

**FOLLOW THE LEADERS:  
IMPROVING LARGE CUSTOMER SELF-DIRECT PROGRAMS**

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## EXECUTIVE SUMMARY

Energy efficiency offers tremendous system-wide benefits at a portion of the cost of new generation resources. Energy efficiency is highly cost-effective, consistently available at one-tenth to one-third the cost of new renewable or fossil-fuel generation. The benefits of energy efficiency to any given public utility system include lower energy prices, reduced grid congestion, reduced energy-related emissions and increased system reliability. Industrial energy efficiency is some of the most cost-effective energy efficiency available, and investments in industrial energy efficiency benefit users in all sectors of the economy.

Like other utility system resources, energy efficiency is enjoyed by all users and paid for by all users. To fund energy efficiency, states typically implement some cost-recovery mechanism (CRM) on a customer's bill. These moneys are pooled together and are then used to fund cost-effective energy efficiency across multiple sectors. In the industrial sector, CRM fees are used to fund technical assistance, energy management, and incentive programs that encourage energy efficiency investments.

In response to requests by their industrial and large commercial sectors, some states allow those sectors to either "opt out" of paying the CRM fee or "self-direct" all or a portion of the fee into internal energy efficiency investments. Firms that choose to opt out or self-direct their CRM fees are often assumed or required to make energy efficiency investments on their own. These unique programs — opt-out and self-direct programs — are the focus of this report.

This report is based on first-person conversations conducted with over 50 individuals closely acquainted with today's opt-out and self-direct programs. Interviewees included administrators of today's self-direct programs, state regulators, energy efficiency advocates, industrial energy users and officials from other state agencies affiliated with a self-direct or opt-out program's administration. The report discusses the self-direct programs in place today and the policy goals we ought to have embedded within our self-direct programs. It discusses the unique opportunities presented by self-direct programs and the leading self-direct programs in place today. The report also discusses the challenges presented by opt-out programs and poorly structured self-direct programs, and concludes with recommendations of how ideal self-direct programs might be structured.

In some particular cases, well-structured self-direct programs are being used as highly useful tools to industrial customers and other large energy users. Self-direct programs can offer certain tools and a level of flexibility that helps overcome long-standing barriers to greater energy efficiency in the industrial sector. When coupled with strong oversight and extensive measurement and verification of claimed savings, these programs can serve an entire public utility system very well.

Unfortunately, most self-direct programs lack at least one of the critical components of these highly successful (but few) self-direct programs. Forty-one states in the US have some sort of a CRM mechanism in place. Of those, 23 have some sort of opt-out or self-direct provision in place. Only a small number of the self-direct programs are structured to maximize cost-effective energy efficiency and ensure that retained CRM fees are used in a manner that benefits all users of a given public utility system.

This report finds that the structures of opt-out and self-direct provisions vary widely. Opt-out provisions allow customers to simply opt out entirely from a CRM program, and do not measure or verify that a customer has made any energy efficiency investments in exchange for their exemption from paying a CRM fee. Self-direct programs usually assume that customers are making their own energy efficiency investments, but do not usually measure and verify those savings in the manner that would have been done had the customer been making those investments within a CRM-funded energy efficiency program.

In contrast to some of the standout programs identified in this report, the majority of opt-out and self-direct programs are either poorly structured, subject to minimal oversight, or not subject to stringent measurement and verification protocols. This report finds that these programs cannot claim with certainty that they are achieving energy efficiency investments equal to that which would have been achieved had the customers remained within existing CRM-funded energy efficiency programming, or that the industrial customer is being well-served by the program.

The choice by state policymakers to implement an opt-out or self-direct program when developing long-term energy efficiency goals and CRM programs is a popular one. Unfortunately the long-term impact of these programs is not very well known, and program structures in place today generally do not ensure that the CRM funds retained by opt-out or self-direct customers are being well-spent.

Allowing large customers to opt out of CRM programs or self-direct their funds without substantial oversight by regulators or adherence to cost-effectiveness tests, as is found in programs around the country, is unfair to other classes of customers. There are some very good examples of self-direct programs that offer large customers the tools they need to make substantial energy efficiency investments and the peace of mind for regulators that public funds are being spent in a manner that benefits the public good.

This report's appendices include summaries of all known self-direct programs in place today, as well as some suggested model language for effective self-direct programs and a detailed chart of CRM and opt-out/self-direct programs as they exist in each U.S. state.

## INTRODUCTION

Energy efficiency, and industrial energy efficiency in particular, offers tremendous system-wide benefits at a fraction of the cost of new generation resources. To fund energy efficiency, 41 states implement a cost-recovery mechanism (CRM) on customers' bills to fund energy efficiency programs. In response to requests by the industrial and large commercial sectors, some states allow those sectors to either opt out of paying the CRM fee or self-direct all or a portion of the fee into internal energy efficiency investments.

These opt-out and self-direct options are growing in popularity. Two years ago 15 opt-out and self-direct provisions were identified in a nationwide assessment (Chittum and Elliott 2009). Today 24 U.S. states allow industrial customers and other large energy users such as institutions to opt out or self-direct a portion of their CRM fees. No single style of opt-out or self-direct program exists, and states around the country have developed a variety of program structures in response to their policy goals and the expressed concerns of their industrial sectors.

It is largely unknown whether or not industrial customers and society at large are best served by opt-out and self-direct programs versus traditional CRM-funded programming. The type of data that would help answer that question is not routinely collected by these programs, and even when it is collected, it is often not subjected to the same rigorous external evaluation as traditional CRM-funded programs.

Optimization of industrial energy efficiency is in the interest of every user of a public utility system because it is a highly cost-effective energy resource. Opt-out and self-direct programs that fail to maximize industrial energy efficiency fail all other energy users in a given public utility system. It is therefore imperative that we understand the state of these programs today, and identify examples of successful self-direct programs, the characteristics of successful self-direct programs, and the challenges facing all self-direct programs.

This report presents substantial new primary research conducted on opt-out and self-direct programs. Between December 2010 and July 2011 interviews with the administrators or regulators of all identified opt-out and self-direct programs in the US. The interview questions are listed in Appendix IV. Detailed synopses of each self-direct offering can be found in Appendix I. A summary chart of key program characteristics can be found in Appendix III.

The primary focus of this report is self-direct programs with the primary research inquiry addressed by this report the components of self-direct programs critical to their success and efficacy. This research also revealed challenges facing self-direct programs today, and program characteristics that minimize the overall effect such programs can have.

Self-direct programs are an incredibly effective tool to help certain customers maximize their energy efficiency. In some cases, a well-structured self-direct program can encourage a greater level of efficiency investment than would have occurred in a more traditional CRM-funded program. Self-direct programs, when well-structured and well administered, can give industrial companies and other large energy users the tools they need to overcome barriers to greater energy efficiency investments. For this reason, establishing well-structured and effective self-direct programs is a very worthy policy goal. This report offers examples of successful self-direct programs and discussions of self-direct opportunities and challenges.

The goal is to encourage policymakers and self-direct program administrators to improve their self-direct programs or, if desired, establish new self-direct programs that work. While industrial customers stand to gain the most from well-structured and well-administered self-direct programs, other classes of customers stand to benefit as well.

## **EFFICIENCY PROGRAMMING**

### **The Importance of Energy Efficiency**

The energy supply we rely on in the future will be different from the one we rely on today. As the U.S. works to meet its growing energy needs, the nation will face a number of challenges, including aging plants, constraints on existing transmission and distribution systems, stricter environmental regulations, and the ever-changing economics of fuel acquisition and power generation. U.S. energy demand is projected to continue to grow over the next 25 years. This growth is expected to occur regardless of new policies that may be implemented to help curtail greenhouse gases and reduce demand for energy. Such policies may reduce the rate of growth but will not actually reduce energy use relative to today's consumption (EIA 2011a).

Americans are going to need more electricity, and the cost of electricity is not getting any cheaper (EIA 2011c). With the specter of new and forthcoming EPA regulations, much of the country's existing coal-fired electric-generating fleet, which represents about half of the country's electric generation, will either be retired or will require costly retrofits. Retiring these plants will take a substantial amount of generating capacity offline and raise prices for existing generation in some markets (Elliott et al. 2011). Electricity generators and industries are also going to need more natural gas. Even in a low economic growth scenario, natural gas prices are expected to increase over the next two decades (EIA 2011a).

To meet growing energy needs, policymakers have two primary tools: reducing energy demand and acquiring new energy supply. Reducing demand through the implementation of energy efficiency programs is almost always less expensive than developing new fossil fuel-fired, nuclear, or renewable energy resources. A 2009 review of the cost of saved energy from 14 utility-administered electric energy efficiency programs found an average cost to the utility across all sectors to be 2.5 cents per kWh (Friedrich et al. 2009). Cumulative costs, which include the cost to the customer and utility, have been reported in one study as ranging from .8 cents to 5 cents (VDPS 2007). Such a low cost places energy efficiency as the cheapest energy resource for a utility by a wide margin. Energy efficiency is consistently one-tenth to one-third the cost of new renewable and non-renewable energy generation resources (Friedrich et al. 2009).

New fossil fuel generation sources range from an average of 6.6 cents per kWh for conventional combined cycle natural gas turbines to an average of 13.6 cents per kWh for advanced coal with carbon sequestration. These numbers do not include costs associated with environmental impacts and other externalities. New renewable-based electricity ranges a bit higher, from an average of 9.7 cents per kWh for onshore wind to an average of 31 cents per kWh for solar thermal power (EIA 2011b). It is important to note that none of these costs for generation sources include additional costs associated with transmission and distribution losses and necessary reserves for generation. Including these expenditures would increase the overall cost of delivered energy from any of these resources.

Figure 1 displays one analysis of the full range of levelized costs of one kWh of electricity from energy efficiency and other major sources. The costs for new generation resources in this figure also do not include costs associated with line losses or maintenance of reserves.



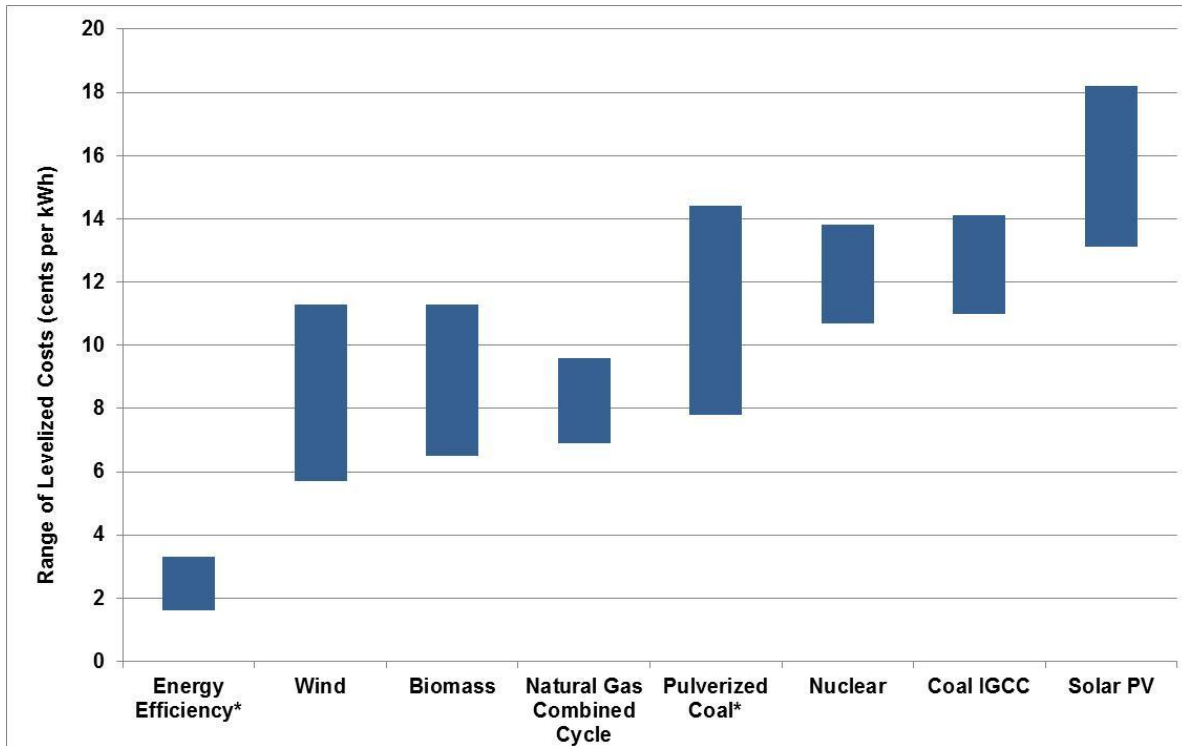
**Figure 1. Range of Levelized Costs of Electricity Generation Resources**

Table notes: Energy efficiency average program portfolio data from Friedrich et al. 2009; all other data from Lazard 2009. High-end range of advanced pulverized coal includes 90% carbon capture and compression.

Energy efficiency offers additional benefits to society besides its low cost:

- It can be brought on line much faster than traditional generation. Each individual energy efficiency investment begins to save energy as soon as it is brought online, unlike larger traditional generation investments that do not become useful until they are completely built, which can take years.
- It helps hedge against future spikes and volatility in energy commodity prices.
- It enhances energy system reliability and puts downward pressure on energy prices.
- Since it is equivalent to delivered energy for a utility, it avoids marginal generation, transmission, and distribution capacity costs, by up to 1.5 times the capacity avoided at a customer's meter. It avoids line losses of about 10% on average, and up to 30% during peak hours. (Lazar and Baldwin 2011).
- It reduces the need for new transmission infrastructure.
- It does not suffer from dispatch problems like some renewable resources.
- It reduces overall emissions.
- It can be a powerful economic development tool by generating jobs for people to install and maintain energy efficient equipment and materials.

Policy makers and regulators who recognize the benefits of energy efficiency have increasingly looked to energy efficiency programs to help acquire greater levels of energy efficiency. However, tremendous opportunity for energy efficiency improvements and investments remains in all areas of the country and sectors of the economy.

## Acquiring and Funding Energy Efficiency

Many states and utilities<sup>1</sup> have identified energy efficiency as an important system resource because of its low cost and the speed with which it can be deployed. States are increasingly prioritizing the acquisition of cost-effective energy efficiency to improve the affordability and reliability of their energy resources. Energy efficiency is now viewed as a priority when planning for future energy demand despite historically being viewed as supplemental to more traditional generation resources (Kushler et al. 2009). States typically rely on energy efficiency programs, which work with consumers to implement end-use energy efficiency measures, to acquire new energy efficiency resources. Spending on energy efficiency programs in the U.S. has increased every year in the past decade, and total projected energy efficiency budgets for 2010 topped \$6.5 billion (Molina et al. 2010, CEE 2010).

Twenty-six U.S. states (Sciortino et al. 2011)<sup>2</sup> have set efficiency savings goals, often in the form of an energy efficiency resource standard (EERS) which sets specific energy savings targets for utilities (Kushler 2006, Kushler et al. 2004). Energy efficiency goals usually seek to obtain the least-cost resources in order to keep the overall cost of energy low for all consumers. The establishment of energy savings goals on the state level is a fairly recent trend. A decade ago energy efficiency programming generally paired monetary spending level goals with cost-effectiveness tests, but did not necessarily establish kWh savings requirements.

Energy efficiency resources are low cost but not free. They typically require an upfront investment in equipment or maintenance or administrative support to acquire the long-term energy savings. With energy efficiency goals in place, utilities, and other entities tasked with meeting these goals, are allowed to recover the costs associated with the energy efficiency program, much the same way utilities can recover the cost of new generation resources.

States employ cost-recovery mechanisms that rely on a small additional fee paid by each customer to pay for energy efficiency. The aggregate funds from the fee are pooled together and used by utilities or other entities to pay for the most cost-effective, or otherwise beneficial, energy efficiency programs across all sectors of the economy. These cost-recovery mechanisms are known by many names, including systems benefit charges, demand-side management tariff riders, energy efficiency riders and public benefits funds. In some cases efficiency program costs are combined with other system costs (such as new generation) and the resultant new costs are reflected in updated rates for consumers. This paper refers to all of these types of mechanisms simply as cost recovery mechanisms (CRMs). According to the primary research, 41 states have some sort of CRM in place to fund efficiency programming in their electric or natural gas sectors.<sup>3</sup>

## What We Ask of Energy Efficiency Programs

State regulators approve, and frequently require, public utility funding of energy efficiency programs to provide system and public benefits. Energy efficiency programs can help control energy costs by avoiding the need for new generation and transmission resources. New fossil fuel and renewable generation and transmission facilities are expensive to build, and their costs have historically been borne by all of the customers within the utility's service territory or across the region. Like a new power plant or an investment in transmission infrastructure, energy efficiency programs yield new energy resources that benefit the entire utility system. All customers share the benefits as well as the costs of those resources. Over the past 30 years, regulators, utilities, and the energy efficiency industry have developed rigorous, nationally-accepted practices to measure, verify and evaluate the cost-effectiveness of these programs, to meet statutory requirements that ratepayer funds are prudently spent.

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<sup>1</sup> Throughout this report, "utilities" will refer to regulated electric and natural gas utilities, energy efficiency utilities, and other regulated entities that administer CRM-funded energy efficiency programs, such as the Energy Trust of Oregon and the New York State Energy Research and Development Authority.

<sup>2</sup> Throughout this report, "energy efficiency" will refer to both electricity and natural gas efficiency. All EERS programs apply to electricity; some apply to natural gas. For details on EERS policies in each state, refer to Sciortino et al. 2011.

<sup>3</sup> See Appendix III for a list of states with CRMs in place.

Not all energy efficiency is equally cost-effective or equally beneficial. The industrial sector in particular offers some of the most cost-effective efficiency savings available to any given utility (see Goldberg et al. 2009, Energy Trust of Oregon 2011, Kushler et al. 2004). Industrial energy efficiency resources can be half the cost — \$/kWh saved — of efficiency resources in other sectors (Kushler 2011). Industrial efficiency measures also have been shown to offer far better benefit to cost ratios than measures in any other sector (VDPS 2007). Therefore maximizing industrial energy efficiency is a priority for utility resource planning and resource acquisition, and for maximizing ratepayer benefits.

Some energy efficiency programs serve statutory objectives beyond just reducing ratepayer costs. Low-income energy efficiency programs, market transformation programs, research and development programs and programs that support education programs in schools are examples of energy efficiency programs that offer positive externalities to society. These programs are sometimes not as cost-effective as industrial energy efficiency programs, but are pursued for their societal benefits (Kushler et al. 2004). These programs also constitute system resources, and are generally paid for by all system users. All sectors benefit from these programs, including the industrial sector. Highly cost-effective industrial energy efficiency programs help balance out a portfolio of programs that include some less cost-effective ones.

## **Cost-Recovery Mechanisms and the Industrial Sector**

Energy efficiency programs are funded primarily by collecting CRM fees from all customers. States with CRMs in place use the aggregated funds to administer a variety of efficiency programs to all sectors. The industrial sector is often served by dedicated energy efficiency programs, which typically offer energy audits, technical assistance, financial incentives, and rebates for investments in energy efficient equipment or adoption of energy-efficient behavior. Other utilities combined their commercial and industrial programs together.

Since CRM fees are most often based on a percentage of a customer's monthly bill (often 2–5%), energy-intensive industrial firms have long contributed substantially to overall CRM funding pools despite industrial retail rates being much lower than rates for commercial or residential customers. According to current industrial energy efficiency program managers, industrial companies also use substantial amounts of CRM-funded program resources. (NorthWestern Energy 2010, Crossman 2011, Schepp 2011, Chittum et al. 2009).

Some industrial firms around the country have noted at times that they do not receive benefits equal to the amount of CRM funding they contribute. In some cases this is a legitimate viewpoint: industrial program offerings are sometimes not responsive to the needs of customers (Chittum and Elliott 2009). In many recent regulatory filings associated with state energy efficiency regulatory proceedings, representatives of industrial companies or industrial stakeholder groups have submitted filings suggesting that they should not pay CRM fees and should be allowed an option to opt out of the efficiency programs and CRMs (Ambrosio 2011, Haase 2011, IECPA 2009, AZCC 2009).

There are three primary reasons industrial firms believe they should not be subject to CRM fees: 1.) CRM-funded programming is not responsive to their needs. 2.) They already have and will continue to invest in all cost-effective energy efficiency on their own accord. 3.) By paying CRM fees, industrial customers subsidize other rate classes. This report will not determine whether these claims are true, but it is important to understand some of what is known about these issues.

In some instances, the first argument has proven to be true (Chittum and Elliott 2009). However, at least three self-direct programs — in Oregon, Michigan and Wisconsin — reported that customers who had been self-directing or had considered self-directing had chosen to return to paying the CRM fee and using CRM-funded programs because the CRM-funded programs yielded substantial benefits (Stipe 2011, Walker 2011, Schepp 2011). It is worth noting that the CRM-funded industrial offerings in those states all tend to be quite strong.

The second claim — industrial customers will invest in all cost-effective energy on their own, absent any energy efficiency programming — is disputed by many CRM program managers based on their personal experience administering industrial energy efficiency programs. As discussed in the “Self-Direct Challenge” section, self-direct programs themselves offer evidence that the claim is untrue.

The final claim — industrial customers end up subsidizing other rate classes — is a complex one to evaluate. In a recent review of most major energy efficiency programs in the US, utilities acquired 67% of their electric savings from the commercial and industrial customers<sup>4</sup> but only spent 39% of their electric energy efficiency program budgets on those two sectors (CEE 2010). Industrial and commercial customers are enjoying the bulk of programs’ energy savings, to be sure. In 2009, US electric sales to industrial and commercial customers by full-service providers accounted for about 59% of all electric sales on a MWh basis, and 55% on a dollar basis (EIA 2011f). Since CRM fees are typically based on a customer’s energy consumption (on a kWh or dollar basis), it is possible to suggest that industrial customers contribute, on average, about 55-60% of all CRM fees. It is reasonable to suggest that because industrial and commercial efficiency measures are more cost-effective than those in other sectors, energy efficiency programs get more “bang for their buck” in those sectors and need to spend more of the program dollars in other sectors to achieve a kWh of savings than they do in the industrial and commercial sectors.

Regardless of the above three arguments, the ramifications of letting some large customers choose whether or not to participate in CRM-funded programs are significant. States are increasingly relying on energy efficiency as a low-cost energy resource to meet long-term growth in energy demand and achieve savings targets. Allowing large industrial, commercial or institutional customers to “go it alone” and not participate in CRM-funded programs or well-structured self-direct programs can eliminate a proven low-cost resource, ultimately increasing the cost of energy efficiency savings.

## **THE SELF-DIRECT OPTION**

### **The Continuum**

As state policymakers have established state EERS and related funding mechanisms, many large energy consumers, especially industrial and large retail corporations, have actively sought to have the option of not paying the CRM fees. As a result, policymakers at the state level have routinely developed “opt-out” options to allow large energy consumers to avoid paying all or part of their assessed CRM funds. In exchange, these consumers are either assumed or required to make their own investments in energy efficiency.

Today, 24 states with CRMs have some option that exempts large energy consumers from paying all or part of their CRM fees or to self-direct the spending of those fees. Some of these programs are called “opt-out” programs, because they allow customers to simply opt out of paying their CRM fees and participating in any energy efficiency programming. Some of these programs are called “self-direct” programs, because they ostensibly allow customers to self-direct some or all of their CRM fees instead of paying into the aggregated pool. These self-direct programs are the focus of the remainder of the report.

Many flavors of self-direct program exist. Some states have highly structured and well-considered programs that regularly produce substantial cost-effective energy efficiency savings. Other states have programs that allow companies to opt out of paying their CRM fees, regardless of whether that company ever makes energy efficiency investments. Most self-direct programs are not a strictly defined “type” of energy efficiency program, but rather a point on a continuum of programs that varies dramatically from state to state.

Self-direct programs generally have four common elements:

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<sup>4</sup> Commercial and industrial data from EIA is combined here for comparison purposes because the complimentary data from CEE is not disaggregated.

- **They define who is eligible**, either by setting an annual kWh consumption minimum threshold, an average MW demand minimum threshold, or establishing an entire sector or tariff schedule (industrial, transmission customers) as eligible;
- **They offer some “relief” from CRM fees**, by offering an exemption from, rebate against, escrow of, or credit to the CRM fees paid by the participating customer;
- **They are officially sanctioned and administered** by a utility, public service commission or state energy department;
- **They expect some energy savings in return** by assuming, requesting or requiring that the participating customer invest some or all of the saved money back into energy efficiency projects on site.<sup>5</sup>

Though most self-direct programs feature these elements, there are various permutations that are possible. As such, they look and operate very differently from state to state. Self-direct program designs are affected by state energy efficiency goals and mandates, local utility leadership, the opinions and actions of the local industrial sector, and the guidance and involvement of state legislators and regulators.

Since self-direct programs vary widely, it is useful to identify several main categories of self-direct programming because generalizations can be made about each category. Table I presents the opt-out/self-direct continuum and identifies critical categorical distinctions along the continuum, from opt-out to various flavors of self-direct. As we progress to the right across the table, each category yields greater and greater reliability of energy efficiency savings.

**Table I: Opt-Out/Self-Direct Program Continuum**

	<b>Opt-Out</b>	<b>Self-Direct</b>		
<b>Type of program</b>	Opt-out	Less structured	More structured, lower oversight	More structured, higher oversight
<b>Payment of CRM</b>	None	None	Fully/partially on bill	Fully/partially on bill
<b>M&amp;V of savings</b>	None	None/minimal	Minimal, self-reported	Minimal to substantial
<b>How funds used</b>	Firm assumed to use saved CRM funds for energy efficiency	Firm assumed to use saved CRM funds for energy efficiency	Rate credit or project rebate	Personal escrow account, rate credit or project rebate
<b>Follow-up</b>	None	None to minimal	Minimal	Minimal to substantial
<b>Examples</b>	NC, KY	MN, MO	MT, OR	WA, CO
				

Sources: Elliott and Chittum 2009, Young 2011, Stipe 2011, Helmers 2011, Landers and Montgomery 2010, Edwards 2011, Schutt 2011, Walker 2011, Mauney 2011, Landers 2011, Goetze 2011, Romero 2011, Zarnikau 2011, Wankum 2011

Table I separates the true opt-out category from the remainder of the self-direct program categories. These true opt-out programs lack significant structure, and cannot truly be called efficiency “programs.” Rather, the opt-out provisions in place in these states allow a company to avoid paying the entire CRM fee, with the company not required to provide any information about the energy efficiency investments that they have made. In some cases, customers are allowed to opt out for

<sup>5</sup> For programs that allow industrial customers to aggregate multiple sites to qualify for a self-direct program, the energy efficiency investments are often made at only one or some sites, and the customer may use their aggregated savings from all sites to pay for the investments at one or some of their sites.

economic competitiveness reasons; that is, they make the case that paying the CRM fee is burdensome to them. There are fewer true opt-out provisions than there are self-direct programs. Most opt-out programs offer customers the option of opting out, though in Texas and Maine large industrial customers — those that take service at the transmission level — are simply not allowed the option of participating in CRM-funded electric efficiency programming. Such treatment is common for natural gas CRM-funded programs, where most gas transportation customers are not included in CRM programs at all.

Moving right across the continuum, the less structured self-direct programs will also often exempt a customer entirely from paying their CRM fees. These programs require the customer submit some documentation stating that the customer has invested in energy efficiency in the past or plans to do so in the future. Often this is a single page letter and a copy of a purchase receipt, but the customer is not required to provide detailed information about the investment, and no thorough external analysis or evaluation of a customer's claimed efficiency savings is performed.

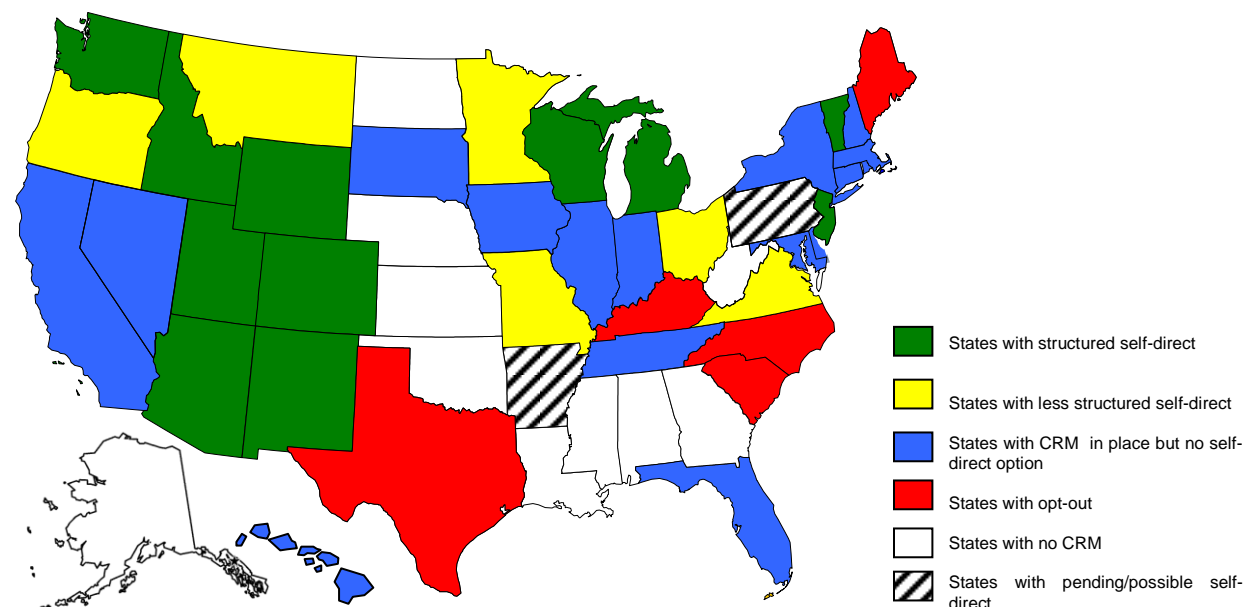
Continuing right across the continuum are more structured programs but with low oversight. These programs typically require that a customer wishing to avoid paying all or part of the CRM actually pay the CRM fees up front, and then submit paperwork to the self-direct program administrator to earn back a rebate or to earn a credit on their utility bill. Though these customers do have to submit evidence that investments have been made, the program administrators report they do not have the time, resources or authority to verify the claimed investments or savings.

At the far end of the self-direct continuum are the more structured programs with high levels of oversight. These programs can be viewed as true resource acquisition programs, generally subject to evaluation, measurement and verification protocols of the same rigor as other CRM-funded efficiency programs. Customers' CRM fees are often collected and then administered by program staff, funding investments as they are reviewed and approved. These programs usually let a customer self-direct most of their CRM fees, but retain a portion of those fees to fund administration of the program and other programs that serve other public benefits, such as market transformation and low-income programs. Highly structured and well administered programs with substantial oversight offer the best examples of successful and effective self-direct programming.

## **Opt-Out and Self-Direct Programs Today**

In the past several years the number of states with opt-out and self-direct programs has increased from the 15 (identified in Chittum and Elliott 2009) to 24 (profiled in this report). Figure 1 identifies the states where self-direct and opt-out programs can be found currently. It also indicates which states have some sort of CRM in place, but offer no self-direct option.

It is clear that opt-out and self-direct options are gaining popularity, and ACEEE has been approached by other states that are considering these program options. Model self-direct program design guidance is needed because of the potential low-cost energy efficiency opportunity available in industrial sector, and the potential to miss those opportunities with opt-out or poorly structured self-direct programs.

**Figure 1: Opt-Out and Self-Direct Program Options in the United States**

Sources: ACEEE 2011, APS 2011, Chittum and Elliott 2009, Cross 2011, Stipe 2011, Edwards 2011, Goetze 2011, Goff 2011, Helmers 2011, Landers 2011, Landers and Montgomery 2010, Mich. Comp. Laws 2011, Schepp 2011, Schutt 2011, Timmerman 2011, Walker 2011, Welch and Fraser 2011, Whitehead 2011, Williamson 2011, Xcel Energy 2011, Young 2011

ACEEE's earlier research on opt-out and self-direct programs (Chittum and Elliott 2009) found that while some self-direct programs are very structured and work diligently to verify that self-directed funds are actually spent on cost-effective energy efficiency, most programs were lacking in structure, oversight, or both. Two years later that trend still exists, though some of the newer self-direct programs, such as those found in Michigan, New Mexico and Colorado feature more structure and oversight than earlier programs. Some of the most effective self-direct programs discussed in this report can serve as models for new and emerging offerings.

Table II illustrates how varied the opt-out and self-direct program landscape is currently, listing ten representative self-direct programs and some of their key characteristics. Detailed descriptions and analyses of each opt-out or self-direct program can be found in Appendix I. Self-direct programs have in the past primarily focused on large industrial customers. More recently, self-direct programs have begun to allow other customers to participate, including large commercial and/or institutional customers. As Table II shows, participating companies experience different programs depending on the state.

Besides the expansion into new sectors, several other new trends in self-direct programs can be identified. The first is a trend toward allowing companies to aggregate the loads of multiple facilities in order to meet a self-direct program's minimum threshold. For example, while a state may establish 1 MW average annual demand as the minimum a company must meet in order to participate in the self-direct program, it may also allow a company to aggregate the demands of multiple facilities together to meet the limit. Self-direct programs, along with EERS, are beginning to incorporate natural gas efficiency investments as well as electricity efficiency. Finally, some self-direct programs continue to allow participating customers to receive credit for past efficiency investments when calculating the customer's rebate or credit.

With so many different self-direct options in place, and no established framework for what constitutes a successful and effective self-direct option, the policy question "What should self-direct programs be designed to do?" has remained unanswered.

**Table II: Select Opt-Out and Self-Direct Programs and their Critical Characteristics**

State	Example administrative body	Eligibility	Who does measurement and verification?	Energy savings goals for customers?	Level of oversight	How much of CRM fee does customer retain?	Level of utility involvement	How is CRM money recouped?	How many customers participating?
CO	Xcel Energy	2MW, 10GWh	Xcel Energy	No	High	Some	High	Rebate per kW or kWh, up to 50% project cost	Less than .5% of eligible
KY	Duke Energy	Transmission on customer	None	No	Low	100%	Minimal	Full exemption	13; 100% of eligible companies
MI	All regulated utilities	1MW / 5MW aggregated	Utilities	Yes, same as EERS	High	100% - admin and low-income	High	Partial exemption	47 companies
MT	North-Western Energy	1 MW	None	No	Medium	Up to \$500,000 per customer	Minimal — acts as “bank”	Dedicated escrow, quarterly reimbursement	57 companies
NC	Duke Energy	1GWh	No one	No	Low	100%	Minimal	Full exemption	
OH	AEP	700,000 kWh	AEP/PUCO	No	Medium	Up to \$225,000 per project / total exemption	High	Rebate or exemption	7 opt out, many more self-direct
UT	Rocky Mountain Power	1 MW/5GWh	RMP	No	High	80%	High	Rate credit	30% of eligible companies
WA	Puget Sound Energy	3aMW, certain schedules	Customer + PSE	No	High	82.5%	High	Dedicated funds, competitive bid	Approx. 44 sites; >75% of eligible
WI	All regulated utilities	1 MW	Company + Public Service Commission	Yes	High to Medium	100% - admin and renewables	Medium	Escrow, milestone payments	0

Sources: Helmers 2011, Cross 2011, Landers 2011, Edwards 2011, Chittum and Elliott 2009, Haemmerle 2011, Mauney 2011, Romero 2011, Schutt 2011, Walker 2011

## THE SELF-DIRECT OPPORTUNITY

### What Should Self-Direct Programs Do?

Self-direct programs should be designed to achieve desired policy goals. Just establishing a program and calling it “self-direct” does not guarantee the program offerings will truly encourage energy efficiency in the industrial sector or yield cost-effective energy savings. A self-direct program *can* be a



reliable resource acquisition program<sup>6</sup>, able to produce dependable and measurable energy savings. Well-developed self-direct programs can indeed inspire industrial firms and other participating companies to make substantial energy efficiency investments and help reach state energy efficiency goals that benefit everyone, including themselves. It appears that in some cases, self-direct programs can yield greater savings from certain customers than would have been achieved through traditional CRM programs. They can also leverage a facility's internal technical expertise to multiply the impact of the program dollars dedicated to energy efficiency, perhaps even at a lower cost when compared to CRM-funded programs.

A self-direct program can be a very unique, helpful, and attractive offering to an industrial firm that wishes to make investments in energy efficiency. Self-direct programs can help bridge the gap between existing commercial/industrial energy efficiency programs offered by local utilities and the needs of industrial and other large energy consumers, especially in places where the existing utility program offerings are not very strong. Good self-direct programs allow customers more flexibility in the use of their CRM fees, thereby enabling them to:

- More fully leverage their own internal technical expertise;
- Better make the case for internal support of energy efficiency investments;
- Multiply the impact of program dollars dedicated to energy efficiency;
- Implement projects over longer time periods and enjoy funding for larger percentages of project costs as compared to than traditional CRM programs;
- Meet their facility's individualized energy needs; and
- Capture traditionally hard-to-reach energy efficiency savings.

CRM cost-effectiveness tests and methods for evaluating project costs generally account for a measure's full costs and benefits compared to new generation. Thus, self-direct programs that use a utility's in-place CRM cost effectiveness criteria will likely encourage certain projects that would not have passed an internal payback period test by a customer who was simply comparing the cost and benefits of a project to the cost of avoided energy purchases. Opt-out programs in particular rely simply on a customer's internal investment decision-making criteria. While an opt-out customer might decide that a certain measure does not meet her own internal criteria, it might be beneficial enough to the energy system at large that the utility would find it met its investment criteria. A good self-direct program should not leave those projects languishing.

Self-direct programs exist have been developed in response to claims by large industrial firms that they will, as a smart business practice, continue to invest in all cost-effective energy efficiency. A self-direct policy framework should measure and verify these savings and be able to incorporate them into long-term energy system planning. The industrial sector offers substantial savings opportunities; whether or not those opportunities are taken advantage of can impact overall system demand for years into the future. Tracking the effect of energy efficiency investments made by self-directing customers enables policymakers to gauge the long-term energy demand of the industrial sector.

Self-direct programs should be able to answer the question, "Is this program yielding the same or better energy efficiency savings than would have been acquired with a traditional CRM-funded efficiency program?" Some large industrial customers have called CRMs "penalties." CRMs are established by utility regulators as a fair condition of electricity or natural gas service to pay for a system-wide resource. Paying little or no CRM fees is a special privilege that customers may earn by offering a countervailing guarantee of performance, like every other use of CRM fees. Quality data collection, a hallmark of today's CRM programs, is one way policy makers can regulators can determine whether a self-directing customer or a self-direct program as a whole is earning the special privilege. To help answer the above question, self-direct programs should be collecting data that will enable an "apples to apples" comparison.

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<sup>6</sup> A "resource acquisition program" is a program that can be counted on to deliver a reliable amount of energy savings. An energy efficiency resource acquisition program can then be compared to the acquisition of other energy resources for purposes of energy system resource procurement.

Finally, self-direct programs and the CRM-funded programs serving the utility's service area should help the customer make informed decisions about whether or not to avail themselves of the self-direct option. A customer should be well informed about the services and benefits forgone by opting for self-direct and should be clearly informed of the risks of non-compliance with the terms of a self-direct program. In the cases where a CRM program would clearly better serve a customer, a self-direct program should be able to suggest that a customer might prefer not to self-direct.

## **Ideal Self-Direct Characteristics**

A number of current, successful self-direct programs offer robust and replicable examples of how to structure self-direct programs that work. These programs are effective for a variety of reasons, and have creatively responded to their customers' needs. More successful self-direct programs feature several particular characteristics that make them good at capturing energy efficiency savings. The administrators of today's successful self-direct programs:

- Run them as a resource acquisitions effort,
- Make them flexible,
- Offer CFOs a reason to care,
- Develop smart reimbursement plans,
- Use a stick — if necessary, and
- Stay close and collect meaningful data.

### *Run Them as a Resource Acquisition Effort*

Measurable energy savings can be achieved, though most self-direct programs do not evaluate, measure or verify information pertaining to installed savings. Instead, self-direct programs tend to track the amount of money spent on energy efficiency by self-directing customers, paying far less attention to the amount of energy (e.g. kWh or therms) saved. Like traditional CRM-funded programs, self-direct programs can operate like resource acquisition programs: delivering reliable savings while satisfying desired cost-effectiveness tests.

A useful first step in running a self-direct program that operates like a resource acquisition program is to set some energy saving goals for customers. These goals could be based on state-level efficiency goals for utilities, as in Michigan, or on other parameters, as at Oregon's **Eugene Water and Electric Board (EWEB)**. At EWEB individual self-directing customers develop energy savings goals in collaboration with the utility's staff. EWEB wants to keep the energy savings goals simple to understand and administer, and so it looks at the load shares of their self-directing customers and develops energy savings goals based primarily on the percent of load a customer represents. The customer's load profiles and the average customer conservation activity in the previous year provide EWEB with enough data to develop five-year energy savings goals for their self-directing customers. Annual true-ups of the savings help keep the goal in sight, and EWEB notes that they are acquiring more efficiency from their two self-directing customers than they had in the past when the customers were using EWEB's standard CRM program offerings (Welch and Fraser 2011).

EWEB staff, and staff at other programs that ask self-directors to meet actual energy savings goals, say that developing concrete savings goals help improve the working relationship between the customer and the self-direct program administration. Instead of focusing on dollars, these goals keep the conversation focused on energy. When customers buy into the idea of energy savings goals, they learn to squeeze more energy savings out of a dollar. Their internal goals are different than those of a typical self-direct program that simply asks that customers spend a certain amount of money. The customer is empowered to learn more about making the most cost-effective investments towards his energy goal instead of just trying to satisfy a monetary spending goal. The self-direct program's goals are aligned with those of the customer, and interactions between the two entities are more amicable.

### *Make the Program Flexible*

As with EWEB's savings goal, most self-direct programs establish program periods that span one or more years. The inclusion of multiple years to a program period is one way self-direct programs can offer more flexibility to customers who often study and make investments in different components of a new project over a period of time that spans more than one year. Customers can then plan their energy efficiency investments well ahead of time. This allows them to schedule efficiency investments during planned plant downtimes which may happen very infrequently, avoiding the high costs of lost production during a shutdown done exclusively for energy retrofit purposes.

**Rocky Mountain Power** takes the goal of flexibility one step further and operates a self-direct program that is project-based instead of year-based. Customers are not presented with an either/or option when choosing whether or not to self-direct. Instead, they may choose to self-direct specific projects, and use CRM-funded programs for other projects. This structure keeps industrial firms connected to and communicating with Rocky Mountain Power, and customers may choose from Rocky Mountain Power's full suite of CRM-funded tools for projects they do not self-direct. While some self-direct programs leave customers entirely on their own, Rocky Mountain Power staff says that only a few customers really are savvy enough to maximize their energy efficiency. The flexible self-direct offerings of Rocky Mountain Power allow customers to access the utility's technical assistance and expertise as needed (Helmets 2011).

### *Offer the CFOs a Reason to Care*

A constant challenge for industrial energy efficiency programs is making the business case for energy efficiency to the holder of a company's purse strings. A facility manager may understand the importance and advantage of substantial energy efficiency investments; a CFO may see a slightly longer payback than other non-energy projects and conclude energy efficiency is a poor use of internal funds. While an energy efficiency program might be comfortable supporting an investment with a five-year payback period (compared to a power plant investment with a financial lifetime of multiple decades) an individual company or CFO may not.

The CRM fee is often just seen as a component of a utility bill and thus an operating expense, further exacerbating the challenge of convincing internal decision makers to engage with CRM-funded programs. The CRM fee is part of the general operations and maintenance (O&M) budget. Since it is such a small portion of a facility's monthly energy bill (usually 2-5%), it is generally paid without much thought, whether or not a company actively uses CRM-funded programs. Whether those programs are worth that fee is not something a CFO bothers with. A CFO would likely prefer to simply see the company's monthly energy bill lowered by removing the CRM charge.

A good self-direct program moves the CRM fee, and energy efficiency funding generally, out of the O&M budget and into the capital expenditures budget. It does this by separating the CRM fee from the rest of the utility bill and showing the customer that the self-direct-able portion of the CRM fee is a dedicated amount of money specifically able to fund energy efficiency projects. This gives facility managers an opportunity to show corporate leadership that the CRM fee is a tangible and manageable amount of money. It is no longer simply embedded in an energy billing rate, lost amid the noise of monthly expenses.

A good self-direct program also helps a customer overcome higher internal hurdle rates — that is, the minimum return a company requires before it makes an investment. It does this by setting aside money specifically for energy efficiency, which the customer must use or forfeit, and encouraging and providing funds for projects that make sense even with a long payback period. The **New Jersey Clean Energy Program** self-directed pilot program empowers customers to tackle both of the above issues by asking them to develop portfolios of desired energy efficiency investments, and funding the portfolio of investments up to certain program maximums.

The New Jersey program is a multi-phase one. After an initial investment plan is developed by the self-directing customer, the New Jersey program sets aside dedicated funds to fund the portfolio. In this way the self-directing customer is encouraged to invest in projects with longer payback periods, because the self-direct program is effectively financing the investments. The internal hurdle rate for investments is minimized in importance, because the funds are coming from an external source. And CFOs are happy to approve and seek energy efficiency investments, because they understand that the money is theirs to use or lose. This type of structure is an effective way to help overcome the entrenched investment-making decisions in industrial firms that can sometimes hinder greater energy efficiency (Ambrosio 2011).

### *Develop a Smart Reimbursement Plan*

Each self-direct program offers its customers a slightly different mechanism of reimbursement for some or all of their CRM fees. While each type offers different benefits, some are more likely to encourage cost-effective energy efficiency than others, especially when coupled with other effective program structures.

Grants and rebates, which fund energy efficiency investments either before or after they are implemented, are common among self-direct programs. They can be simple to administer and generally require that a customer continue to pay their CRM fees on their monthly bills. They offer companies lump sum payments for promised or completed efficiency investments, and are most similar to traditional incentive programs.

Rate credits offer customers a credit against the CRM fees they pay on their monthly bills, usually as a result of demonstrated energy efficiency investments. Rate credits offset part of or the entire CRM fee, and can encourage customers to continue pursuing new energy efficiency projects as they become accustomed to the reduced monthly bills. Rate credits reduce the company's utility bills over time, but still make energy efficiency happen. They can also provide a construct for an internal funding pool for energy efficiency, if a company chooses to earmark the monthly discounts as positive cash flows.

A competitive bidding process aggregates the funds from all self-directing customers. Proposed projects are submitted in for bid and self-direct program administrators decide the best use for the funds, focusing typically on cost-effectiveness and overall energy savings. This type of structure can be effective because it leverages the competitive nature of participating companies. Companies do not want to be left out of the community activity of making energy efficiency investments.

**Puget Sound Energy** administers one of the more creatively structured self-direct programs in the nation by combining grants with a competitive bid process. Self-direct programs operate with five year windows. PSE works with self-directing customers to track CRM contributions for future use, and allows them to earn an incentive against their tracked contributions whenever an approved project is completed. The program begins with a non-competitive phase during which customers are guaranteed access to their portion of CRM fees. At the end of the non-competitive phase, all remaining funds not committed to projects are aggregated together and disbursed via a competitive bid process among all self-direct customers, encouraging highly cost-effective projects. PSE found that once the competitive bid process neared and a deadline loomed, projects “went like gangbusters” because many companies did not want to relinquish any of their own “use it or lose it” funds to a multi-customer pot of money — particular when it might be used by a competitor.

One important experience of the PSE program has been the very large volume of competitive projects that have been proposed during the competitive bid process. For example in 2009 self-direct customers proposed cost-effective energy efficiency investments of over four times the amount of funding actually available in the multi-customer pot of money. PSE has found that this is common during their competitive bid process, and is evidence of the large supply of cost-effective energy efficiency in the industrial sector not being captured by existing programs (Landers and Montgomery 2010).

PSE says its self-direct program is acquiring energy efficiency at a cost equal to its other CRM-funded programs and that the program is actually acquiring more efficiency than would have otherwise been acquired. This is because the PSE self-direct program customers leave “money on the table” when they do not invest in energy efficiency. Customers just paying a CRM fee may be content paying the monthly bill and not taking advantage of CRM programs and services. The PSE self-direct program brings that same amount of money to their attention and specifically sets it aside for energy efficiency. The PSE program is an excellent example of how to leverage the flexibility inherent in a self-direct program (Landers and Montgomery 2010, Landers 2011).

### *Use a Stick — If Necessary*

Most self-direct programs do not penalize customers for failure to meet energy savings goals. Nor do they check on equipment after it is installed to make sure it is capturing claimed energy savings. While such structures may not be necessary, some self-direct program managers have found that pairing a stick with the carrot — that is, the privilege of self-directing their CRM fees — they can better encourage customers to meet energy savings goals or use up all of their allotted CRM funds. The stick or penalty becomes a tool that facility managers can take to their corporate leadership, allowing them to impress upon the company’s financial decision-makers the importance of making substantial investments in energy efficiency.

Penalties in self-direct programs vary, depending on the type of reimbursement plan in place. Where a company earns rate credits or rebates in advance of project implementation, a penalty may be incurred if the planned project does not come to fruition. Customers may have to pay back the portion of the rate credit or rebate attributable to the project that was not implemented. Self-direct programs such as the one found in **Michigan** ask customers to meet set energy savings targets. If a customer fails to meet its targets it must repay CRM fees in proportion to the shortfall. The Michigan program takes into account the reasons behind the customer’s failure to meet the energy savings goals and may lessen or deepen the penalty based upon an assessment of the customer’s actions. Though the Michigan program features the repayment structure, utilities there have been hesitant to use it, for fear of political consequences (Michigan S.B. 213, Walker 2011).

At **Puget Sound Energy** the “stick” is simply customers lose the CRM funds they have paid if the money goes unused. Other self-direct programs use this method as well to encourage maximization of energy efficiency among their customers. Customers are loath to give their money to another entity and once they understand they have a dedicated amount of money to use on energy efficiency projects, they will do almost anything to avoid leaving “money on the table.” Customers are incentivized to determine a use for their money quickly, lest they end up relinquishing it to a neighbor or competitor (Landers 2011).

### *Stay Close and Collect Meaningful Data*

Many self-direct programs, and all opt-out programs, make a one-time decision about a customer’s self-direct status and then conduct little to no follow-up, or follow up within several years. While this requires few program administrative resources, it does not allow a utility or regulator to assess the impact of the self-direct program. It also does not allow program administrators to assess whether the self-direct program is serving its target customers well.

Perhaps most alarmingly, keeping self-directing customers at an arm’s length prevents program administrators from collecting the kind of useful data that are collected in CRM-funded programs. Program administrators need to know:

- The type of investments,
- The cost of each investments,
- The overall cost of energy saved,
- The amount of energy saved by each individual measure, and

- The overall amount of energy saved.

These are important data points that can help utilities and policymakers better craft and administer energy efficiency programs in the future. If a self-directing customer is not acting in good faith, its behavior can have system-wide impacts. Failing to acquire the most cost-effective energy efficiency can put upward pressure on energy prices and generally increase the overall cost of efficiency programming.

**Xcel Energy's** self-direct program, administered in its Colorado and New Mexico service territories, maintains strong relationships and communication with its self-direct customers. It engages in substantial communication with its self-direct customers at the beginning of their self-direct application, identifying necessary data points early on in project development. Xcel requires pre-installation energy monitoring and regularly reviews and evaluates self-direct program performance. Xcel tasks its highest level engineers to review self-direct project engineering analyses and energy monitoring plans. The result is that Xcel is equally as confident in the self-direct program's claimed savings as in those claimed in the more traditional CRM-funded incentive programs. Such confidence in savings is rare among self-direct programs (Romero 2011).

The above examples illustrate that self-direct programs can be well constructed and successful in encouraging cost-effective energy efficiency. Some self-direct program managers are confident that their programs are producing savings of similar quality to those achieved through more traditional programs, though data is not usually collected to yield true "apples to apples" comparisons among self-direct programs and more traditional CRM-funded energy efficiency programs. It is clear that in some cases the flexibility and unique tools offered by self-direct programs enable greater efficiency than would have been achieved with more traditional programming. In a few select states, self-direct programs have developed into highly effective tools in a state's suite of energy efficiency programming.

## THE SELF-DIRECT CHALLENGE

As noted in the previous section, examples of successful self-direct programs exist. Unfortunately, developing and administering a self-direct program can be a challenge. Most self-direct programs and all opt-out programs feature a number of characteristics that are troubling to those interested in maximizing cost-effective efficiency across all sectors. The successful self-direct programs noted in the previous section are the exceptions to this rule. For self-direct programs to establish themselves as essential components of a state's energy efficiency efforts, the following challenges will need to be addressed:

- Unfounded assumptions on which the programs are predicated,
- Lack of data and evaluation within programs, and
- Unfair treatment of self-direct customers and other classes of customers.

### Unfounded Assumptions

Self-direct programs are predicated on some assumptions about industrial energy efficiency that are largely unfounded, or at least not substantiated by available data. The assumptions are that industrial companies are better at acquiring energy efficiency than CRM programs and will always acquire all cost-effective energy efficiency on their own, absent any efficiency programs. These assumptions, repeatedly promoted by some industrial sector stakeholders during energy policy discussions, have provided the policy basis for opt-out and self-direct programming in almost every state with such an option, despite their shaky foundations. Instead of establishing self-direct programs because they are effective energy efficiency programs in their own right, self-direct programs have tended to be developed as a response to these assumptions, put forth by some vocal members of the industrial sector.

### *Industrial Customers Do Efficiency Better*

The first assumption on which opt-out and self-direct programs are based is that industrial companies are better at capturing cost-effective energy efficiency than CRM-funded programs. This assumption also includes the inherent belief that CRM-funded programs are not capable of serving the industrial sector well. In many states, evidence suggests otherwise. ACEEE has studied industrial energy efficiency programs for years, and has, over the years, consistently identified industrial energy efficiency programs that are tremendously effective at capturing energy efficiency from their customers (see Chittum et al. 2009, York et al. 2008). Though it is clear that some CRM-funded programs are not as effective as others, examples of CRM-funded programs serving their industrial sectors well are easily found.

In fact, self-direct programs themselves tend to refute this assertion. In Wisconsin, where industrial energy efficiency programs have historically been quite strong, no single customer has chosen to take advantage of the self-direct program. Wisconsin's policy-makers and administrators of the CRM-funded programming attribute the lack of interest in the self-direct option to industrial companies' perceptions that Wisconsin's Focus on Energy programs serve them well and provide benefits equal to or greater than their individual CRM fees (Schepp 2011, Schutt 2011). In Oregon, companies have increasingly stopped using the self-direct program and instead chose to pay into the CRM-funded programming offered through the Energy Trust of Oregon. Customers have noted that they made the switch to take advantage of the Energy Trust's incentives and technical assistance. This has been especially true as the Energy Trust has developed more industrial-focused offerings (Crossman 2011, Stipe 2011).

### *Industrial Companies Will Maximize Cost-Effective Efficiency*

Another assumption frequently made during the development of opt-out and self-direct programs is that industrial customers will always do all cost-effective energy efficiency because doing so makes good business sense. This claim is typically followed by the assertion that the CRM fee is a "penalty" (Chittum and Elliott 2009, Schwartz 2011, Crossman 2011, Lazar 2010). While industrial firms in the U.S. have continued to become more energy efficient per unit of product output, they have not necessarily captured all cost-effective energy efficiency. Again, opt-out and self-direct programs have proven this to be true. In Utah, Wyoming and Oregon, customers can opt out of all or part of their CRM fees if they can prove that they have in fact done all cost-effective energy efficiency. In the case of Utah and Wyoming, "cost-effective" means that a project has a simple payback of eight years or less; in Oregon it is ten years. To date, no company has taken advantage of these exemptions in any of these states, because there are always some cost-effective projects that could be identified during an energy audit (Helmert 2011, Stipe 2011).

## **Lack of Data and Evaluation**

Measuring and evaluating the true costs and benefits of energy efficiency programs and projects is critical to maximizing efficiency's public benefits. Conducting data collection and analysis ensures money is not wasted that could otherwise be used to acquire efficiency. Customers of all classes paying a CRM fee to support system-wide energy efficiency want to know that their dollars are not being wasted. Similarly, when customer rates increase because a new power plant is built, customers want to know that the power plant is running as effectively as possible. Performance data must be collected to know this.

Opt-out programs collect little to no data, and self-direct programs often do a poor job of collecting and analyzing data. This is due largely to the structure of self-direct programs, which generally allow for few if any dedicated staff and few additional resources. Most but not all self-direct programs retain a percentage of a customer's CRM fee to cover program administrative costs, though the amount retained can be quite small and insufficient to pay for all desired program administrative activities. These collections range from about 5% to 20% of a customer's CRM fee. Self-direct programs are also often challenged by competitive concerns of participating customers who may not wish to share

data about their operations. Collecting data or verifying data submitted by customers takes time and effort, and self-direct programs are typically shoestring operations that may employ one or two full-time individuals to process paperwork.

Only a handful of self-direct programs evaluate overall program performance, which can offer comparisons between the self-direct program and the alternative CRM-funded program. Most self-direct programs do not collect data on pre-installation energy use of a company's systems to which energy efficiency improvements are applied and therefore, programs cannot develop baseline energy use assessments in order to ascertain the impact of the self-direct program.

Self-direct programs that do ask for more detailed data on specific projects before they provide a reimbursement have to rely on a company's internal or third party energy analysis. Some self-direct programs are better than others at reviewing the customer-provided data on installed measures, but many do not conduct their own measurement and verification of the claimed savings. Several opt-out and self-direct programs give credit for projects that are planned for the future, and very few of those conduct substantial follow-up with customers to verify one, two or three years down the road that planned projects were completed.

Industrial energy efficiency programs already suffer from a general dearth of data. Limited data collection from opt-out and self-direct programs yields missed opportunities to learn more about what works and what fails in the industrial sector. In South Carolina, Duke Energy allows customers to opt out of paying the CRM fee after they submit a letter stating that they have or plan to implement cost-effective energy efficiency investments. No proof is required beyond the letter. Duke staff acknowledge that collecting more data might be useful for their program planning purposes but they are not tasked with data collection or program evaluation and do not have the resources to dedicate to it (Mauney 2011, Duke Energy 2011b).

In some states, such as Montana, different entities are responsible for different aspects of the self-direct program. While one party may assume that the other is more engaged in monitoring and reviewing the energy efficiency investments of self-direct customers, the other party may assume the opposite. In Montana, the utility administering the self-direct program assumes that the state agency reviewing self-direct reimbursement claims is conducting some verification of claimed savings. The utility is not authorized to conduct project savings evaluations, and, in fact, neither is the state agency. The state agency does not evaluate the investments or review them for accuracy of claimed energy savings (Edwards 2011, Trasky 2011, Young 2009).

Beyond understanding how well self-direct programs are working, data from self-direct projects and programs can help a state or region plan for the long term impact of industrial customers' energy use and energy savings. Without proper data collection, there can be no meaningful analysis, no reliable measurement and no useful evaluation of a program's societal worth.

## **Unfair Treatment**

Opt-out and self-direct programs can be unfair to other customer classes. No other class of system user is allowed to opt out of paying for a system benefit or escrow their CRM payments. This is true regardless of the actual amount of benefit each user enjoys. Since all ratepayers enjoy the benefits of energy efficiency, in the form of lower demand for new resources, reduced environmental impacts of energy supply, reduced power and fuel costs and other factors, it is arguably fair that all ratepayers pay for it. All other system resources, such as new generation assets, are generally paid for by all customers.



Some self-direct programs and all opt-out programs take certain select companies out of the communal framework and, if those companies fail to make energy efficiency investments with their saved CRM fees, deprive customers in the remaining classes from the benefits of low-cost industrial energy savings. Opt-out programs in particular allow customers to pay nothing toward energy efficiency and acquire no new efficiency without penalty. Self-direct programs that fail to acquire the amount of efficiency that would have been acquired via a CRM-funded program also do the other classes of customers a disservice. On the other hand, the few self-direct programs that appear to encourage greater levels of efficiency investments among participants bring a greater level of shared energy efficiency benefits to all customers.

### *Granting Credit for Historic Savings*

The primary role of energy efficiency programming is to procure new energy savings. Energy efficiency programs exist because energy efficiency is low-cost and offers ancillary benefits. Self-direct programs that allow free ridership — they pay for energy efficiency that would have been acquired absent any programming — are not serving an overall public good but are instead providing participating customers with added income, at the expense of more efficiency that could have been achieved with additional efficiency programming.

One of the most visible ways opt-out and self-direct programs allow free ridership is through the crediting of historical investments in energy efficiency. North Carolina, South Carolina, Oregon, and Ohio are examples of states whose opt-out and self-direct programs give or have given credit to previously installed energy efficiency investments, implemented prior to the commencement of the opt-out or self-direct program. Giving such credit does not acquire a single new kWh, and it reduces the overall efficiency benefits of a self-direct program. Large industrial customers contend that granting such credit is the only fair way to adequately credit early action on energy efficiency, but there is no reason that large customers need to be credited for earlier investments, since they already benefit from the long-term energy savings which presumably were cost-justified based solely on avoided utility costs.

Giving credit for previous investments is most often done when an opt-out or self-direct program is first established, often in an effort to satisfy industrial customers. Offering such credit is a preferential treatment of a single class of customer and does not serve any energy-saving purpose. It is a politically useful program characteristic, but it does not ensure that new cost-effective energy is procured for the benefit of all. Giving recently installed measures credit in a self-direct program may be a useful political tradeoff to implement new long-term energy efficiency CRM program and savings goals if implemented for a very small window of time, such as one year, and only for outlier investments recently made that greatly exceed the normal average annual efficiency expenditures by those customers.

### *The Opportunity Costs of Opt-Out and Self-Direct Programs*

In recent years states have moved away from setting spending amounts and just watching the dollar amount spent on efficiency. In doing so they have moved toward setting specific energy savings goals for their utilities and monitoring kWh saved, treating energy efficiency as a highly reliable system resource and an integral part of an overall resource acquisition strategy (Sciortino et al. 2011). In contrast, most self-direct programs require dollar-for-dollar parity, asking or allowing customers to spend an amount equal to what they would have paid in CRM fees, regardless of the amount of kWh that spending acquires. These structures can make savings by self-direct customers harder to project or plan for, and harder to count on as a system resource. In states where no entity “claims” the savings acquired through a self-direct program, incentives for utilities to encourage energy efficiency, if they exist, will not apply to self-direct savings.<sup>7</sup>

<sup>7</sup> See ACEEE’s 2011 report, *Carrots for Utilities*, for more information on shareholder financial incentives designed to encourage investor-owned utilities to provide energy efficiency programming: <http://aceee.org/research-report/u111>.

Only a few self-direct programs — Michigan, Wisconsin, Eugene Water and Electric Board and Vermont's Self-Managed Energy Efficiency Program — set individual kWh or kW goals for customers and base reimbursement levels on the progress the customer makes toward the goal (Welch and Fraser 2011, Mich. Comp. Laws 2011, Chittum and Elliott 2009, Goetze 2011, Schutt 2011). Most self-direct programs do not set individual customer energy savings goals, or do not link a customer's reimbursement of CRM fees to the meeting of those energy savings goals.

As an opt-out or self-direct customer, spending the same amount of money on energy efficiency measures as they would have spent on CRM fees does not necessarily yield the same amount of energy savings as would be acquired through a CRM-funded program. CRM programs are subject to extensive cost tests and are rigorously vetted to ensure that the dollars spent through CRM programming are in all consumers' best interest. When opt-out or self-direct customers are not required to meet the same cost-effectiveness tests as CRM programs, they will make energy efficiency investment decisions based on their avoided energy costs — their current retail rates. CRM programs set cost-effectiveness rules and make decisions about the economic viability of an individual energy efficiency investment after considering the full cost of new generation resources, since energy efficiency can mitigate or reduce the need for new generation. Energy efficiency projects make much more economic sense when compared to new generation, and so CRM programs can justify investing in energy efficiency projects with longer payback periods. Far fewer energy efficiency projects will be economically justified by individual customers in opt-out programs and self-direct programs that do not require projects be considered within a framework that includes TRC, since they will not have an incentive to invest in projects with longer payback periods.

Few self-direct programs can answer the question, "Could this money be better spent elsewhere?" Only some programs — notably those in Arizona, Washington, Wisconsin, Ohio, Colorado, Utah and Wyoming — require that some cost-effectiveness test be met (Chittum and Elliott 2009, Schutt 2011, Helmers 2011, Landers and Montgomery 2010, Romero 2011, Cross 2011, Williamson 2011). However, just satisfying a cost-effectiveness test offers no guarantee that the self-direct projects are achieving the amount and type of savings that would have been achieved in a traditional CRM program. Additionally, in some self-direct programs, cost-effectiveness tests are based on self-direct customers' own internal decision-making requirements. So while an industrial firm may choose not to make an investment based on its internal cost of capital, the measure might be accepted as fundable and feasible by a well-structured self-direct program using a cost-effectiveness test that includes s. This illuminates why participation in a CRM program or good self-direct program

Opt-out and self-direct programs are not benign policy decisions. Industrial firms offer tremendous efficiency opportunities, and not maximizing those highly cost-effective opportunities can have far-reaching negative effects. Industrial efficiency measures also can offer much higher benefits to costs than measures implemented in any other sector (VDPS 2007). Taking the extensive industrial savings out of both the numerator and denominator of overall year-to-year system savings calculations can eventually increase the overall cost of savings and deprive other classes of customers of the benefits of industrial savings. Additionally, opt-out and self-direct customers often represent substantial system loads and contribute significantly to CRM funding pools. For instance, nearly one third of all CRM fees are self-directed within NorthWestern Energy's Montana territory (NorthWestern Energy 2010). While those firms may be making smart decisions with their funds, they also may not. One-third of NorthWestern's funds are not subject to the kind of scrutiny its CRM-funded programs are.

Self-direct programs run by utilities and those typically tasked with acquiring energy efficiency in a state tend to be more structured and view themselves as more effective than those run by energy offices or other entities operating programs on a more sporadic basis. Utilities and other program implementers already know the market and they know the kinds of investments that self-directing customers have already made. They have experience collecting data from the sector and may already have information on a company's baseline energy consumption. In states like Arkansas, where self-direct program structures being considered explicitly do not include the involvement of a utility, the overall efficiency benefits of a self-direct program could be limited from the beginning.

To summarize, data to determine whether self-direct programs are good policy decisions is usually not collected and does not exist for most self-direct (and all opt-out) programs. As such there may be no reliable way to calculate the opportunity costs of most self-direct programs. Without this data it is impossible to know whether self-direct programs are acquiring savings equal to — or even exceeding — what would have been acquired in a CRM-funded program.

## **BEST PRACTICES AND RECOMMENDATIONS**

There are no perfect self-direct programs, but there are many programs that are good at what they do. Current and future administrators of self-direct programs can learn from the experiences of existing self-direct programs. Below are several best practices and general program design recommendations that current and future self-direct programs ought to consider when building or updating their programs.

### **Program Development**

The voice of large energy consumers is typically quite prominent as new self-direct programs are developed. Letters from large energy consumer coalitions support opt-out provisions or minimally structured self-direct programs in many state-level cases. While the concerns of the industrial and large commercial stakeholders are important for policymakers to consider, there is usually less representation from other customer classes during discussions on large consumer treatment. It is critical, then, that state regulators and policymakers, as representatives working on behalf of all of the state's residents, work to develop offerings to large energy consumers that are still fair to all other classes of customer.

### **Key Program Elements**

Energy efficiency anywhere benefits everyone in an energy system. Industrial energy efficiency savings tend to be the most cost-effective, and thus offer the entire system increased energy efficiency at a low cost. Therefore, a self-direct program that maximizes cost-effective energy efficiency in the industrial sector is an ideal policy goal. To achieve such a program, self-direct program administrators should:

- Develop a program structure that allows facility managers to treat their CRM fee payments as dedicated funds for energy efficiency, either through dedicated escrow accounts, rebates earned only upon project completion, or rate credits earned concurrently with measurable energy efficiency investments and/or energy savings;
- Include a mechanism to recoup paid funds from self-direct customers if it is determined that savings were claimed erroneously or if planned savings did not actually occur;
- Collect and establish self-direct customers' baseline energy use data;
- Focus on energy savings rather than funds expended towards energy efficiency;
- Measure and verify all claimed savings, using the same standards for data collection as industrial CRM-funded energy efficiency programs;
- Retain a portion of a customer's CRM fees to ensure self-direct customers contribute to fund a program's administrative costs and other prioritized program costs (such as low-income programming or market transformation) that all other customer classes pay for via their CRM fees;
- Generally not allow credit for efficiency investments made prior to the commencement of a self-direct program;
- Offer self-direct customers multi-year time frames (e.g., 4 years) in which to expend aggregated CRM fees. If the fees go unutilized, make them available to other customers for cost-effective projects; and
- Employ the same cost-effectiveness tests for self-direct projects as are used for other CRM programs, and develop a reliable account of the cost of saved energy within the program.

## Program Variation and Goals

Self-direct programs may vary between states depending on the state's unique needs. However, it is critical that the goals of a self-direct program be well articulated prior to the iterative process usually relied upon to develop and finalize a self-direct program's structure. Such a process can often stay so focused on the details that the larger overall policy goal is lost or never established.

Treating self-direct programs as "throw-away" programs by denying them at least some staff or not counting on them for resource acquisition purposes sends the message to self-directing customers that a utility, regulator, or policymaking entity does not care what they do. Such a statement can have long-term negative consequences, because industrial energy efficiency goals are not taken seriously and as a consequence more power plants are needed: power plants that are typically more expensive per kWh than energy efficiency programs (see Figure 1).

Self-direct programs might consider joining the larger policy trend that is migrating away from setting spending goals in energy efficiency programming and toward a focus on meeting actual energy savings goals. Specific goals for each self-directing customer, and smart aggregation of a self-direct customer's CRM fees, can yield savings that surpass those that could be achieved within a CRM-funded program. Measuring actual energy savings of installed measures, as opposed to simply tracking estimated savings, would also help self-direct programs know the true impact of customer energy efficiency investments.

Successful self-direct programs engage self-direct customers and give them added flexibility that they cannot enjoy through traditional CRM-funded programs. These self-direct programs help industrial customers overcome higher internal investment hurdles and help them make long-term investments in their facilities. Exemplary self-direct programs encourage their customers to maximize cost-effective energy efficiency not just because they are required to, but because increasing energy efficiency benefits everyone, including the individual customer.

Self-direct programs are often the result of political processes and may not always be perfect. But they can ensure that funds intended to acquire cost-effective energy efficiency do capture efficiency for the benefit of all.

## CONCLUSIONS

There is substantial evidence that very successful and effective self-direct programs exist in some states. However, many self-direct programs are not ideally designed to maximize energy efficiency and many are developed with little thought towards structure or effects. The self-direct programs that are successful are thoughtfully designed by people familiar with industrial decision-making and are often well-utilized by industrial and large commercial customers to acquire cost-effective energy efficiency in those sectors. In some states, well-structured and adequately measured self-direct programs appear to have achieved energy savings equal to or greater than what would have been achieved without a self-direct option. For this reason, policies should support well-structured self-direct options. An opt-out program, however, is never a wise policy decision.

Designing and running an effective self-direct program can be a challenge. The results in this report establish that most self-direct programs lack at least one of the critical components identified as necessary to maximize the cost-effective energy efficiency in their target sectors. Many self-direct programs are hamstrung by minimal staffing and by regulated or legislated structures that do not allow for accurate measurement and evaluation of the program's impacts. Many self-direct programs are held to lower standards of data collection and analysis than the typical industrial and large commercial efficiency programs. Further, many self-direct programs are not subject to the same rigorous cost tests found in other efficiency programs that ensure public benefit funds are being well spent.

While a self-direct option may indeed be an adequate tool to acquire cost-effective energy efficiency in these sectors, the assumptions and arguments used to support the establishment of a self-direct program are often inaccurate and unfounded. Worse, the data to determine whether self-direct programs are beneficial to society simply is often not collected.

The self-direct option was developed largely as an alternative to opt-out provisions, which allow users to completely opt out of paying for system-wide energy efficiency. Self-direct programs respond to the belief among some industrial and large commercial energy users that some utility-administered energy efficiency programs are not responsive to their needs. Self-direct programs are mostly designed to serve a small number of large energy-using customers. Policymakers have rarely established self-direct programs as primary means to acquire efficiency savings. When states have established new energy efficiency goals and programs, the self-direct option has been, in nearly every case, developed in response to requests from large energy users.

The goal of energy efficiency programs and policies is to achieve energy savings in a cost-effective manner. Since industrial energy efficiency is among the lowest cost energy resource, maximizing efficiency in the industrial sector is critical to meeting these goals. Energy efficiency benefits all users within a utility system, regardless of where the actual end-use efficiency investment takes place. Self-direct programs that fail to leverage and take advantage of the highly cost-effective energy efficiency opportunities in the industrial, commercial and institutional sectors do a disservice to every energy consumer.

The good news is that self-direct programs can be very effective energy efficiency programs, and some have proven themselves as creative programs that serve the hard-to-reach industrial sector quite well. In some cases these program even appear to serve their industrial customers and other large energy users even better than other CRM-funded offerings.

Self-direct programs should be viewed as a privilege offered to large energy users since they provide flexibility not accorded to other consumers. With privilege comes responsibility, so participants in self-direct programs should be expected to meet a reasonable level of reporting and savings validation so the benefits of the program are assured to all other energy users. As increasing numbers of states establish self-direct programs, it is imperative that rigorous performance requirements be in place to assure that all consumers are receiving the benefits from the low-cost energy efficiency resource. The opportunity cost of allowing companies to self-direct will remain unknown without strict requirements.

There are exemplary self-direct programs that offer large energy consumers all the benefits of a self-direct program while providing the rest of society a low-cost energy resource. Successful programs represent a model for developing effective industrial self-direct programs and provide evidence that, when done right, self-direct programs can be true assets to states' and utilities' suites of energy efficiency programming.



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## APPENDIX I: PROGRAM SYNOPSES

### Arizona

(Williamson 2011, APS 2011, ACC 2009)

In Arizona, the Arizona Public Service Company administers a self-direct program that requires that all eligible projects meet existing cost-effectiveness standards applicable to CRM programs. Customers may aggregate multiple facilities together to meet the required minimum of 40 million kWh per year. Customers have access to 85% of their CRM fees, including the DSM cost-recovery amounts embedded in rates. Customers may fund up to 100% of project costs. After contributing CRM fees for one year, customers are given two years to file an energy efficiency project application. They may use all the aggregated CRM fees from that year — minus 15% that is retained for administrative costs, low-income programs and measurement and verification.

If a large enough project is developed and the existing self-direct pool of money from the single year does not cover 100% of project cost, customers may continue to self-direct their CRM fees until the project's cost is covered, for a period of up to ten years. Measurement and verification of project savings is conducted by APS staff in a fashion identical to what is conducted for CRM projects. If customers choose not to continue to self-direct for the following year, they are defaulted back into APS's standard CRM programs. If funds are not used by the self-directing customer, the funds are returned to the overall CRM funding pool. The program has been used by one customer.

### Colorado and New Mexico

(Romero 2011, Xcel Energy 2011)

In many respects, Xcel Energy runs its self-direct program like any other industrial offering. The same staff offer custom, prescriptive and self-direct programs to industrial and large commercial customers with average demand greater than 2MW and annual consumption greater than 10 GWh. Companies can aggregate to meet the minimum thresholds and in Colorado, self-direct customers are generally already large enough to be served by one of Xcel's 15 large account managers. Several hundred customers are large enough to qualify for the self-direct program, but less than .5% have chosen to actually self-direct. Ten self-direct projects were completed in 2010.

Self-direct customers continue to pay their assigned CRM fee, and self-direct projects are reimbursed through a rebate. Customers may earn rebates of up to 50% of the incremental project costs, either \$525/kWh or 10 cents per kWh. If customers choose to self-direct, they may not take advantage of Xcel Energy's other incentive and rebate programs. The self-direct rebates are richer than those offered through other incentive programs, in exchange for the in-house engineering analysis required of a self-direct customer.

Xcel Energy holds its self-direct customers to the same cost-effectiveness tests as any of its other efficiency customers. While self-direct customers provide their own engineering analysis, they must meet the same total resource cost tests as all the other industrial and commercial offerings. Customers can get pre-approval for self-direct projects, and have two years to complete the project and earn their rebate. Xcel is responsible for reviewing project implementation and monitoring plans and project total resource cost analyses. It tasks its most senior engineer with review of all major technical details, and works directly with the self-directing customer to come to an agreement on what data will be required of the project.

### *Results and Discussion*

Xcel Energy did not have energy savings goals for its self-direct program in 2009, but in 2010 it exceeded its goals by 200%. Due to the close proximity of Xcel Energy engineers to self-direct customers, Xcel Energy is "just as confident" in the savings reported by self-direct customers as in savings acquired through its other efficiency programs. It views its self-direct program as equally responsible for producing efficiency that maximizes ratepayer funds and believes the self-direct program is a "good steward" of ratepayer funds.

To further ensure ratepayer funds are used in a manner that maximizes system efficiency, Xcel Energy does not offer credit through its self-direct program for previously made efficiency investments. Xcel Energy believes that their self-direct program can only claim savings that they have “influenced,” and expects their regulators will hold self-direct program savings to the same scrutiny for free ridership as they do Xcel Energy’s other efficiency programs. Attention to rigorous evaluation and cost-effectiveness standards within their self-direct program stood out among most other self-direct programs.

Xcel Energy reports that they are receiving an increasing number of applications to the Colorado self-direct program. The New Mexico self-direct program only began this year and no one has taken advantage of it thus far.

### **Idaho**

(Anderson 2011, Pengilly 2011)

Idaho Power offers its largest customers an option to self-direct the 4.75% energy efficiency rider that appears on all customer bills. Only a small number of customers take advantage of this program, which forecasts out a company’s efficiency rider contributions over the course of three years and makes 100% of those funds available to fund up to 100% of project costs. If a company has not used its dedicated self-directed funds after three years, the funds are released to the utility’s general fund for energy efficiency.

Self-direct projects are subject to the same criteria as projects in other efficiency programs. Either Idaho Power’s own internal engineers or a company’s selected third party engineers will review the project. Idaho Power checks to ensure the project has been physically completed prior to releasing payment. In some cases this means engaging in follow-up metering to ensure the claimed savings are accurate.

#### *Results and Discussion*

The very small number of self-directing customers represents only a small portion of the utility’s load. It is not a heavily used program and is not relied upon for significant industrial savings.

### **Kentucky**

(Storck 2009, KRS 2011, Haemmerle 2011)

Duke’s opt-out program in Kentucky is applicable only to electric customers that take transmission service on Rate TT. Duke describes these customers as those with “energy intensive processes” and thus eligible, under the existing statutory language, to opt out of paying for energy efficiency programming. The Kentucky Revised Statutes state that the Kentucky Public Service Commission “shall assign the cost of demand-side management programs only to the class or classes of customers which benefit from the programs” and that customers with “energy intensive processes” who choose to make cost-effective efficiency investments instead of participating in the existing demand-side management programs “shall not be assigned the cost” of those programs.

Customers that opt out of paying the energy efficiency rider must indicate that they either have or will in the future make cost-effective energy efficiency investments in their facilities. Duke does not measure and verify these savings, and customers that opt out may not take advantage of other Duke energy efficiency programming.

#### *Results and Discussion*

Currently thirteen customers take TT service and are thus eligible to opt out of the energy efficiency programs, and all of them opt out.

### **Maine**

(Efficiency Maine 2010, Voorhees 2011, Burnes 2011)

Though large industrial customers that take transmission and sub-transmission service do not pay into Maine's CRM programming, federal stimulus funds and collected money from the Regional Greenhouse Gas Initiative have allowed Efficiency Maine to offer energy efficiency programming to the state's largest industrial customers. However, the customers still do not pay into the CRM. The Efficiency Maine incentives and custom grant programs are now used by large industrial customers, and if the additional non-CRM funding is exhausted, the customers will no longer be able to use the efficiency programs.

Since being allowed to use Efficiency Maine programs, industrial customers have used them to do everything from making routine repairs to funding major upgrades.

## **Michigan**

(Walker 2011, Mich. Comp. Laws 2011, MPSC 2010, SB 213)

Michigan's self-direct option, which was codified in 2008 in conjunction with the state's EERS, is unique among all self-direct programs. Michigan's self-direct program requires that large consumers develop and implement their own energy efficiency savings plans consistent with the energy savings goals required of electric utilities as part of the state's EERS. All but the absolute largest self-direct customers must secure the assistance of an "energy optimization service company" to help assess current energy use and develop the energy savings plan.

Customers with annual demands of 1MW or an aggregated demand among multiple facilities of 5MW may participate in the self-direct program. Over the next few years these peak demand requirements will be further reduced, allowing a greater number of customers to participate in the self-direct program.

Self-direct customers do not pay fully into the CRM fees in exchange for the execution of their energy savings plan, but they do pay a portion of their assigned fees to cover administration of the self-direct program. Customers submit their energy savings plans for review by their utility, and the utility approves the plan and reports aggregated program data to the Public Service Commission.

### *Results and Discussion*

During the first two years of the self-direct option in Michigan, 77 companies signed up statewide. This year the number has dropped to 47, in part because some of the original self-directing companies signed up for self-direct prior to fully understanding the energy efficiency programming that would be offered by their local utility. Companies have also become more reluctant to take on the risk associated with not meeting savings targets within the self-direct program.

The requirement that individual companies meet the same energy savings targets as large utilities has proven difficult to administer in some cases. One of the biggest hurdles is that self-direct customers presently cannot carry over savings from year to year. However, draft rules in place will extend the self-direct window up to five years, allowing customers to make big investments in some years and enjoy a guaranteed self-direct status in future years as they enjoy the savings from the large investment.

For the most part, the self-direct program has yielded reliable and expected savings, and customers have met their savings goals. However, it is unclear whether or not the claimed savings are truly occurring in each self-directing facility. Utilities have proven reluctant to aggressively "police" their customers, but no other entity is responsible for ensuring that claimed savings are occurring.

An additional challenge for the self-direct programs in Michigan is that no companies have applied to become qualified and certified as energy optimization service companies. State regulators are addressing this issue currently.

## **Minnesota**

(Haase 2011, Minnesota Session Laws 2011)

Minnesota offers a self-direct option to its largest customers, allowing full exemption from their assigned CRM fees. Customers with 20MW average electric demand or 500MCF of gas consumption may participate. In addition to meeting these threshold requirements, customers must show that they are making “reasonable” efforts to identify or implement energy efficiency, and that they are subject to competitive pressures that make it helpful for them to be exempted from the CRM fees.

Participating customers must submit new reports every five years to maintain their exempt status. These reports identify the type of equipment purchased in the last five years, the facility’s consumption and energy productivity trends. The utility is only minimally involved in the self-direct program administration; the state’s Department of Commerce functions as the manager of self-direct accounts and the arbiter of whether a company qualifies for self-direct and is satisfying its obligations.

### *Results and Discussion*

12 customers are taking advantage of the self-direct provision and the program administrators have a basic understanding of the efficiency investments that are being made by those that are exempt from paying the CRM. An effort to get additional assessment of claimed savings by an external third party has recently been made by the Department of Commerce, which acknowledges that the energy savings information collected from its self-direct participants is minimal, and substantially less than what would have been collected had they remained in a CRM-funded program.

Every five years companies are reassessed for their eligibility to participate in the self-direct program. To date no companies have been removed from the program for failing to satisfy eligibility requirements.

## **Missouri**

(MOGA 2009, Wankum 2011, MCSR 2009, Sivils 2011, Laurent 2011)

In Missouri, Senate Bill 376, adopted in 2009, established the Missouri Energy Efficiency Investment Act, which permitted utilities to develop and administer energy efficiency programs that achieve “all cost-effective demand-side savings.” Embedded within this bill was an opt-out provision that allows customers a full exemption of all CRM fees, called the Demand Side Investment Mechanism. There are three ways to qualify for opt out from utility demand-side and energy efficiency programs: customers may indicate they have a demand of at least 5,000kW in the previous twelve months; they may show that they are an interstate pipeline pumping station, regardless of size; or they may show that they have a “comprehensive” demand or energy efficiency program in place that is saving an amount at least equal to “utility-provided programs,” and that they have a demand of at least 2,500kW in the previous twelve months.

A rule in the Missouri Code of State Regulations gives more clarity to how the opt-out program shall be administered. In particular, the rule requires that companies that wish to qualify for opt-out under the 2,500kW/comprehensive DSM plan category must submit their plan to the Missouri Public Service Commission for review. The Commission is to provide the customer with a decision within 30 days. Customers wishing to opt out under either of the other two categories simply provide notification to their utility that they wish to opt out. There is no follow-up or ongoing monitoring of the efficiency investments made by any opt-out customers due to a dispute among interested parties regarding statutory authority.

### *Results and Discussion*

There was a time period of under two years in which the statutory authority for the opt-out provision, SB 376, allowed opt-out, but the rules requiring that the Public Service Commission be notified when companies ask to opt out were not in place. During that time, some customers did choose to opt out, but there was no requirement that these notifications be sent to the Public Service Commission Staff



on an ongoing basis. Kansas City Power and Light has two self-direct customers, Ameren Missouri has nine.

Since the rules became effective in May 2011, four customers have chosen to opt out, and none have asked to opt out under the 2,500kW provision. The opt-out mechanism is “still evolving,” as the Public Service Commission has not yet been asked to review a company’s energy efficiency and demand-side plan.

### **Montana**

(Young 2009, Young 2011, Edwards 2011, NorthWestern Energy 2010, Trasky 2011)

NorthWestern Energy’s Large Customer self-directed program operates as a sort of escrow account, allowing customers to direct their CRM funds into an account specifically earmarked for their future use. Customers with demand larger than 1MW are allowed to self-direct their CRM funds. Once a self-direct project is complete, the self-directing company submits the appropriate paperwork and NorthWestern Energy issues payment to the customer on a quarterly basis in order to cover project costs up to their annual CRM contribution, which itself is capped at a \$500,000 annual maximum contribution. Companies have two years to use their funds and unused funds are returned to the larger pool of CRM revenues which NorthWestern directs to qualifying low-income energy efficiency projects in following years.

NorthWestern administers the funds but no pre-qualification or measurement and verification is provided by, nor required of, the utility. Self-direct customers file annual reports with the Montana Department of Revenue. The department makes these reports available for public consumption, and a public “challenge” process is provided. Additional scrutiny or review of self-direct projects is not required or performed absent a public challenge.

#### *Results and Discussion*

The NorthWestern Energy self-directed program appears to be quite popular among eligible companies. In 2010, of 56 customers on the self-direct program, 50 self-directed all of their eligible funds toward specific projects. Since 2009, all but one of the eligible companies chose to self-direct their CRM funds. Only one company has annual electric consumption the yields the full maximum \$500,000 annual CRM contribution. NorthWestern Energy believes that the majority of the participating customers are incentivized through the self-direct program to make efficiency investments that they would not have otherwise made. Since the companies must pay the CRM anyway, they understand that they have to use the funds or lose them, and that motivates company decision makers to use the funds on new efficiency projects or other qualifying activities that deliver value to the company. Additionally, few of these customers would qualify for Northwestern’s CRM-funded efficiency programming as those programs are limited to supply customers and most of the self-direct customers buy energy supply in the wholesale market rather than from NorthWestern. At the end of 2010, \$23,028 of unused Large Customer funds were directed to low-income programs. Large Customer companies also self-directed an additional \$156,734 to low-income projects.

An unanswered question about the NorthWestern program is to what extent the energy savings claimed by self-direct customers actually occur. In 2010 the Large Customer group contributed \$2,740,668 in CRM charges — or about one third of all CRM funds — and self-directed nearly all of those monies. Montana statute and administrative rules do not require evaluation of self-directed activities. The state’s Department of Revenue, which is tasked with acting as a “watchdog” of the program, is also not tasked with conducting verification of these efficiency investments. Since the reports issued by self-directing customers are generally “bare bones” ones — with information about the type and amount of expenditure — it is impossible to know whether the self-direct program is acquiring cost-effective energy savings. NorthWestern does not report self-direct energy savings as part of its energy efficiency portfolio.

Large customers of other electric utilities in Montana are also allowed to self-direct CRM funds according to Montana law.

## **New Jersey**

(Ambrosio 2011, NJCEP 2010, TRC 2011)

In New Jersey a pilot self-direct program run by TRC for the CRM-funded New Jersey Clean Energy Program targets large customers in multiple sectors. The budget for the pilot in 2011 is \$20 million. To qualify for the program, customers must have contributed at least \$300,000 in CRM funds during the 2010 calendar year. Customers may aggregate multiple buildings or sites together to meet the threshold. Individual facilities must have an annual billed peak demand of 400kW or greater as well. Additionally, all applicants will be ranked by the value of CRM contributions in 2010, and approximately the 25 top contributors will be allowed to participate in the program pilot.

The pilot program will reserve a specific amount of CRM contributions for use as a grant towards future energy efficiency investments. This reserved amount may be any of the following: an amount based on the customer's previous CRM contributions, an incentive per saved kWh or Therm, a percentage of the total project cost, or \$1 million. The minimum grant per participant is \$200,000.

Participants in the program may develop a draft self-direct investment plan, called a Draft Energy Efficiency Plan (DEEP), outlining, among other things, the proposed projects and its estimated savings and costs in dollars and energy, the facility's baseline energy use and a description of additional financing the project will receive. Upon approval of the DEEP, program funds are reserved for the customer.

Funds are committed to the customer only once a customer completes a Final Energy Efficiency Plan (FEEP), which must be certified by a professional engineer and incorporate measurement and verification plans. Once the DEEP is approved, customers have 120 days to submit the FEEP.

Once the FEEP has been approved, customers have one year to install the measure(s) and satisfy the remaining program requirements. Incentives are paid once the customer submits all of the invoices for the installed measure(s), the complete measurement and verification report described in the FEEP, certified by a professional engineer, a certificate of compliance with the prevailing wage, and any descriptions of differences between the project as completed and what was described in the FEEP. If necessary, customers may be granted a six-month extension to install the measure(s).

All projects must demonstrate a simple payback of eight years, and no credit is given for previously installed measures. Combined heat and power projects are eligible for this program.

Customers electing to participate in the self-direct program may not take advantage of other New Jersey Clean Energy Program programs. Self-direct customers may take advantage of other incentive programs offered by other state and local entities, but the total incentives may not exceed 100% of the project costs.

Evaluation, measurement and verification will be similar to that of other projects funded by the New Jersey Clean Energy Program. While measurement and verification may be done by the customer's external engineers, TRC will have a dedicated program manager to monitor and reviews all FEEPs and measurement and verification reports. Customers must comply with all external evaluation activities as requested. Pre- and post-inspections will be conducted as needed.

### *Results and Discussion*

New Jersey's self-direct program is a pilot program, launched in August 2011. The program is anticipated to support approximately 25 projects. The program's savings goals for 2011 are 172,538DTH and 36,046MWh.

The program was designed in response to the desires and concerns expressed by industrial customers, and will likely include customers in the institutional and commercial sector as well. It has been designed to respond to concerns by industrial customers that traditional CRM-funded programs have not lined up with their internal budgeting processes. The pilot program will be evaluated for its

ability to work with customer's internal budgeting timelines and investment decision-making activities. The hope by program developers is that the program will encourage greater participation by the state's largest energy users by simplifying the process for receiving incentives for investing in energy efficiency.

## **Ohio**

(Moser 2011, AEP 2011a, Cross 2011, Duke Energy 2011a, AEP 2011b)

Ohio offers different self-direct and opt-out provisions depending upon which utility a customer takes their service from. In the state of Ohio, customers pay an energy efficiency rider on their bill, which serves as a CRM and funds energy efficiency programming in multiple sectors. With the development of new energy efficiency goals and funding mechanisms, Ohio also developed a set threshold — 700,000KWh — at which customers of the state's regulated utilities must be offered the option of opting out of paying into CRM programs.

At AEP, both a self-direct and an opt-out program are offered. The self-direct program offers customers an incentive for previously implemented energy efficiency measures. The one-time incentive is 75% of whatever the calculated incentive under AEP's prescriptive or custom incentive program would be. Projects must have been implemented after January 1, 2008. The AEP program is a consistent "look back" program, and pays customers for projects they have already implemented. New program years will have new "look back" periods, but will move forward as the program year moves forward. Project submitted for incentives must produce 100% of the stated energy savings and/or a reduction in peak demand over a five year time period.

The maximum incentive limit at AEP for self-direct projects is \$225,000, and there are limits for individual business entities depending upon which tariff an entity is covered by. Projects must pass a utility cost test and are considered for their payback period. AEP prefers to see self-direct projects fall within a payback period of one to seven years. Customers taking the one-time incentive are still eligible to participate in the utility's other energy efficiency programs because they are still paying the CRM fee.

AEP also offers customers a full exemption — or opt-out — from the CRM fees for a defined number of months. Duke Energy and Dayton Power and Light also offer customers an opt-out provision provided they meet the 700,000KWh threshold. Duke Energy requires that customers submit an application stating that they have implemented savings projects or will implement projects that will meet energy savings and/or peak reduction benchmarks that scale up slightly over future years. FirstEnergy also allows customers a full exemption from the CRM fees if they report they have or plan to meet certain energy savings and demand savings benchmarks.

### *Results and Discussion*

At AEP, providing customers with incentives for energy efficiency investments they have already made appears to qualify the self-direct program as a free rider incentive program, rather than a more typical self-direct program. Between 2009 and 2011, 577 projects received incentives from the self-direct program, totaling 180,273,135 saved kWh. The total incentives issued during that period were \$10,164,093, which exceeded the \$9,000,000 goal the program set for that same period.

The AEP program is described as a "seed money" program, designed to put money into the market to fund additional energy efficiency. The idea behind the AEP program is that the incentives offered to companies that participate in the self-direct program will be used to fund new investments in energy efficiency or renewable energy going forward. However, there are no requirements that the funds be used as such. It is therefore not a resource acquisition program, and AEP does not set energy savings goals for the program. A recent survey by self-direct customers found that 62% of them said they have used or will use some of their incentive funds for new energy efficiency measures.

The AEP program is designed to always have a rolling three-year look back period, with the understanding the some customers will always be new to the program offerings and will have recently

made energy efficiency investments. The expectation is that as more customers make their cost-effective energy efficiency investments and are brought into the full suite of AEP energy efficiency programs, there will be less and less demand for the self-direct incentive program and more demand for incentives that encourage new projects.

AEP's opt-out provision, which is a full exemption from the energy efficiency rider, was taken by seven customers during the first year it was offered, but by zero customers since. AEP strongly discourages people from taking the opt-out provision. FirstEnergy's opt-out program has been used by a handful of large customers, and Duke Energy and Dayton Power and Light have seen their opt-out provisions used by zero and one customer, respectively.

### **Oregon — Eugene Water and Electric Board**

(Welch and Fraser 2011, Welch 2010)

The Eugene Water and Electric Board's (EWEB) unique self-direct program makes the important distinction between financial parity and energy savings parity. Most self-direct programs aim to have the self-directors spend on efficiency measures a dollar amount equal to or similar to what they would have spent on systems benefits charges as typical full rate-paying customers.

In contrast, EWEB eschews any discussion of financial parity and instead develops customized energy savings goals with each self-directing customer. These goals are contractual obligations to achieve a certain kWh of savings annually and each project is validated by a measurement and verification (M&V) plan. The goals are based largely on the percentage of load each customer represents and the average conservation savings achieved by the industrial sector in prior years. If customers fail to meet these goals, they must repay a proportional amount of the rate credit back. While such customized efforts might be difficult for larger utilities, EWEB's two self-direct customers make such an approach manageable.

EWEB's self-director customers continue to pay the regular conservation rate (CRM) of 5%, but receive a rate credit on each monthly bill equal to conservation fee minus utility M&V costs. In this way, companies are directly encouraged to implement efficiency projects because otherwise they'll simply be "losing" their 5%. Such an approach helps facility managers sell efficiency projects to a company's decision-makers, because not meeting the goal will require self-direct customers to pay EWEB a penalty proportional to the unmet goal. When self-direct customers meet their goal, they keep most of the conservation fee and the project benefits. Conversely, an unmet goal results in a payment to EWEB and no benefits from the conservation project. This leverage of a penalty payment with no project benefits has been used to obtain internal corporate funding for projects. The self-direct customers use their own money to pay for the efficiency projects. They may also bank energy savings forward, into future years if applicable.

This strategy could also be used for new construction by calculating the present value of the future rate credit, and incorporating that value into the incremental conservation construction costs. For example, a data center could have an incentive to spend more money during its initial construction phase and increase a building's initial efficiency, since it would receive a future benefit by meeting a savings goal and enjoying a rate credit.

#### *Results and Discussion*

The pulp and paper mill was contributing about \$800,000 annually in conservation charges, and the semiconductor manufacturer was contributing about \$400,000 annually. Prior to their involvement in the self-direct program, the mill was implementing efficiency projects and taking advantage of rough parity between its contributions and the EWEB incentives and services it enjoyed. The semiconductor facility was engaged in very minimal efficiency improvements and was thus receiving only \$30,000 or less in incentives and EWEB labor annually.

The paper mill's annual conservation goal was 3.25 million kWh, which it met on average during the self-directing period. This was, on average, more savings than the mill had achieved prior to

becoming a self-director. Between 1991 and 2004, the mill had achieved an average annual savings of 2.9 million kWh. The semiconductor facility's annual goal was 1.75 million kWh, which it also met on average during the self-directing period.

In general, EWEB views its rate credit self-direct program as a success, but wonders how well the model will work once customers begin to "run up the resource cost curve." EWEB believes that it achieved the conservation at the two self-directing customers at a cost equal to or lower than the cost of achieving the same savings through its traditional incentive programs. The program views the results at the semiconductor facility as very successful, since the facility had achieved nearly zero conservation in the years prior to the implementation of the rate credit program.

EWEB does not believe its self-direct program has had a negative impact on the administration of its traditional CRM programming. While the traditional CRM programs had smaller budgets once the two self-directors began enjoying their rate credits, the CRM programs also paid out less money in incentives, yielding a neutral net effect on the CRM program. EWEB notes that they may face new challenges in developing rational and mutually accepted energy savings goals for self-directing customers. For now, EWEB intends to maintain this approach to self-direction and use it as a mechanism to strengthen its relationship with its self-directing customers.

### **Oregon — Oregon Department of Energy** (Crossman 2011, Stipe 2011)

In Oregon, the self-direct option for the largest customers (those with more than 1aMW electricity usage annually) can opt to self-direct their CRM charges. Such large customers are automatically added to the self-direct program and must prove that they are making efficiency investments in order to continue to enjoy a rate credit on their bills. Customers can earn credits up to 68% of their CRM charges on their utility bills to offset efficiency project costs. Once such projects have been fully credited customers must continue to make new investments or they will begin to be billed normal CRM charges.

Administration of the program is "bare bones," and customers generally self-report their efficiency measures into a computer system over the Internet. There is no pre- or post-monitoring of energy efficiency measures. The program does not monitor data in a manner that allows it to know the cost of saved energy within the self-direct program.

An option is also offered to customers who would argue that they have done all cost-effective efficiency. These customers can be eligible for a credit of 54% of their CRM fees.

#### *Results and Discussion*

While the Energy Trust of Oregon administers the largest industrial energy efficiency program in the state (funded with CRM moneys) the Oregon self-direct program is entirely administered by the Oregon Department of Energy. Because of this, coordination and information sharing between the traditional industrial and large commercial CRM-funded efficiency programs and the self-direct program suffers. The Energy Trust and other efficiency programs do not always know which facilities are self-directing, or whether they will need to deploy new efficiency projects in the near future in order to maintain their self-direct benefits.

Currently 66 companies are eligible to self-direct, though the majority of them are earning no self-direct credits, so they are effectively paying the normal CRM charges. Of the five largest users that have self-directed in recent years, three have evidently decided that they were better served by paying the CRM and are now taking advantage of the full suite of Energy Trust of Oregon services and incentives. There have been no new self-directing customers in four years, though large institutional customers are now eligible to self-direct if they satisfy the 1aMW threshold. Only one customer has made a "realistic" inquiry into the 54% credit provision.

In the nine years the self-direct program has operated, the administrator has not seen any incidences of “mistreatment” in the program, though rigorous measurement and evaluation of claimed savings is not conducted.

### **Texas**

(Ferland 2011, PUCT 2010, Zarnikau 2011)

In Texas, for-profit customers that take electric service at the transmission level are not allowed to participate in utilities’ energy efficiency programming, and therefore do not pay for it. Instead, industrial customers develop their own energy efficiency plans if desired, and work with third party providers to implement and finance energy efficiency investments. There is no measurement or monitoring of the investments these large customers do or do not make.

#### *Results and Discussion*

Some industrial customers that are not allowed to participate in Texas’ energy efficiency programs would like to be able to have the option of participating. Certain large commercial customers have argued in recent regulatory filings that they should be granted an opt-out provision, but no such provision has been developed to date. In response to requests to create an opt-out provision for commercial customers, the Public Utility Commission of Texas noted that such a provision would be difficult for utilities to administer, and that “there is a risk that a customer might opt out after obtaining the benefits [of the energy efficiency programs], so that it would not share the costs in the same way that other customers do.”

### **Utah, Wyoming**

(Helmert 2011)

Rocky Mountain Power (RMP) views its self-direct option as one of a suite of programs targeted at industrial and large commercial entities. RMP’s self-direct program is a project-based rate credit program that offers up to an 80% credit of eligible project costs back to customers as a rate credit against the 3.7% CRM charge all customers pay. Customers earn a credit up to 100% of their CRM charge, but do pay a flat \$500/project administrative fee for each self-directed project. RMP lets customers choose to engage its self-direct and other, more traditional CRM programs, simultaneously provided the different programs are used to deploy different projects.

RMP believes that over 25% of its eligible customers are participating in the self-direct program, and interest has increased as the CRM charge has risen. Interestingly, RMP allows customers to aggregate multiple meters to meet the program’s minimum use requirements, and customers can also spread the rate credit among multiple meters if desired. One example of this approach can be found among a large chain of convenience stores, which has aggregated its load together to qualify. Eligible self-direct projects must have a payback of 1-5 years and must meet other cost-effectiveness tests as required.

#### *Results and Discussion*

RMP finds its self-direct program to be highly cost-effective, with Total Resource Cost test results very similar for self-direct projects as other CRM projects. It believes that its rate credit approach encourages greater efficiency among its participants, because as a self-direct customer begins to near the end of a current credit period, they seek out new efficiency projects so as to avoid paying the full CRM. RMP finds customer satisfaction to be very high in its self-direct program and doesn’t believe the administration of the self-direct program has any negative effects on the administration of its other CRM programs.

RMP also offers a self-direct approach that is a true opt-out. If a customer can prove, using an external auditor, that they have achieved all cost-effective efficiency, they may receive a 50% credit of all CRM charges for two years. Tellingly, not a single customer has taken this credit since its offering.

**Vermont**

(Goetze 2011, VDPS 2011, VPSB 2011)

In 2009 the Vermont Public Service Board, Vermont's utility regulatory body, passed a series of orders that established an option for large energy consumers to self-administer their energy efficiency programs. The first program allows consumers who pay an average annual energy efficiency charge (EEC) of at least \$5,000 to apply to the Board to self-administer their energy efficiency programs through the use of an Energy Savings Account (ESA). Customers may be eligible to participate in an ESA if they contributed at least \$5,000 in EEC fees in the prior 12 months. Customers may aggregate together multiple meters belonging to one single business entity. Customers apply to join the ESA program, and their application must be approved by the Vermont Public Service Board and the Vermont Department of Public Service.

Consumers participating in the program continue to pay their EEC fee, but may transfer up to 70% of their EEC to the ESA to fund efficiency projects at their facilities. Consumers are required to use the funds within 24 months, after which, unless a consumer receives a waiver from the Department of Public Service, the unused funds are forfeited by the consumer. Every three years, ESA customers must prove they continue to qualify to participate in the ESA program.

All projects must pass cost-effectiveness tests equivalent to those used to approve energy efficiency investments made by other entities using the state's EEC fees. Vermont's energy efficiency utility is responsible for substantial review of the projects and evaluation activities. Pre- and post-installation reviews are required.

Vermont's second program established a three-year pilot self-managed energy efficiency program (SMEEP) that allows eligible consumers to be *exempt* from the EEC provided that the consumer commits to spending an annual average of no less than \$3 million over a three-year period on energy efficiency investments. Additionally, consumers must demonstrate that they have a comprehensive energy management program with annual objectives. Customers can be eligible for the SMEEP if they are transmission customers, or customers in the industrial class, and paid over \$1.5 million in EEC charges in 2008. Customers may also satisfy the requirements of SMEEP eligibility by becoming certified under the ISO 14001 standard. Customers must pay a \$50,000 fee to participate in the SMEEP.

*Results and Discussion*

Currently one company is using the ESA program, and one company is using the SMEEP program. IBM is the company using SMEEP, which was largely designed to accommodate the computer giant.

**Virginia**

(Dominion 2010, HB 2506 2009)

Customers of Dominion Power in Virginia may qualify for the opt-out program available there by having average demands between 500kW and 10MW. Customers over 10MW do not participate in the state's energy efficiency programming by law.

Once customers have elected to opt out of the energy efficiency programming, they may not take advantage of existing energy efficiency programming nor be charged for the programming. Customers must show that they either have already made energy efficiency investments or plan to in the future. Customers must submit measurement and verification reports yearly in support of their choice of non-participation in the CRM-funded programs. There are no cost-effectiveness tests required of projects.

**Washington**

(Landers and Montgomery 2010, Landers 2011)

Puget Sound Energy's self-direct program is unique in the country in that it is a long-term program (spanning five years) that combines a dedicated incentive funding structure based on customer contributions with a competitive bidding process for unclaimed funds. Companies that take service from PSE under several rate schedules are eligible for the self-direct program, but most become eligible due to their taking of 3-phase service at greater than 50,000 volts.

Self-direct customers continue to pay their CRM, but PSE tracks individual customer contributions for their specific use. Customers have access to 82.5% of their CRM fees. PSE retains 7.5% for administration of the program, and 10% to fund market transformation activities of the Northwest Energy Efficiency Alliance. While participants in other PSE commercial and industrial programs are limited to maximum incentives of 70% of measure cost, self-direct customers may fund up to 100% of measure cost.

After an initial non-competitive phase (e.g. 24 months) of a program cycle, all unused funds are pooled together into a public pool of funds, and PSE issues a competitive RFP for program-eligible customers to compete for remaining funds. The projects funded as a result of this competitive bid process are generally more cost-effective than those funded during the first two years, as customers compete against each other to make a case for their projects.

All projects must meet PSE's avoided cost requirements. Though the customer submits their own proposal and measurement and verification plan, PSE reviews the proposal and plan. Upon approval, PSE enters into a funding allocation agreement with the company and conducts a post-installation inspection after the measure is implemented. It is very confident that claimed savings are occurring.

#### *Results and Discussion*

Each year, more customers qualify for the self-direct program, and for the 2010-2013 program period, 54 customers are currently eligible. PSE has already awarded over \$12 million in project incentives for this group of customers, and projects 42,000 MWh/year in annual savings for the group.

PSE reports that right before the competitive bid process, projects "go like gangbusters" because customers desire to use their funds up to avoid losing them to other companies, including competitors.

PSE believes its self-direct program is actually achieving greater savings among participating customers than would have been achieved had they simply used its basic commercial and industrial offerings. Participation rates are also higher in the self-direct program among eligible customer classes than in other programs. This high level of savings and involvement is due to an understanding among firms that their CRM funds are there to lose, and that if they don't use the money to make energy efficiency investments, someone else will.

PSE relies on trade allies such as energy service companies (ESCOs) to help self-direct customers identify and implement energy efficiency projects. As the program matures, it is seeing a shift toward longer payback projects, in part because more commercial customers have begun to participate in the self-direct program. Commercial customers can sometimes tolerate longer payback periods and are interested in some investments that are less cost-effective than those typically found in the industrial sector.

#### **Wisconsin**

(WSPC 2009, Schutt 2011, Schepp 2011)

Wisconsin offers its largest energy customers the opportunity to self-direct their CRM funds. Customers must develop a self-direct plan and submit it to the PSC for approval. Self-direct program plans must meet cost-effectiveness standards and include detailed M&V plans. Approved customers implement their plans, adhere to the stated M&V design and submit quarterly reports to the PSC. The amount available for self-directed efficiency measures varies depending on the utility, and the PSC relies on a formula to determine the percentage of CRM that a customer is entitled to use for the



program. Upon successful implementation of a self-direct program, and verification of measured savings, participants receive reimbursement checks drawn against their dedicated escrow accounts held by their respective utility. The PSC also may ask that any unused funds be returned to fund additional efficiency programs, such as Focus on Energy.

*Results and Discussion*

To date, no companies have chosen to self-direct, though the self-direct program was developed in response to requests by large energy consumers. In most cases, large customers have reported that the self-direct program did not offer enough benefits over existing CRM programs, such as Focus on Energy, to warrant a change to self-direct status. Large customers also reported that they found the administrative burden of developing their own implementation and M&V plan too burdensome.



## APPENDIX II: MODEL LANGUAGE

Each state or service territory that decides to implement a self-direct option will likely find that their specific geographic needs can be best met by a unique self-direct program structure. ACEEE does not recommend one particular self-direct program approach, but has identified some useful program language to help achieve certain desired aspects within a self-direct program.

The following are selected excerpts from relevant regulatory or legislative language establishing and defining self-direct programs:

### Defining eligibility

“Eligibility requirements for the exemption are as follows:

- In 2009 or 2010, the customer must have had an annual peak demand in the preceding year of at least 2 megawatts at each site to be covered by the self-directed plan or 10 megawatts in the aggregate at all sites to be covered by the plan.” (Michigan)

“Customers are eligible for the [self-direct program] option if they have made [CRM] payments...of at least \$5,000 in the 12 months preceding the customer's request to participate.

- A single business (a single legal entity) with more than one electric account may combine the [CRM] amounts paid on multiple accounts to determine this eligibility.
- Alternatively, a business may be deemed eligible if the preceding three-year average [CRM] amount paid preceding the customer's application is equal to or greater than \$5,000.
- A customer in a new building (with an active electric account) may be deemed eligible to participate if by mutual agreement of the [regulatory body] and the [utility] the projected [CRM] payment will be equal to or greater than \$5,000.” (Vermont)

### Defining eligible expenses:

“For market-driven projects, "Qualified Expenses" are defined as one hundred percent (100%) of the incremental costs associated with identifying, investigating, analyzing, designing, implementing, and/or installing societally cost-effective electric efficiency projects at facilities owned, operated, or controlled by the customer and where the [self-direct program] is in effect. These costs may include the customer's internal design and engineering labor, outside design, engineering and installation labor and equipment costs. However, costs other than actual incremental material and installation labor costs shall only be treated as “Qualified Expenses” for amounts up to 25% of the total project costs.

For market-driven projects, incremental costs are defined as the difference between the actual cost of the equipment, installation labor, engineering, design, and commissioning and the cost of the equipment, installation labor, engineering, design, and commissioning that would meet the current design and construction standard practice (the "baseline cost").

2. For "retrofit" projects, "Qualified Expenses" are defined as costs associated with identifying, investigating, analyzing, designing, implementing, and/or installing societally cost-effective electric efficiency retrofit projects at facilities owned, operated or controlled by the customer and where the [self-direct program] is in effect. These costs may include the customer's internal design and engineering labor, outside design, engineering and installation labor, and equipment costs. However, costs other than actual incremental material and installation labor costs shall only be treated as "Qualified Expenses" for amounts up to 25% of the total project costs. Furthermore, for retrofit projects, "Qualified Expenses" shall be capped at an amount equal to the contribution to total project costs that would result in an estimated 18-month simple payback on the customer's project investment. Payback shall be calculated based on anticipated energy and non-energy benefits, including, but not limited to, reductions in operating and maintenance costs, fossil fuel savings, electricity savings, environmental compliance cost savings, labor savings, and savings from avoidance of future equipment replacements.” (Vermont)

### **Encouraging and claiming energy savings:**

In Michigan, all regulated utilities are required to develop their own energy optimization plans, which must meet preset energy savings goals. Self-directing customers must also develop such a plan. Regarding self-directed customers:

“All of the following apply to a self-directed energy optimization plan:

- The self-directed plan shall be a multiyear plan for an ongoing energy optimization program.
- The self-directed plan shall provide for aggregate energy savings that for each year meet or exceed the energy optimization performance standards based on the electricity purchases in the previous year for the site or sites covered by the self-directed plan.
- Under the self-directed plan, energy optimization shall be calculated based on annual electricity usage. Annual electricity usage shall be normalized so that none of the following are included in the calculation of the percentage of incremental energy savings:
  - Changes in electricity usage because of changes in business activity levels not attributable to energy optimization.
  - Changes in electricity usage because of the installation, operation, or testing of pollution control equipment.
- The self-directed plan shall specify whether electricity usage will be weather-normalized or based on the average number of megawatt hours of electricity sold by the electric provider annually during the previous 3 years to retail customers in this state. Once the self-directed plan is submitted to the provider, this option shall not be changed.
- The self-directed plan shall outline how the customer intends to achieve the incremental energy savings specified in the self-directed plan.

Projected energy savings from measures implemented under a self-directed plan shall be attributed to the relevant provider’s energy optimization programs for the purposes of determining annual incremental energy savings achieved by the provider...as applicable.” (Michigan)

### **Ensuring cost-effective efficiency projects:**

“[Self-direct] customers are expected to demonstrate their ability to successfully administer their electrical energy efficiency efforts over time. [Self-direct] customer performance will be measured in the following areas of self-administration:

- Participating [self-direct] customers must complete cost-effective energy efficiency projects
- Participating [self-direct] customers must submit requests for reimbursement of qualified expenses, thereby utilizing available funds within 24 months of being deposited into their [self-direct] account, or risk forfeiture of funds due to insufficient activity.
- Participating [self-direct] customers must achieve an average net present value of electric benefits per dollar of “available funds” used that is equal to or greater than analogous [CRM-funded] initiative for the most recent rolling three year average for completed projects.
- Participating [self-direct] customers must renew its demonstration of compliance with eligibility criteria every three years.
- Participating [self-direct] customers must provide monthly documentation of their [earned credit] and [CRM] payment to the [utility] and [regulatory body].” (Vermont)

“All customers completing projects through the [self-direct] option must achieve an average net present value of electric benefits per dollar of "Available Funds" used that is greater than or equal to that of the analogous [CRM-funded] initiative for the most recent rolling three-year average. Failure to achieve this standard will be cause to discontinue customer's participation in the [self-direct] option. Multiple projects may be aggregated within a three-year participation period in order to meet the net present value threshold. For these purposes, the [applicable utility]'s average net present value of electric benefits per dollar of "Available Funds" used will be determined by the Department.” (Vermont)

**Ensuring oversight by regulatory commission:**

“An electric provider shall provide an annual report to the commission that identifies customers implementing self-directed energy optimization plans and summarizes the results achieved cumulatively under those self-directed plans. The commission may request additional information from the electric provider. If the commission has sufficient reason to believe the information is inaccurate or incomplete, it may request additional information from the customer to ensure accuracy of the report.” (Michigan)

“If a customer has submitted a self-directed plan to an electric provider, the customer, the customer’s energy optimization service company, if applicable, or the electric provider shall provide a copy of the self-directed plan to the commission upon request.” (Michigan)

**Addressing privacy concerns:**

“A self-directed energy optimization plan shall be incorporated into the relevant electric provider’s energy optimization plan. The self-directed plan and information submitted by the customer under subsection (x) are confidential and exempt from disclosure under the freedom of information act, 1976 PA 442, MCL 15.231 to 15.246.” (Michigan)

**Defining a program’s access to information and customer obligations:**

“Customers are responsible for developing project proposals, including estimates of electrical savings and projects costs. Selection and use of a third party to develop, build, install or verify the project, will be the Customer’s responsibility. Upon acceptance by the Company, the Customer shall complete the project over the mutually determined time frame, to allow for verification of the Measure installation by deadlines established by the RFPs. The Customer agrees to provide the Company access to information necessary to verify energy savings and cost-effectiveness.” (Puget Sound Energy)

**Using competitive and non-competitive phases:**

“Each program cycle is comprised of a multi-year non-competitive phase followed by a competitive phase followed by a period of time that will allow for Customers to complete projects.

The amount available to each eligible Customer in the non-competitive phase is an allocation of the total funding available under this schedule. The allocation is based on the amount of revenues that are estimated to be collected from the Customer under Schedule 120 of this Tariff through xxx date. The individual Customer shall propose the funding of eligible Measures with the allocated funding during the non-competitive phase of each program cycle.

Individual allocations not proposed for use by the Customer during the non-competitive phase will be available to all Customers eligible [for the program].” (Puget Sound Energy)

**Cited resources:**

Michigan language:

<http://www.legislature.mi.gov/documents/2007-2008/publicact/pdf/2008-PA-0295.pdf>

Puget Sound Energy Schedule 258:

[http://www.pse.com/aboutpse/Rates/Documents/elec\\_sch\\_258.pdf](http://www.pse.com/aboutpse/Rates/Documents/elec_sch_258.pdf)

Vermont guidance:

[http://efficiencyvermont.com/stella/filelib/ESA\\_Comprehensive\\_Guide\\_2011.pdf](http://efficiencyvermont.com/stella/filelib/ESA_Comprehensive_Guide_2011.pdf) and

[http://psb.vermont.gov/sites/psb/files/ESA\\_Order\\_attachment.pdf](http://psb.vermont.gov/sites/psb/files/ESA_Order_attachment.pdf)





### APPENDIX III: DETAILED SUMMARY STATE CHART

State	CRM Structure	Offer self-direct/opt-out at all?	\$ Parity or kWh?	How \$ structured?	Administering entity	Threshold	Who does M&V?	Who claims savings?	Self-Directors Pay Admin/Low Income?	S-Ds can use some PBF programs?	Notes	How many/ what kind of cos. opt out?
Alabama	None	N/A										
Alaska	None	N/A										
Arizona	Utility-defined SBC and/or rate adjustment	Yes	Parity	Use 85% of annual CRM contributions + DSM charges recovered in base rates over following 2-yr period for 100% eligible project costs	Arizona Public Service Company	40 million kWh annual; can aggregate	APS	APS	Yes	No		
Arkansas	Utility-based EE charges	Pending									Collaborative formed, proposal has been filed. Likely will not look to utilities to administer.	
California	Public goods charge, cost recovery on rates	No										
Colorado	DSM rider	Yes	Rebate per kWh	Rebate; 50% project cost; per kW or kWh	Xcel Energy	10GWh annual and 2MW demand	Customer / Xcel	Xcel	Yes	No		A "few" customers have applied.
Connecticut	SBC, .3 cents/kWh	No									Only allowed if they begin to self-generate	



State	CRM Structure	Offer self-direct/opt-out at all?	\$ Parity or kWh?	How \$ structured?	Administering entity	Threshold	Who does M&V?	Who claims savings?	Self-Directors Pay Admin/Low Income?	S-Ds can use some PBF programs?	Notes	How many/ what kind of cos. opt out?
Delaware	Efficiency utility funded by bonds? Not really PBF? Green energy program.	No										
District of Columbia	Sustainable Energy Trust Fund	No										
Florida	EE Cost-recovery surcharge	No										
Georgia	None	N/A										
Hawaii	PBF for HECO only	No										
Idaho	4.75% EE tariff rider	Yes	Parity	100% funds, 100% project cost	Idaho Power	Special contracts customers only	Idaho Power, third party	Idaho Power	No	Yes		Avista has one customer; Rocky Mountain Power has a few
Illinois	Cost-recovery tariff	No									Can for gas, cannot for electricity	
Indiana	Energy efficiency surcharge	No									Industrial groups continue to lobby but never allowed	
Iowa	Cost recovery rider	No									Have been inquiries about it in the past ten years, but	

State	CRM Structure	Offer self-direct/opt-out at all?	\$ Parity or kWh?	How \$ structured?	Administering entity	Threshold	Who does M&V?	Who claims savings?	Self-Directors Pay Admin/Low Income?	S-Ds can use some PBF programs?	Notes	How many/ what kind of cos. opt out?
											always opposed by utilities and consumer advocates. Only for customers that transport their own natural gas.	
Kansas	None	N/A										
Kentucky	Tariff rider	Yes	Parity	True opt-out	Duke	All Rate TT (transmission) customers may opt out	Customer	Customer	No	No		13 companies eligible, all have opted out
Louisiana	None	N/A										
Maine	SBC	Yes	Parity	May use RGGI funds		Transmission/sub-transmission customers	Efficiency Maine	Efficiency Maine		Yes	Transmission and sub-transmission customers had previously not been allowed to participate in CRM programming. Now may opt in, though still don't pay CRM. Use RGGI funds instead	Many that had previously not used programs are now using programs

State	CRM Structure	Offer self-direct/opt-out at all?	\$ Parity or kWh?	How \$ structured?	Administering entity	Threshold	Who does M&V?	Who claims savings?	Self-Directors Pay Admin/Low Income?	S-Ds can use some PBF programs?	Notes	How many/ what kind of cos. opt out?
Maryland	DSM rider or surcharge	No										
Massachusetts	SBC; .25 cents/kWh	No										Cape Light Compact aggregator only one?
Michigan	Energy Optimization Charge: per meter charge	Yes	kWh goals	Discounted Energy Optimization Charge. Retained funds go toward kWh goals.	Utilities	1MW/single; 5MW/aggregate	Customer	Utilities	Yes	No		47 participating, down from 77 when program first offered
Minnesota	Conservation cost recovery in rates	Yes	Parity	Full exemption	Department of Commerce	20MW or 500MCF gas annually	Only once every 5 years, not really M&V; company does own		No	No		12 companies
Mississippi	None	N/A										
Missouri	Cost recovery in rates	Yes	Parity	Exemption from DSM programs	Utilities, Public Service Commission	5,000 KW demand or 2,500KW demand + EE plan in place	Customer		No	No		KCP&L: 2 cos.; Ameren: 9 cos.
Montana	Universal SBC - .0009/kwh	Yes	Parity	USB into escrow account, quarterly reimbursement checks	Department of Revenue	1 MW	Department of Revenue	Not utility	No	No		2009: 55 of 56 eligible customers took it. 2010: 57 on program, 50 used up all CRM charges
Nebraska	None	N/A										

State	CRM Structure	Offer self-direct/opt-out at all?	\$ Parity or kWh?	How \$ structured?	Administering entity	Threshold	Who does M&V?	Who claims savings?	Self-Directors Pay Admin/Low Income?	S-Ds can use some PBF programs?	Notes	How many/ what kind of cos. opt out?
Nevada	Cost recovery in rates	No										
New Hampshire	SBC	No										
New Jersey	SBC	Yes	Parity	Grant up to 75%	New Jersey Clean Energy Program	50,000,000kWh or 250,000DTH	NJCEP	NJCEP	Yes	No	Program to launch in fall 2011	Brand new program
New Mexico	Rates	Yes	Rebate per kWh	Rebate; 50% project cost; per kW or kWh	Xcel Energy	10GWh annual and 2MW demand	Xcel/Customer	Xcel	Yes	No	Brand new, just like Xcel program in CO. Developed in 2011	No one using it yet.
New York	SBC	No										
North Carolina	EE rider	Yes	Parity	Exemption from rider	Duke Energy	Commercial accounts over 1,000 MWh; all industrial	None	None	No	No	May opt out if state you have made, or plan to make, energy efficiency investments in facilities.	
North Dakota	None	N/A										
Ohio	EE rider	Yes	Parity/rebate	Incentive payment or CRM exemption	Utilities/PUCO	Varies, large industrial generally	Utilities/PU CO	Utilities	Yes/No	Yes/No		
Oklahoma	None	N/A										

State	CRM Structure	Offer self-direct/opt-out at all?	\$ Parity or kWh?	How \$ structured?	Administering entity	Threshold	Who does M&V?	Who claims savings?	Self-Directors Pay Admin/ Low Income?	S-Ds can use some PBF programs?	Notes	How many/ what kind of cos. opt out?
Oregon	3% public purpose charge	Yes	Parity	Rate credit	OR Dept. of Energy	8760 MWh (1aMW)	ODOE	ODOE (but ETO can use to meet overall long-term industrial goals)	Yes	If they max out PBF credits; get half incentive	Can use up to 68% of CRM payment on new EE measures.	66 companies eligible, few earning rate credits
Oregon [EWEB]	5% conservation rate	Yes	kWh goals	Rate credit	EWEB	Individually negotiated contracts	EWEB + 3rd parties if needed	EWEB	Yes	Yes, if do additional savings		Two facilities (40% of industrial load share)
Pennsylvania	EE funding pending	N/A									Utilities developing EE plans in response to Act 129. Requests for consideration of self-direct/opt-out provisions have been made.	
Rhode Island	PBF; .556 cents/kWh	No										
South Carolina	Rate structure	Yes	Parity	Exemption	Duke Energy	Industrial accounts	Customer	None	No	No		
South Dakota	Rate structure	No										
Tennessee	Rate structure	No										

State	CRM Structure	Offer self-direct/opt-out at all?	\$ Parity or kWh?	How \$ structured?	Administering entity	Threshold	Who does M&V?	Who claims savings?	Self-Directors Pay Admin/ Low Income?	S-Ds can use some PBF programs?	Notes	How many/ what kind of cos. opt out?
Texas	EECRF	Yes	Parity	Exemption	PUCO	Transmission-level customers	None	None	No	No		
Utah	4.6% PBF	Yes	Parity	Rate credit	Rocky Mountain Power	1MW peak / annual 5,000 mWh	RMP	RMP	Yes: flat \$500/project admin fee	Yes, not for same projects	1-5 year simple payback required	25-30% of eligible cos. participating. Primarily industrial, one large convenience store chain
Vermont	Energy efficiency charge (EEC)	Yes	Parity	Pay CRM, earn reimbursement	Utilities, VPSB	If EEC is > \$5,000/year	Utilities		Yes	No	Also offers SMEEP: full exemption for largest companies	ESA: one company; SMEEP: one (IBM)
Virginia	Cost recovery rates	Yes	Parity	Exemption	Utilities, SCC	50kW to 10MW	Customer	None	No	No	No cost-effectiveness tests	
Washington	Utility tariff riders	Yes	Parity	Grant lump sum payment/competitive bid	Puget Sound Energy	3 aMW annual	Customer, PSE	PSE	7.5% admin, 10% NEEA	Some after 2 yrs.	After 2.5 years: competitive bid for remaining funds	44 eligible, >75% participation in 2010-2013 cycle
West Virginia	None	N/A										
Wisconsin	Per meter fee	Yes	Parity	Escrow and milestone payments	Wisc. Public Service Commission	1MW monthly demand min / 10,000 Dth of gas + \$60K in monthly elec/gas bills	Customer		Pay for some RE portion of CRM		Customers must submit energy savings plan	None participating
Wyoming	Energy efficiency surcharge	Yes	Parity	Rate credit	Rocky Mountain Power	1MW peak / annual 5,000 mWh	RMP	RMP				

Table sources: ACEEE 2011, ACC 2009, AEP 2011a, AEP 2011b, Ambrosio 2011, Anderson 2011, Bell 2011, Borum 2011, Burnes 2011, Cross 2011, Crossman 2011, D'Aloia 2011, Dominion 2010, Duke Energy 2011a, Dunn 2011, Edwards 2011, Goetze 2011, Goff 2011, Haase 2011, Haemmerle 2011, Harris 2011, Helmers 2011, Landers 2011, Laurent 2011, Lawrence 2011, Malley 2011, Malone 2011, Marcylenas 2011, MCSR 2009, MOGA 2009, Moser 2011, NJCEP 2010, Noonan 2011, Pengilly 2011, Pennsylvania Public Utility Commission 2011, Romero 2011, Schepp 2011, Schutt 2011, Sebastian 2011, Sivils 2011, Stipe 2011, Takanishi 2011, Timmerman 2011, Trasky 2011, VPSB 2011, Walker 2011, Wankum 2011, Welch and Fraser 2011, Whitehead 2011, Williamson 2011, WSPC 2009, Young 2011, Zarnikau 2011, Zuraski 2011.

## APPENDIX IV: INTERVIEW FRAMEWORK

1. General structure of self-direct program
  - a. Who qualifies?
  - b. Minimum usage/size?
  - c. Other sectors participating besides industrial?
  - d. Number of clients participating (what is percentage of load, if available?)
  - e. Can you get kicked out of this self-direct program? Who makes that decision?
2. Who claims self-direct savings?
3. How large (what percentage of monthly bill) would CRM fees be for self-direct customers?
  - a. Do self-directors pay any of it?
    - i. To support low income programs or other societal benefits?
    - ii. To cover program's administrative fees?
  - b. Can self-directors use any CRM-funded programs?
4. How much access to internal technical assistance do self-directors have?
5. How did you develop savings targets (if used)?
6. Cost of savings — anyway to calculate or compare to more traditional CRM-funded programming? What data is available to make such a comparison?
7. Do you focus on energy savings or dollar for dollar parity?
8. Can companies receive credit for previous investments?
9. Rate credit / escrow / rebate structure
  - a. How exactly works
  - b. What do companies submit prior to reimbursement?
  - c. Allow full exemption?
  - d. Feedback from companies on this?
10. Who conducts evaluation of the program? Who is responsible for measurement and verification?
11. What can you say about the impact of self-direct on other industrial program offerings?
12. What are long term prospects for the self-direct program?
13. Is it producing the savings you hoped/planned for? Did you plan for a certain amount of savings?
14. Macro findings/thoughts about the program in general