

Energy-Water Program Partnerships Summary and Analysis of CEE Member Experiences in Commercial Foodservice

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Summary

Many efficiency program administrators have identified program opportunities that lead to both energy and water savings. A number of these programs have developed innovative program approaches to take advantage of these multiple resource savings opportunities, such as partnering with other local efficiency program administrators and water utilities to jointly help customers save water and energy. Using information collected through case studies of partnerships in commercial foodservice programs in several regions of the United States, this paper explores several aspects of these program approaches. These dimensions include:

1. An explanation of general types of, and objectives for, energy-water program partnerships;
2. The identified program benefits of partnerships;
3. Conditions that are more likely to lead to productive partnerships as well as conditions likely to lead to unproductive partnerships; and
4. Reported energy and water efficiency measures that led to more or less productive program partnerships.

Context

The information and lessons learned contained in this paper are the result of interviews that CEE staff conducted with the energy and water efficiency program administrators listed in Table 1. CEE identified target organizations based upon its membership and the organizations' experience related to development of partnerships to promote water and energy saving programs in the commercial foodservice industry. While the program administrators that contributed to this paper were contacted regarding their foodservice equipment program partnerships, many had additional experience with partnerships in other markets as well. Of the nine organizations CEE identified that had relevant experience, seven administrators provided information to inform this paper.

Table 1 - Contributing Utilities

Contributing Organizations	Organization Type	Partners	Partner Organization Type	Geographic Area	Program Description*
California Urban Water Conservation Council (CUWCC)	Council of Water Utilities and Other Interested Parties	30 Water Agencies California Public Utilities Commission Pacific Gas and Electric Southern California Gas Company	Water Utilities Government Electric and Gas Utility, Private Natural Gas Utility, Private	California	The CUWCC won a water and energy conservation project award from the California Public Utilities Commission for direct installation of over 40,000 pre-rinse spray valves over three years.
City of Austin	Water Utility, Public	Austin Energy Texas Gas Service	Electric Utility, Public Natural Gas Utility, Private	Austin, Texas	Joint program administration for clothes washer rebate, garbage grinder removal, and chain specific programs.
Eugene Water and Electric Board	Electric and Water Utility, Public	Intra-agency coordination	Intra-agency	Oregon (primarily Eugene)	Joint program administration for specific water-cooled refrigeration projects.
Metropolitan Water District of Southern California	Water Utility, Public	Southern California Gas Company Southern California Edison	Natural Gas Utility, Private Electric Utility, Private	Southern California	Information sharing and marketing focused partnerships for steamer, irrigation controllers.
Puget Sound Energy	Natural Gas and/or Electric Utility, depending on service area, Private	Snohomish County PUD Saving Water Partnership (Seattle Public Utilities) Cascade Water Alliance City of Tacoma Cascade Natural Gas LOTT Alliance City of Auburn City of Yelm	Electric Utility, Public Electric and Water Utility, Public Water Utility Alliance, Public Water Utility, Public Natural Gas Utility, Private Water Utility Alliance, Public Water Utility, Public Water Utility, Public	Washington State	Joint program administration for direct installation pre-rinse spray valve and hand sink aerators program. Information sharing partnership for steamer rebate program.
Seattle Public Utilities	Water Utility, Public	Puget Sound Energy Seattle City Light	Electric and Gas Utility, Private Electric and Water Utility, Public	Central Western Washington State	Joint program administration for direct installation pre-rinse spray valve and hand sink aerators program. Information

Contributing Organizations	Organization Type	Partners	Partner Organization Type	Geographic Area	Program Description*
					sharing partnership for steamer rebate program. Joint program administration for direct installation of CFLs and showerheads.
Snohomish PUD	Electric Utility, Public	Puget Sound Energy City of Everett	Gas Utility, Private Water Utility, Public	Washington State	Joint program administration for direct installation pre-rinse spray valve and hand sink aerators program.
Southern Nevada Water Authority	Water Utility, Public	NV Energy	Electric Utility, Private	Nevada	Pursuing marketing focused partnership for foodservice equipment. Joint program administration under consideration for future.

*Program description includes only the specific programs discussed in relation to this document. Contributing organizations may have implemented additional programs through partnerships other than those described here.

Overview of Energy-Water Program Partnerships

Some energy and water efficiency program administrators have developed innovative program approaches that include partnering with additional local water and energy programs to jointly help customers save energy and water. These program administrators have developed program approaches that provide concrete benefits to all partners through a number of different partnership structures. This section identifies the reasons cited for partnering and the different types of partnerships that have taken shape. The next section of the paper, “Conditions that Impact Partnerships,” will provide more detail on some factors that impact the form partnerships might take as well as their potential benefits.

Why Partner?

Contributors identified four main reasons for the development of energy-water program partnerships:

- To reduce program costs;
- To increase program participation;
- To increase goodwill; and
- To achieve regulatory compliance.

Reduced Costs: Partnering on either marketing or program administration allows the partners to take advantage of economies of scale. Instead of two or more program administrators designing and printing small batches of program materials or contracting with third parties to administer small programs, the organizations can combine their purchasing power to reduce the overall marketing or administrative cost of the program.

Increased Program Participation: Program participation increases from partnering in two main ways. First, some program administrators have found that the credibility of the program increases and customers are more likely to participate when multiple program administrators promote a joint program. One utility estimates that participation increases 10-15% because of the increased credibility. Second, organizations that partner may be able to better leverage combined resources and offer programs with higher incentives to a larger number of customers in a service area, or even offer an efficient device free of charge because of the additional partner funding. Higher financial incentives can create a larger draw for customer and vendor participation in programs, and in areas where different entities are responsible for electric, gas, and water service, offering one consistent program can enable program administrators to more effectively market the program to a geographic area.

For example, many water and energy saving measures involve hot water heating in one form or another. A challenge for energy utilities to implement programs that target heated water consumption is the uncertainty around what type of fuel powers a customer’s hot water heater. If an electric-only energy utility tries to independently manage an efficiency program that reduces hot water usage, the utility must first determine what type of hot water heater each customer has and only promote the program to customers with an electric water heater. On the other hand, if a single fuel utility partners with a water utility, then a level of public benefit savings is guaranteed

regardless of the fuel used to heat water. One example of this type of partnership occurred in the Pacific Northwest on a direct installation program of pre-rinse spray valves. An electric-only utility administered the program, and that utility covered 100% of the program cost for customers with electric hot water heaters. Through a sponsorship agreement, the partnering water utility covered 100% of the program costs for customers with gas hot water heaters. Together, they were able to target every customer in a geographic area.

Another example involved a three way partnership between an electric utility, a gas utility, and a water utility for direct installation of pre-rinse spray valves. Through a sponsorship agreement, the water utility covered 50% of the program costs for all installations. The electric utility covered the remaining 50% for those customers with electric hot water heaters while the gas utility covered 50% of the costs for those customers with gas hot water heaters. This type of partnership allowed one program administrator to promote the joint program to all customers in a geographic area at a higher incentive level rather than each utility independently spending extra time and money identifying qualifying customers and offering a lower incentive level.

Increased Goodwill: An intangible benefit to partnering is the increased goodwill from public recognition of partnering and efficiency program efforts. Partnership efforts often enjoy high levels of free publicity that can add to a utility’s or program’s positive image. This benefit, while difficult to assess, should not be undervalued. In one case, a water utility had initially declined to partner with an energy utility on an efficiency program. After seeing the public relations value, the utility then decided to participate in the partnership retroactively.

Regulatory Compliance: While it is uncommon for the current regulatory environment to require that energy and water utilities partner up on their efficiency programs, the state of California is pioneering efforts in this area. See <http://www.cpuc.ca.gov/cleanenergy/design/docs/water-lowres.pdf> for more information.

Types of Partnerships

The shape of each partnership depends on a number of factors, including the commitment of the people involved, the local and state regulatory environment, program objectives, funding cycles, funding availability, and the structures of existing programs.

The types of partnerships program administrators have developed range from basic information sharing to joint program administration. These partnership types are described in detail in this section and summarized in Table 2.

Table 2 – Types of Partnerships

Partnership Type	Description	Typical Outcomes	Program Benefits
Information Sharing	Informal partnership usually based on relationships between program administrators	Lead sharing; often leads to more involved partnerships over time	Increased program participation
Marketing Focused	One time agreement to	Joint marketing	Reduced marketing

Partnership Type	Description	Typical Outcomes	Program Benefits
	share marketing costs or jointly promote separate programs	materials and outreach	costs, increased goodwill
Joint Program Administration	Formal partnership through a contract agreement that creates one program from the customer's point of view	One program application and rebate from customer perspective	Reduced costs, increased program participation, increased goodwill

Information Sharing: Information sharing partnerships occur when program administrators from water and energy utilities share leads with each other. No formal commitment is required from either utility, though information sharing may be part of a broader partnership as well. In general, information sharing based partnerships rely upon the relationships and commitments of program administrators to informally share information with each other without formal responsibilities or requirements. Many partnerships begin through information sharing and progress to other partnership types over time.

Marketing Focused: Marketing focused partnerships occur when utilities are targeting similar customer groups or technologies and see a benefit from joining together to market their programs. Partnering utilities or programs will often produce joint flyers and press releases, reducing the marketing and outreach cost to each individual organization. The organizations may also benefit from the increased consistency and credibility that comes when multiple utilities or programs market and offer the same efficiency solutions. Increased public recognition of partnerships and programs is also common. At the same time, each utility or program retains complete control over their programs including establishing rebate levels, applications, and processing functions. Marketing focused partnerships are often an intermediate step between information sharing and joint program administration partnerships.

Joint Program Administration: The aim of jointly administered programs is to create one seamless program from the customer's viewpoint. These arrangements usually involve one customer application with a combined rebate amount or a centrally managed direct installation program. One organization will often take on the role of the program administrator (either internally or through a contractor) and bill the partner utility for their portion of the program costs. The partnership roles, responsibilities, and financial commitments are clearly defined through a formal agreement among the parties involved.

Conditions that Impact Partnerships

Many factors impact the ability for partnerships to form and the likelihood of mutual benefit. These factors include the level of commitment to the partnership, regulatory or municipal environment, program evaluation requirements, resource availability, partnership structure options, types of partnering organizations, irregularity of service territories, and program design cycles. Each of the cited factors will be discussed in turn, with the most commonly cited factors listed first.

Commitment to the Partnership: Commitment to the partnership was one of the top three conditions identified as a critical prerequisite for a successful partnership. Starting partnerships across organizations is not easy—there are many challenges, which will be discussed in detail below. As with any partnership, there must be a willingness on the part of the partnering individuals and the organizations to give and take to develop a partnership that meets participant needs. Those cases in which program administrators were committed to making the partnership work were the most successful and generally expanded to include more partners and more measures. In cases where the commitment was lacking or program administrators were not willing (or able) to provide the flexibility needed by a potential partner, attempts at partnering were unsuccessful.

Regulatory or Municipal Environment: In the highly regulated energy industry and the world of public water utilities and regulated private water companies, the regulatory and municipal environment drives program administration, approaches, and strategies. In the case of energy utilities, state energy efficiency legislation and regulatory policies are critical enablers for energy utilities and program administrators to commit to and spend money on efficiency programs. The same is true for water agencies. If a municipality or governmental region does not support efficiency programs, a water utility will not have funding for such programs. In areas of the United States where strong energy and water efficiency policies exist, organizations are more likely to consider partnerships as one option for meeting their savings goals, and they will have resources allocated to support these initiatives.

Program Evaluation Requirements: The ways in which energy and water efficiency programs are evaluated by regulators and municipalities are also important. Energy efficiency programs, because they are regulatory-based, have detailed compliance and evaluation requirements that are very different than water utility experiences, which can increase the complexity of joint program design, administration, and evaluation. In addition, evaluation structures for energy efficiency programs vary in terms of allowing for indirect energy savings. For example, if the evaluation structure for energy efficiency programs includes only direct energy savings, then cold water efficiency measures (not including chilled water) will not qualify. Even hot water or chilled water savings measures may not qualify under more rigid evaluation structures. Alternately, in areas where indirect savings are valued as part of energy efficiency programs, it is more likely that an energy efficiency program will be able to support measures that save hot, chilled, or cold water. The California Public Utilities Commission has begun research to link energy and water consumption based upon the energy consumption required to pump and treat water. This linkage is complex and ongoing. For more information on these efforts please see: <http://www.cpuc.ca.gov/cleanenergy/design/docs/water-lowres.pdf> and http://www.energy.ca.gov/2005_energypolicy.

Resource Availability: Related to the regulatory and municipal environments, the availability of resources to support energy and water efficiency programs is a key to partnership success. Program administrators experienced challenges when either party did not have sufficient resources available for efficiency programs. In some cases, water



utilities with established efficiency programs led the way with energy utilities with smaller efficiency budgets or less experience, and vice versa. The greatest success occurred in areas where both energy and water utilities had sufficient resources to allocate to efficiency programs.

Partnership Structure Options: When developing new partnerships with other organizations, it is important to provide options for structuring and managing the partnership that meet all partners' needs. With differences in available resources, some organizations are unable to move as quickly as others. Developing partnership options, such as providing options for levels of partnering or phasing of programs, can increase the likelihood of a productive partnership. Inflexibility in the structure of a partnership, on the other hand, can lead to partnership fatigue as each utility may not be able to meet their savings goals or budgetary constraints.

Making it Easy: Low barriers to entry make a difference in those cases where one organization leads the partnership development efforts. Sharing information on savings and costs up front makes it easy for partners to quickly determine if the opportunity makes sense for them.

Types of Partnering Organizations: Water utilities are generally public organizations, operated by municipalities, regional water districts, or other local jurisdictions. Energy efficiency program administrators may be private or public entities. Some organizations found it easier to partner with organizations of the same type, especially in the case where both partners were owned by a municipality. The fact that municipally-owned utilities are owned by one entity and often share the same information systems simplifies management of partnerships. Other organizations found that while there are challenges to public-private partnerships, the increased credibility from the partnership made it worthwhile.

Geographic Irregularity of Service Territories: Both energy and water service territories are irregularly shaped and often fragmented. Efficiency program administrators found partnerships easiest when one partner's territory completely encompassed the other. The more fragmented the overlap in territories, the more difficult it is to target common customers without engaging additional partners.

Program Design Cycles: Many organizations found it easiest to engage new partners when new programs were being implemented or when programs cycles coincided. It is much more difficult to start new partnerships in the middle of a program cycle, as program infrastructure and logistics are already in place. Even when partners are committed to merging programs in the middle of a program cycle, additional challenges may emerge when attempting to align existing program operations and streamline implementation services.

Common Efficiency Measures that Form the Basis for Partnerships

There are a number of program areas in which energy-water partnerships have been successful or are being tested. While the program administrators that contributed to this paper were contacted regarding their foodservice equipment program partnerships, many had additional experience with partnerships in other markets as well. The most common programs for partnerships across all program areas are aimed at saving hot or chilled water. Some programs also achieved success by targeting energy and water consuming appliances in large markets, such as residential clothes washers.

The most common and successful program measures for energy-water partnerships are: residential clothes washers, showerheads, and pre-rinse spray valves. Other program measures in which energy and water efficiency programs commonly partner are: steamers, water-cooled refrigeration systems, ice machines, aerators, replacement of wet vacuum pumps with dry vacuum pumps, garbage grinder removals, and irrigation controllers. With the development of specifications for high efficiency commercial dishwashers, programs are beginning to develop partnerships that target this measure as well. Table 3 provides more detailed information on those measures for which CEE or ENERGY STAR[®] offer program guidance or specifications.

Table 3 - Common Efficiency Measures for Partnering with CEE Guidance or Specifications

Equipment Type	Savings	Additional Resources
Clothes washers	High efficiency units use up to 30% less energy and 50% less water than conventional units.	<p><u>Residential</u> http://www.energystar.gov/index.cfm?c=clotheswash.pr_clothes_washers</p> <p>http://www.cee1.org/resid/seha/rwsh/rwsh-main.php3</p> <p><u>Commercial</u> http://www.energystar.gov/index.cfm?c=clotheswash.pr_clothes_washers_comm</p> <p>http://www.cee1.org/com/cwsh/cwsh-main.php3</p>
Pre-rinse spray valves	High efficiency units use up to 50% less energy and 50% less water than the federal minimum standard.	<p>http://www.cee1.org/com/com-kit/com-kit-equip.php3</p> <p>http://www.fishnick.com/equipment/sprayvalves/</p> <p>Note: ENERGY STAR and WaterSense[®] plan to explore</p>

		development of energy and water efficiency specifications for pre-rinse spray valves in 2009.
Commercial steamers	High efficiency units use up to 50% less energy and on average 90% less water than conventional units.	http://www.energystar.gov/index.cfm?c=steamcookers.pr_steamcookers http://www.cee1.org/com/com-kit/com-kit-equip.php3
Commercial ice machines	High efficiency units use on average 15% less energy and 10% less water than conventional units.	http://www.energystar.gov/index.cfm?c=comm_ice_machines.pr_comm_ice_machines http://www.cee1.org/com/com-kit/com-kit-equip.php3
Commercial dishwashers	High efficiency units use on average 25% less energy and 25% less water than conventional units.	http://www.energystar.gov/index.cfm?c=comm_dishwashers.pr_comm_dishwashers http://www.cee1.org/com/com-kit/com-kit-equip.php3

Conclusions

Energy-water efficiency program partnerships can be a productive vehicle for achieving combined energy and water savings, increasing program participation and reducing program administrative costs. Forming partnerships is not always easy, and the unique characteristics of each market and potential partners need to be considered when determining the best partnership path, if any. This paper is based on a limited number of partnerships that mainly focus on commercial foodservice equipment. Further documentation and analysis of existing partnerships in other markets or applications would help to provide additional context and guidance for utilities considering partnerships to increase efficiency program effectiveness.

Additional Resources

The Environmental Protection Agency published a report in March 2008, [“Water and Energy: Leveraging Voluntary Programs to Save Both Water and Energy,”](#) which provides additional information on energy and water efficiency opportunities. The goal of this report is to illustrate the combined benefits of energy and water efficiency programs and summarize the current and future opportunities to be pursued under the ENERGY STAR and WaterSense programs to save both energy and water. The report provides a summary of water use in the United States, identifies the areas where energy and water are closely intertwined, and outlines strategies for delivering additional water savings through energy efficiency efforts, including opportunities with the ENERGY STAR



program and additional energy savings through water efficiency efforts, including those with the WaterSense program. The report concludes with a summary of the potential energy and water savings associated with the ENERGY STAR and WaterSense programs. The report is available for download at:

https://www.energystar.gov/index.cfm?fuseaction=publications.showPublications&pub_id=346.

Additional information on efforts to advance water and energy efficiency can be found at www.energystar.gov/waterenergy.