

Leveraging Strategic Partnerships to Multiply Program Savings

Craig Schepp and John Nicol, Science Applications International

ABSTRACT

Wisconsin's Focus on Energy (Focus) Industrial Program, now in its 11th year, owes much of its success to leveraging strategic partnerships. A key strategy early in the Program was to identify key stakeholders and allies with common goals and to determine, with their help, how to overcome the most significant barriers to implementing energy efficiency. Industrial Program management initiated dialogue to seek partnerships with outside groups, not just to complement the program's implementation incentives but, more importantly, to develop strong marketing partnerships that help understand challenging markets and reach out to key customers.

The effort has led to an array of private, quasi-private, and governmental alliances driving significant expansion into the industrial energy efficiency marketplace. In the private sector, Focus has nurtured relationships with manufacturer associations, such as the Wisconsin Paper Council and the Wisconsin Cast Metals Association; with the utilities that provide funding through their rates; and with vendors of equipment and services. The program has teamed with quasi-private groups, such as the Wisconsin Manufacturers Extension Partnership and the Milwaukee Economic Development Council. In government partnerships, Focus's relationship with the U.S. Department of Energy (DOE) stands out – working with the *Save Energy Now* (SEN) Program. The significance of this relationship is exemplified through jointly conducting over 100 Energy Savings Assessments; through vigorous participation in DOE's LEADER program and Superior Energy Performance demonstration; and through DOE ARRA funding opportunities.

These relationships, fledgling only a few years ago, have matured into strong, effective alliances that are critical in attaining program goals. This paper will discuss how these partnerships have helped make the program successful.

Introduction

Industrial energy use accounts for about 32 percent of total energy use in the United States. U.S.DOE has estimated potential savings for this sector ranging from 10 percent to 25 percent. This assertion, coupled with the relatively high cost-effectiveness of using industrial incentives to influence large amounts of energy savings as experienced by the Focus program, make this sector particularly attractive for energy efficiency programs charged with resource acquisition. All industrial energy efficiency programs are challenged to apply every possible resource they can to achieve energy savings. Therefore, in a time of uncertain funding, partnerships that leverage additional resources, particularly as they relate to improved marketing, increased technical capacity, and reduced project costs provide great advantage in this market. Wisconsin's experience may provide lessons for other programs.

Background

Expert observers of industrial energy efficiency programs across the country have noted that the industrial market can be difficult to penetrate, largely due to its heterogeneity and that energy cost is often considered by management, though perhaps incorrectly, to be peripheral to production (Chittum, et al. 2009). The current recession has both shrunk capital availability and reduced the willingness of companies to take long-term investment risks.

The most successful industrial programs employ multiple tactics and channels to understand and meet their customers' needs. The authors describe seven key program attributes that lead to successful penetration of the industrial sector market. One key is the ability to coordinate multiple program offerings. Furthermore, partnership-oriented strategies to support program efforts have been employed by several programs across the country over the past several years.

Strategic partnerships, as Focus's Industrial Program has applied them, can be extremely valuable in extending program resources to achieve higher levels of benefits. As the program has introduced new offerings arising from these new partnerships, participation has increased, both in the specific new activity and in the general program.

Several initiatives in other parts of the country have also relied on partnership development as a key strategy to expand resources available to their program constituents and achieve greater program impact. Three notable regional examples are discussed next.

The Northwest Energy Efficiency Alliance (NEEA), in a collaborative, targeted-industry approach to transform markets, employs a three-level strategy to support industrial companies. The effort began by seeing a value in regionalizing the Continuous Energy Improvement process that had largely been promoted at a company level. Exemplified by its Northwest Food Processors Challenge (Peterson & Barrow 2010), a collaborative between NEEA, Northwest Food Processors Association (NWFPA), USDOE, and Northwest regional utilities, the group provides (1) technical/plant-level support which is complemented by member technical support from Bonneville Power Authority, Energy Trust of Oregon, Puget Sound Energy, and Idaho Power, and others (2) strategic energy management of the Industrial Efficiency Initiative, and (3) the aggregation of energy savings through business clusters. At level 2, companies develop energy management activities that start by establishing energy intensity goals that drive the search for energy savings opportunities. At level 3, aggregate energy savings goals are set for business clusters by the executive level Directors of participating firms. A cluster-level Energy Director, underwritten by NEEA, develops a roadmap of specific actions that companies can take. Representatives from leader companies who share benchmarks, goals, and results, comprises an energy team. Cohesion is driven by common goals, such as business sustainability in the face of exterior competition. Energy efficiency is viewed as a critical "plank" in sustainability efforts. In the NWFPA cluster, they are currently gathering baseline data from food cluster companies. NEEA also benefits from its DOE SEN LEADER partnership activity and is supporting a Superior Energy Performance pilot with four large companies (Wallner 2011). Program managers believe the collaborative approach has resulted in enhanced energy savings opportunities for all participants.

The Southeast Energy Efficiency Alliance's (SEEA) Industrial Coalition, anchored in Atlanta and in its early stages, relies on collaboration among large industrials in the large southeastern region that are willing to share best practices. Initiated by a USDOE regional summit in 2008, stakeholders decided to develop a long-term discussion culminating in a

roadmap that SEEA would flesh out. SEEA has emphasized the Save Energy Now LEADER program yielding about 30 LEADER commitments. Tactics include employing live case study formats where other companies are invited to see and hear about success stories involving best practices in company decision making, acquisition of funding, and other processes (March 2011).

NEEA, SEEA, SWEEP, and Focus on Energy are among many programs that rely on industry and federal partnerships to enhance their programs' value. The remainder of this paper highlights some of Wisconsin's initiatives.

Focus on Energy

Wisconsin's Focus on Energy program (Focus) is a non-profit, public benefits program that partners with its participating utilities across the state to provide energy efficiency and renewable support to eligible businesses and residences. Serving a market that has over 12,000 businesses, the Industrial Sector program employs multiple and diverse strategies to overcome barriers to effective energy management. Wisconsin's industrial market accounts for 30 percent of non-transportation energy use and is dominated by large, energy-intensive industries in pulp and paper, food processing, metal casting, plastics, and printing. Metal fabrication makes up a large part of the market in terms of number of industries.

As stated by Program Manager, John Nicol, Focus on Energy's model for collaboration is to (1) work with all key stakeholders to understand their missions relative to efficiency, (2) develop program elements to leverage stakeholder mission and services, (3) provide leadership for energy efficiency promotion across all stakeholders, and (4) collaborate with stakeholders to identify and overcome barriers to energy efficiency. Key strategies include meeting with leading edge industrial companies, their associations, and their allies to learn their needs and jointly develop programs that respond to those needs; working with electric and gas utility representatives to reach out to their customers in a unified, supportive front, and leveraging external resources that help the program break down identified customers barriers to energy efficiency, such as technical and financial risk (Nicol 2011).

In Focus's experience, the key impediments to energy efficiency in industrial markets are: lack of awareness of opportunities, perceived technical risk of an unknown application, lack of project funding, internal competition for capital (particularly from production-related projects), lack of time or priority, and lack of a comprehensive approach to energy management. Focus has attempted to address each of these barriers through various program offerings. These observations are the result of working directly with customers and their allies, hosting customer and association roundtables, and through unofficial program surveys.

The cornerstones of Focus's industrial program are strong customer and ally relationships; solid technical support from field experts; financial incentives for technical studies, staffing, and project capitalization; energy management support; and appropriate education and information on best practices and emerging technologies.

Often, the best resources are external to the program. Partnerships can be an excellent way to leverage them. The remainder of this paper will discuss the strategic partnerships that Wisconsin's Focus on Energy has developed in its 11 years of existence. Particularly, key partnerships with industry (associations), market providers (utilities, equipment and service vendors), and government agencies (U.S.DOE) will be featured.

Industrial Association Partnerships

An energy efficiency program's success always depends on how well it can reach those customers that are most likely to participate and yield large energy savings. So a first step for any program usually begins with determining key markets. The most recent market study (Xenergy 2001) conducted for Focus in 2001 identified several industries in the state that were of strategic importance for energy efficiency program resource acquisition. The largest and most energy intensive industries in Wisconsin account for 74 percent of energy use (Pulp and Paper – 21%, Food Processing – 17%, Metal Casting – 27%, and Chemicals/Plastics – 9%). The total available savings from the target industries is approximately 16 TBtu per year or over six percent of Wisconsin industrial use, with about one-fourth of that in boiler efficiency.

After that study, Focus on Energy's industrial sector team strived to engage these targeted industries. Since many of Focus on Energy's offerings, such as technical support and financial incentives, must be delivered directly to the customer, a reliable way to reach customers and gain their acceptance was needed. Direct marketing using standard mailing databases proved limiting and far from optimal in reaching potential customers. Looking deeper, program implementers discovered an effective way to reach industrial customers by nurturing relationships with associations who naturally had the trust of their members. Using the 'ins' with industry leaders who were already participating in Focus, Focus was able to initiate a dialogue with association executives and other member leaders to determine how Focus could best help them meet their needs. The dialogue, which continues today, has led to several new approaches that have yielded great results for the program: (1) peer-reviewed energy best practice guidebooks; (2) industry-tailored field experts; (3) specialized incentives for emerging technologies; (4) in-depth study support; and (5) staffing grants.

The program applied several strategies to approach these markets. The general strategy was to team with the specific association for that industry and the industry's key leaders in energy efficiency. Target industry associations include the Wisconsin Paper Council, Lake States TAPPI, the Midwest Food Processors Association, the Wisconsin Cast Metals Association, and the Society of Plastics Engineers – Milwaukee Chapter. Focus has also established association partnerships within the municipal water and wastewater industry.

The partnerships that Focus entered into with each association quickly established them as one of the most critical assets for program resource acquisition. Listening to industrial customers has shown that industry in general has a tendency to view governmental programs with a healthy skepticism. However, once the associations, prodded internally by member leaders, saw how Focus could actually help their members reduce operating costs and not jeopardize production, Focus became a part of their business landscape. The benefits of these partnerships were evidenced in significant growth in program participation. Over the years, Focus has engaged the associations in many ways, including through sponsorship of industry roundtables and workshops, giving presentations, and supporting their newsletters with Focus ads. On an ongoing basis, Focus personnel conduct periodic meetings with key association leaders and administrators to discuss needs and potential services. These meetings often lead to new program offerings tailored to those needs.

The tables, below show the growth trend in program activity from targeted industrial customers, represented by participation rates and approved savings. Table 1 looks at customer growth for each of Focus's targeted cluster industries. While other markets experienced growth

influenced by new offerings and higher incentives, the trends exhibited here, for all targeted sectors showed exceptional growth once the new efforts were underway. Table 2 shows the same trends for electric energy savings.

Figure 1

**Growth in Focus Program Participation
(Targeted Industrial Customers)**

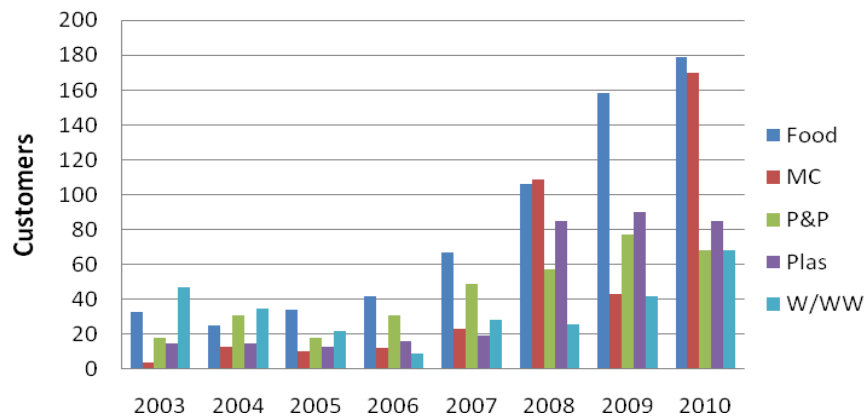
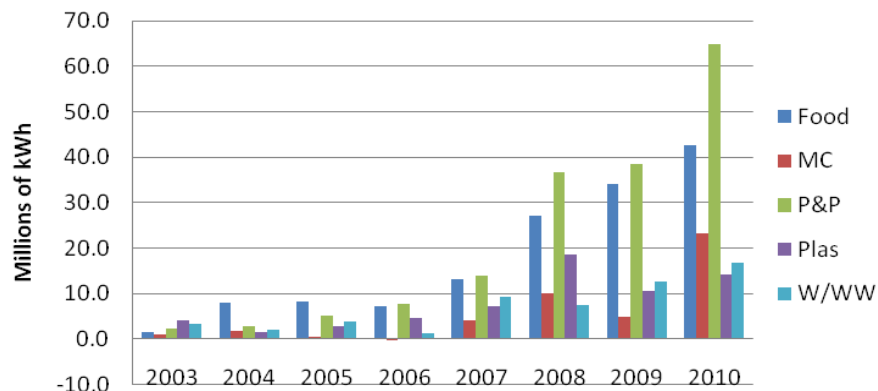


Figure 2

**Growth in Program Approved kWh
(Targeted Industrial Customers)**



One specific success is the *Pulp & Paper Staffing Grants*. When Focus asked about major barriers to energy efficiency, the Pulp & Paper industry responded with “limited staff time to develop and implement projects”. Focus answered the challenge by developing its first Staffing Grants – incentives awarded competitively to industrial customers who can show a slate of qualified, pending projects and the need for internal engineering staff time to get them done. Awards cover only salaries and fringe benefits for one Energy Project Manager to implement projects listed on the Approved Project List. Projects must be completed and show energy savings before a payment is made. The first Staffing Grants were rolled out in 2008 for five Wisconsin pulp and paper mills. Combined, these mills saved over 14 million kWh and 1.5

million therms annually and reduced power demand by 1.8 MW. Focus paid \$322,000 in staffing grants to these companies and the value of the energy savings was \$2.3 million. Focus introduced its second round of Pulp & Paper Staffing Grants for 2009. Given the struggling economy and the reluctance of companies to hire and spend, the response was enthusiastic. Focus awarded a total of \$802,000 in Staffing Grant awards to seven mills. The approved projects provided \$9.6 million in energy savings - 36 million kilowatt-hours, 7.4 million therms, and three MW of reduced power demand.

Utility Partnerships

Energy utility partnerships in those areas where the utility does not operate the energy efficiency program can be the best way to reach some industrial customers. Industrial customers, due to the size and quality of their loads on utility systems, are critical accounts for energy utilities. Therefore, utilities will pay close attention to the public benefits program operated by a program provider and do their utmost to ensure their customers' needs are met. Focus has evolved to having a standard practice where both program and utility account representatives to work together with customers. The program advisor may leverage the trust that a utility account representative may have with a customer. Focus offers Practical Energy Management™ for larger customers who have can sustain a long-term energy management program. Often the Focus advisor and utility account representative team up to facilitate ongoing company's energy management efforts. Utility partnerships also help Focus leverage special services that an industrial customer may need, such as metering of a new installation or providing a baseline for energy use. Each of Focus's utility partnerships is tailored differently to work within the framework that the utility provides. One example of utility collaboration is the Energy Education and Awareness initiative by We Energies where utility account representatives and their agents give direct support to mid-sized customer energy management efforts. A second notable collaboration is that of Wisconsin Public Service Corporation which provides incentive bumps to Focus incentives for mid- and small-sized customer energy efficiency projects.

Market Provider Partnerships

Since its beginning, the Focus program has invited partnerships with companies who provide energy efficiency and/or renewable energy services or products to Wisconsin businesses. Focus encourages them to be program allies in order receive program updates on incentives and offers; apply their partnership with Focus as a sales tool; gain access to cooperative advertising dollars; and get a free listing on the Focus website. In order to facilitate program participation, where the trade ally can often take the lead on a Focus-funded project, Focus offers a variety of standard energy efficiency equipment rewards, such as for energy efficient lighting, VFD's, compressed air measures, motors, and service buy-downs. In addition to these "prescriptive incentives", trade allies also employ the program's "custom incentives" which are relegated to more complex, variable projects that require deeper engineering review. Allies initiate and develop projects with customers and their designated Focus Advisors for submittal to the program. The benefits of trade ally partnership are manifested in increased sales of energy efficient equipment and greater program savings.

In one success story of 2010, Focus partnered with willing compressed air market providers to do a Compressed Air Performance Verification and Optimization Pilot Program

(PVO) which offered a higher incentive to implement those projects identified in a compressed air system study with less than a 1.5 year payback or spend at least \$15 per horsepower towards those projects without additional incentives from Focus on Energy. The program proved the efficacy of commitment-based study incentives, overcame a cost barrier for the five companies who completed the offering, allowed four different compressed air market providers to sell comprehensive assessments - all while achieving cost-effective, high-attribution program savings. The incentive was more than three times the standard compressed air audit incentive. More complex audit requirements warranted giving a higher incentive. The pilot captured more than 250 kW and over 2.3 million annual kWh for the Focus program at less than 75 percent of the cost of the basic program (Altfeather 2011).

Focus, through its non-profit subcontractor, CleanTech Partners (CTP), also partners with early-stage companies that are trying to introduce new energy efficiency technologies to Wisconsin's industrial market (Akhtar 2011). CTP contracts with new technology companies to develop business plans, provide market demonstrations, and make connections with customers and financial resources that can reduce technical and financial risks of early adopters. The new technologies are the feedstock that can improve overall process efficiency and lead to future energy savings. Through this process, Focus has teamed with vendors of unique, emerging energy-efficient technologies. One technology that has received special marketing support in Wisconsin, including case studies and special incentives, is Rex TCS's radiant band heaters for plastic injection molding machines. The technology reduces power demand by five to 25 kW and saves between 25,000 and 100,000 kWh per machine. There are about 100 potential installations in Wisconsin and 40 have been installed, to date. Currently, Focus is investigating about 20 emerging industrial technologies through cooperative vendor-customer demonstrations of operational feasibility and energy savings.

USDOE Partnerships

Undoubtedly one of the most fruitful partnerships that Focus's Industrial Program has been a part of is with the USDOE Industrial Technologies Program (ITP). Since 2004, Focus has supported the deployment of many ITP initiatives. When DOE introduced Save Energy Now Energy Savings Assessment Program (ESAs), Focus quickly recognized their tremendous value to industrials in providing reliable, actionable technical recommendations and a new way for Focus to leverage program savings. Focus has also secured industrial program assistance through funding opportunities for a regional Save Energy Now program and for a nine-company, bundled proposal with a major ARRA award through the USDOE 000044 Funding Opportunity. These efforts have also led to outstanding Wisconsin participation in DOE's LEADER and Superior Energy Performance (SEP) programs. The following describes these achievements.

1. Save Energy Now – Energy Savings Assessments (ESAs)

Since 2007, Focus has cost-shared Save Energy Now (SEN) Energy Savings Assessments (ESAs). In 2009, the Focus program took another step, partnering with Wisconsin's Office of Energy Independence, to win a USDOE award for a Regional Save Energy Now program. Supporting the USDOE ITP goal to reduce industrial energy usage by 2.5% by 2025, WisconSEN offers expert energy assessments, DOE training, and mentoring through SEP. As an extension to the Focus program, ESAs can provide actionable, supported energy efficiency choices to industrial customers in Wisconsin. A

key reason for Focus collaboration with the USDOE is to leverage the trusted advice of USDOE-certified Energy Experts, helping participants overcome their technical risk barriers. Focus can then assist customers in overcoming the next barriers, such as limits on staffing to implement projects implementation or insufficient capital funding to pay for projects. Combining high level technical expertise available from DOE Experts with Focus project grants helps to leverage customer energy efficiency projects. Under WisconSEN, 30 ESAs have been cost-shared with Focus. ESA recipients who adopt recommendations can receive project implementation grants. After almost five years of collaborating with SEN, a total of 109 ESAs have been completed in Wisconsin: Steam (51), Pumps (21), Fans (12), Process Heat (11), Compressed Air (10), and Paper Machine (4). The combined, identified potential savings from these reports totals over 53 million kWh and over 22 million therms.¹ While not quantified here, Focus has been able to encourage participants to undertake a significant number of the ESA recommendations, some supported by Focus grants and others completed on their own.

2. Assessment and Qualified Specialist Training

In partnership with U.S. DOE, Focus has sponsored a total of 10 one-day Assessment and five Qualified Specialist training events over the past five years. This program helped Wisconsin industrial customers understand their own systems and helped their market providers and Focus develop new expert capacity to support to Wisconsin facility Best Practices. Focus follows up with training participants to encourage customer projects. The program's independent evaluator has estimated a savings factor that is used to reflect energy savings attributable to training.

3. LEADER and SEP

In cooperation with the USDOE, Focus is participating in the LEADER and the Superior Energy Performance (SEP) programs. The LEADER program has 13 Wisconsin commitments and the SEP Pilot has three participants to demonstrate the processes, standards, and performance criteria under SEP, thereby providing achievable benefit to participating plants (Dantoin & Wroblewski 2010).

4. DOE 44 – ARRA Funding Partners

In 2009, the USDOE offered a funding opportunity (DOE FOA 000044) to fund large energy efficiency projects (over \$10 million). The funding, through ARRA, covers 50 percent of project costs. Focus asked industrial companies with large projects that they could not fund on their own and for which a Focus grant would be insufficient or unavailable, to participate in a bundled proposal requesting \$14.6 million. Focus aggregated proposals from nine companies and submitted them as a single proposal. The proposal was awarded the full amount in April 2010. These projects would not have been funded or even considered seriously without the facilitation by Focus and the Federal funding. The proposal presented combined reductions of 3089 kW; 28,800,558 kWh; and 11,079,948 therms. As of December 2010, all nine projects were well underway with all

¹ Does not include recommendations to consider switching fuels for steam systems.

to be completed by December 2011. Owners of these projects are also suggesting that their savings are exceeding their expectations by substantial margins.

Conclusions

The partnerships are summarized in Table 1, according to who was involved, what resource was leveraged, how the partnership was leveraged, and the ultimate program benefit.

Table 1: Leveraging Strategic Partnerships to Multiply Program Savings

Partner	Leveraged Resource	How Leveraged	Program Benefit
Industrial Associations	Market intelligence, marketing support, customer connections, credibility	Direct dialogue about member needs, program response; cluster-specific program resources	Improved customer access and participation
Utilities	Marketing support, special insight on customers, and energy team collaboration	Utility funded; joint willingness between program and utility staff to serve customers together	More projects identified through joint visits and team meetings
Market Providers - General	Marketing support through technology channels	Program support	More projects identified
Market Providers - Emerging Technology Companies	Technical expertise, financing for emerging technologies	Through contractor CleanTech Partners	Expansion of industrial emerging technologies through demonstration and commercialization
U.S. DOE - Save Energy Now	105 Energy Savings Assessments, to date	Proposal to DOE; Focus cost-share	More ESAs + new project opportunities identified
U.S. DOE - Best Practice Training	10 Assessment and 5 Qualified Specialist Classes	Same as above	Increased engineering expertise at facilities and among market providers
U.S. DOE - SEP and LEADER	Demonstration support for Wisconsin companies	LEADER recruitment by program	High level support
U.S. DOE - FOA 44	\$14.5 million to pay for 50% of large projects for 9 large industrial projects	USDOE ARRA Funding Opportunity Notice Award 000044	Co-funding for 9 large projects that would not have been done otherwise

All energy efficiency programs are given opportunities for partnerships that have the potential to expand offerings for customers. A strategic approach that (1) understands customer barriers, (2) matches external resources to overcome those barriers, and (3) actively engages in partnerships that leverage those resources, can be most fruitful in helping to achieve both customer and program goals. Wisconsin's experience may provide some lessons.

Focus on Energy's collaboration approach (1) works with all key stakeholders to understand their barriers and needs, (2) develops program elements to leverage stakeholder mission and services, (3) provides leadership for energy efficiency promotion across all stakeholders, and (4) collaborate with stakeholders to identify and overcome barriers to energy efficiency. Focus actively pursued the partnerships discussed here. The strategy is part of program logic that guides all program efforts to increase energy efficiency sales.

Working with leading-edge industrial companies, their associations, and their allies, Focus found new ways to reach out to customers, share their missions, gain their confidence, and

ultimately to acquire enthusiastic program participation. Working with electric and gas utility representatives, Focus has cultivated a new level of trust in shared service to customers. Working with the U.S. DOE, Focus has been able to leverage high level expertise and funding that leads to the reduction of customer-identified technical and financial risk barriers. Each of these partnerships has expanded program services and outreach and has enhanced both program participation and the relationships with customers which are critical to program success.

References

Akhtar, Masood. (Executive Director, CleanTech Partners). Personal communication. 2010.

Altfeather, Nate. 2011. *Retro-commissioning for Compressed Air Systems: How Wisconsin's Focus on Energy Program is Achieving Cost-Effective Results*, ACEEE Summer Study.

Chittum, Anna K.; Elliott, Neal R.; and Kaufman, Nate. 2009. *Trends in Industrial Energy Efficiency Programs: Today's Leaders and Directions for the Future*, ACEEE.

Dantoin, Tim. (Focus on Energy, Wisconsin SEP). Personal communication. March, 2010.

Kolwey, Neil. (Southwest Energy Efficiency Project). Personal communication. February, 2011.

Marsh, Rick. (Southeast Energy Efficiency Alliance). Personal communication. March, 2011.

Nicol, John. (Focus on Energy Industrial Program Manager). Personal communication. 2011.

Peterson, Sharon, and Pam Barrow. 2010. *Climate and Energy Intensity Reduction: The Northwest Food Processors Challenge*, NEEA and NWFPA.

Wallner, John. (Northwest Energy Efficiency Alliance). Personal communication. March, 2011.

Wroblewski, Thomas. (CleanTech Partners). Personal communication. February, 2011.

Xenergy. 2001. *Baseline Market Research Wisconsin Focus on Energy*, State of Wisconsin.