000 per customer.
- **Mid-Market Program (MMP,** a pilot that launched in 2018). NSPW’s program field representatives provide one-on-one outreach and support, including on-site assessments and reviews of rebate program offerings, designed to identify potential energy efficiency improvements for midmarket customers (small- and medium-sized commercial customers). Program staff worked in coordination with Focus on Energy, boosting NSPW’s customers’ participation in existing measure-based commercial programs.

Overall, the 2021 Community Conservation programs saw an increase in participants and incentives paid in the residential program, but a decrease in both participants and incentives paid for the commercial programs. This was not a surprise given the COVID-19 pandemic and its impact on small business. For evaluation purposes, the Utility Administrator Test (UAT) is used to calculate the cost-effectiveness of programs.

2021 NSPW Budgets, Expenditures and UAT By Sector

| | Approved Budget | Expenditures | UAT (NSPW costs only) |
|------------------------|------------------------|---------------------|------------------------------|
| Residential | \$721,180 | \$502,145 | 1.90 |
| Non-residential | \$1,606,992 | \$1,156,124 | 21.02 |
| TOTAL | \$2,328,172 | \$1,658,269 | 15.23 |

WE ENERGIES

We Energies had two voluntary programs operating in 2021:

- **Residential Natural Gas Assistance Program (RAP)** provides bonus incentives to low-income customers participating in Focus’ Home Performance with Energy Star Program, which provides weatherization services such as insulation and air sealing as well as supporting installation of efficient heating and cooling devices such as furnaces. RAP provides funding to cover all remaining project costs, beyond the Focus incentives, that would otherwise be paid by the participant, up to a cap of \$8,000 per project. RAP also pays for the full costs of other efficiency and safety measures identified during inspection of participant homes, including leak repairs, carbon monoxide detectors, and LED light bulbs.

| Unit Goal | Units Completed | Savings Goal (therms) | Savings Achieved (Annual) | Savings Achieved (Lifecycle) | Approved Budget | Expenditures |
|-----------|-----------------|-----------------------|---------------------------|------------------------------|-----------------|--------------|
| 150 | 145 | 60,000 | 33,030 | 660,600 | \$925,00 | \$873,271 |

In 2021, COVID-19 continued to cause challenges of staffing and receipt of materials for the RAP program. Customers were hesitant to allow contractors into their homes which lasted through mid-year. We Energies will continue to review options to overcome barriers in meeting its goal in 2022. The energy savings from the RAP program were credited to Focus and We Energies did not estimate or claim savings for the non-Focus measures installed through RAP.

- Voluntary Design Assistance Program (VDAP)**, which provides additional funding to help more of its customers participate in Focus on Energy’s Design Assistance Program (DAP) in the event Focus on Energy’s statewide program budget is fully expended. (PSC REF#: 345333.) In 2020, working with Focus on Energy and the Commission, the program was extended for eligible projects into calendar years 2023 and 2024, due to the long lead times of new construction projects. (PSC REF#: 392824.) In 2021, 11 customer projects in the We Energies service territory were able to take advantage of the Focus on Energy Design Assistance Program, which otherwise would not have the budget to serve these customers. These customer projects included 574,000 square feet of space in retail, office, and multifamily buildings, as well as a local craft distillery. Looking to 2022, eight such projects are already approved for VDAP.

| Program | Approved Budget | Expenditures |
|-----------------------------|-----------------|--------------|
| Voluntary Design Assistance | \$650,000 | \$272,635 |

WISCONSIN PUBLIC SERVICE CORPORATION (WPSC)

In 2021, WPSC began its second year of operating its voluntary program modeled after the We Energies Residential Assistance Program (RAP):

- Residential Assistance Program (RAP)** provides bonus incentives to low-income customers participating in Focus’ Home Performance with Energy Star Program, which provides weatherization services such as insulation and air sealing as well as supporting installation of efficient heating and cooling devices such as furnaces. RAP provides funding to cover all remaining project costs, beyond the Focus incentives, that would otherwise be paid by the participant, up to a cap of \$8,000 per project. RAP also pays for the full costs of other efficiency and safety measures identified during inspection of participant homes, including leak repairs, carbon monoxide detectors, and LED light bulbs.

| Unit Goal | Units Completed | Savings Goal (therms) | Savings Achieved (annual) | Savings Achieved (lifecycle) | Approved Budget | Expenditures |
|-----------|-----------------|-----------------------|---------------------------|------------------------------|-----------------|--------------|
| 45 | 10 | 10,710 | 1,833 | 36,660 | \$300,000 | \$62,170 |

COVID-19 caused ongoing challenges for staffing and receipt of materials. This impacted the number of units completed in 2021; however, WPSC will continue to review options to overcome barriers in meeting program goals in 2022. The energy savings from the RAP program were credited to Focus and WPSC did not estimate or claim savings for the non-Focus measures installed through RAP.

WISCONSIN POWER & LIGHT COMPANY

In 2021, Wisconsin Power and Light Company (WP&L) continued to operate two voluntary programs:

- Enhanced Low-Income Weatherization Program (ELIWP)** provides bonus incentives to low-income customers participating in Focus' Home Performance with Energy Star Program, at the Tier 2 level, which serves customers at or below 80% of state median income level. The program provides weatherization services such as insulation and air sealing as well as supporting installation of efficient heating and cooling devices such as furnaces. Modeled on We Energies' voluntary Residential Assistance Program (**PSC REF#: 330677**), ELIWP provides funding to cover all remaining project costs, beyond the Focus incentives, that would otherwise be paid by the participant, up to a cap of \$8,000 per project. ELIWP also pays for the full costs of other efficiency and safety measures identified during inspection of participant homes, including leak repairs, carbon monoxide detectors, and LED light bulbs.

There are no formal savings goals, but the program targets customers with especially high natural gas usage in order to prioritize customers who may be able to achieve the largest energy savings benefits. The goal is to reduce gas usage by an average of 200 therms per year per household. The program is designed to serve 50 customers per year, which makes the annual savings goal about 10,000 therms annually. ELIWP first launched in early 2018. Through 2021, the program had completed projects for 121 customers. A program evaluation published in 2021 indicates that ELIWP participants save an average of 628 kWh and 222 therms per year for electric and gas, respectively. (**PSC REF#: 414799**.)

- Home Energy Monitoring Pilot.** The Home Energy Monitoring Pilot deploys energy monitors in customers' homes to measure energy usage multiple times per second, providing customers with real-time feedback on their energy usage they can use to make behavioral changes to save energy. The monitors also disaggregate loads in order to provide customers with specific information on the usage level of each individual

technology in their homes, which can help to identify inefficient technologies that could be targeted for replacement.

The Home Energy Monitoring Pilot has been implemented in multiple phases, with each phase having distinct objectives designed to gain an understanding of the potential for home energy monitoring devices across a range of residential customer segments, to assess the capabilities of alternative types of monitoring devices to accurately discern energy usage from individual technologies in the home, and to learn about how customers respond to personalized messaging designed to encourage energy savings and participation in Focus on Energy program offerings. The pilot has primarily focused its efforts on deployment of Sense Home Energy Meters.

Phase One of the pilot was initially proposed for 2018. (**PSC REF#: 371373.**) WP&L proposed to install all 100 meters in rural homes, to help assess rural-specific energy efficiency considerations, including whether meters could help support “remote energy audits” that could identify leads for Focus projects without requiring more-costly direct home visits.

The Commission approved Phase Two of the Home Energy Monitoring Pilot in its order of September 21, 2018. Under Phase Two, another 100 customers were added to the program and recruited from non-rural areas to provide for more representative analysis of the Sense pilot’s effects across WP&L’s service territory.

In its order of November 1, 2019, the Commission approved WP&L’s proposal to operate Phase Three of the pilot. (**PSC REF#: 378620.**) In addition to providing support and analysis of Phase One and Phase Two participants, Phase Three’s objectives were to: 1) install 100 Sense meters in homes of customers with average energy use levels to evaluate whether Phase One and Two findings are applicable to a broader range of customers; 2) recruit an additional 100 participants to install a new metering device with similar capability as Sense Meters but are less costly to purchase and install; and 3) understand the savings impacts of enhanced personalized customer engagement services to a subset of customers compared to customers who did not receive additional engagement.

In June 2021, WP&L submitted a program evaluation report that assessed program performance from Phases One, Two, and Three. (**PSC REF#: 414864.**) Evaluators found that program participants were generally satisfied with the program, and that some participants affirmed that the Sense Meter helped them identify efficiency opportunities. However, the evaluation also noted customer service challenges related to the difficulty of meter installation and maintenance for some customers. The evaluation also identified preliminary indications that the program may have achieved energy savings associated with installation of the meter, but cautioned that conclusions could not be stated with statistical confidence until more data is collected from Phase Two participants. The review of energy savings also helped evaluators identify specific energy use patterns that could guide future program approaches for participants.

The Commission approved Phase Four of the Home Energy Monitoring Pilot in its order of October 16, 2020. (PSC REF#: 398422.) Phase Four provides support and analysis to participants in prior phases and also expanded the deployment of Sense Meters to target an additional 100 homes of customers who are homeowners at or below 80 percent of statewide median income.

In its order of October 14, 2021, the Commission approved Phase Five of the Home Energy Monitoring Pilot to operate in 2022 and 2023. (PSC REF#: 423096.) Phase Five provides support and analysis to participants in prior phases and expanded the deployment of Sense Meters to an additional 500 homes in the WP&L service territory. This phase will test new, targeted energy saving applications of the monitoring technology and develop quantitative information on the ability of the technology to shift energy demand off-peak. Phase Five intends to build off the findings from prior phases that included load disaggregation technology that has the potential to produce behavioral and device upgrade savings as well as identify end use loads that could be shifted off-peak. These customers could then participate in demand response initiatives and, for those customers on time of use rates, manage their energy bills. Phase Five will also identify customers with electric vehicles to better understand charging patterns and the potential demand, cost, and emissions savings when charging patterns are adjusted. Finally, Phase Five seeks to understand if remote energy monitoring can be used to identify high-use or faulty air conditioner equipment and encourage customers to replace these devices with high efficiency models.

The Commission ordered an Evaluation Report for the Home Energy Monitoring Pilot as a condition of its approval of Phase Five. WP&L's Evaluation Plan indicates a Final Evaluation Report will be delivered to the Commission by July 1, 2024. (PSC REF#: 426596.) The evaluation will assess program staff and installer experiences with the pilot, gauge participant satisfaction, measure behavioral energy savings, calculate cost-effectiveness of the pilot, and examine the effectiveness of behavioral demand response events.

WISCONSIN HOME ENERGY ASSISTANCE PROGRAM (WHEAP) – WEATHERIZATION SERVICES

In order to present a more complete picture of energy efficiency and renewable activities in Wisconsin, this report also includes annual data on the Weatherization Assistance Program. The Division of Energy Housing and Community Resources (DEHCR), in the Department of Administration, contracts with various agencies throughout the state to provide weatherization services to eligible households. Households with incomes at or below 60% of the Wisconsin state median income (SMI) are eligible for services. Agencies include community action agencies, housing authorities, local governments, and other non-profit organizations. The goal of the weatherization program is to save energy by targeting households with an excessive energy burden and that are made up of customers who are elderly, handicapped, and/or children under 6 years of age.

If homeowners are eligible for weatherization services based on their WHEAP application, their application information will be referred to the local weatherization agency. Households selected for potential weatherization services will be contacted by the weatherization agency. The agency will then make arrangements to have an energy auditor look at their homes to see what can be done to make it more energy efficient. Weatherization services differ with each home depending on how it was built and its condition. Some common weatherization services include:

- Insulate attics, walls and floors;
- Insulate or replace water heater;
- Install energy efficient lighting;
- Reduce air leakage;
- Repair or replace furnace;
- Test and/or replace refrigerator;
- Perform a general health and safety inspection;
- Provide information about maintenance and energy conservation.

In 2021, the weatherization program provided services to 4,296 units and expenditures were \$46,696,074. DEHCR extended the contract performance period an extra three months (from July 1, 2021 to September 30, 2021) due to COVID-19.