

Below is the text version of the webinar titled Showcasing Model Utility IEE Programs originally presented on February 7, 2012.

Erin Hope:

– making a plan to change the filters or air dryers more often. These are examples of things that can produce good energy savings that are often overlooked at the facility. So we'll bring in a TSP and a group of engineers and a tiger team for up to three days, work with the facility, go through, identify all of those. Then we'll pay 70% of the cost, or up to 70% of the cost to ... on the energy savings for them to implement those changes. Along with those implementing, or implanting those changes, we work with and develop a system to measure and verify, ongoing measurement verification of the cost savings.

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Typically this could be working with them to identify how their current trending systems can track that savings or how it can set it all up to meter and monitor. We follow this up by an annual incentive rate of \$0.025 per kilowatt hour each year for the savings that they prove and they report to us. So if they report 1 million kilowatt hours of savings through this, we'll pay them, we agreed for, either three years or five years depending on the agreement, pay them \$25,000 per year to maintain those savings. If the savings go down then we lower the incentive. We typically cap them so that they can bring in more savings. We encourage that, but it is all through O&M.

That is one way we try and get those O&M changes not just implemented but maintained by offering that ongoing incentive with the idea that if, once you've had them in place for three to five years they become standard practice and you can assume that they're going to stay in place. HPEM is in a way teaching management to save energy. This is a senior manager training program that lasts 12 months. It's one-month sessions to work with them on how to form, set up energy champion groups, how to measure and verify, including we have consultants work with them to set up models of their process to look at the energy intensity and have a metric where they can see real time or in closer real time how their facility is doing.

Is there energy creep? Are they suddenly, if they're doing widgets per hour and it takes 100 kilowatt hours per widget, for each widget to manufacture each widget, have they crept up to 102, 104, or are they making small incremental changes, those low cost, no cost measures that are covered by track and tune or are in a comprehensive group and get them down to 94, 90 kilowatt hours per widget. That's what HPEM is doing, teaching them how to do that, how to measure it, working with them to set up the metrics they need. You would think facilities have it. Some do, some don't. We're actually finding a lot of them don't.

Sandy Glatt:

Erin, we're bumping up on time.

Erin Hope:

Okay. I've got about five more slides that I'll quickly go through.

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So our trade ally driven, these are ones that are typically brought to us by vendors, our small industrial or small compressed air, small pumps, where you're typically using approved calculations and tools to determine your energy savings. Our lighting trade ally network; we use this in both our commercial and industrial. One of the key things that this provides our industrial that is very important is it gives them an unbiased third party lighting engineer to come in and help them do a lighting audit. A lot of facilities we work with say if a vendor gives them an audit they're not able to bid on the project because they have inside knowledge on the bid. So that is one of them we are seeing huge uptick in and a lot of good feedback. The green motors program, I don't have the website on here but greenmotors.org. It is a certification of rewinding centers for energy savings through good quality motor rewinds.

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Our technical service providers. I discussed this already, but these are a group of consultants we have that we bring in to provide expertise in specific system and process types so that we can identify those projects as energy efficiency measures and help build the business case for the facility for when they go to their management requesting capital funding.

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Our results. Our program target for 2011 was 27 megawatts. We exceeded 40. It was a crazy year. We had more projects than we ever expected. Fiscal Year 11 brought in the most savings ever, and this is where eight years ago, six years ago we only had 40 megawatt targets for our entire program. That is all residential, commercial, industrial factors. So now we brought in 40 and they are industrial. Our program's average cost, \$0.197 per kilowatt hour. That's for TSP's, consultants, that's everything. The bulk incentive rate. This is the incentives we pay to the facilities to do it, \$0.11 a kilowatt hour.

We had over 421 custom separate projects. Of those we were probably close to 1,100 different measures because some custom projects have multiple measures. Like compressed air you might have a compressor, air dryer, re-piping, things like that. Over 200, or almost 200 small industrial projects. We have 24 of the EP energy project managers in place and 18 different territories or different facilities. We are starting up our second one in the Puget Sound area and you can see the results there of our first one. And of our green motors we had almost 300 motors come through the project receiving incentives.

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For going into the future we are maintaining our program with all components remaining available to the utilities. That says it is on slide three, but it is actually, slide 7. Typo there. We did have to make sharp reductions to our budget. We had a record setting year. That also gave us record setting expenditures. We brought in 40 average megawatts. We were on target on cost per megawatt or kilowatt hour cost, but to bring in the larger targets it does cost more. We had to request additional budget, which then reduced our budget for this period. So we are seeing that we have reduced our program, but we are maintaining all the components available. We are going to, we did have to, reduce the ESIPs down from 12 to 8 and reduce our technical

service budget, but we are still maintaining good forward momentum. We are still seeing quite a few projects come in and we are just doing a more targeted effort on facilities that have funding and have internal capital that they are investing for the projects.

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Continuity; one of the key things is to maintain a solid relationship with all program delivery partners. We keep experienced staff. We did not just go out and hire a bunch of engineers. Everybody we've brought into this program has extensive industrial experience across a variety of sectors and we're able to shift people around to a region or dispatch them to use their expertise where it's best applied or to send them out and they know how to talk to those end use facilities, and once you get in there and you're able to talk their language and they know you have an idea of what you're talking about it makes a big difference. It's funny but relationships are everything and knowing the language, knowing how to talk to them and identify the projects are key. The ESI team's key focus, we want to support the utilities. Some utilities, most utilities, have a limited conservation budget. We want to give them the most cost-effective savings and a number of our utilities have state-mandated conservation targets, so our goal is to help them make their targets, that helps us meet our target and keep that momentum.

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For years we had cut funding, no funding. Back through the '90s we had funding one year, no funding the next. It was a roller coaster ride of our programs. While even this year we've had a budget cutback we're still able to maintain momentum and things have slowed a bit, but we're still seeing good participation, good feedback from both our utility customers and the industrial facilities. This is a key slide that we have in our marketing material. We put in here just to give you kind of an idea of the wide spectrum of industrial facilities that we cover from medium density fiberboard manufacturer to a small aircraft manufacturer in the Seattle area.

NORPAC, one of the largest paper manufacturing facilities in North America, SEH Silicone, which does silicone wafer chips and Areva, which is a nuclear processing facility in central Washington. We're able to bring in expertise and assistance to all of these facilities, and I can say all of these we've done an extensive number of projects with bringing in megawatts of savings, and they're very happy with our program, so that's one of the key things to build a reach across this broad spectrum of manufacturing we have in the northwest.

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If you have any information please feel free, Jennifer Eskil is our program manager. She oversees the overall program. She can answer things on both a program basis as well as myself. I oversee all the technical work and all of the personnel out in the field working with the end users.

Sandy Glatt:

Okay. Thank you, Erin very much. Dallas, are we turning it immediately over to Kim right now or what are we doing here?

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Dallas Elgin: We are going to have the operator jump online real quick to fix a brief audio issue and that should take just a second or two, but Erin can answer questions during this time.

Sandy Glatt:

Okay. We're going hand it over to you fairly quickly, Kim. For those of you that asked questions we'll try to get as many answered. If not you will all get them answered in writing and for those of you that have asked about the presentations, yes we will let you know where the presentations will be posted as well as the audio. So Erin, is Bonneville regulated or not regulated?

Erin Hope:

We are regulated by the Power Planning Council and the Northwest Power Planning Act, which set a significant amount of regulations. We're not regulated in the same fashion as investor-owned utilities with the Public Utility Board or Utility Commission.

Sandy Glatt:

Okay. How does that ESI handle energy savings associated with energy intensity reductions and/or with production increases, for example making more stuff would command certainly less energy?

Erin Hope:

We typically will try and base it on a metric, an operating metric where we determine kilowatt hours per cubic foot of compressed air is a very common one and while they may, we see an increase in their usage, if we can show that the energy intensity of it went down we can incentivize on the decrease in energy intensity, because our goal is not - we call it conservation and sometimes that's a misnomer, where actually it's efficiency. Whatever a facility does, board feet per hour, widgets per hour, chips per hour, we want them to do exactly what they're doing or more but use less energy to do it. So we're looking at efficiency not just conservation, reducing what they use.

Sandy Glatt:

Okay. I've got some numbers questions and I'll see if they're somewhat related. Say you've got a \$125,000 salary for your ESI guy. You've got 5 million kilowatt hours at .025 kilowatt hour cost. Are you saving greater than this amount?

Erin Hope:

We could be.

Sandy Glatt:

Okay.

Erin Hope:

Yes, they could be saving 6 million kilowatt hours, but we will cap it at the fully loaded salary of the EPM.

Sandy Glatt:

Okay. Another question. \$0.197 per kilowatt hour is a cost based on first year savings or lifetime savings?

Erin Hope:

First year savings. We typically have a 10 to 15-year measure life on all of those, so you're looking at 1.92, \$0.045 a kilowatt hour.

Sandy Glatt:

Okay, and then are your consultants full time or are they engaged as they're needed?

Erin Hope:

The consultants under TSP are engaged as needed. Our energy smart industrial partners and our contractor are engaged full time.

Sandy Glatt:

Okay, great, and I guess I'll ask one more question. Are we ready, Dallas, to turn it over? I don't want to use up too much of the presenters' time.

Dallas Elgin:

Yep. We are ready.

Sandy Glatt:

Okay. Let's do that and then we'll see what we've got for Q&A at the end, so let's turn it over now to Kim from Xcel.

Kim Spickard:

Okay. Can you hear me fine?

Sandy Glatt:

Yep.

Kim Spickard:

Okay. Great. I'll just wait until I have control here. Still waiting. I'll go ahead and get started. I am a product portfolio manager with Xcel Energy and as was mentioned earlier I manage the programs for tooling in New Mexico and Colorado, but I also manage a team that has custom programs in both states and some solely in Colorado, and we have counterparts in Minnesota that also provide similar programs. Our programs across our jurisdictions aren't exactly the same, but we'll try to contrast some of those differences. It's always nice to know that you receive outside confirmation of your programs that they are effective and they do what was intended. The customers have benefit from those programs.

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This is an award we received in 2011 from the American Council for an Energy-Efficient Economy. It's the champion of energy efficiency and industry, so it's recognizing the fact that the programs we have do support our industrial customers very effectively and we're pleased to have that award. Like I say, it's good confirmation that the programs are doing what was intended, and since we do use rate payers' money for these programs, it's also very cost beneficial.

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This is a small map of our service territories. It's very disconnected. You can see we have the northern states, South Dakota, North Dakota, Minnesota, Wisconsin, and a little bit in Michigan. I run programs in Colorado and New Mexico in just the eastern part, the part that doesn't have a lot of stuff in it. We have service territory basically from Carlsbad up through Roswell and then on into the western part of Texas. We have 3.4 million electricity customers in our service

territory, 1.9 million natural gas customers. A lot of our natural gas customers are transport customers, which means they use our pipeline but do not use our gas, so that's one of the reasons we have such a smaller number of natural gas customers.

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We had \$11.2 billion in revenue last year. We are the number one wind power provider in the country and number one solar provider. We do offer a wide range of energy efficiency programs. We have 16 business programs, 10 residential programs, and four low income programs, and we have a large portfolio of programs. Two of the most ... programs for our industrial customers are the two that you see on the slide here, process efficiency and self-directed custom efficiency. The reason I selected these two even though custom would fall under our industrial customers as well or any of our programs would, I wanted to contrast these two because they offer larger savings for our customers, but they also have different participation levels from Xcel's standpoint and also the customer's standpoint.

The first one is process efficiency and this program is open to our industrial customers only. Doesn't necessarily mean they have to be on an industrial rate, but they have to be a manufacturing customer. They have to produce something, a widget of some kind. One of the qualifiers for this program is that the customer must have a savings potential of about 2 gigawatt hours in order to participate in this program. So it's a multi-phase program. It's also a multi-year energy efficiency plan. We also offer bonus incentives. The second program is self-directed. This is a program where the customer must have 2 megawatts in any one month and 10 gigawatt hours combined energy usage. We allow customers to aggregate meters in this program, so you may have multiple facilities, multiple buildings that contribute to that aggregated demand and usage.

So, we can bring in what would appear to be smaller customers into the program like aggregating those meters. The difference between this program and the process efficiency is that process efficiency is very heavily, a very heavy partnership, very extensive partnership between Xcel Energy account managers, program managers, third party providers, and the customer. Very heavily involved in the entire program itself. Self-directed customer does all the work. They identify the projects they want to complete, they submit the plan to us, we pre-approve that plan and then the customer implements. Another big difference is between the two programs and process efficiency we allow the customer to make available all of our rebate programs.

They can participate in one program at a time. There's no requirement to finish all the projects before rebates are paid out. In the self-directed program, the projects are bundled into one measure and rebates are paid at the completion of that entire project. It's a huge difference in that. Also in the process efficiency we pay for the studies. We'll pay up to 25% of the study, or the customer actually pays 25% up to \$7,500. That's the most the customer will pay for a study. We will fund the rest of that study for the facility to identify those.

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Process efficiency is a holistic approach to improving energy efficiency at industrial facilities. It's a three-phased approach. The first phase is identification. It's a very high level analysis to identify opportunities for savings in both the business practice of the customer and their technical opportunities within the operations. This is done at no cost to the customer. The second phase is scoping where we provide support and resources to further define recommendations for energy savings opportunities that were kind of identified in phase one. We fund 75% of the cost of this work, and again the customer pays a maximum of \$7,500 to participate in this phase of the program.

The third phase is implementation. We work with a customer to compose a schedule and conservation goals, and the project estimates of the rebates from Xcel we'll provide to support the efforts as also made. So they know at this stage what the rebate levels will be and help them as they begin the implementation process. And once all three phases are completed you can actually restart the program with higher efficiency baselines and our look at other areas that weren't addressed in the original study. So it's a circular program. It's continuous and it's very long term.

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The benefits of process efficiency as far as the benchmarking and baseline goes, not only do we identify high-level opportunities but we also identify the costs of doing nothing, we want to make sure that's understood. It may seem like the cost to implement a high-efficiency measure may be out of reach, but what is the cost of not doing that measure? We help the customer identify that cost as well. The next level on this pyramid is identify potential. This is the scoping process as mentioned in the continuous improvement model. Just replacing a compressor due to rising demands is not a systematic approach to this particular process efficiency improvement. Fixing leaks, educating the team on proper use, designing a system that meets their actual needs is a much more systematic approach and has longer term savings. So that's the goal of this particular step.

The next step is we bring in additional expertise, funding for specialized custom studies, for technologies with few industry experts. There are people out there as mentioned in the earlier presentation that have the expertise to bring to the table and if we need that expertise brought in we do that at this stage. There's assistance in developing a long-term energy management plan with the intent of building the business case for energy efficiency and getting executive approval. A lot of times the stakeholders are not located at the facility, so we help with that as well. Funding and bonuses for all studies; we provide study rebates as well as bonus rebates to help achieve the milestones.

We want to make sure that the customers have every opportunity to implement these plans. And then the final step is continuous improvement. It's achieved when the results retract and the energy efficiency is understood at all levels, and the goal is to identify increased baselines and higher efficiencies to continue this continuous improvement model.

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Key industries for this program are metals, water treatment and mining, which is very big in Colorado, food and beverage, plastics, and you can see the rest there. As long as you produce something then there is a benefit to being in this particular program, primarily because of the support that we. It's also anything with highly repeatable processes has the potential for small changes to earn big dividends, so we look for those.

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The impacts for process efficiency in 2011; we achieved almost 6.6 gigawatt hours in that program and 943 kilowatt hours. Rebates amount to \$482,000 against a budget, total budget of the program of \$1.3 million. The forecast for 2012 you can see is significantly higher, 11 gigawatts, and the rebates have almost tripled for this program, almost quadrupled actually with a much higher budget as well.

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The second program I wanted to contrast is the self-direct program, and it's also designed for the large commercial and industrial customers in Colorado. It's not necessary that they be a manufacturer to participate in this program. The main difference as I mentioned earlier is that the customer performs the design engineering M&V and reporting of the entire program. The customer also receives increased rebates for that effort to offset the cost and implementation. Right now we pay \$525 per kilowatt hour or \$0.10/kilowatt hour. It all depends on which one provides the best rebates to the customer. We don't provide rebates for used equipment, but we do consider leased equipment in that program.

Customers must have a peak demand of 2 megawatt hours in any single month and 10 gigawatt hours, 2 megawatts rather, and 10 gigawatt hours in annual usage. Again the customer can't aggregate meters to meet that demand, or the minimum requirements of the program. This is also a long-term planning tool energy efficiency measures as I mentioned are bundled into one opportunity, so the entire project has to be completed prior to receiving any rebates, and rebates are based on the amount of energy savings attained. The largest rebates to date are Mesa County School District. They've completed phase one and phase two of their self-direct program and received \$1.4 million in rebates.

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Self-direct program impacts, 7.6 gigawatt hours in 2011 and we're forecasting 8.9, almost 9 gigawatt hours in 2012 with a significant increase in rebates and budget as well. Lessons learned from these two programs, it's a long lead time. Many of these programs have been multi-years in planning and implementation.

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You know there's just a wide variety of attention to the DSM, the demand side management side of this program. Many stakeholders and a single customer, a wide variety of capital access, investment and competitive advantage messaging worked best and we use our account managers most effectively through this program.

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As I mentioned earlier, stakeholders are typically not in our service territory. Very unique operations. A lot of times customers are resistant to change. Customers are highly reactive to market changes and it's difficult to build credibility. Those are just some of the lessons we've learned throughout these programs. I think that's the last slide.

Sandy Glatt:

Okay. One or two quick questions and then we'll turn it over to John. We may run about five minutes over. Everybody we are going to answer all of your questions. Just quickly, is Xcel a regulated utility and if so, if not, what is the motivation behind your programs? Is there legislation, etc., and also how are these funded? And do you have similar programs in natural gas?

Kim Spickard:

We are a regulated utility. Each service territory has a different regulatory agency, but yes, we are regulated. The programs are funded through a DSM writer on the customer's utility bill and the monies that are collected through that provide the funds for all of our programs to all the costs including the rebates. There was another part to the question?

Sandy Glatt:

Do you also have the same programs for your natural gas users?

Kim Spickard:

Yes. Natural gas has similar programs. Primarily we see a lot more on the residential side. There's less emphasis going forward in 2012/2013 because the price of natural gas is so low. It's tough to meet our cost effectiveness guidelines for some of those programs, but we do have those available as well to all of our customers.

Sandy Glatt:

Okay. Thank you. And now to John Nicols from Wisconsin.

John Nicol:

Okay. Sandy, can you hear me?

Sandy Glatt:

Can hear you fine.

John Nicol:

Okay. Great. I'll do what I can here with the time remaining to overview the experiences we've had here with Focus on Energy in Wisconsin since 2001.

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First of all, overview of the program itself. It is a Wisconsin statewide program for energy efficiency and renewable energy.

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It's in partnership with the investor-owned, municipally owned utilities as well as state electric cooperatives. So it's a single statewide energy efficiency program with these multiple partners.

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Basically what we do is we assist business residents with unbiased information for electric and gas use, and provide incentives for getting projects to happen that otherwise would not occur.

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The results to date here are about \$2.30 saved for every \$1.00 spent; benefit to the business and residents with about a \$319 million in annual savings that we've been able to achieve so far. More than 91,000 businesses, 1.7 million residents participate since 2001, and more than 3,000 trade ally partners.

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I would say for the industrial sector just in 2010 we were able to save 30 megawatt gross savings and 186 million in kilowatt hours, an additional 9 million therms. Generally our services provide technical services, unbiased experts with industrial expertise, energy evaluations, and education and training sessions. We do a lot of monthly webinars, network vendors and market providers and of course find the financial incentives, which are about 75% of the budget.

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The financial incentives cover the usual areas of lighting, refrigeration, and others.

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As you can see there with custom and new construction also included. In terms of the industrial sector in Wisconsin the industrial sector uses 35% of the total gas and electric energy consumed in the state, so it's quite a big chunk. Wisconsin happens to be ranked 11th in terms of revenue for manufacturing in the U.S., so it's a big part of our energy use here, and the energy-intensive sub sectors as you can see are pulp and paper, food processing, metal casting, plastics, printing, and water and wastewater.

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A breakdown of that in terms of the electric energy use, and it's similar for gas actually too. These six sub sectors consume about 60% of the electric energy that's used in the market, so again accounts for quite a bit of the industrial energies. Generally what we've done in terms of outreach, we have 15 energy advisors across the state to reach out to customers working directly with them to develop projects and overcome barriers.

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We've partnered very closely with the utility account representatives in each utility area to help give the customer an overall better service. We have these training classes that I mentioned before with webinar series. We also have built quite a strong relationship with the industrial associations, folks like Wisconsin Paper Council, Midwest Food Processing Association, Wisconsin Cast Metals Association, are just a few that we've really, again over the years, developed quite close relationships and they provide some great outreach for us, and then with the program allies we have our top-tier program allies that we really do account manage them quite closely and help bring the program to the customer.

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And the services we're providing, we do a lot of technical and project development support at the customer level. We don't usually do audits unless it's absolutely needed, because of the time involved with that, but we have developed since 2004 a tool we call practical energy management that's a continual improvement program for the customer. We've trained over 1,200 companies in this particular tool, and it really helps them look at an ongoing continual improvement approach, and with that we've been involved with developing energy teams at the

facilities and helping to facilitate those energy teams using practical energy management, and one of the other key things that we've done is develop best practice guidebooks for these energy intensive industries to help them understand where their opportunities are.

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Another unique thing that we've been doing is looking at emerging technologies with sort of a separate group that does some due diligence on any innovative and emerging technology that hasn't been really proven in Wisconsin, and we look at the claimed savings. We also look at the product business case for that particular product to see if it's got some good legs, and also to help the business itself at selling the product to make sure that they're a viable entity. With that then they do things like invest in business itself with equity, provide project loans for projects, or more recently we've been doing capital leases, annual customer savings of about \$1.5 million has been attained with that effort.

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We also have developed special incentives beyond our usual incentives that target energy intensive industries and typically the process energy use. Examples of these special incentives in the coal and paper industry for instance is efficient repulper rotors. Again with our team of experts in the pulp and paper area we've been able to identify certain things like this that we can provide direct incentives for, like prescriptive incentives that vendors can use to help promote with their customers. In metal treating we have a special incentive for furnace tube inserts, and in the plastics industry, we've got special incentives using efficient heater bands for...

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