SEE Action Webinar: Analyzing and Managing Bill Impacts of Energy Efficiency Programs

Operator:
The broadcast is now starting. All attendees are in listen-only mode.

Katrina Pielli:
Well good afternoon, folks, and welcome to today's webinar, The SEE Action Analyzing and Managing Bill Impacts of Energy Efficiency Programs. Just as a reminder, SEE Action is the State and Local Energy Efficiency Action Network, which is a joint effort that is facilitated by the U.S. Department of Energy and the U.S. Environmental Protection Agency. This is Katrina Pielli, with the U.S. Department of Energy, and I also have my colleague Shelley Gonzales with me from the National Renewable Energy Laboratory. We'll give folks just a few more minutes to either log on or dial in. So while we wait, Shelley will go over some logistic information for you, and then we will get going with the substance of the webinar. Shelley?

Shelley Gonzales:
Thanks, Katrina. Good afternoon. First of all, you have two options for how you can hear today's webinar. In the upper right corner of your screen, there is 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 a 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. After today's webinar, you will be prompted to complete a short poll. Please take a few minutes to submit your answers when the webinar has ended. Today's webinar will be posted online on the SEE Action website. Once the presentation is posted, you will receive a link to it via e-mail when it is available. Please note that this process can take 7 to 14 days. With that, I'll turn it back over to Katrina to talk about today's webinar and our overall series.

Katrina Pielli:
Great, thank you, Shelley. So today's webinar is one in a series of webinars that, again, SEE Action is undertaking to ensure that the information that the effort is producing is disseminated widely, that you can use it, and that it really does help take energy efficiency to scale.

So SEE Action itself is a network of more than 200 leaders from state and local governments, various associations, businesses, NGOs, industry, etc., and all of our key partners. SEE Action is a state and local led effort that, as I mentioned, is facilitated by DOE and EPA, with an effort of achieving all cost effective energy efficiency by 2020. If you can move to the next slide, please, that would be great.

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SEE Action is comprised of a series of working groups—that graphic you see on the right. Today's webinar is being brought to you by the Driving Ratepayer-Funded Efficiency Through Regulatory Policy Working Group, which is at the bottom of your circle, and today our speakers are representing that working group and they're both members. Next slide please.

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So this just sort of tells you at a high level what SEE Action does. Today's document is specifically focused around providing utility regulators and other key stakeholders investment-grade information to help them understand different solutions to, again, continue to drive a greater energy efficiency investment. If you are not already part of the SEE Action network, please take a quick minute, go ahead and sign up for news alerts, so that way when documents like today's are released, you'll be given that alert. Next slide.

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As I mentioned, our two speakers today, Tim Woolf and John Sibley, are members of the working group you see the listed here. Tim Woolf is with Synapse, a former commissioner with Massachusetts, and also a former co-chair of this working group, and John Sibley of Southface has been a very active member of this working group. Next slide.

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The purpose of today's webinar is to really discuss with you analyzing and managing bill and rate impacts of energy efficiency programs. It's predicated on the guide that you see here that was released by this working group, and it provides principals and recommendations for doing just that—principals for managing rate and bill impacts and recommendations for how you can actually design efficiency programs to mitigate those impacts.

So our first speaker today is Tim Woolf. Tim will be presenting this paper, as well as discussing recent and related work within the states; and then second, we'll have John Sibley, who is a senior policy fellow at Southface, to share his experience in the field, addressing this work in Georgia, through the Georgia Power Demand-Side Management Plan. So let's kick things off with Tim, who is the vice president with Synapse Energy Economics and the author of this current SEE Action paper. So with that, I'd like to turn it over to Tim.

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Shelley Gonzales:
Tim, I think you might still be on mute.

Tim Woolf:
I'm sorry, folks, I was still on mute. I'm going to start from scratch—you didn't miss much. I have an overview slide on the screen, and I'm going to first start out by giving some of the key concepts in the SEE Action report that Katrina just mentioned. But I

want to go a little bit beyond that and talk about some of the ways we've been thinking about the principals and recommendations and actually have been trying to apply them in practice. And we've done this in several different states, and so what I want to do today is give a preliminary analysis that we are doing of a typical utility and a typical efficiency plan, so you can see how some of those concepts play out in practice. And what we are going to do is look at the rate impacts, bill impacts, and participation rates of three different efficiency scenarios, low, medium, and high. And I'm going to emphasize program participation, because that often gets missed in these analyses, and I'm going to hope to get to policy recommendations as time allows.

So a couple of big picture points is that as you all know, and it is probably why you are on the call, rate impacts have been a key concern about efficiency programs right from the beginning of the history of energy efficiency. However, they are rarely analyzed very thoroughly, and they are often not analyzed in the whole context of rates, bills, and participation. And the standard response that you have probably heard many times regarding rate impacts is, "Well yeah, rates go up, but average bills go down and then, on average, customers are better off." That's all true, but I'm recognizing—many people are recognizing—that that is not really sufficient to address the issue, and that program participants see higher rates and lower bills, but non-participants just see the higher rates. And I think we all need to know a whole lot more about what happens to those non-participants, and also to point out what this whole issue boils down to is a matter of customer equity, that is, you have some customers who benefit more than others. And what I'm going say throughout this gives you some advice about how to address customer equity.

So, on customer equity, a lot more attention needs to be given to program participation rates. These are rarely well understood or even analyzed at all. In my experience, very few utilities even keep track of participation rates over time, but they are key to drawing the right balance between rates and bills, and, of course, customer equity. And I believe these should be addressed through regulatory policies.

So the big picture recommendations that came out of the report—and I'm going to reiterate here again—is that it is important to analyze rate, bill, and participation impacts to fully understand what they are, to manage them in certain ways, to achieve permissions, goals, and to optimize the benefits, and also to promote customer participation. So with that, I'll turn to what we've done; we have looked at a typical utility—as I say—a typical utility plan. Our analysis, you are going to see, is based on an actual 2013 energy efficiency plan for a utility located in the Northeast. It is a three-year efficiency plan. They recover their cost to assist the benefit charge, they have decoupled distribution rates, and they have standard efficiency programs targeted to all customer types—low income, residential, commercial and industrial C&I [commercial and industrial].

And the programs are pretty comprehensive, designed to achieve both breadth and depth. They have benefit-cost ratios that look like these you see here, these are not atypical, you have probably seen things like that—program cost to save energy you see here as well;

the other low income is on the high side, C&I is low as you expect; on average it is about 5 cents a kilowatt hour. Again, that is typical for many – not all—but it is typical for many utilities and program administrators.

So what we have is three efficiency scenarios. One is the actual case that we have reviewed, where the annual efficiency savings is roughly 2% of their annual sales. That's on the high side of most states. Then we do a mid-case, where the efficiency savings are at about 1% of sales, and here, we basically scale back the first case by a half, and that is how we get the second case. And then in the low-efficiency case, we do the same thing; we scale it back by a half—everything, the budgets, the savings, participation, everything—to indicate what would happen for low efficiency-scale programs. And I recognize that this is a very sort of blunt approach to this, but I think it is illustrative and I think it is useful, and I want to reiterate—and I'll say this several times over—that all of these estimates now are preliminary and are approximate, but I do think that they have educational value, and so that's why we make some of these scenario assumptions here.

And to put these in context, I have on this chart data from the ACEEE score card you are probably familiar with, where it shows on the Y axis for each state of the country the savings as a percent of retail sales. And then it shows you how much each of those states achieve. Now this is for 2010. Now I know that a lot of states have ramped up since then, and actual savings and percent of sales are higher for most states, but this is the latest data.

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So the reason I show this is you can see with that red dash line that a good—I don't know—40% of the states are at 0.5% of sales or lower in terms of their efficiency savings, and then another, say, 20% or so, is at 1% of sales—or between 1% and 0.5%. And then the leading states, they are between 2% and 1%. Those, there are about 10 or 12 of those; I think there is even more now with current data. So this gives you a sense of how many states these three scenarios apply to. A lot of states actually would fit under the low-efficiency case, quite a few more in mid-efficiency case, and a handful in the high-efficiency case.

So what we have done is start by looking at the actual rates. And here they are broken out where we have the customer charges on the bottom. What we do is we put all the rates into a cents-per-kilowatt hour format, so we assume a typical customer from—these are all residential—assume that they have, I think, a consumption of 600 kilowatt hours a month; that gives you a customer charge. Then there is the supply rate, the distribution rate, the transmission charge, other charges, and then the DSM [demand-side management] charge. And in case it wasn't obvious, this one is for, again, the utility in the Northeast, where they have restructured their markets; they have unbundled their rates, so they are all explicitly identified. And this DSM charge is what would be required—it is an assist to benefit charge—to recover the cost necessary to fund the programs that we are looking at that will save 2% of sales.

And what we do in our analysis is quite simple conceptually. It takes a lot of time theoretically, I mean in practice. But we take each of these components and look at how they would change with energy efficiency, and then project those out into the future. The customer charge doesn't change at all. The supply rates might be affected by avoided generation costs; distribution charges and transmission charges might be affected by avoided by GND costs. On the other hand, there is what is often referred to as the price suppression effect in wholesale energy markets, where each energy—each hour of energy efficiency savings will result in reduced prices for the wholesale market that results in benefits for all customers. That is a downward pressure on rates. So what we do is we take all of these charges and look at all of the changes that might be driven by the efficiency programs, up or down, and see how they change over time.

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The next slide here shows that it is from a very, very high level. And this shows electricity rates—and in 2015 it's the same one we started with, and with all the components broken out—what we do here is go out for a long enough period of time to capture two things. One is the three-year plan—2015, 16, and 17—where the efficiency programs are in place, and the SBC [system benefits charge] is in place. But then we go out to 2027 to capture those years during which there will be savings. That's a key part of the whole thing; we want to capture both the savings and the costs.

And as you can see, it doesn't tell you much here, but in the first few years you see the additional charge and then it drops off. And then—I'm going to give you some more detail in a minute—but you can see this from the high case, and then you can see pretty much the same thing from the mid case, except the smaller efficiency charge, and the same thing for the low case, again, a smaller efficiency charge.

Now where this gets interesting is looking at the differences, and by differences I mean we compare a case where there is no energy efficiency to one where they have efficiency in this particular scenario. And that is a useful data point, because people always wonder, "How much are we paying for the efficiency in total." But I would add a caveat that in most states that I'm aware of, there are very few people who propose actually cutting back efficiency programs to zero, so in that sense it is not particularly relevant for the discussions about how much to go up or down, but it is a useful data point that people can kind of relate to, so we start with that.

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On this next slide I'm going to take a few minutes because this is where some of the results really come through. Here we literally just take the differences between the efficiency case—and this is the high case—and the no-efficiency case. And there are impacts on rates going up and going down. The obvious impact on rates going up is the energy efficiency system benefit charge that is in the tan color there. Two other effects that cause rates to go up: one is, as I mentioned, this utility has decoupling for distribution rates, so that kicks in in the second year, covering costs from the first year, and that is in that sort of peach-colored bar there. And that particular effect lasts throughout the whole period, as long as there is energy savings; you will need to have

decoupling effect to account for those. And then secondly, this is a regional transition system whereby the transmission rates are socialized, and they are updated each year based on sales, and so a similar effect is going to happen on transmission rates, and we calculate that here. And I will say that, again, these analyses are preliminary and that we are still double checking some of these, and my sense is we may be overstating these, but we are going to tune these up, and for now, you get the sense of where we are going with these.

And then on the bottom, there are a couple of effects pushing prices down. There is the avoided capacity, there is avoided distribution, and avoided transmission costs. And those are all based on the actual avoided costs used by this particular utility and its efficiency screening, and this is what we get with that. That large blue piece of the puzzle is the price suppression effect, which takes a while to think through and to get it right, and I think we've got it right here, but that has a big effect in pushing prices down. And so what's important to recognize here is all of these effects and to make sure that when we look at prices, we see the entirety of these. In addition, I wouldn't give any weight to any one of these years because there are so many approximations and simplifications here that the actual rates in 2019 can be very different. But I do think that it is pretty helpful to look at this on an average over the long term. So that dotted black line you see there represents the average rate impact over this time period for this three-year plan, and that, I think, is one outcome from this; that these in the digest are fairly relevant, and that comes out to be a 0.2 cents per kilowatt hour on that over the period.

What we do then is the exact same thing for the other two cases. And you can see this is the mid case—everything's scaled back, and you see the same shape, same effect. This this is due to our assumptions. And in this case, the change in rates is about 0.1 cents per kilowatt hour. And then for the low case, same thing. And here, the change in rates is about 0.05 cents per kilowatt hour. So that helps give you a sense of the rates, but we need to go beyond that and look beyond that into bills and participants. But before we do that, let me show you the summary of what you just saw.

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If you just take out the average long term rate impacts, high, mid, and low case (you can see them here) and this is a nice way to digest a lot of information right here. And you can see the difference between the three cases. In addition, it is useful to look at this in terms of percent of bills. So in this chart we see average change in rates by percent. And you can see that in the high case, on average it is about 1.6% over the whole period, for the mid case, about 0.8%, and for the low case, about 0.4%. So one thing to conclude from this—and again, you can't take too much from these numbers—but I think it's safe to say that a 0.4% change in rate is pretty small.

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And if we scroll way back up to this chart with the states, you can see that covers a good part of the states doing energy efficiency. I would expect their rate impacts to be very small, whether it's 0.4% or something different.

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That's one conclusion—a very general conclusion, I think—you could draw from this.

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So then to look at participation, I think, is extremely important, so what we have done here is we look at the residential programs, and we can see that there are five programs here, and they have different impacts on the bill. So if you participate in the New Construction program, you would see your billed savings almost 16%, and I know that is net of the increase in rates, and then the reductions—the consumptions—from the participating in the program. Same, now retrofit, you see about a 10% bill savings. Again, that is met. For HVAC component, you see 4%. For products, you would see about 2%, and for lighting, it's about 1%. So you don't save a whole lot for lighting, but it's not meaningless, and as you'll see, there are a lot of people who participate there.

Now, the non-participants, they don't see bill savings; they see their bills going up because of the rate impact. So here, again, you see the non-participants, the bill increase of about 1.8%, and you can sort of compare, "Okay, so of all the customers, some of them are seeing the 1.8% increase, and the rest are seeing this sort of array of bill savings." And then we do the same thing for the mid case and the low case.

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And the only thing that really changes here significantly are the non-participants. So in the low case, you'll see the non-participants' increase in bill—again, it's 0.05%—it's pretty small. And we are assuming that this is a simplification, that all the programs are exactly the same in each of the cases, except they just have different numbers of participants. That's, again, a simplification, and that wouldn't always happen in practice, but it is helpful to see that for our purposes today.

So then we take this to the next level, which is, "Okay, so this is how non-participants compare to participants, but how many are there of each?" And so then we move to participation rates.

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And here we look at a single year. And we have the three cases in front of us, and what we do is we take the eligible population and divide it by the actual participants. And we can see that for the lighting program, there are a large portion of customers who participate in each year. And by the way, the utility that we are working with here helped us out with this, and this isn't just light bulbs, this is customers, and the one customer might purchase more than one bulb, and so they tried to take account for that. There may still be some double counting, but they tried to take account for that.

Then you can see appliances is more—it's less—retrofit is even less. And then new construction and HVAC, is even less. So it turns out that for those programs where

people participate the most, they actually get less savings, but still the whole mix is important to understand.

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So then, this is where the study gets a lot more complicated. I'm going to cover this very, very briefly, and that is when you look at participation rates, looking at a single year is very straight forward.

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However, you have to recognize there will be double counting. And then even in a single year, some folks who participate in lighting might also participate in retrofit, so that is an issue there. So in some ways these overstate the annual participation, because there is double counting in there. So we are working on ways to address that, but we don't have those results to present today.

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The other thing is over time there can be double counting. So a customer might participate in lighting in one year and participate in it again in two years. And we've made some really, really rough cut attempts to try to capture that—I would say it's not complete yet—but the goal is to come up with a graph like this so that you can see over a stretch of time. Here we have gone out 10 years because three years only tells part of the story of how participation rates might change over time. And I am not going to dwell on this because we are short of time, but I'll just say this is a goal. We want to get a nice graph like this in the end.

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And then you can look at the three different cases, and you can see across the cases how your participation rates change. And this is the key thing to consider when you are looking at which case might be most appropriate for your state.

So this table gives us the bottom line, and it kind of wraps this all together, where you can see the rate impacts, the bill impacts, and the participation. And the rate impacts are all the same, regardless of whether you are participating in one of these programs, or, note the bottom row, whether you are a non-participant. The rate impacts are all the same. In this case, it is the high case, and you see that they go up by 1.6%. The bill impacts, of course, vary depending on which customer you are, and if you are a non-participant, your bill impacts are the same as your rate impacts; if you participate, then you see a net reduction in your bill, according to the table here.

But then, the final column tells you, "Okay, which customers actually experience those kinds of bill impacts?" And you can see here, lighting sees a net reduction in bills of 1%, and you need a lot of customers to do that. I'm sure there's double counting there. Oh by the way, this is all based on three years; we start with the three-year plan, and their participation rate is assuming three years of the plan. And after three years, you get 13% of the customers in the products program and 2% in construction and so forth.

And it is really difficult to say what the non-participants' number is, because you would have to figure out the double counting question. You can't just add these up, obviously, you can see there are 100. So we haven't reached that point, I think it is safe to say that the minority of customers are non-participating, but I don't quite know how big that is.

And then if we move on to the next case, you see the same trends. The rate impact is much smaller, the bill impacts are roughly the same, but the participation rates are lower, and there are more non-participants. And then if you go to the low case, you'll see the same thing. Rate impacts are low, bill impacts are distributed pretty much the same, the participation rates are a lot smaller, and I think it is safe to assume that the majority of customers are non-participants.

So that is the quantitative summary of applying what we have been advocating in the plan and in the report. I'll take a minute or two to talk about policy recommendations. I'm going actually –

Karin Pielli:
Actually, Tim, we are going to have to move fairly quickly; we have a couple of questions for you.

Tim Woolf:
Okay, well I'll take one more slide and then I'll stop for questions, how's that?

Katrina Pielli:
Perfect.

Tim Woolf:
The last slide I want to show is participation, because this is so important—the policy options to increase participation. One, I think we should gather better data on participation; it should be included in the requirements for efficiency plans. It should be included in efficiency targets. It could be incorporated into shareholder incentives; it should be considered in program designs. You could increase budgets rather than decreasing them, to promote participation. If we are going to achieve all cost effective efficiency, we have to serve all customers. So that's the bottom line policy options on that, and I'll take questions at this point.

Katrina Pielle:
Great, thanks, Tim. And just a reminder, folks can send their questions through the question fields on your GoToWebinar toolbar. So, Tim, the first question is if you have any utilities that you would offer that are good examples of designing a residential bill that is transparent as to the energy efficiency charges. And of course if nothing comes to mind, we would be happy to follow up with this person offline.

Tim Woolf:
Well, there are a couple of things that could be in there. One is something I favor, which is a bill impact analysis, where as a part of an audit, customers get an analysis of what

their consumption is by end use, and they can understand how to cut back by end use. That is a great thing that should be a part of any audit. If the question was different, and what should show up on every customer's bill regarding energy efficiency, we often see system benefit charges show up—I don't think that is a good idea. I don't know why efficiency, of all things, should be broken out from all the others, so I think the best practice on that is not to break out the system benefit charge but just to have the main components that most companies have.

Katrina Pielli:
Great, thanks. And now one more question and then we'll move to John, and then of course at the end we'll have time to do Q&A for both speakers. So this is specifically referencing some of your earlier slides—13 through 15—and the question is the "price suppression effect" of efficiency is showing as decreasing over time.

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And the question is if you could explain a bit more why that decrease is showing up here.

Tim Woolf:
Yes, the price suppression effect is a complicated issue that a lot of people have questions about. It is an effect that's widely recognized as being real, but there aren't that many estimates of it, so that is the limit we have here. What does—what is also recognized is that while there is an immediate price suppression effect in the first year of energy savings, that markets will equilibrate over time, and will adjust to the fact that prices are lower, and both the supply and demand curves both adjusting over time to respond to the new demand. So it is recognized that it will phase out over time, and this is based on an avoided cost study that has price suppression effects of energy markets and capacity markets, and they both phase out over time for each kilowatt hour saved.

Katrina Pielli:
Great, that is very helpful. So again, folks, you can keep sending in your questions and we'll circle through them at the end. But at this time, I'd like to go ahead and introduce John Sibley, who is our final speaker for the day. A reminder, John is a senior policy fellow at Southface, and we'll be talking about his experience on these topics with the Georgia Power DSM plan. So with that, I'd like to turn it over to John.

John Sibley:
All right, thank you very much. And is my PowerPoint up okay?

Katrina Pielli:
Yes.

John Sibley:

All right. Well this is John Sibley with Southface, and the building you see in the near foreground there is our office building in Atlanta, Georgia. Southface promotes sustainable homes, workplaces, and communities, and the tools of our trade are education, research, policy advocacy, and technical assistance. We are best known for our expertise in making the built environment more sustainable through energy efficiency and renewable energy. And we try to walk to the talk. The office building that you see on the screen is LEED Platinum, and uses half the energy and only 20% of the water of a typical similar building.

My presentation today is going to describe Georgia Power's current integrated resource plan as a Southeastern case study on the analysis of bill and rate impacts. It will provide a real-world example to compare to the kinds of analysis that Tim has described.

Georgia Power submits an integrated resource plan to the Public Service Commission for review on a regular three-year cycle. The 2013 IRP was submitted in January of this year, and it is still under review at this time. The three years covered until the next IRP are 2014-2016. The IRP includes energy efficiency programs that are developed on a 10-year planning horizon. The programs are developed in consultation with a stakeholder group, which meets for 18 to 24 months, leading up to the filing of the IRP. The energy savings generated from the proposed portfolio are included in the supply side plan as an adjustment to the projected load growth.

The ultimate test that Georgia Power applies in deciding how much to invest in energy efficiency is to minimize upward pressure on rates, while maximizing economic benefit. This balance is struck by comparing the results of the rate impact measure test as defined in the California Standard Practice Manual, to the results of the total resource cost test. Since only these two tests are compared, bill savings from the energy efficiency programs are not included in the balancing analysis that the utility develops and presents to the PSC. Bill savings are calculated and they are filed in the form of the results of the program administrator test, but bill savings are not presented as a significant consideration in determining levels in investment. This balancing test was articulated in an order of the PSC in 2004, and at that time, it was a step forward because it moved beyond the previous requirement that all energy efficiency investments had to pass the RIM [rate impact measure] test.

Using the balancing test, Georgia Power significantly ramped up investment in energy efficiency for the years 2011-2013 in the 2010 IRP. As you can see from numbers on the screen, the amount of money invested doubled over those three years; energy savings tripled and rose to about 0.35 of retail sales, which would move Georgia Power on Tim's graph of where the various state stands, from very near the bottom to sort of middle of the pack. From the RIM and TRC [total resource cost] test results that you can see on the slide, which are cumulative for those three years, you will see that the significant expansion was made despite the fact that the portfolio flunked the RIM test by $70 million. Comparing the TRC benefits to the RIM costs on the slide yields a ratio of about 7 to 1, and that was considered sufficient to support the expansion. You can also see on the slide that there were significant bill savings, and that the cost per kilowatt hour of

energy saved was very low, on the lower scale of amount of savings are much lower than the average savings that Tim showed for his state.

But these factors of bill savings and low cost of energy saved were not part of the balancing analysis conducted under the test articulated in 2004. The 2010 order approving the expanded investment appears to suggest consideration of a possible broader analysis. I won't read this quote, but if you will glance at the phrases in bold type, you can see an emphasis on the significance of bill savings, a reference to the consideration of three tests, not two, and a finding that despite the upper pressure on rates calculated with RIM test, the record showed "significant ratepayer savings."

The PSC now has under consideration Georgia Power's proposed investments for the years 2014-2016. Little further ramping up from the 2010 IRP is proposed. Energy savings will remain throughout this time period below 0.4% of retail sales through 2016. Georgia Power's rationale remains grounded in the balancing of TRC and RIM. Their testimony states, as you see on the slide, that the TRC test results declined and the RIM test worsens since 2010, and that's certainly true. The great recession postponed the need for new capacity; Shell Gas reduced fuel costs; and so the avoided costs that make up the benefits in those tests are down. You can also see the numbers for the test on the screen, and the ratio of TRC to RIM this time is about 2.3 to 1, not the 7 to 1 as it was in the 2010 IRP. You also see the significant bill savings—about $833 million—and the cost of saved energy is even lower than in the 2010 IRP, suggesting that there is a lot more cheap energy efficiency to be bought that could produce even greater bill savings, but if the comparison of TRC and RIM is the determinative analysis, then those factors don't matter.

One more chapter in the story of the 2013 IRP is worth noting. In the stakeholder meetings, proponents of expanded energy efficiency programs, including Southface, suggested consideration of a portfolio that would continue the ramp up of energy savings to 1% of retail sales by 2016. Georgia Power's analysis tested a version of a 1% portfolio; there was some disagreement among the stakeholders about whether the appropriate portfolio was tested, but the outcome of the test—of the analysis—was that the 1% portfolio would create about $4 billion in upward pressure in rates over the 10-year planning horizon. As Tim mentioned, the analysis of rate impacts is often over simplified, and when the story on rate impacts is limited to a gross number on the order of $4 billion, the RIM test remains a very high hurdle for more aggressive energy efficiency programs in the Southeast.

In the current proceedings, the Southern Alliance for Clean Energy has put before the PSC an alternative analysis, and it provides a broader assessment of both building rate impacts for an aggressive portfolio, and it shows lower rate impacts. It tries to put before the commission essentially the kind of analysis that Tim has suggested. But I think it is fair to say that the kind of analysis that Tim has described, and the kind of analysis that historically has been done in the Georgia IRP proceedings—and really across the Southeast—are not the same analysis. So it has been Southface's question, "How can we get the conversation on billing rate impacts in the Southeast closer to the kind of analysis

that Tim has proposed?" And to help enrich the dialogue, now whether it is in formal hearings or in stakeholder meetings or seminars or just one-on-one conversations, Southface has contracted with Georgia Tech to develop a new modeling tool to give stakeholders and regulators expanded, independent capacity to consider the kinds of issues that Tim has described. You can see the project team on this slide. Most importantly, it is led by Dr. Marilyn Brown, who has a wealth of experience with energy efficiency modeling from our years at Oakridge National Lab and at Tech. And the project is guided by an advisory committee that includes two utilities, two commission staff, two regional NGOs, and four modeling experts. We want the tool that is ultimately created to be free and open source. We are emphasizing the need to have a tool that is relevant, accessible, and accurate.

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To accommodate different regulatory contexts and different level of detail available in—for inputs and different jurisdictions, we are designing a flexible architecture to accommodate those differences. We propose to be able to address several specific issues—the cost-benefit tests; levelized costs; impacts on rates and bills for both participants and non-participants in the manner that Tim has suggested; impacts on utility earnings and return on equity; alternative structures for compensating utilities for more aggressive investments and energy efficiency; and if and when the needed inputs are available, societal impacts. This scope, overall, is somewhat broader than the issues that Tim has raised, but it is our intent that the new tool will enable a more complete conversation on all of the points that he has emphasized. So please stay tuned, if you are interested, for the outcome of this project. The tech team will be building the new tool over the next couple of months, and I will be glad to answer any questions you may have now, but please feel free to contact me afterward, and I am sure the tech team would be happy to talk with anybody who is interested as well. Thank you very much.

Katrina Pielli:
Great, thanks, John. So folks, you want to go ahead and type in some questions for John, that would be great. John, the first one I believe is referencing the Georgia Power analysis that you had described at the beginning of your presentation, and the question is why is the analysis not actually done with the actual number of customers, so you could attribute the cost of energy efficiency per customer per year? And to the questioner, if that was not referencing the Georgia Power analysis, please type in and we are happy to clarify that.

John Sibley:
I think that the analysis is done using actual numbers of customers, and so I don't—I'm not sure what I said that may have suggested otherwise.

Katrina Pielli:
Okay, great.

John Sibley:
Maybe we can get a clarification on that.

Katrina Pielli:
Sure.

John Sibley:
Before we are finished.

Katrina Pielli:
Yep. And then a question, actually, to both John and Tim, can the type of assumptions that you have discussed on the electric side, can those be made similarly for natural gas efficiency programs?

Tim Woolf:
Yes, and they should be.

Katrina Pielli:
Great. And the same…

John Sibley:
And same answer here, so I will just say about the work that we are doing for modeling is aimed at the electric side, not at the gas side, so we won't be—we are not designing a tool that would be equally applicable in both places.

Katrina Pielli:
You took the next question right out of my mouth, John. The question I was wondering is if it was going to be electric and gas or just electric, so.

John Sibley:
It is being designed for electric in this RIM.

Katrina Pielli:
Great. And then a question for both of you—have you experience with, or is there an easy way to undertake a retrospective billing rate impact analysis?

Tim Woolf:
I don't have much experience with that, but I think one could do it. I would not, though, try to look at actual rates, because then you would have to back out everything that might have affected rates. I think what one could do, and I—and as you've heard me say—I think participation is a key issue here. One could, and really should, do a backward—a back cast—of participation, so that all parties can see how well participants have benefitted over the years, and that influences how much participation you might want to be looking for into the future.

John Sibley:
And I have nothing to—beyond what Tim said.

Katrina Pielli:
Okay, and then Tim, I believe this was a question for you. The question was the data for the per customer savings per measure that you included. Why is that data not included in the analysis? So the per customer, per savings?

Tim Woolf:
Well we use—in our analysis, we came up with typical customer bill savings by program. And in each of those programs we looked at the average per customer energy savings and took that as a percent of a typical customer bill, to get typical customer percent reductions of bills. So I think we did that.

Katrina Pielli:
Okay.

Tim Woolf:
We used actual program measures and program results to come up with our numbers.

Katrina Pielli:
Great. And other questions—please feel free to type them into your questions panel on your GoToWebinar toolbar. At this point, I think the final question for both of you is are there new opportunities and new ways that you would recommend folks to get involved in this conversation? So we have got the SEE Action guide; John, you are working on this open, accessible tool; are there other things that you would point folks to to get involved in or to learn more?

John Sibley:
Well, I would love to see, as folks see the opportunity, just for educational opportunities as they arise, I would love to see Tim's kind of analysis as he makes it now, or the ability, when we have the tool ready, to do similar kinds of analysis to help us find opportunities, whether it is in seminars in various states, or in proceedings of public service commissions and actual docket proceedings. We are really looking for the opportunities to get this kind of information out as broadly as we can, so any help we can get with that would be greatly appreciated.

Tim Woolf:
I've got two points on that. One is I hope to publish or present in conferences work that I'm doing on this because I think it is so important that once some of this analysis is final, I do hope to get it out, so stay tuned for that. But more importantly—and more practically—everybody on the phone is if you are engaged in a proceeding where energy efficiency is being discussed, whether it is before the fact, after the fact, whether it is budgets, whether it is planning, I think you should all be asking questions of the utility along these lines: "What are your participation rates; what have they been in the past; what are they going to be; how would they change under different assumptions?" And there is no reason you can't ask utilities in a discovery request that you want an estimate of rates, bill, and participation impacts. And you have to lay out—I've done this before, and if you're not careful, you don't get much—you have to lay out in detail some of the

recommendations you will find in the SEE Action report. You have to explain, "We want long term, not just the first year. And we want bills as well as rates," and so forth. But if you do that, you should literally be gathering this information in every docket where people are concerned about rate impacts, which, in my mind, are most of the dockets out there.

Katrina Pielli:
Great, thanks, Tim. So at this point, no further questions have come in, so I would just like to remind everyone on the line that you can download this SEE Action paper that Tim presented on www.seeaction.energy.gov. And again, a big thank you to Tim Woolf and John Sibley for their time today. And the webinar recording and slides will be posted on the SEE Action website under "events in the coming weeks," so feel free to keep an eye out for that. Thank you again for participating, and we would appreciate it if you would take a quick minute after the webinar is complete to complete the poll, so that we would have more information on the type of information that you would like to see covered in the webinars. And we hope to hear from you soon, and of course stay in touch with Tim, with John, and myself, and the rest of the SEE Action folks. So thank you everyone for your time today, and we'll go ahead and conclude the webinar.

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