

Wisconsin Public Benefits Programs Annual Report

July 1, 2003 to June 30, 2004

**Submitted by:
Department of Administration
Division of Energy**

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Public Benefits Program Summary

Pursuant to Section 16.957 (2)(d) 4, the Wisconsin Department of Administration (DOA) submits to the Wisconsin Legislature the annual report of Wisconsin's Public Benefits Fund programs for Fiscal year 2003-2004.

Wisconsin's public benefits programs are administered by the DOA Division of Energy and encompass two distinct delivery areas. The ***Focus on Energy*** program provides energy efficiency information, technical assistance and other services to residents, businesses and local governments. The ***Home Energy Plus*** program provides weatherization and bill payment assistance to resident households with incomes at or below 150 percent of the federal poverty level.

Additional information is available from the Division of Energy and on the following Web sites:

www.focusonenergy.com
www.homeenergyplus.wi.gov

Wisconsin's Public Benefits Fund

The segregated Public Benefits Fund, which supports the Focus on Energy and Home Energy Assistance programs, is funded by electric and natural gas utility ratepayers. Wisconsin's investor-owned utilities are required by law to participate. Municipal electric utilities and electric cooperatives have the ability to participate in the state program or operate their own "commitment to community" programs.

Revenue for the Public Benefits Fund primarily comes from five sources: (1) funds that investor-owned utilities collect through PSC established rates to pay for public benefits programs; (2) a fee added to electric bills starting in October 2000 that participating utilities collect and remit to the state; (3) funds contributed by participating municipal electric utilities and electric cooperatives; (4) federal funds provided for low-income energy assistance and weatherization programs and (5) voluntary contributions. Interest earned on the segregated state funds is retained by the Public Benefits Fund. The amount of federal revenues received by the state for limited-income programs is part of the formula used to set the fee.

Investor-owned utilities, participating municipals and participating cooperatives serve about 84 percent of the state's electricity customers.

In FY04, the Public Benefits fund received \$109,167,017 in ratepayer funds collected by the participating utilities, voluntary contributions and interest earned. Of that amount, \$62,513,455 was collected for the Focus on Energy Program and \$46,653,562 was collected for the Home Energy Plus Program. Expenditures totaled \$103,038,195. The Focus on Energy Program spent \$41,654,341 and the Home Energy Plus Program spent \$43,783,854. From Focus on Energy, \$17,600,000 was expended for shared revenue and tax relief. The unexpended balance of \$27,364,722 is in part contractually obligated or approved to be spent in FY05. When adjusted to reflect these contractual obligations, the unobligated fund balance is \$4,947,655.

**Public Benefits Programs
Financial Report
July 1, 2003 - June 30, 2004**

FY04

Revenues:

Home Energy Plus	
New Fees (Public Utilities)	\$ 24,548,701.46
Fees - Participating Municipal Electric Utilities & Electric Cooperatives	\$ 776,155.20
Transition Funds [DOA & PSC]	\$ 21,328,443.88
Voluntary Contributions	\$ 61.64
Total Earnings on Investment Pool	\$ 200.00
Total Home Energy Plus	\$ 46,653,562.18
Focus On Energy	
New Fees (Public Utilities)	\$ 16,278,478.41
Fees - Participating Municipal Electric Utilities & Electric Cooperatives	\$ 124,145.38
Transition Funds [DOA & PSC]	\$ 45,826,606.12
Voluntary Contributions	\$ 2,000.00
Total Earnings on Investment Pool	\$ 282,224.85
Total Focus On Energy	\$ 62,513,454.76
Total Revenue	\$ 109,167,016.94

Expenses:

Home Energy Plus	
Weatherization Aids	\$ 30,850,498.92
WHEAP County Operations	\$ 960,204.28
WHEAP Direct Benefits	\$ 8,272,601.53
WHEAP Crisis Programs	\$ 3,476,049.57
General Program Operations	\$ 224,500.00
Total Home Energy Plus	\$ 43,783,854.30
Focus On Energy	
Business Programs	\$ 14,770,526.08
Renewable Energy	\$ 2,265,410.58
Environmental Research	\$ 942,666.30
Residential Programs	\$ 19,573,574.33
General Program Operations	\$ 4,102,163.21
Total Focus On Energy	\$ 41,654,340.50
Agency 835 Expense (Shared Revenue and Tax Relief)	\$ 17,600,000.00
Total Expenditures	\$ 103,038,194.80

Fund Balance:

Home Energy Plus	
Revenues	\$ 46,653,562.18
Expenditures	\$ 43,783,854.30
Total Home Energy Plus	\$ 2,869,707.88
Focus On Energy	
Revenues	\$ 62,513,454.76
Expenditures	\$ 59,254,340.50
Total Focus On Energy	\$ 3,259,114.26
TOTAL	
Beginning Fund Balance	\$ 21,235,900.11
Revenues	\$ 109,167,016.94
Expenditures Agency 505 (DOA)	\$ 85,438,194.80
Expenditures Agency 835 (Shared Revenue & Tax Relief)	\$ 17,600,000.00
Total Fund Balance	\$ 27,364,722.25
Home Energy Plus Fund Balance	\$ 3,132,484.00
Focus On Energy Fund Balance	\$ 24,232,238.25
Focus On Energy Contractual Obligations	\$ 11,768,558.68
Remaining Focus On Energy Fund Balance	\$ 12,463,679.57
Budgeted and Approved to be spent in FY 05	\$ 7,516,025.00

Focus on Energy Overview

Focus on Energy is a public-private partnership offering energy information and services to residential, business, agricultural and industrial customers throughout Wisconsin. These services are delivered by a group of firms contracted by the Wisconsin Department of Administration's Division of Energy. Focus on Energy is funded by the Utility Public Benefits fund created by the Wisconsin Legislature in 1999 as part of the Reliability 2000 initiative.

The mission of Focus on Energy is to develop and operate a range of sustainable energy efficiency and renewable energy programs. In partnerships with consumers, utilities, businesses, nonprofit organizations, and government at all levels, these programs aim 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.
- Deliver quantified financial returns on public investments in energy improvements.

Focus on Energy sponsors programs in four major areas: business programs, residential programs, renewable energy programs and an environmental research program.

Residential Programs -- Administered by the Wisconsin Energy Conservation Corporation, these programs promote the building of energy efficient homes and apartment buildings, the installation of energy efficient equipment in existing homes and apartment buildings, and the distribution of energy efficient ENERGY STAR products.

Business Programs -- Administered in FY04 by the Milwaukee School of Engineering, these programs promote energy efficient equipment and practices in new and existing buildings in the industrial, commercial, agricultural and schools/local government sectors.

Renewable Energy Programs -- Administered by the Wisconsin Energy Conservation Corporation, these programs promote the installation of renewable energy projects, educates the public, and works to develop Wisconsin's renewable energy marketplace.

Environmental Research Program -- Administered by the Energy Center of Wisconsin, this program distributes grants for research on the environmental impacts of electric generation in Wisconsin.

This Annual Report summarizes the activities and results of the all of Wisconsin's Public Benefits programs. The report is divided into the two overall programs--Focus on Energy and Home Energy Plus--and further subdivided into sectors and individual targeted programs.

Evaluation Results for FY 2004

PA Government Services, Inc. leads a team of evaluation experts to quantify the impacts of Focus on Energy on Wisconsin's citizens and economy. The evaluators are charged with independently verifying administrators' reports of program impacts. They do so by directly collecting data from program participants via telephone surveys, mail surveys, in-depth interviews, and on-site inspections. They also review relevant documents on similar topics compiled by other professional research organizations.

Focus on Energy programs are designed to promote energy efficiency and the use of renewable resources in Wisconsin. The evaluation measures four primary impacts from energy efficiency improvements made through the programs. These are: 1) energy impacts--energy and cost savings; 2) economic benefits--savings on energy bills, stimulation of economic development, and creation of jobs; 3) environmental benefits--primarily from reductions in power plant pollution emissions attributable to saved energy; and 4) other non-energy benefits--the value of increased health, safety and comfort.

Evaluation results for FY04 show that total lifetime energy savings benefits during the year reached \$214.5 million, for a program benefit:cost ratio of 5.4 to 1.

Annual electric energy savings achieved by the program reached 235.6 million kWh, with an annual value of \$16.7 million, and lifetime value of \$113.1 million.

Electric demand in FY04 was reduced by 35.5 megawatts, about 10 percent of the growth in demand during the year. Savings measured in avoided MW capacity have a lifetime value of \$36.4 million.

Annual savings from natural gas efficiency efforts reached 14.4 million therms, with an annual value of \$9.8 million and lifetime value of \$65 million.

Reductions in environmental pollutants were significant: avoiding 1.5 million pounds of nitrogen oxides, 2.9 million pounds of sulfur oxides, 687.3 pounds of carbon dioxide and 12 pounds of mercury.

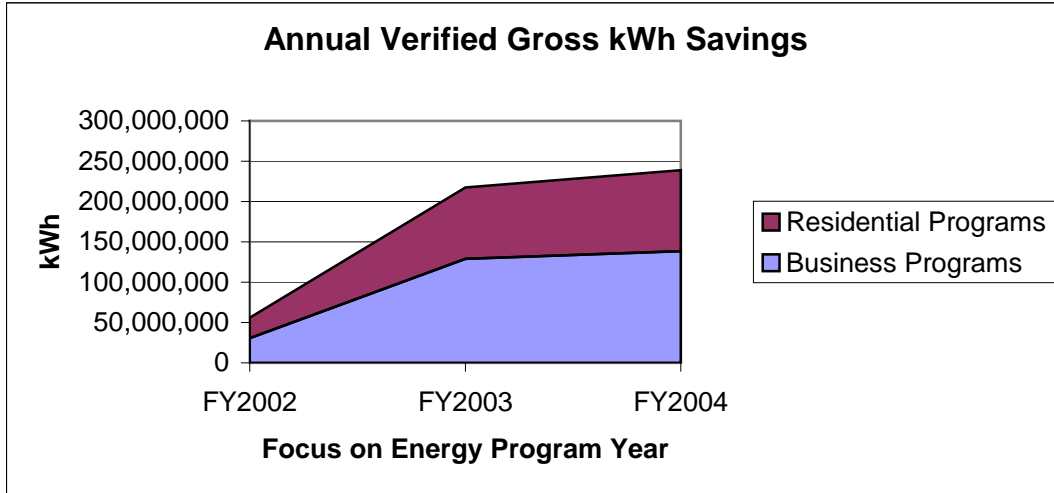
Economic benefits include the creation of 1,050 full-time equivalent job years.

Wisconsin businesses saved almost \$14.6 million and increased sales by \$76.7 million.

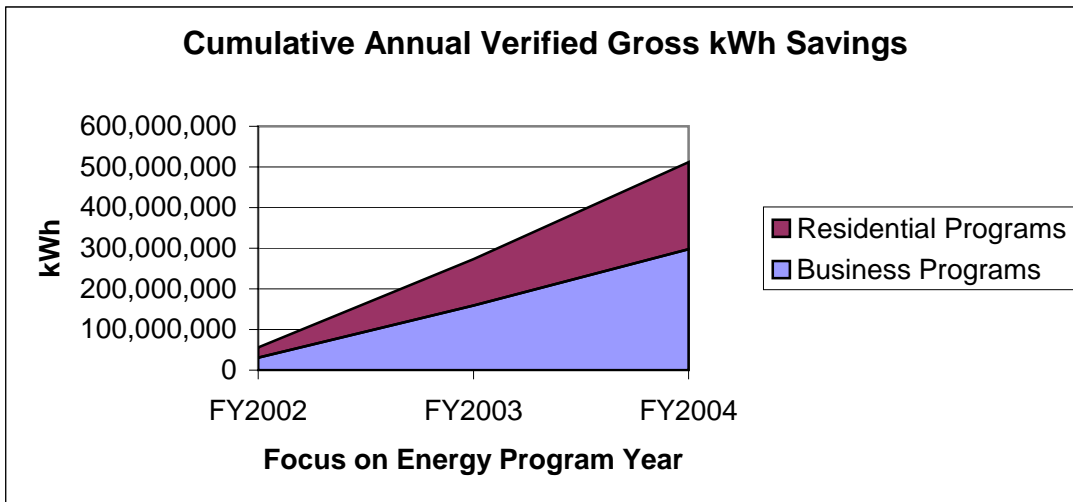
Wisconsin residents saved almost \$20 million and increased their personal income by \$18.3 million.

The graphs on the following pages show annual and cumulative annual verified gross kWh savings, kW savings and therm savings for both the Business programs and the Residential programs.

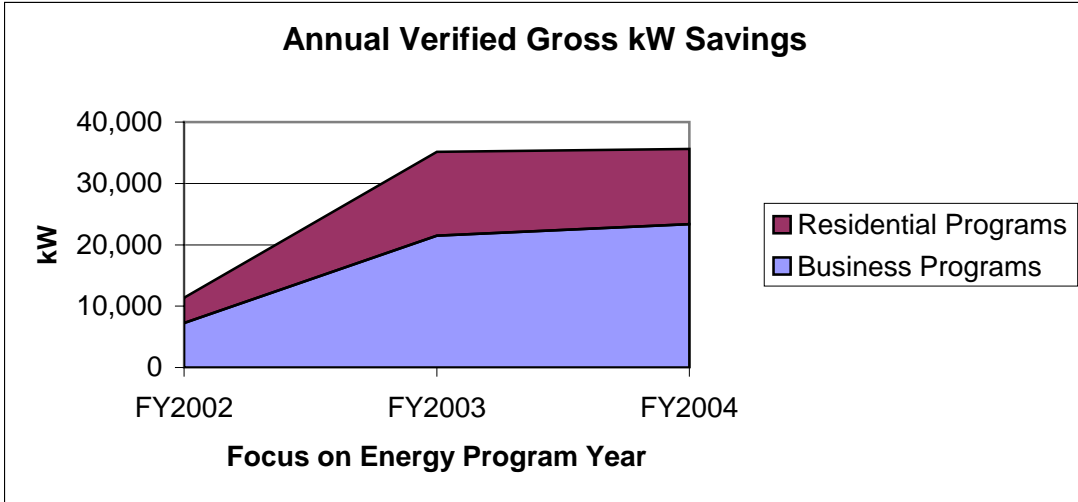
Historical Energy Savings



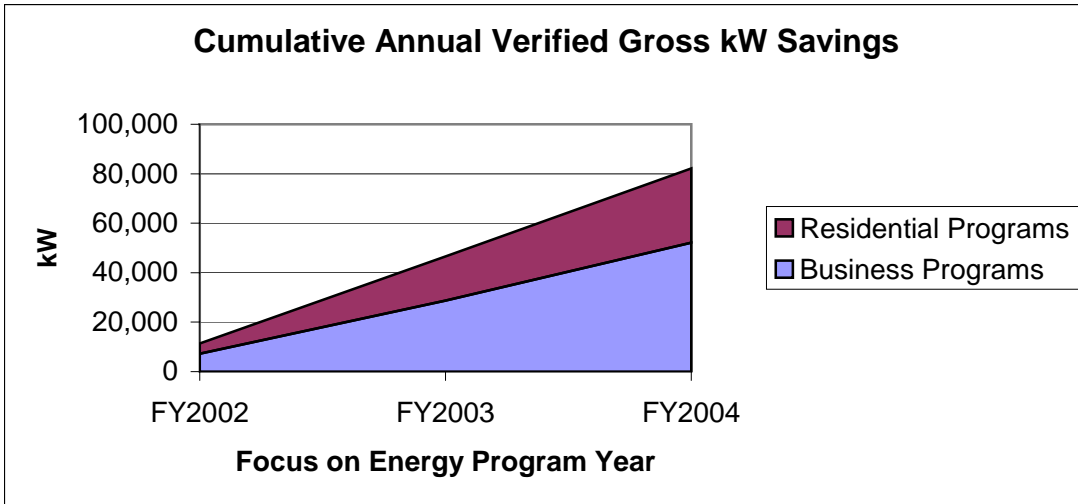
Annual Verified Gross kWh Savings				
	FY2002	FY2003	FY2004	Total
Totals	55,968,906	220,276,728	239,257,308	515,502,942
Business Programs	30,501,037	128,819,233	138,648,045	297,968,315
Residential Programs	25,467,435	88,493,608	100,223,087	214,184,130
Renewable Energy Program	434	2,963,887	386,176	3,350,497



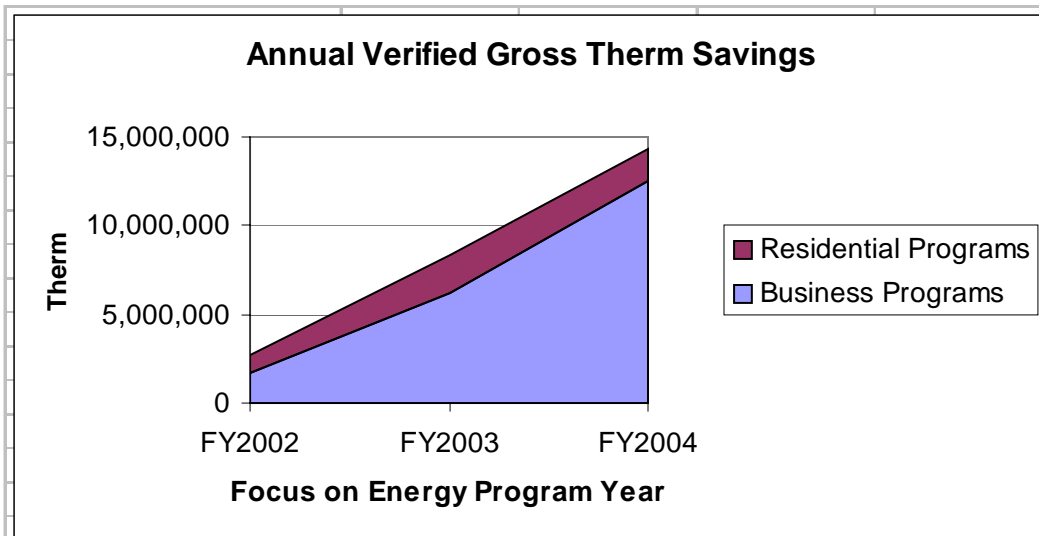
Cumulative Annual Verified Gross kWh Savings				
	FY2002	FY2003	FY2004	Total
Totals	55,968,906	276,245,634	515,502,942	847,717,482
Business Programs	30,501,037	159,320,270	297,968,315	487,789,622
Residential Programs	25,467,435	113,961,043	214,184,130	353,612,608
Renewable Energy Program	434	2,964,321	3,350,497	6,315,252



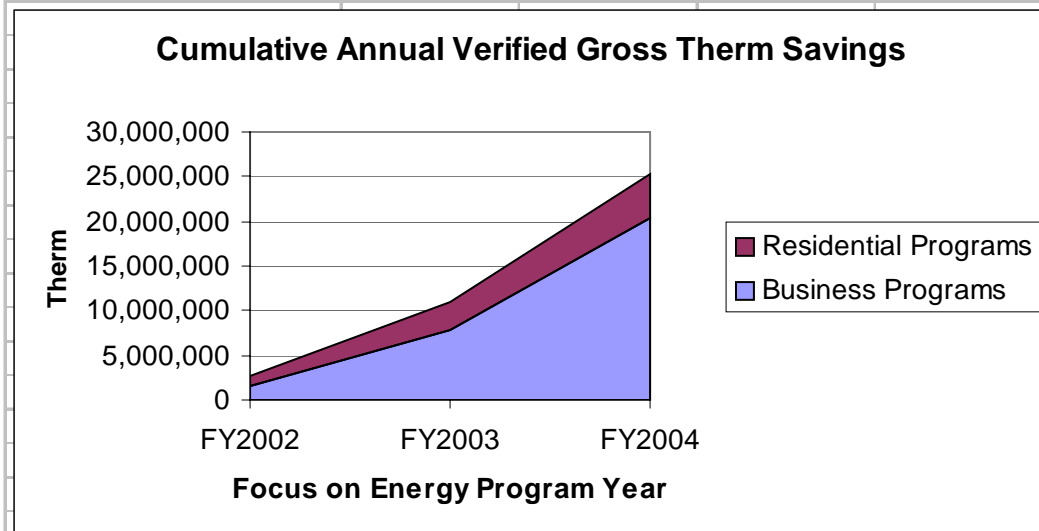
Annual Verified Gross kW Savings				
	FY2002	FY2003	FY2004	Total
Totals	11,379	35,893	35,781	83,053
Business Programs	7,251	21,489	23,381	52,121
Residential Programs	4,128	13,682	12,213	30,023
Renewable Energy Program	0	722	188	910



Cumulative Annual Verified Gross kW Savings				
	FY2002	FY2003	FY2004	Total
Totals	11,379	47,272	83,053	141,704
Business Programs	7,251	28,740	52,121	88,112
Residential Programs	4,128	17,810	30,023	51,961
Renewable Energy Program	0	722	910	1,632



Annual Verified Gross Therm Savings				
	FY2002	FY2003	FY2004	Total
Totals	2,673,712	8,300,562	14,356,163	25,330,437
Business Programs	1,663,929	6,175,827	12,560,303	20,400,059
Residential Programs	1,009,783	2,121,683	1,716,835	4,848,301
Renewable Energy Program	0	3,052	79,025	82,076



Cumulative Annual Verified Gross Therm Savings				
	FY2002	FY2003	FY2004	Total
Totals	2,673,712	10,974,274	25,330,437	38,978,423
Business Programs	1,663,929	7,839,756	20,400,059	29,903,744
Residential Programs	1,009,783	3,131,466	4,848,301	8,989,550
Renewable Energy Program	0	3,052	82,077	85,129

Residential Programs

Focus on Energy Residential Programs were administered in FY04 by the Wisconsin Energy Conservation Corporation. Despite substantial budget challenges, the Residential Programs delivered tremendous benefits to Wisconsin consumers during fiscal year 2004, partnering with hundreds of Wisconsin businesses. These ranged from locally-owned Main Street hardware stores to national retail chains like Menard's and Shopko; from large and small home builders to the various firms and corporations that manufacture, distribute and install heating and cooling equipment.

With respect to energy savings, the Residential Programs achieved more than 107 percent of electrical goals for this contract period and 126 percent of natural gas goals. These savings translate to reductions of more than \$11 million in annual energy costs for Wisconsin consumers. The environmental benefits of these efficiencies are equivalent to removing more than 22,000 cars from the road.

Because Residential Programs are delivering energy savings in partnership with private businesses, the program benefits extend well beyond energy savings. Builders and contractors who participate in the Focus residential programs attend training sessions with nationally renowned building science experts and then also benefit from in-field, one-on-one mentoring from our own building science professionals. By increasing builders' knowledge the programs help them avoid callbacks, thus increasing the builders' profitability. Similarly, the retailers who participate in our program promoting ENERGY STAR[®] qualified products learn how to sell the benefits of the ENERGY STAR label, thus increasing their profitability. These benefits can be substantial; one Wisconsin appliance retailer has increased his sales staff by 30 percent since he began participating in the ENERGY STAR Products program.

These results are especially noteworthy given the financial constraints facing these programs in fiscal year 2004. As part of their efforts to address the state's budget crisis the governor and legislature redirected some Focus on Energy funding to other purposes, thus reducing the Residential Programs budget by almost \$4 million (about 15 percent). This meant staff had to identify ways to continue to deliver value to consumers and to maintain commitments to Wisconsin businesses with less money. Maintaining commitments to businesses was vital; many retailers and contractors have changed their stocking practices based on Focus programs, failure to honor those commitments risks alienating our business partners. Staff identified a number of innovative strategies for increasing program efficiencies and identifying innovative cost-saving partnerships. Some of successes in this arena include:

- The ENERGY STAR Products program paid Cash-Back Rewards on a record-breaking number of compact fluorescent bulbs (CFLs), despite the budget cuts. Staff managed this feat by negotiating a manufacturer match on the Cash-Back Rewards, thereby reducing the program's per-bulb cost.
- Wisconsin ENERGY STAR Homes restructured its incentive structure so that the program could certify almost twice as many homes with the same level of funding the program spent in the previous year. These changes were developed in close consultation with the building industry to ensure that the incentive changes would not jeopardize program participation.
- Similarly, staff responsible for Home Performance with ENERGY STAR's Efficient Heating and Cooling Initiative worked closely with heating and cooling contractors to modify program incentives when response to the program far exceeded our expectations.
- The Apartment & Condo Efficiency Services program staff increased their sales skills and reduced their incentives to achieve energy savings under a substantially reduced budget.

Although the budget cuts resulted in good innovations, it also meant that some offerings were eliminated entirely, often to the disappointment of customers and staff who recognize that there are far more opportunities for energy efficiency than Focus has the funding to pursue.

**Energy Savings Summary: Program Achievement
For FY04 (July 1, 2003 to June 30, 2004)**

Program Area	Number of Participants Having Energy Savings Estimates	Gross Installed kWh Savings	Percent of kWh Savings Target	Gross Installed kW Savings	Percent of kW Savings Target	Gross Installed Therm Savings	Percent of Therm Savings Target
ENERGY STAR Products*	235,160	101,388,922	101%	3,945.1	91%	361,866	101%
Wisconsin ENERGY STAR Homes	2,073	1,620,176	171%	631.81	113%	182,350	109%
Apartment & Condo Efficiency Services	901	10,962,101		652.9		527,057	
Home Performance w/ ENERGY STAR	17,705	14,344,916	183%	8,444	183%	568,283	203%
Targeted Home Performance	355	706,386	138%	147	184%	220,367	111%

ENERGY STAR Products

The ENERGY STAR Products program works with manufacturers and retailers to encourage consumers to purchase ENERGY STAR qualified products. The program had a highly successful year; achieving 101 percent of its kilowatt-hour savings goal and helping to move more than 1.2 million ENERGY STAR qualified compact fluorescent bulbs (CFLs) into Wisconsin homes.

This program aims to effect permanent changes in the market share for ENERGY STAR qualified products, and preliminary results suggest the program is achieving this objective. One good source of evidence is the reported market share ENERGY STAR qualified clothes washers have in Wisconsin versus other states. In fiscal year 2004, the Wisconsin market share (based on reports from retailers) was 42 percent compared to 23 percent nationally and as low as 7 in some states without active programs.

Program Participation in FY04

Metric	Target FY04	Total FY04	Percent of Target
Total # of consumers receiving appliance rewards	11,527	13,686	193%
New Appliance Promotional Partnerships (Retailers or Manufacturers)	10	17	170%
New Lighting Promotional Partnerships (Retailers or Manufacturers)	5	6	120%
Formal retailer trainings	323	445	137%
Total # of retailers participating in cooperative advertising program	68	101	148%
Appliances Turned In	2,210*	2,338	105%
CFL Bulbs Rewarded	1,200,000	1,300,253	108%

Success Story

Every year the ENERGY STAR Products program participates in one or more of the national ENERGY STAR promotions. Participating in national promotions enables us to leverage local efforts with initiatives coordinated by the U.S. Environmental Protection Agency and the U.S. Department of Energy (the two federal agencies that oversee the ENERGY STAR program). This year, as in previous years, the ENERGY STAR Products program participated in both the *Change a Light, Change the World* and the *Start the Savings Cycle* promotions. These promotions were highly effective and much of the success was due to the very strong cooperative relationships the program has developed with manufacturers and retailers.

Wisconsin's *Change a Light, Change the World* campaign was, once again, the most successful lighting promotion in the nation. Focus on Energy's ENERGY STAR program provided instant in-store Cash-Back Rewards on 1,098,816 bulbs. This translates to 72,521,856 kilowatt-hours of savings. The Reward offer included a match from the manufacturer, so a \$2 reward cost the program only \$1.50. The promotion was coordinated with Minnesota Power and Great River Energy in northeast Minnesota, as well as with the Midwest Energy Efficiency Alliance's promotion in other Midwest states.

Wisconsin outperformed the region, selling three times as many bulbs as the rest of the Midwest states combined.

Wisconsin’s *Start the Savings Cycle* promotion was part of the second annual nationally coordinated initiative promoting ENERGY STAR qualified clothes washers. The 2004 campaign delivered three essential benefits for participating manufacturers: increased promotional development time, product differentiation, and manufacturer market differentiation. Nine manufacturers participated in the promotion and each manufacturer paid half of the \$50 to \$100 Cash-Back Reward to consumers. In addition, they paid half of the processing fees associated with the program. All 339 Wisconsin appliance retail partners participated in the promotion. Wisconsin posted the highest per capita sales of ENERGY STAR qualified clothes washers in the nation.

Through its partnerships with manufacturers during both the *Start the Savings Cycle* and the *Change a Light, Change the World* campaigns, the program leveraged \$603,260 in matching incentive dollars from appliance manufacturers and \$549,408 in matching incentive dollars from lighting manufacturers. The more than one million dollars in leveraged funds allowed us to do more and achieve greater savings for Wisconsin residents at far lower cost.

Wisconsin ENERGY STAR Homes

The Wisconsin ENERGY STAR Homes program works with builders and their subcontractors to affect the residential new construction market in Wisconsin. More specifically, the program certifies new homes that meet rigorous program standards for comfort, safety, durability and energy efficiency.

The program continued to demonstrate strong growth in fiscal year 2004, certifying almost twice as many homes as in the previous year. Each quarter of FY04 saw a significant increase over the previous quarter in number of homes certified. While some of the participating builders offer their customers Wisconsin ENERGY STAR Homes certification as an option, over 50 percent of all program homes certified this year were built by builders who commit 100 percent of their homes to the program. Participating builders range from small businesses like Wood Construction and Boerst Builders, who build ten or fewer homes annually, to Lexington Homes and Veridian Homes, which, taken together, will build more than 1,000 homes to the program standards in fiscal year 2005.

Program Participation in FY04

	Target for FY04	Total Achieved for FY04	Percent of Total
Number Of Certified Homes	1500	1,522	102%

Success Story

The Wisconsin ENERGY STAR Homes program has gained attention, interest and increased momentum in the building industry. This success is probably best viewed in terms of the actions various market actors have taken over the past year.

- Program partners are being recognized for their participation: Veridian Homes of Madison applied for and won the U.S. Environmental Protection Agency’s ENERGY STAR Award for

Excellence in Efficient Homes. Veridian is one of the builders that commits all of its homes to the Wisconsin ENERGY STAR Homes standards.

- Partners are expanding their participation: Veridian Homes, along with system-built housing manufacturer Wausau Homes, also participated in the Department of Energy’s Building America program and, in coordination with Wisconsin ENERGY STAR Homes, worked to implement changes in their construction processes that increased building performance and company profits. Some of the changes Wausau made in its Wisconsin plant were duplicated in manufacturing facilities in Indiana and Florida.
- Builder associations around the state are recognizing the importance of building science: The Wisconsin Builders Association, the Milwaukee Builders Association, and the Fox Valley Builders Association have recognized that applied building science and performance testing are in the best interest of their members. These associations are working closely with the program to educate their members that building better buildings leads to better business.
- The program infrastructure is growing: Finally, the success of the program can be seen in the infrastructure of consultants trained to deliver program services to builders in the state. This consultant infrastructure has doubled in the past year, drawing more experienced code officials, home inspection professionals, and the outgoing president of the nationally recognized Energy and Environmental Building Association. Further, certifying Wisconsin ENERGY STAR Homes has evolved into an increasingly viable business that can support multiple employees by providing an increasing array of services.

Home Performance with ENERGY STAR

Home Performance with ENERGY STAR is a multi-faceted program that serves existing housing markets. The program has two primary components. The Building Performance initiative works in partnership with contractors and insulators to increase the comfort, safety, durability and energy efficiency of existing homes. The Efficient Heating and Cooling Initiative works cooperatively with manufacturers and distributors to provide training for participating contractors and Cash-Back Rewards for consumers who install high efficiency heating and/or cooling equipment.

Wisconsin consumers participating in the Home Performance with Energy Star Program spent nearly \$70 million for efficient heating, ventilation and air conditioning (HVAC) equipment, insulation and other energy improvements in fiscal year 2004; over thirteen times the operational expense of the program. This combination of public and private dollars supports more than 1,000 Wisconsin-based small businesses and thousands of jobs, while capturing significant energy savings. A total of 17,500 residential consumers were served in fiscal year 2004.

Program Participation in FY04

Metric	Target FY04	Total FY04	Percent of Target
Dwelling units where building performance measures are installed	464	878	189%
Additional remodeling companies incorporating Home Performance with ENERGY STAR	25	28	112%

Consumers receiving ECM rewards	5,677	7,825	138%
Solar systems installed or commissioned	35	46	131%

Success Story

The Building Performance Initiative continued its approach of involving a broader range of market businesses providing energy efficient products and services. In maintaining its true market based approach, 108 companies, ranging from independent consulting firms to insulation services and home improvement companies, completed work in 878 households in fiscal year 2004; this was more than double the number of homes served in the previous year.

One of the reasons for the program's success this year was a public relations campaign designed to support market businesses that share common goals with Focus on Energy. In October of 2003, the program developed a media kit that was sent to 300 media outlets throughout the state. The goal was to increase consumer awareness of building science issues while cooperatively promoting the independent businesses involved in Home Performance with ENERGY STAR. The campaign produced two key results. First, independent companies gained credibility with consumers as a result of participating in the larger Focus on Energy brand. Second, Home Performance with ENERGY STAR benefited by being associated with reputable local companies throughout the state.

In total, the public relations campaign resulted in 1.6 million impressions through 26 newspaper articles, 18 television and radio interviews, and 7 articles posted on the Internet. The media value from the effort was \$280,000, ten times the actual expense of the campaign.

Working in cooperation with the HVAC industry, the Efficient Heating and Cooling Initiative component of Home Performance with ENERGY STAR had outstanding results, with increases in market share of heating systems with efficient blower motors, called electronically commutated motors (ECM), and high efficiency central air conditioning systems.

The Initiative staff works with over 900 HVAC contractors through a network of 28 HVAC distributors who supply heating, cooling and water heating equipment to the state's HVAC contractors. The distributors encourage their contractors to participate in the program, lending industry-level credibility to Focus on Energy's efforts. Market share data indicates that the results of this effort also are outstanding. Since the program's inception, the market share for furnaces with ECM motors increased from 5 percent to 22.8 percent of the total forced air furnace market. The market share for 12 SEER and higher air conditioners increased by 227 percent, from 10 percent to 22.7 percent of the total air conditioner market.

In addition to encouraging sales of high efficiency equipment, the Efficient Heating and Cooling Initiative also improves the method of installation to maximize the efficiency of units installed. To date, HVAC distributors have trained 900 contractors on a series of best practices related to airflow and refrigerant charging of air conditioner systems. Program staff worked with HVAC distributors to develop these practices and training curriculum and, again, the results are significant; 98 percent of the technicians trained passed the written exam and demonstrated their understanding of the best practices. By leveraging the distributors' role with contractors, the program managed to train the majority of the state's HVAC contractors with minimal cost to the program.

Apartment and Condo Efficiency Services

The Apartment and Condo Efficiency Services program serves developers who are building new multifamily buildings as well as property owners/managers and tenants of existing structures. Like all other residential programs, this one works to build relationships with decision-makers and market providers—primarily owners, management firms, developers, housing authorities, contractors, and distributors.

This was a successful year for the Apartment and Condo Efficiency Services program. The program exceeded its energy savings goals for kilowatt-hours (104 percent) and therms (110 percent). The table below summarizes the program's success on various target metrics associated with program participation and installed measures.

Program Participation in FY04

Service	Target FY04	Total FY04	Percent of Target
Direct Install Common Area Lighting	650 Buildings	745	115%
In-Unit Light Bulb Exchange (incandescent replaced with CFLs)	4,333 Units (26,000 CFLs)	4,917 (29,499)	114%
New Construction: Design Assistance	17 Projects	28	165%
New Construction recommendations implemented	8 Projects	7	88%
Renewable Design Assistance	8 Systems	7	88%
Renewables recommendations implemented	4 Systems	4	100%

Success Story

The Apartment and Condo Efficiency Services program saw continuing owner / developer interest in solar energy. This year, the program supported domestic water heating installations at four locations--the Hypatia Coop, the New Wine Coop, the Rochdale Coop and the Yahara River View Apartments. These committed owners and developers received Cash-Back Rewards totaling \$24,265 and they are saving 1,464 therms per year. In addition, Common Wealth Development, the developer of the Yahara River View Apartments, in Madison, installed many energy efficiency measures, and achieved an exceptionally low space heating energy use for a multifamily building--1.12 therms per square foot per heating degree day. Their investment in renewables and efficiency is especially noteworthy because the 60-unit building targets mixed income tenants; managing energy costs is particularly important for households on a limited income. In addition, it instills pride in the residents and reminds them they are getting some energy for free, according to Paul Jasenski, project manager for Common Wealth Development.

Targeted Home Performance with ENERGY STAR

The Targeted Home Performance with ENERGY STAR program delivers subsidized whole-house energy efficiency services and emergency furnace and water heater replacements to households that have an annual income between 150 percent and 200 percent of the federal poverty level. Recognizing that households in this income range typically had substantial opportunities to save energy but little

capital to invest in efficiency improvements, Focus launched this innovative program that works in partnership with both private contractors and the state’s weatherization agencies.

Fiscal year 2004 showed a 20 percent increase in job completions over the previous year – going from 147 completions in fiscal year 2003 to 305 completions in fiscal year 2004.

Program Participation in FY04

Activity	Target FY04	Total FY04	Percent of Target
Homes completed	335	305	91.0%
Emergency heating system replacements	65	45	69.2%
Emergency water heater replacements	10	5	50.0%
Quality assurance site visits*	17	16	94.1%

*Scope of work required that 5 percent of completions receive quality assurance site visits – this goal was met at 16 site visits.

Success Story

As is the case with all of the residential efficiency programs, making customer’s homes more comfortable, safe and energy efficient is a primary goal. Based on the initial results of the program evaluation, customers participating in Targeted Home Performance with Energy Star will save, on average, 28 percent of their heating costs and 11 percent of their electrical costs. Overall participant satisfaction was very positive, with the program ranking a 4.6 on a five point scale.

Information and Education

The Information and Education initiatives are a collection of efforts that facilitate consumer awareness of Focus on Energy program offerings. Initiatives include:

- Residential Information Center, where consumers can get answers to their questions about energy efficiency or renewable energy;
- Public library initiative, which provides libraries with grants to enhance their energy collections;
- Funding for the Wisconsin K-12 Energy Education Program (KEEP) to increase and enhance K-12 energy education and to encourage teachers to integrate sound building science principles into technical education courses;
- Partnership with UW Extension and the County Extension agents whereby agents are informed about Focus so that they can respond to consumer queries and make effective referrals; and
- Collaboration with the utilities that participate in Focus on Energy, that facilitates utility referrals to the program as well as utility-sponsored promotions of Focus programs.

These efforts are very important to the overall success of Focus’ residential programs. Through the Information and Education initiatives, we try to reach residential consumers through multiple pathways. While some efforts involve Focus staff directly—like staffing trade show booths at various events throughout the state and answering questions in the Residential Information Center—other efforts leverage the contacts and credibility of our various partners, including County Extension agents, librarians, utility personnel and even K-12 teachers. Our goal is for consumers to hear about Focus on Energy programs regardless of where they start looking for information about energy efficiency.

Program Participation in FY04

Metric	Target FY04	Total FY04	Percent of Target
Campuses offering the building science certificate series	3	1	33%
Students enrolled in building science certificate series	20	21	105%
Students who complete the building science certificate series	10	21	210%
Utilities promoting at least one Focus program	26	29	112%
Utilities integrating Focus messages into customer communications consistently	3	4	133%
County- Extension offices making Focus materials available at their office and/or at public events	21 (30% of 71 counties)	47	223%
Participating public libraries offering Focus fact sheets to patrons	76 (25% of 305 libraries)	60	79%
Additional K-12 educators participating in KEEP inservice	150	288	192%

Success Story

The Wisconsin Technical College System worked with Focus on Energy to offer a building science certificate series. Nicolet Technical College, in Rhineland, piloted the series, which consisted of five classes on various topics associated with building science. Twenty-one students signed up for the first class and all 21 completed the series. Participants included remodeling contractors, electrical apprentices, HVAC apprentices, teachers and carpentry apprentices. Evaluations from the students were excellent. Due to the success of this class, six other campuses in the Wisconsin Technical College System are now exploring the feasibility of offering these building science courses. While Focus helped to subsidize the initial course offerings, our aim is to work with technical colleges to demonstrate the need for this course series so that the classes are self-sustaining.

Business Programs

The Milwaukee School of Engineering (MSOE) administered the Focus on Energy Business Programs in FY2004. Business programs were consolidated and streamlined in FY04, which created greater efficiencies for program delivery. Four programs targeted near-term energy savings (resource acquisition)--Industrial, Commercial, Schools and Government, and Production Agriculture. Three programs areas targeted longer term energy savings (market transformation)-- Industries of the Future, Energy Efficiency Goods and Services, and Rural Communities.

MSOE administered the programs with a diverse set of organizations chosen for their experience and expertise in energy program delivery. In FY04, these included GDS Associates, Franklin Energy Services, Scientific Applications International Corp. (SAIC), CESA #10, EnVise LLC, the Working Force Inc., and Johnson Controls, Inc.

The Business Programs help businesses and industries find ways to improve energy efficiency in their facilities and operations. The programs also work with providers of energy services to help them make their services economically viable to businesses. The programs aim to help the marketplace work more effectively.

Business Programs work with commercial and industrial businesses, local governments, schools and agricultural consumers of energy, as well as architects, engineers, contractors, distributors and others who provide energy efficiency services. The programs provide an array of energy efficiency services to help organizations achieve energy savings that exceed the program cost. Programs are designed to include specific energy savings targets and to build a foundation for long-term sustainable energy efficient markets in Wisconsin. Cost effectiveness is also a basic program criterion.

Energy Savings Summary For FY04 (July 1, 2003 to June 30, 2004)

The following table shows the adjusted Business Programs verified gross energy savings developed by applying adjustment factors to the program-reported totals.

Program	kWh	kW	Therms
	Evaluation Verified Gross	Evaluation Verified Gross	Verified Gross
Production Agriculture	11,067,037	2,876	87,105
Schools & Local Government	18,695,265	3,506	1,915,059
Commercial	37,174,020	9,441	622,421
Industrial	71,711,723	7,557	9,935,718
Total	138,648,045	23,381	12,560,303

Industrial Program

Two programs from FY03--General Industrial and Water Wastewater--were merged to create the Industrial Program in FY04. Total gross verified kWh savings in FY04 were 71,711,723, up from a total of 45,133,731 gross verified kWh for these two programs in FY03. Gross verified kW savings also increased slightly, from 6,340 kW to 7,557 kW. Gross verified therm savings saw a dramatic increase, from 1,378,682 therms in FY03 to an impressive 9,935,718 therms in FY04. Each of these two program areas has a distinct customer base and market activities so they will be discussed separately.

General Industrial

The general industrial sector accounts for about 48 percent of the electric use and 75 percent of the gas use of all Wisconsin businesses. Therefore, this sector represents a great opportunity to save significant amounts of energy.

The Industrial program targeted specific energy intensive clusters in FY04, bringing together experts in each industry to determine the best actions to improve the efficiency of energy intensive processes. Targeted clusters include Pulp and Paper, Metal Casting, Food Processing and Plastics.

The Industrial sector also offered many training opportunities, including Practical Energy Management© (PEM) and the One-2-Five program. One-2-Five, which was offered at 20 companies, is designed to provide a gap analysis of a company's overall approach to energy use. It motivates upper management to take action and sets a general direction for areas needing improvement.

The program also developed "Best Practices" sheets for Program allies to ensure that they are promoting the most energy efficient approaches and equipment to their customers.

Water and Wastewater

The Water and Wastewater program is designed to help treatment facilities in Wisconsin improve the efficiency of their equipment and operational practices. Many of the approximately 1,800 individual water and wastewater systems in Wisconsin are in the government sector. These facilities, which operate 24 hours a day, 7 days a week, account for approximately 35 percent of the energy used by municipalities.

Common energy savings opportunities in water and wastewater facilities include aeration, pumping, biosolids management, automatic controls and variable frequency drives. One of the issues that program managers have typically faced is that these treatment facilities are designed based on 20-year growth projections. If the municipality has not met the growth projections or a major industrial company leaves, the result is that motors are oversized for current use and more energy is being used than necessary to get the job done. The energy savings vary, but some smaller treatment plants like Ephraim in Door County have reduced their kWh by about 50 percent.

The Water and Wastewater program has worked systematically over the past three years to build relationships with existing associations and allies, including: the Wisconsin Wastewater Operators Association, the Wisconsin Rural Water Association, the American Water Works Association and the U.S. Environmental Protection Agency, Region V.

One additional key relationship that was established in FY04 was with the Rural Water Association. The Focus on Energy Water and Wastewater program has collaborated with this organization for training and outreach to their members.

In FY04, the program established a Best Practices guideline for water and wastewater treatment plants, developed a training course for water and wastewater facility operators that incorporates energy efficiency, and also completed a benchmarking study for these facilities.

The Focus on Energy Water and Wastewater program has received national attention and has become a model for other states that want to implement similar programs. The Consortium for Energy Efficiency has included Water and Wastewater as a priority area to address, and the ACEEE has asked our permission to distribute Focus on Energy program materials nationally as well as to other countries.

Success Story: Practical Energy Management (PEM®)

PEM is a template for an energy management program that helps companies quickly and easily manage their energy costs. PEM helps companies establish an energy policy, set energy goals and track projects. It provides calculation tools that help companies benchmark energy use per unit of production or square footage as well as estimate equipment energy use. In FY 04 PEM training for industrial companies was held at 14 different sites with over 250 companies trained in the approach.

Commercial Program

FY04 was one of transition for Focus commercial sector efforts. Two programs--Existing Buildings and Small Business--were successfully merged into one, with a new management team. The Commercial team organized its efforts around three segment teams--grocery, hospitality (restaurants and lodging) and health care. With these changes, the Commercial Program had energy savings of 37,174,020 gross verified kWh in FY04, up from 28,491,034 gross verified kWh in FY03 (Existing Buildings and Small Business combined). Gross verified kW savings also increased from the previous year, going from 6,666 kW to 9,441 kW. Gross verified therm savings were 622,421 in FY04, a decrease from FY03. Part of this decrease is due to fuel switching projects that reduce electricity consumption but increase therm use.

The grocery team has made inroads into that segment by working with the Wisconsin Grocers Association and by targeting certain technologies. For example, they looked at refrigeration controls by using a supermarket simulation model on a dozen stores. One of the recommendations from the simulation was to install Anti-Sweat Heater controls where there appears to be significant energy savings potential.

The Hospitality Team includes the lodging and food service industries. There are approximately 14,000 food service businesses in Wisconsin and 3,700 lodging establishments. This segment is one of the most energy intensive segments in the Commercial sector with restaurants using 2.5 times more energy per square foot than the average commercial building.

The Health Care Team established key relationships with some of the state's largest organizations such as Columbia-St. Mary's, Aurora, and Marshfield Clinics. One of the targeted technologies within this segment included the installation of variable frequency drives on pumps and fans in HVAC systems.

FY04 saw an impressive expansion of education and training offerings for the Commercial sector including: Commercial Practical Energy Management, Energy Efficient Swimming Pools, and Refrigeration.

Other accomplishments include the retail sale of approximately 125,000 Energy Star qualified CFLs to commercial businesses.

Success Story: High Efficiency Pre-Rinse Sprayers

The Hospitality Team has worked with the Wisconsin Restaurant Association to market the use of high efficiency pre-rinse sprayers (for dishwashing) to the 14,000 food service businesses in Wisconsin. These high efficiency sprayers can save an average of 480 therms per installation or an average of 11,000 kWh per installation. The Focus program will be working with distributors to get more of these installed in FY05.

Schools and Local Government Program

In FY04, the Schools Program and the Government Buildings program merged to become the Schools and Local Government program. CESA 10, which had managed the Schools program, now manages the newly merged program. The goal of the Schools and Local Government Program is to create an environment in Wisconsin where all administrators and operators of public and private K-12 schools, technical and private colleges and all non state government buildings make informed decisions when using energy and purchasing energy consuming equipment. The result is reduced energy use, the ability to better manage energy costs, and more comfortable staff and students.

In FY04, the program had gross verified savings of 18,695,265 kWh, a substantial increase over the 11,254,139 gross verified kWh the previous year for the two pre-merged programs. Gross verified kWh was 3,506 in FY04, up from 2,081 in FY03. Gross verified therm savings were 1,915,059 in FY04, an increase from the previous year of 1,160,573.

Over 500 school projects have been implemented in schools around the state since the Focus program began three years ago. In FY04, the Schools and Local Government program worked hard to get savings from measures other than lighting retrofits from T-12 to T-8. They focused on getting more schools to use sensors (occupancy and daylighting) and multilevel switching in gymnasiums.

Nearly 100 schools are using the Energy Watchdog program to track their energy usage. The Focus program has offered the use of this software to interested customers. For the small cost of this program, it has paid great dividends. In addition to helping schools get a better understanding of how much energy they use each year, some schools have found various types of billing errors that when corrected saved them money.

The local government side of the program targets the estimated 6,000 municipal government buildings and related operations (including municipal services) in Wisconsin. In addition to the Water and Wastewater program that focuses solely on public works facilities, the Local Government program covers buildings and operations, such as traffic lights.

Success Story: Large Space Air Management

An area that looks especially promising for reducing energy use is large space air management. Most large spaces (gyms, commons, auditoriums etc.) are designed to bring in large amounts of outside air during periods when they are occupied. However, most of the time the occupancy level is only a fraction of the designed load. The Focus staff worked with a Program Ally, Energy Control and Design, to identify options to improve this situation. They found a relatively easy way to control air flow (four-hour override timers, DDC control enhancements and a DDC retrofit), and provided a spreadsheet for calculations, and grant assistance. Over 75 large spaces have been evaluated; 15 projects have been implemented to date. The initially skeptical Program Ally subsequently informed other contractors of this energy reduction strategy.

Production Agriculture Program

Agricultural industries, particularly farm operations, use large amounts of energy and usually pay higher electric rates than other commercial users. Further, many of these agricultural operations face difficult economic circumstances. The Production Agriculture program is designed to strengthen Wisconsin's agricultural communities by improving the overall energy efficiency and sustainability of production agriculture across all eligible rural customers in Wisconsin. While focusing primarily on farm operations in FY03, the program expanded in FY04 to include crop irrigation, crop storage, greenhouses, and grain drying and roasting.

The Agricultural program saw an impressive increase in the amount of energy savings in FY04. The program had a verified gross kWh of 11,067,037, and verified gross kW of 2,876 in FY04, almost double the savings in each of these categories from FY03. Verified gross therm savings also increased, from 47,926 in FY03 to 87,105 in FY04.

Continued coordination with other state agencies and the Focus member utilities has been very effective. Working relationships with these organizations have resulted in multiple benefits, including lead generation and sharing between programs. For example, if Focus is the first point of contact, they might direct a customer to the utility re-wiring program if the situation calls for it. Likewise, if the utility works with a customer on a re-wiring project, they may direct the customer to Focus for assistance on an energy efficiency project.

Leveraging of program development efforts was very effective in FY04. Some of these partnerships include: Farmstead Re-wiring Education and Training Program; UW-Extension HVLS, long-day lighting and electric system assessment; and Wisconsin FFA energy efficiency curriculum development. Other relationships that have proven to be effective include the Wisconsin Agri-Services Association, Professional Dairy Producers of Wisconsin, the Dairy Business Association, the Fresh Market Vegetable Grower's Association and the Wisconsin Potato and Vegetable Growers Association.

Despite the fact that milk prices have swung between record low prices at the beginning of the fiscal year and record highs toward the end of the fiscal year, program activity levels remained fairly constant throughout the year. The introduction of the prescriptive form for incentives has helped reduce the amount of paperwork, and because of this, more program allies participated in the Production Agriculture program. In FY02, the program had 23 participating program allies; in FY04, there were 101.

Success Story: High Volume, Low Speed (HVLS) Fan

A major success of the Production Agriculture program has been its impact on the High Volume Low Speed (HVLS) ventilation fan market in Wisconsin. Prior to this year, one dealer had exclusive distribution rights in five Midwest states, including Wisconsin. Now there are five distributors marketing HVLS fans in Wisconsin. The increased competition has resulted in more fans being available and at a lower cost to the customer. Originally, these fans cost \$6,000 per installation; now the cost is \$4,500. One installation at a Waupaca farm with a herd of 450 had net savings of 51,045 kWh. This translates into savings of \$4,288 per year

Industries of the Future (Center for Technology Transfer)

The Industries of the Future program continued to support the private nonprofit corporation that it created two years ago--the Center for Technology Transfer (CTT). The mission of the CTT is to help

commercialize promising new energy saving technologies that enable businesses in key industry clusters to improve their competitiveness.

The CTT offers several types of assistance including: project design and technical assistance to identify process improvement opportunities; assistance with state and federal grant applications; research, development and demonstration projects; and financial assistance.

The CTT has made or committed to make investments in five technology companies that significantly impact energy use in Wisconsin. In addition to funding, this commitment includes investment oversight and mentoring, where appropriate. These companies and their technologies are:

- BioElectroMagnetics, Inc. (BEMI) - Electro ionic disinfection of bacteria in water
- Lucigen- Cost effective enzyme for cellulose based ethanol/energy production
- ThermoChem Recovery International (TRI)- Pulp mill black liquor gasification
- Virent Energy Systems- Hydrogen production from sugar-rich water
- Wisconsin Fiber Resources- Paper pulp production from waste material

The CTT also worked to obtain Investment Fund leveraging in FY03. The CTT partnered with a Wisconsin economic development group called Impact Seven, which is providing an additional \$3 million in funding for projects.

Success Story: Virent Energy Systems

Virent Energy Systems is a Madison, Wisconsin based company with a technology that recovers energy from industrial waste streams and converts it into hydrogen gas. With assistance from the CTT to raise \$500,000 in matching funds, Virent won a \$2,000,000 federal grant to scale up their technology. The grant came from the Advanced Technology Program, which is part of the National Institute of Science and Technology.

Energy Efficiency Goods and Services Program

The vision of the Energy Efficiency Goods and Services program is to pursue economic development by impacting the production, distribution and purchasing decisions of Wisconsin manufacturers and associated distribution channels.

In FY04 the program was able to lay the groundwork in a number of areas for future success in the supply-side market. For example, in the area of motors, a better understanding was gained of the market forces that impact purchase/repair decisions. In the area of refrigeration, the program developed a stronger understanding of the forces that impact design and placement of cold drink cooler units that are located in the checkout lines at supermarkets. The program completed a 200-store physical survey of these units and will use this data to work with state and national bottlers to provide an opportunity to make them more energy efficient. Conversations with a national beverage company indicate that this program area may fit with some of their initiatives.

Success Story: SMART Motor Management Tool

The program created the SMART motor management tool for customers to evaluate the impact of aggregate motors in a process and how this affects production costs. The organizational feature of SMART, primarily the grouping of all motors within each process, is distinctive. In addition, the financial analysis by process and unit of production is also unique. Unlike other motor analysis tools, SMART was aimed at distributors to use with their customers. It provides greater detail than the

lifetime cost comparison of a single motor. It is also free of “deal breaking” data that some management programs provide- specifically, a motor catalog of ALL motors, which distributors are reluctant to use.

Some manufacturers and distributors have similar software to SMART; however, because they are also trying to sell equipment there is a perceived conflict of interest by the end-user. An advantage for SMART, that needs to be retained, is the objectivity that a third party (i.e. Focus) endorsed tool can provide. Manufacturers who have expressed interest in SMART thus far include Toshiba USA and GE.

Rural Communities

Due to budget reductions, the Rural Communities program was scaled back considerably in FY04 and for FY05 will be combined with Production Agriculture to create the Agriculture and Rural Business Program. In FY04, the program had no direct resource acquisition goals, since the energy savings credit went to the sector that provided the incentives (Industrial, Commercial, Schools and Government, or Production Agriculture).

Because of budget constraints, the program wrapped up its work with the City of Ashland. This initiative generated a high degree of participation in the Focus program by various sectors, including local government and commercial businesses.

Another area of success has been working with the UW-Extension. Since the UW-Extension is seen as the “go to” organization that rural areas use when investigating business expansions or other economic development opportunities, it was the logical organization to distribute energy efficiency information from the Focus program. Two initiatives are being pursued with the UW-Extension. The first is developing a series of energy efficient worksheets that will allow Extension, and businesses themselves, to assess potential for energy savings. The second is for Extension agents to provide organized events that focus on energy efficiency in the business community. Currently, the program is working with the Sauk Columbia Economic Development Network. This group is helping to develop seminar programs and direct outreach using the energy efficiency worksheets described above.

DOA applied for and received a grant for the Rural Communities program to work with the Village of Cashton, which is located in western Wisconsin near La Crosse. Working closely with community leaders, the program is providing outreach to various groups on several projects, including a wind energy feasibility study and an anaerobic digester study. This work will continue into FY 05.

Success Story: Small Business Sweep

The “small business sweep” outreach strategy in West Bend focused on serving members of the Downtown Association, a group of small businesses clustered in a specific area of West Bend. This model of outreach was based on unsolicited energy surveys and leave-behinds. The West Bend Chamber of Commerce helped to promote the event. Follow-up phone calls revealed that about 26 percent of businesses implemented at least one energy efficiency measure within a month of receiving their survey. Due to the success of this effort, the Commercial program is now adopting a similar approach in several other communities.

Education and Training

FY04 saw a significant increase in Education and Training-related activities. This was due in large part to the structural changes that were implemented, including the hiring of an education and training coordinator. The new coordinator met with sector and program managers, as well as utility personnel, to determine their education and training needs.

On the administrative end, an online training registration system was implemented, and Web conferencing capabilities were available for the first time. A scholarship program was developed to offer reduced rates for training and incentives based on whether a participant implemented a project after attending a training event.

Three new training events were developed: Commercial Practical Energy Management, Energy Efficient Swimming Pools and an on-line Industrial Lighting course. The Education and Training coordinator led these efforts in coordination with the sector managers and outside contractors, when needed. Course development has proven to be very cost-effective with the Energy Efficient Swimming Pools course paying for itself after just eight sessions. Existing training courses that continued to be offered included Industrial Practical Energy Management© and Building Operators Certification (BOC).

Renewable Energy Program

The long-term goal of the Focus on Energy Renewable Energy Program is to enhance market conditions to increase renewable energy adoption in all sectors of the economy. However, because it would take more resources than the program has to influence all markets effectively, the program focuses its resources on five specific markets, while providing limited support to other markets on a case by case basis. The five market segments are: solar electric on existing homes; solar water heating for large volume users; customer owned rural commercial wind; large dairy farm biogas systems; and thermal bioenergy from bioenergy wastes. These markets support a balanced portfolio that serve most of the sectors in Wisconsin's economy and also provide a broad range of technologies that are cost effective and/or deliver significant environmental benefits.

In general, the market for renewable energy is growing in most sectors in Wisconsin. More people are becoming aware of renewable energy technologies and the information to make informed decisions is becoming more available. Interest is growing and the supply and service infrastructure to meet a growing market demand is growing as well. In the past year, one new solar panel manufacturing facility started and is operating; an interconnection equipment manufacturer expanded; and two wind tower and component manufacturers were announced. In addition, there are more renewable energy auditors and installers trained and available in Wisconsin. Higher fossil fuel prices and recent increased application of utility scale technologies has also contributed to the development of customer owned renewable energy markets.

This past year saw many significant accomplishments for the renewable energy program. The program was able to provide tremendous education and technical assistance to eligible Wisconsin customers through the call center, presentations at meetings, workshops and seminars, and site assessments. This led to 102 new contracts for renewable energy equipment installations, a 57 percent increase over the previous year. The program far exceeded the goals for technical assistance, presentations at workshops, and seminars. In addition, the program developed two new renewable energy graduate courses for KEEP teachers (Continuing Education Units) and supported the largest renewable energy fair in the country.

Energy Savings Summary: Program Achievement For Period of July 1, 2003 to June 30, 2004

The estimated energy and demand savings shown below represent (1) the technical potential of gross¹ annual savings that would occur if all recommended energy efficiency products/services were installed and /or provided, and (2) the installed gross annual savings based on program tracking results. However, the majority of the large hydro, wind, electric and thermal bioelectric, and solar thermal projects were delayed and were not installed in this fiscal year.

Program Area	Gross Potential kWh Savings	Gross Installed kWh Savings	Gross Potential kW Savings	Gross Installed kW Savings	Gross Potential therm Savings	Gross Installed therm Savings
Implementation Grants & Cash-Back Rewards	20,953,928	479,283	3751	187.2	587,857	105,660
Low Interest Rate Loan	10,000	0	4	0	0	0
Equipment Grant for N.P.	14,472	1,283	11	1	0	0
Total to Date	20,978,400	480,566	3,766	188.2	587,857	105,660

Success Stories

Two significant business developments occurred during the year specifically related to the Focus program. A whole new business structure was developed and implemented with the help of a Business & Marketing grant to Solar Mining Co. Solar Mining has leased and created a solar panel manufacturing facility and the new company has contracts to install large solar heating projects at six state-owned facilities, and at an additional five sites using Focus incentives.

Another Business & Marketing grant helped create a new business developed by Midwest Windgineering, which assisted Global Energy Systems in establishing one of the largest wind tower and wind component manufacturing facilities in the nation. Also of note was the first installation of larger wind systems at two locations in Wisconsin. These reconditioned turbines from the California market fill a niche for a cost effective wind energy option for businesses and farmers that have a good wind resource.

In addition, 27 other wind projects were supported in the past year, as well as 55 photovoltaic projects, seven bioenergy electric, and six bioenergy thermal projects. The program also awarded 25 grants for business and marketing, feasibility, demonstration and research and development.

Environmental Research Program

The purpose of the Environmental Research Program is to explore the impact of electrical energy use on Wisconsin's natural environment. Funding supports research projects that study the environmental effects of electrical generation and transmission. By statute, 1.75 percent of available energy efficiency funding is allocated to the program. The program is administered by the Energy Center of Wisconsin, a private, nonprofit organization providing energy efficiency education, information, training and demonstration.

Research priorities and grant recommendations are made by the Environmental Research Forum, an eight-member group chaired by the DOA Division of Energy. Other Forum members represent the Department of Commerce, the Department of Natural Resources, the Public Service Commission, the University of Wisconsin, Clean Wisconsin, WE Energies, and Alliant Energy.

The program's primary goal is to contribute practical and useful knowledge to the ongoing process of designing Wisconsin's electrical energy future. Of special interest are research projects that fill gaps in existing knowledge about the environmental effects of electrical energy generation and transmission in Wisconsin.

Research Priorities

The Environmental Research Forum developed six research priorities. These are:

1. Study the effect of mercury and other air pollutants from coal fired power plants on human health in Wisconsin.
2. Measure and inventory mercury in the environment, both sources and fates.
3. Conduct deposition monitoring, modeling and fate of multiple pollutants.
4. Study ecosystem impacts of electrical generation and transmission.
5. Study land use issues resulting from electrical generation and transmission.
6. Identify, study and assess global climate change impacts and strategies for Wisconsin.

Since its inception, the program has awarded \$2,106,242 for research projects related to the research priorities. The following are the Environmental Research Grant topics funded through FY03:

- *Changes in Biodiversity in Selected Natural Communities Related to Global Climate Change*
- *Impacts of Forest Management Activities on Carbon Sequestration and GHG Emissions*
- *Assessing the Ecological Risk of Mercury Exposure to Common Loons*
- *Population-Based Methylmercury Exposure Assessment*
- *Projecting Impacts of Greenhouse Gases on Carbon Sequestration by Wisconsin Forests*
- *Mercury Chemistry in Power Plant Plumes*
- *Wisconsin NADP National Trends Network (NTN)*
- *Wisconsin Mercury Deposition Network*
- *Evaluation of Fin Clips as a Non-Lethal Approach for Estimating Mercury Concentrations in Fish*
- *Quantifying Carbon Storage in Wisconsin**
- *Measuring Vertical Fluxes of Gaseous Elemental Mercury in Wisconsin*
- *State of the Science on the Ecological Effects of Transmission Line Siting and Construction**
- *Comparative Toxicity of Secondary Coal Combustion and Mobile Source*
- *Mercury in Selected Fish Species over Time*
- *Lichen Bioaccumulation and Bioindicator Study near Alliant Columbia Generating Facility*

*Projects completed in FY04

Home Energy Plus Programs

Home Energy Plus programs help families and individuals with limited incomes*. Managed by the Department of Administration, the programs are delivered to eligible households through county health and social services agencies, community action agencies, tribal governments and other nonprofit organizations.

These programs receive significant financial contributions from the federal government through the Low Income Home Energy Assistance Program (LIHEAP) block grant and the Low Income Weatherization Assistance Program (LIWAP). As a result of 1999 Wisconsin Act 9, these programs also receive state public benefits money. The public benefits funds have allowed the state to increase the number of households that receive weatherization, efficiency, emergency, heating cost, and electricity cost services. By integrating these funds with the federal Low Income Home Energy Assistance Program and the federal Low Income Weatherization Assistance Program, Wisconsin has developed a comprehensive assistance program that deals with “whole home” energy needs.

* The state public benefits statute defines low-income households as those with income not more than 150 percent of the federal poverty level.

Low Income Energy Program Goal

The ultimate goal of all low-income energy programs is to make the household energy self-sufficient; that is, to provide services such that the household can meet their energy costs on an ongoing basis without sacrificing other necessities. Therefore, the goal of the program is not just to deliver its services, but to deliver services in a way that contributes toward a household's self-sufficiency. The program targets services especially to households with a vulnerable person or a high energy burden.

Heating Assistance

WHEAP Heating Assistance is a one-time benefit payment for each heating season (October 1 through May 15). It is intended to help pay a portion of heating costs, not to cover the entire annual home heating costs. The amount of the heating assistance benefit depends on household size, income level and household heating costs. Heating assistance is provided entirely with federal funds from a block grant received for that purpose.

Heating assistance benefits are sent directly to utilities and fuel suppliers to apply to a household's bill. Customers receive a notification from the Wisconsin Division of Energy informing them of their benefit amount; the fuel supplier credits the amount to the customer's account.

Assistance with Electric Bills

The Public Benefits funds have enabled the program to expand services to assist with non-heating electric costs. This assistance is intended to help pay a portion of the electric costs of a household, not to cover the entire annual cost of electricity for the household. Households served by non-participating municipal and cooperative utilities (not contributing to the Public Benefits Fund) are not eligible for this benefit, but are eligible for their provider's “commitment to community” program. As a service to non-participating utilities and cooperatives, the department processes their customer applications and calculates the equivalent state benefit.

Energy assistance benefits for electric costs are sent directly to electric suppliers in the same manner as for heating assistance. Customers receive a notification from the Division of Energy informing them of their benefit amount, and the supplier credits the amount to the customer's account.

Crisis Assistance

Crisis assistance is available to eligible state residents who are subject to a disconnection of their utility service or if they are nearly out of heating fuel and do not have any way to pay for the fuel or fuel bill. WHEAP Crisis Assistance provides both emergency services and proactive services. Importantly, all WHEAP agencies provide a 24-hour crisis phone number.

Emergency services also help during the heating season (October 1 through May 15) by purchasing heating fuel for a household, providing a warm place for a customer to stay for a few days, providing furnace repair/replacement, or taking other actions that will help in a heating emergency.

Proactive services may help residents avoid future emergencies throughout the year by establishing co-payment plans between the customer, fuel supplier, and WHEAP agency; providing training and information on how to reduce fuel costs; providing counseling on budgets and money management; or taking other actions.

Weatherization and Conservation Services

Weatherization Services help reduce home energy costs and conserve energy by reducing home energy consumption. This makes homes more comfortable -- warmer in the winter and cooler in the summer. The reduction in consumption reduces the customer costs and also reduces overall consumption, which benefits all customers.

The federal weatherization program is operated statewide. An expanded program is in operation in areas served by participating utilities.

Common weatherization services may include attic and side-wall insulation, reducing air leakage into and out of the home, heating system repair or replacement, water heater replacement, refrigerator replacement, window repair or replacement, energy efficient light bulbs, and water saving measures.

Program Eligibility

Generally, people are eligible for weatherization services if they are eligible for WHEAP. Families that apply for WHEAP also are considered for weatherization services.

The table shows income guidelines applicable for the 2003-2004 heating season. Families are eligible for home energy assistance program services if their gross income for the last three months is less than the amount shown for their family size. In addition, both weatherization and WHEAP have simple non-financial eligibility tests.

<u>Family Size</u>	<u>Family Income</u> (3 Months)
1	\$ 3,367.50
2	4,545.00
3	5,722.50
4	6,900.00
5	8,077.50
6	9,255.00
7	10,432.50
8	11,610.00
For each additional person add	\$1,177.50

Home Energy Assistance Statistics for FY04

LIHEAP Heating Assistance

- Provided LIHEAP Heating Assistance to 134,840 households
- Average payment: \$268

Public Benefits Electric Assistance

- Provided Public Benefit Electric Assistance to 121,990 households
- Average payment: \$68

LIHEAP Crisis Assistance

- Provided LIHEAP Crisis Assistance to 34,048 households
- Average payment: \$301

Public Benefits Crisis Assistance

- Provided Public Benefit Crisis Assistance to 6,346 households
- Average payment: \$168

Heating Unit Repair and Replacement

- Provided Heating Unit Repair and Replacement to 1,912 households
- Average payment: \$1302.11

Weatherization Assistance Statistics for FY04

All Funding Sources

- Assistance provided to 8,048 households
- Assistance is 20 percent above FY2003 level of 6,726 households
- Average household benefit from all fund sources: \$5,418, or \$317 less than last year

State Public Benefits Funds Only

- Assistance provided to 7,041 households
- Assistance is 21 percent above FY2003 level of 5,797 households
- Average benefit to Public Benefits qualified households: \$4,222, or \$51 less than last year.