

*Announcer:* The broadcast is now starting. All attendees are in listen only mode.

*Mike Li:* Hello everybody. This is Mike Li from the U.S. Department of Energy. Welcome to today's webinar on setting energy-savings targets for utilities, hosted by SEE Action and sponsored by the U.S. Department of Energy and the U.S. Environmental Protection Agency in conjunction with ACEEE. I'm going to give people a few more minutes to log in and join the webinar.

But while we wait why don't I turn it over to Devin from NREL who's going to be running the webinar? She's going to go over some logistics for today's webinar. Devin?

*Devin Egan:* Great. Good afternoon. First of all you all have two options for how you can hear today's webinar. In the upper-right corner of your screen there's a box that says audio mode that will allow you to choose whether or not you want to listen to the webinar through your computer speakers or over the telephone. As a rule, if you can listen to music on your computer you should be able to hear the webinar. If you have questions during the webinar please go to the questions pane in the right-hand box on your screen.

There you can type in any question you may have during the question and answer segment at the end of today's presentation. And after today's webinar you'll be prompted to complete a short poll. Please take a few minutes to submit your answers once the webinar has ended. Today's webinar will be posted online on the SEE Action web site. Once the presentation is posted you will receive a link to it via e-mail when it's available. Please note that this process can take approximately two to three weeks.

With that I'll turn it back over to Mike to talk more about today's webinar and introduce our speakers.

*Mike Li:* Great. Thank you. So today's webinar is a part of a series of webinars supporting SEE Action's efforts to take energy efficiency to scale. SEE Action is composed of more than 200 leaders from state and local government and other energy efficient stakeholders. SEE Action is facilitated by the U.S. Department of Energy and the U.S. Environmental Protection Agency. And the goal of the SEE Action effort is to achieve all cost-effective energy efficiency by 2020.

SEE Action offers information resources and technical assistance to state and local decision makers as they seek to advance energy

efficiency policies and programs in their communities. Today's webinar will highlight SEE Action Setting Energy-savings targets for Utilities Report which provides recommendations for motivating electric and natural gas utilities to meet energy efficient program results by establishing numeric targets and goals.

One thing I did forget to mention is that if you're not on the SEE Action e-mail list you can sign up for that list on the SEE Action website and there are slides that will show you where to do. Why don't I at this point introduce our speakers? Our speakers include Steve Nadel who is the executive director at ACEEE who is the report's lead author and a member of SEE Action's Driving Rate Payer Funded Efficiency through Regulatory Policy's Working Group.

Steve will present the key findings from the report and provide an update on the status of state energy efficiency targets from his perspective. Also with us today is Eddy Moore, an advisor at the Arkansas Public Service Commission who will discuss the 2010 orders from the Arkansas Commission that sets sales reduction targets for both electric and natural gas utilities. Eddy is going to share some considerations and lessons learned from the process and how the targets are impacting the current energy landscape in the state.

We're going to do a Q&A after each speaker so I encourage you as we go along to enter questions into the chat box. We'll address as many as we can in the allotted time. With that let me turn it over to Steve.

*Steve Nadel:*

Okay. Thank you Mike and welcome everybody. I look forward to your questions. The topic here is setting energy-savings targets for utilities. It's very much based on the SEE Action whitepaper which I hope you'll all download. Why don't we go to the next slide? As many of you probably know the utility section energy efficiency spending has been steadily increasing since its low point of about 1998. This kind of shows the trends as well as some projections going forward by Lawrence Berkeley National Lab.

The basic thing is definitely it's on an upswing. Personally I don't think the LBL low scenario will happen. We continue to see savings and spending increase. So whether it's mid or high I don't know. But it does appear to continue to be on an upswing. Next slide please. Likewise savings are going up. This is data that the various utilities reports to EIA. It's not 100 percent complete. But it does give a pretty good snapshot if you will.

The little red bars are the incremental savings each year, meaning what are the savings from measures installed in that year? The blue bars are what we call total annual savings meaning those are the savings in a given year from measures installed that year as well as for measures installed in earlier years. Sometimes people call that cumulative annual savings. I know that's a confusing term but we may come back to that a little later. But as you can see the savings are mounting. They amount in 2012 over 2 percent of electric utility sales on a national basis. Next slide.

In recent years the red line shows national electricity sales. You can see it was basically steadily increasing up until about 2007, dropped due to the recession, but then recovered. But in recent years electricity sales have actually been declining even as the economy as represented here by GDP has increased. So many people are trying to figure out what's going on. Next slide please.

One of the things we did at ACEEE – we released it last month – is a study looking at what are the causes of this decline. And this particular chart shows, based on our analysis (it was a regression based analysis just on residential commercial sales) that savings from utility energy efficiency programs as well as from energy efficiency equipment standards seems to be the largest source of the declining residential and commercial sales. Secondary importance is the fact that winter was warmer up until this last winter.

We collected the data before this winter so I expect this winter may be slightly different. Those are by far the two biggest factors. The economy in recent years has had a much smaller impact. There's a positive impact just as winters have been warmer. So have summers. And that has actually increased sales. But energy efficiency appears to be showing up in national electricity sales at this point. Next slide.

Now there is a lot of additional energy efficiency potential. As I recall SEE Action has had other webinars on energy efficiency – potential studies. I show here a single summary slide from the potential study that ACEEE did a few years ago for the State of Ohio looking at how much could be saved from different types of policies. This is all undergirded by a technical measure by measure analysis. And we found in the case of Ohio the cost-effective achievable potential of about 22 percent savings by 2024. The important thing is not the exact number. The important thing here is that there are significant savings available.

Continue please. This is a study we released just yesterday showing the average cost to the utility of energy efficiency programs versus other resource options. The energy efficiency programs – the average cost was 2.8 cents per kilowatt hour. In 2012 that's an average across I think it was 19 or 20 different states that we collected data from. You can see there this is from Lizard & Associates showing the range of costs from various supply side resources. So you can see that efficiency is cheaper just about in every case and significantly cost-effective. Next slide please.

Let's turn now to energy efficiency resource standards. We consider an energy efficiency resource standard. We define it to be a mandatory energy saving target. By mandatory I mean that there are some consequences if it is not met, and also that there is adequate funding to meet the targets. We also define it for our purposes as they have to be more than short-term. We look for at least three years of targets to classify it is an EERS. Next slide please.

Using this definition there are now 26 states with EERSs in place. Those are show in green as well as two states: Nevada and North Carolina that have combined energy efficiency and renewable energy standards. I'd also note that to varying degrees we're aware of five other states that are considering policies along the line. Those are shown by the asterisks. Not all of them are going to happen – not even clear if any of them. There may be other states but that's kind of a snapshot in time. Over half the states have such targets and if everybody who is working on it now does so we'd be up over 30. Next slide please.

This shows when they were developed. The first EERS was adopted in 1999 by Texas signed by then governor George W. Bush. And you can see the steady progression. Particularly a lot of adoption in the '07, '08, '09 periods. More recently it's been a bit slower. Next slide please.

This shows if you look at the left-most number column what the annual savings are for each of the targets. We call that approximate because in some years we've averaged several years together just to give an idea. But as you could see these range from Texas, which is looking to save about 0.1 percent of sales annually, on up to Massachusetts at 2.6 percent. The vast majority are 1 percent a year or over. Next slide please.

This is information from a study we did in 2011 looking at implementation of these targets, comparing the targets with actual implementation. What we found then is that most states were either exceeding, reaching, or nearly reaching their targets. There were only a few outliers that were falling significantly short. This study – in fact three states were falling particularly short. Two of those three have since caught up. As of this study there's only one state that continues to lag.

In about ten days we'll be coming out with an update of this study. I can't share the results yet but I would say the results are somewhat similar and that most states are either exceeding, reaching, or nearly reaching the targets with just a few exceptions again. But stay tuned for that study not next week, but the following week. If you're interested look at our web site and it'll be posted then. Next slide please.

Why targets? I mean targets – basically you establish specific goals that can be measured and used by management and regulators. So you know how much you're saving. Are you hitting those targets? I'm aware of some utilities that the executives get bonuses when they reach these targets. Likewise regulators will often provide performance incentives for reaching the targets. And they start – As you get close to the targets you get some incentive, a bigger incentive when you reach the target, and a bigger incentive still as you exceed the targets by a significant degree.

I think targets do drive more savings. Of the 15 states with the most electric savings in 2011 (that's from our most recent ACEEE State Energy Efficient Score Card) all 15 of those states have targets. It does like these targets are helping to drive significant savings. And I know when I talk to utility executives where they have these mandatory targets they do say, yes those are a significant motivator for them to help reach if not exceed the targets. Next slide please.

There are a variety of issues that are discussed in the paper. I was going to discuss a few of the highlights here. One you need a legal basis for setting the targets. Sometimes it's legislation. Other times it's PUC regulation. It really depends on the state. Does the PUC already have the authority? The legislature obviously has the authority but sometimes they're not interested. Or they just prefer to defer to the regulators. Either will work. Next question is who the targets apply to.

In all the cases they apply to the investor-owned utilities, the IOUs. In most states they don't apply to public utilities but there are three or four that I recall that do. Sometimes they might apply in part to state agencies. The states of Maryland and Illinois come to mind where there are both separate targets for the utilities and for the state agencies. And in some cases they might apply to a third-party administrator, such as in Vermont where Efficiency Vermont, the statewide administrator, has certain targets and receives bonuses if they hit those.

One very key issue, and I'll discuss that in a few minutes, is target levels and what's included. There is also the question of whether you have a single statewide target that each of the utilities need to meet, meaning the same target, or whether you differentiate between utilities. I'd say the majority of states do statewide versus utility specific but there are a number of states with utility specific.

There are questions about flexibility and cost controls and I'll get to that a little later. There are questions about evaluation. We'll also get to that later. And then questions about do you provide incentives or penalties for reaching or falling short of the targets and cost recovery. I'll say a few more things about that in a few minutes. Next slide please.

What's included? Virtually – Actually all the states do use end-use energy efficiency, meaning improvements to facilities on the customer side of the meter. A number of states include savings from combined heating and power. When I say savings that means how much do they save relative to having a separate power generation in the boiler? Not all the production of the CHP, but the savings. And to overgeneralize the savings might be half of the total production. That fraction will vary from project to project.

Some states give the program administrative credit for savings from upgrading building codes or from equipment efficiency standards, particularly if those standards are state standards. Some states include transmission and distribution improvements. For example I was just talking to one utility this morning and they are getting credit for savings from higher efficiency transformers on their distribution system.

There is a question whether you include all customers or do you allow some very large customers to either self-direct (meaning run their own programs as long as they meet certain targets) or opt out and not participate in those programs. And if you do allow self-direct usually those savings get included in the target. If you allow

opt out what usually happens is the consumption by those opt out customers is not included in the denominator of the equation. So if it's one percent savings it's one percent of a smaller amount of sales that you use to calculate that.

And then there's the question about whether the savings are net or gross; gross savings meaning all the savings that showed up regardless of whether they would've happened, or otherwise net savings adjust for such factors as free riders and spillover. And I think I'll be discussing that a little bit later. So let's move on to the next slide.

What metrics do you use? By far the most common metric is percent of sales. That way if sales go up or down it calibrates. Usually it's sales relative: as a percent of sales relative to last year or to the average of the last couple of years. If you use prior years at the beginning of the year you know exactly what the target is. If you use the current year, not until the end of the year do you really know for sure what the consumption is that year and therefore what the target is.

Typically this is lagged, but not always. Almost always savings are determined in evaluations meaning you can kind of add up the savings bottoms up. How much did your lighting program save? How much did your industrial process program save? You add it up that way. Only – I can only think of one state that might have – that looks at absolute consumption regardless of what happens, because the absolute consumption can be affected by the weather or the economy.

So it's much easier to meet the target in a warm recession than it is during a cold boom period for example. But there is at least one state that just does absolute consumption. The target can be either annual as in how much was saved from measures installed this year or cumulative meaning how much is saved this year from measures installed this year as well as measures that are still in place from previous years? Both can be useful.

The annual savings helps you keep up on how much is actually being stalled this year. The cumulative helps encourage people to think about long-lived measures rather than short-lived measures. So both could be useful and some states actually set both targets. Many set one or another. But we think both could be useful. Next slide please.

In establishing target levels typically one thing that's important is to recognize that it needs to ramp up over time, just like when you're at a red light you don't immediately go 0 to 60 in one second. You take some time to accelerate. Likewise the targets should as well. Typically you start from where you are. If it's 0 that's one thing, or if you've been doing already .5 percent savings a year as in .5 percent of the sale the first year's target might be – You might start at .5 or you might go out to .6 or .75. And then you gradually ramp up over time.

There are two main ways targets are determined; sometimes with both. One is based on achievements and neighboring and other similar states. If your surrounding states are all achieving one percent a year savings that's a pretty good indication that you can also. Obviously you need to think about what those states include. If they do a very broad definition versus a very narrow definition of what's included that will affect how that comparison works. That needs to be kept in mind.

The second method is to conduct a study to estimate the economic and the achievable potential. These studies can be expensive. They're not easy, but they can help build to consensus, particularly if done well. I would note that results depend highly on assumptions. If you wanted me to come up with a study saying a state can achieve 2 percent or a state could achieve 20 percent I could probably come up with the assumptions that would justify such a thing.

You wouldn't really know what I'm doing until you really dug into the details. You have to be careful. It's not like it's an objective meter. There is a lot of art to it and that art can potentially be manipulated. Some use one. Some use the other. Some use both. Those tend to be the ways target levels are established. Next slide please.

Evaluation: very important. As I said what's most often done is you add up from the bottoms up how much each program saves. That means evaluation. Who conducts the evaluation? Who reviews the evaluation? I'd say quite commonly the evaluation is done by the program administrator meaning they hire the evaluation contractor but then the utility commission generally and other independent parties need to review those evaluations. It's not just the utility or other program implementer.

In a few cases the utility commission hires the evaluators. But that's much less common 'cause most utility commissions don't

have the staff and the expertise to be able to do that. There are a variety of approaches that are used. It could be deemed saving. People agree through a technical reference manual how much to save from a CFL or from a SEER 15 air conditioner and you just deem it. You can do project by project engineering estimates, calculations. You can do some type of measurement whether it's a large industrial process – you could even do some sub-metering for example.

Or what's quite common is a billing analysis, looking at trends between participants and non-participants and how much of a difference is there shown across a sample of maybe several hundred or even several thousand customers. If people do deem savings usually they base it in part on prior engineering estimates or prior measurements of billing analysis. In evaluation you need to address whether it's net or gross savings. I would say the majority of states use net savings.

We did a study on this earlier this year. But there is a significant minority of states that are using gross savings. As I said it's most common to use deemed and engineering. But based on previous measurements and billing analysis but then what I think is very important is you need to revise these billing analyses and measurement periodically and therefore revise the deemed savings.

I remember a few years ago I was working in one state and some of the utilities were using some deemed savings estimates. We tried to trace back where it came from. Ultimately it came from a study done in another state eight years ago and the numbers were very stale. So that's not how to do it. You definitely do need to regularly revise this, particularly for your most important programs, and your most important measures. If you can't do everything it's not as important to do the very small programs. But particularly the large programs should be regularly evaluated. Next slide please.

One other thing that's very important is the overall business case for utility investments. Do they have the coupling or Lost Revenue Adjustment Mechanisms so that they are sure to fully capture the fixed costs portion of rates? Do they have some type of performance incentive? Do they have some type of penalty? This shows where many of the states with EERS – what the situation is. But in many of these cases they do have some type of decoupling or Lost Revenue Adjustment Mechanisms and/or performance incentive. Next slide.

To conclude, energy-savings targets are now used in more than half the states and have generally been successful at promoting substantial cost-effective savings. I think it's a promising policy for other states but there are a number of issues that policy makers will need to address: who the target applies to, what's included, what the target levels are, and how measured, and how evaluated. With that I'm happy to take a few questions and then I think we'll turn it over to Eddy Moore who will talk in more detail about Arkansas' experience.

*Mike Li:*

Thanks Steve. As Steve said if you have any questions go ahead and type that into the question box. And we'll get to them. Steve one question for you is: as it relates to cost-effectiveness tests what do you see as the relationship between cost-effectiveness tests and how a state sets a target and the impact that all of that has on potential studies and the interaction between all three of those? In other words if you're going to use a very narrow cost-effectiveness test it does make sense to set a target that sets into consideration the test that's going to be used?

*Steve Nadel:*

Yes, excellent question, and yes cost-effectiveness tests are very important. If you're using a potential study yes you need to apply for the economic part of the potential study the same cost-effectiveness test as you'll be using. If you're looking at adjoining states look to states that use similar – either the same or very similar cost-effectiveness tests – as opposed to radically different. I mean the majority of states use what's call the TRC Test, the Total Resource Cost Test which looks at the total cost and the benefits both to the utility as well as to the customer.

So that's a fairly broad test. Probably number two is the utility cost test. It just looks at the utility cost and the utility benefits. That tends to allow a few more programs to pass, but not radically. Another question is do you apply the test at the program level, the portfolio level, or the measure level? You start requiring every individual measure to pass that particular test. It's a lot more work for the contractors to do this and also more measures will fail and the savings will be lower.

Most states are now doing it at least at the program level. And very few are doing it at the measure level. Then if you do something like the RIM test, the Rate Impact Measure test, very few efficiency programs will pass that test 'cause basically it's cutting into sales and those costs need to be recovered. And if you use that test, which virtually no states do now – A few look at it

but they'll use it as a pass/fail test and you probably wouldn't be able to justify programs.

On the other hand if you use the RIM test you probably couldn't justify any new power plants either.

*Mike Li:*

Thanks Steve. A few questions came in. One is about industrial efficiency programs. Could you talk about how industrial efficiency programs are approved? I think the question is – It says, "Are projects approved using a return on investment or other methods?" I'm not exactly sure I follow the question but maybe you sort of get the gist Steve? Or do we want to do another question?

*Steve Nadel:*

I think I do. No let me attempt to do something. I mean industrial programs I think are very important. They often are lower cost than many other programs. There are large savings available. That said you have to be patient. You don't go to a large industrial customer and say, "Can you do this?", and they'll do it the next week. They have to put it into their capital plans. They have to schedule it appropriately such as during shut-down periods. It may take several years to get these projects in place.

And then for the customer they're going to have to run it by their chief financial officer or other financial people. And yes many industrial customers have some type of return on investment criteria. To the extent you use incentives that helps improve that. To the extent you can start documenting some of the non-energy benefits but that are monetary such as changes in productivity, changes in product quality, that could often help many more projects pass muster and get approval at the corporate level.

But yes companies will almost always look at the financial returns on an energy efficiency project versus to relative to other potential investments they can make.

*Mike Li:*

Okay thanks Steve. Quick question: do you know if any of the U.S. territories, like Puerto Rico, have efficiency targets or something along those lines?

*Steve Nadel:*

I have not heard of any but I don't know for sure. I'd be happy if someone wants me to do a little field work and go out through the South Pacific and check on it but I'm not actually positive. But I do – I don't think it is the case.

*Mike Li:*

Thanks Steve. You're a great volunteer. We appreciate that. The Department of Energy did do a little bit of work with Puerto Rico a little bit ago on this topic. I'll have to check back and see where we are on it and I can follow up after this webinar is over. Maybe one last question which is: Glen I don't know if you want to clarify a little bit more but I think Glen's question is how did the states pay for these EERS programs? Can you talk about that as a general matter? And then maybe if you are familiar with what Indiana is doing if you could talk about Indiana particularly.

*Steve Nadel:*

Okay, sure. I mean basically the cost of the EERSs get incorporated into rates just the same as the cost of transmission or distribution upgrade or a new power plant. Most commonly these days it's just part of a rate case. If it's established there may be some trackers. The actual costs go up or down within the band. It adjusts relatively quickly but it does get incorporated in the rates. In some states they've established what's called public benefit charges which is a certain charge that goes into an account to pay for these.

But I think more of the states now are just incorporating into rates rather than having a separate charge. In the case of Indiana it's interesting what they did. And this was established by the Indiana PSC. They set it up whereby they have the overall targets. They said all the utilities need to work together on some statewide programs that will be run by a single program administrator chosen jointly and paid jointly by all the utilities. That's called Energize Indiana. So they offer certain common statewide programs.

But then utilities are allowed and in fact encouraged to offer additional programs to make sure they reach the targets.

*Mike Li:*

Great. Thanks Steve. Why don't I turn it over to Eddy at this point so he has enough time to get through his presentation and we leave some time for you all to ask questions of Eddy? Eddy, why don't you take it away?

*Eddy Moore:*

Thank you Mike and thanks Steve for that great first presentation. Just a word about the Arkansas PSC; my role there is as an advisor to our commissioners. And then we also have what's called a general staff who's the party before the commission. So I'm not working as part of the party before the commission but in the advisory role with our commissioners. Maybe next slide please.

A little more background: our commission is an appointed commission – three commissioners appointed by the government,

six year staggered terms, quasi-judicial, quasi-legislative probably like many of the people are familiar with on the call. And if you'll bear with me just a second to brag on my bosses, Colette Honorable has been our chair and on the commission for almost seven years now. Butch Reeves has been on about six years. Elana Wills come on in early 2011 after being on the Arkansas Supreme Court. So you have three what we call lawyer's lawyers, very dedicated, hands-on commission.

Some commissions a lot of things bubble up from the ALJ decision to the commission. And that can be a good thing. In our case it's very hands-on from the commissioners themselves. They've been, I believe, unanimous on every order they've ever issued. And I make this point just to say that we've been able I think to develop some policy and kind of have some stability and planning in the policy that we've found to work very well and to mesh particularly with this idea that we're talking about today, which is set a target over several years and see how you get there and how it shapes the other policies. Next slide please.

The first thing that Steve I think highlighted in his report about the target is thinking about what is your statutory authority. In the case of Arkansas we have a statute called the Energy Conservation Endorsement Act. It was passed in 1977 as a reaction in part to the oil embargo and the high oil and gas prices at the time. Also probably it was motivated by some large plants that were causing rate increases at the time. And I gave a citation there which you can pull up on Goggle if you want.

One of the interesting things to me about this statute; it's not just about energy efficiency. And I think this is maybe characteristic of statutes from that era. It authorized the commission to promote renewable energy efficiency and various types of demand response. So it's a very general and broad authority with a condition attached – really a couple of conditions. The commission has to make a finding that the programs at issue are beneficial to utilities and rate payers alike.

The statute really doesn't spell out any more about what that means but it puts that condition in there. Another condition is at the time that the commission approves the program it must allow the utility to recover its costs and rates. That kind of leads us in Arkansas. I know Steve was discussing this. We have a tracker. We have an annually trued up rider that covers the cost. To date the commission has focused on the energy efficiency portion of that tri-partied authority. Next slide please.

Before I talk about the targets I'll just say maybe a little bit more about statutory authority. And to some degree this is me talking. I would say we had an obvious act to use the authorized targets, even though that act didn't include targets specifically. It's an Energy Conservation Act. But we also – and every state has general authority to regulate and to perform rate making, rate fixing functions. And frequently that general authority will spell out the authority to set standards.

And in a sense this is what this is. This is a standard for the delivery of a resource and service in the public utility sphere. And in reviewing the authorities in Arkansas I ran across something kind of interesting back even in some of the first cases when the commission was formed in the '30s under its general authority involved setting targets. And they were targets not to decrease sales but actually to increase sales. And associated with those targets were programs.

And those were promotional practice programs. And some states will have promotional practiced related statutes which are almost, I guess, a fourth type of statutory authority. I think the three primary ones would be a general authority, a conservation authority like what we've used in Arkansas, or more recently the specific targets set in statute. So our ECEA doesn't set a target but I think even though there isn't a target in the act or in the rules that were adopted in 2007 to begin implementing it you can see an underlying idea that later became the target.

And that's that the rules foresaw implementation in at least two stages; the first being what was called Quick Start. And I think part of the background of this was that the Act was enacted in 1977. So it was almost 30 years before it took form in the form – I won't say it wasn't considered along the way, but implemented in the sense of actually funding programs. There was an argument at the time that prior to putting programs on the ground we needed to do a potential study for instance and do some other development.

And the commission, I think – if I can oversimplify a lot of orders – said, "It's time to start doing something," as opposed to either study or discuss or litigate or whatever. It set out a three-year period of programs that were borrowed from – found to be effective in other states, core programs if you will. Steve was talking about core – essentially Indiana coming up with a core of programs that are going to be statewide and utilities could add to those.

Well that core was adopted in Arkansas from the first three years. And the rules specified that after that period we would move to something called comprehensive programs. Now it didn't define what comprehensive is, but what I'm pointing out here is that it contemplated expansion. It didn't quantify expansion but it contemplated it. Next slide please.

So that initial period allowed the folks from the commission to the general staff to the utilities to people involved in training to contractors in the field, program administrators, all these folks to get their feet wet, start talking the same language with the extensive vocabulary of energy efficiency and begin to develop a market. Next slide please.

And then we got to the end of that period and the question arose: well what's the difference? What does comprehensive mean? An asterisk there; the parties discussed it. They litigated it. It was a spirited discussion. And after a lot of thought the commission – and here again I'm boiling down a lot of legalese – put forward a definition that comprehensive means adequately funded, management, measured, and evaluated programs that serve every rate class and every major end use which procure the maximum achievable cost-effective energy savings. Next slide please.

And there is still no number on that. I mean how do you know when you've delivered comprehensive energy programs or energy efficiency programs or proposed them or achieved them? The orders that define comprehensive also, for the first time in the energy efficiency are, set targets. And that was a three-year ramp up. The metric was percentage of retail kilowatt hours or therms. We initially established a baseline of 2010 and it wasn't a rolling baseline.

We were trying to err on the side of simplicity. And you can see the gradual rise. And since that time we've not fully implemented another three year cycle. We've had some intervening considerations. But you can see over in 2014/2015 continually rising targets with a new baseline which is the 2013 kilowatt hour sale. So again it's not really a rolling baseline. The pattern so far has been that it's set every three years. Next slide please.

A little bit more about the reasoning and the intent of the original targets. Once again they weren't based on a potential study. And once again that issue was raised. I think the commission's determination at that point was not that it's unreasonable thing to

do. It could be helpful in a lot of different ways. But that at the point where achievement on the ground is still at just a start-up level it doesn't really make sense to spend a lot of time worrying about the maximum. The initial targets were set to get up to a level which then at that point would be appropriate for more detailed study.

Again there's a running theme here of taking action, learning from the action, borrowing from other people's – other state's – experiences, but taking that step to learn from experience rather than study and wait and then implement. And the legal basis for the adoption of the specific numbers was really based on some testimony of more than one expert reviewing more than one study, but certainly including a study that ACEEE did that I think was very helpful.

But it was the judgment of experts on the record that we were in a reasonable ballpark and these were good rising targets to set. I think the other thing that may be the second major theme of my presentation, the first being you can reasonably set targets and they work and it's a good thing. And the second is they're part of a suite of policies that were put in place at the same time. The commission didn't attempt to answer every question. It judiciously left some things for the future, put some things off, but the core issues to deal with are really setting the targets, setting a measurable expectation, and then dealing with cost recovery.

And then implied in that I think is a measurement and verification scheme that will build consensus that targets actually have been met. So that's EM&V. At the time the commission also dealt with discussion of whether all the fund should be pooled and dealt with through one third-party administrator or as the utilities all urged to give them the responsibility to meet the targets. And the commission decided to give administrative responsibility to the utilities.

But again I think the main point here is it set a target and it addressed the cost recovery issues which had been raised from the start. And the commission had decided during the Quick Start period that it wasn't time yet to address the lost revenue questions, the incentive questions. But at the point of setting targets that was the right time. And that's what the commission did. Next slide please.

As I had mentioned earlier the statute indicates that direct program costs should be collected by rider. And the commission also

expanded the rider at the time that targets were set to include what we call lost contribution to fixed costs. Some states call this lost net margins. Some more broadly refer to them as lost revenues. We like to think of it that it's not a lost revenue. It's a lost fixed cost. And we also put in place performance incentives. And so this suite of policies set expectations and favorable financial conditions essentially taking, if you will, every excuse off the table to move forward and clearing a path for action. Next slide please.

One function as I alluded to earlier of the targets was to give a default value, really a safe harbor for a legal standard that required maximum achievable cost-effective EE. So the targets were not in a sense the goal in themselves but a substitute for a broader idea. That's a way of building in flexibility. Another thing, probably if you dig into the details of targets – If you had ten different states with a one percent target; if you dig into the details they're going to be a little different in their function and the way they're defined.

In our case – One of the interesting things is technically the commission did not order the IOUs to meet the specific target. What it technically ordered them to do was submit a cost-effective plan to meet those levels. And it left itself some judgment and wiggle room as to what level would then be required. But it also indicated that for administrative efficiency and for fairness and for comparativeness the targets are going to be statewide. So they're statewide targets.

They're a safe harbor definition of maximum achievable cost-effectiveness and they are set up in tandem with the incentive structure. So a utility could begin earning an incentive. And we made this very simple. There are two zones within which a utility could earn an incentive. One is an 80 to 100 percent achievement. You get something for getting close. And then there's a higher level of incentive from 100 to 110. And the amount of the incentive is based on net benefits.

The target combined with the incentive design is really – It's really geared towards focusing everybody from the commission to the utilities to the program administrators on the metrics that matter to deliver administrative efficiency and energy efficiency at a good cost while also promoting comprehensiveness. And by comprehensiveness I'm including the idea of more long-lived measures. Next slide please.

This is where we get to what has actually happened. Some of the utilities met the 2012/2011 targets. Most met 2012. And we're, in

the next week, getting in our results for 2013. And the early word is that even though the target is 50 percent bigger than the year before the largest of the utilities are significantly over-achieving those targets. You see there a note on the program spending which basically went up almost in lock step with the size of the targets. But I think we're starting to see a trend as we approach .9 or 1 percent of getting more savings without the same amount of increased spending.

And part of that are there are a lot of start-up costs. The first two or three years you're going to see the first year per kilowatt hour savings possibly not as cost-effective as you thought you were. But then you get towards the end of the three years and you start to overachieve. Next slide please.

There is a figure from 2012. Now it's starting to look old but we're just now getting in our results on 2013. Essentially, it is roughly, 1.5 TRC for 2012 and hopefully better than that in 2013. Next slide please.

We've seen, to a degree, an embrace by some of the utilities of the concept of developing energy efficiency as a resource in their long-term portfolios. Our largest utility, that's Entergy Arkansas, submitted an IRP and this is not to meet a required target. Their IRP basically avoids a large power plant over the next ten years. We're in the midst finally of a potential study. There is a running theme of when's the right time to do what?

And we've decided as you approach one percent this is the time to do a potential study, not only to figure out what's the magnitude of the potential, but maybe more to also figure out the most strategic way to get there to consolidate some of the learning from all of the different utilities. And it's a statewide potential study jointly funded by all the utilities. I put a little note there because 11D – there's another looking forward issue. We'll just become one of the compliance mechanisms. And I think if it does then those states that have gone down this route will be in good shape. Next slide please.

There are also some side effects from the ramp up produced by this target that weren't the core reasons that our commission went into it but have been pleasing none-the-less. Very high customer satisfaction numbers; literally one of EM&V studies had 100 percent customer satisfaction, a lot above 90. There are visible new businesses in the state delivering this work.

And ACEEE's state scorecard, which is a wonderful way to focus people on what needs to be done, is starting to reflect our success. I'll just say that the scores do lag a little bit because the data has to come in. So what you're seeing in the rankings where Arkansas came up basically from the bottom to somewhere reasonable, that data is still a year or two back. Next slide please.

I should emphasize that it's not just three commissioners that set out to do this but a huge number of people in different institutions that have worked together to make this possible. I meant to mention back on the slide about the ECEA. You saw a little picture up in the right-hand corner of Bill Clinton. He was the Attorney General of Arkansas when that was enacted and his staff drafted it. Wally Nixon worked for him and worked on that and now works for the commission here. He's my colleague here who helps work on this stuff.

It's taken a lot of dedication to get to where we are. You see here the utilities involved, the general staff of the commission, the attorney general, interveners, the governor who appointed all the commissioners, the contractors, the people at the tech schools doing trainings. So really to set a target that ramps up what it does is it pulls together all these different people in a common goal, and I'll say at the bottom a lot of advice and technical assistance. We have wanted to find the things that work in other areas and import those, and particularly from ACEEE and Steve in particular

Also other non-profit advisors, the Regulatory Assistance Project, and a lot of support from USDOE. So I'll leave a few minutes for questions.

*Mike Li:*

Thanks Eddy, appreciate it. So yeah if you have a question for Eddy I think we can squeeze it in if you get it in quickly. The first question is: does Arkansas have a demand response target?

*Eddy Moore:*

We do not. We felt like – I guess there are a couple of things behind that. One is there are some separate considerations there and it requires a whole further proceeding. Again we were trying to err on the side of simplicity. And it's not that demand response isn't included in any of our programs. It tends to help with short-term particularly cost-effectiveness. And so utilities have their own incentive to bring down that peak. They role that in to the EE program in a sense voluntarily.

*Mike Li:*

All right, thanks Eddy. I think that's the only question that we got for you. Oh one more. What about CHP?

*Eddy Moore:* CHP is not explicitly excluded or included from our energy efficiency program. Conceivably an entity could come forward and show the savings and include it. But the commission hasn't at this point held a separate proceeding to highlight that or create a separate program.

*Mike Li:* Maybe one last one: can you talk about why Arkansas chose to have an independent EM&V process?

*Eddy Moore:* Yes. I think that's, to us, a very important thing. And there are probably a lot of different ways to do this. But our attorney general was very active in pushing for verification and very robust verification. It was a big thing to get past the idea of dealing with lost revenues. And that's why I talk about a suite of policies. This was really – There was something for everybody and everybody maybe gave up something.

So the EM&V that we set up; each company has its own contractor but we have a jointly funded independent contractor to kind of keep people on the same page and try to make reporting comparable, not just to evaluate but also to provide annual suggestions for continuous program improvement. We've been seeing that happen.

*Mike Li:* All right. Thanks Eddy. I think that's all the time we have today. Thanks for joining us. And when you log off you'll see a little poll for topics of future webinars. If you wouldn't mind taking a minute to fill that out that would help us figure out what we cover next. With that let me thank Steve and Eddy and we'll call it a day. Thanks everybody.

*Steve Nadel:* Thank you everybody.

*Eddy Moore:* Thank you.

*[End of Audio]*