

Integrating Energy Efficiency into New and Existing Homes

Webcast Transcript

May 21, 2009

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Introduction

Slide 1: Integrating Energy Efficiency into New and Existing Homes

Operator: Ladies and gentlemen thank you for standing by. Welcome to the Environmental Protection Agency “Integrating Energy Efficiency into New and Existing Homes.” As a reminder: this conference is being recorded Thursday, May 21, 2009. And I would now like to turn the conference over to the US Environmental Protection Agency. Please go ahead.

Emma Zinsmeister: Thank you. Welcome to this afternoon's local climate and energy webcast and our topic for today is integrating energy efficiency into new and existing homes my name is Emma Zinsmeister and I am here with two of my colleagues also from local climate and energy program, Neelam Patel and Andrea Denny. Today's topic is extremely relevant given the number of programs that are available to work on integrating energy efficiency into the residential sector and we hope that you'll find this information and the presentations from our speakers helpful. As you look into planning how to use a lot of the stimulus funding that's coming out through the Department of Housing and Urban Development and Department of Energy and particularly the Energy Efficiency and Conservation Block Grants.

Slide 2: Webcast Agenda

Emma Zinsmeister: So the agenda for today, I will be going over the agenda and the logistics. And Neelam Patel will be introducing our speakers. Our first speaker of the day will be Dale Hoffmeyer from the Energy Star Home Improvement program from U.S. EPA. Also from EPA will be Evelyn Swain to talk about the Responsible Appliance Disposal Program followed by Helen Reinecke-Wilt from Arlington, Virginia talking about the Green Home Choice program in Arlington County. We also have Matthew Phillips from the Austin, Texas talking about the Austin Energy Residential Energy Efficiency program. And we will be doing question and answer at the end of all the presentations, but as you may develop questions throughout the presentations just enter them and we'll give you more information about how you can enter the questions as you go and we will address those at the end. And also, just to reinforce that this webcast is recorded and the audio will be posted on our website along with the slides a few weeks after the webcast. Lauren, if you want to go over the logistics?

Slide 3: Live Meeting Software Logistics

Lauren Pederson: Sure. As a reminder, you'll be muted during the webcast to minimize noise and you'll be able to submit questions and comments in writing using the question manager, which I'll go over it a few seconds. If you want to see the presentations full screen you can press F5 and press F5 again to return to the live meeting consol. Today's session will be recorded and made available for download at the following URL and

throughout the webcast if you have any problems please contact Nikhil Nadkarni at the following email address or at 202-862-1145.

Slide 4: Feedback and Questions

Lauren Pederson: If you have a question during the webcast, please submit it through the question manager. We will compile these questions and address them during the question and answer session at the end of all of the presentations. You enter your question into the question entry box and click on ask in order to submit the question to us.

Slide 5: Handouts

Lauren Pederson: Handouts of all of the presentations are available in the handout section and that's on the upper right corner. You can select the handout button and then you can see all the PDF files available for download

Slide 6: Attendees

Lauren Pederson: You can also see who else is participating in the attendees list. So if you select the attendees button in the toolbar on the top of your screen you can see all of the attendees for the webcast. Back to you, Emma.

Slide 7: Local Climate and Energy Program

Emma Zinsmeister: Alright thank you, Lauren. I'm just going to give you some information, a little overview about our Local Climate and Energy program here at the Environmental Protection Agency. This webcast is part of our larger program and basically our program is an informational and peer exchange network. We hope through our effort to advance comprehensive climate and clean energy approaches through local governments and their communities and we look to provide credible resources and identify gaps in resources that we can fill to help provide you with the information that you need to advance your programs. We focus on cost effective established best practices, serve as a gateway to existing programs and resources throughout EPA and other federal and non-federal programs. We have developed tools, resources and guidance that we find to be helpful to you and also to facilitate peer to peer exchange and to showcase success stories as many of our resources contain case studies, great examples of best practices that local governments are implementing.

Slide 8: Local Clean Energy Strategies Guide

Emma Zinsmeister: One of our resources that we're offering is our Local Clean Energy Strategies Guide and we are issuing this as chapters, individual chapters on our website. And inside it covers 15 different strategies in four main areas including energy efficiency, energy supply, and urban planning and design. And under each of these strategies that we include in our chapters has benefits, measure, key participants, mechanisms for implementation, costs and funding, how these programs might interact with other federal,

regional and state programs, and of course include a lot of case studies and resources for additional information. We have six chapters currently listed on our website and you can see listed here upcoming chapters including energy efficiency and municipal operations, K-12 schools, smart growth, efficiency fleets and transportation control measures. And you could also go to you URL at the bottom of this slide to access these chapters.

Slide 9: Webcasts and Training

Emma Zinsmeister: And of course we also offer webcasts and a variety of training opportunities. Our webcast series is a monthly series that we announce on our listserve and through our website and each call features local government case studies and speakers from a variety of EPA programs. And topics in June, the week of June 8th, we're going to be hosting a webcast that's going to cover energy efficiency and municipal facilities onsite renewables. And some upcoming topics that we will be covering throughout the year are also listed here. All of our webcasts are archived on our website you can access the slides and also the audio portion of the webcast and there also a variety of other webcasts series that are going on in addition. Energy Star has webcasts that you can access through the links here, also our State Climate and Energy Technical Forum and the DOE Technical Assistance Project for State and Local Officials have a variety of webcasts that they are offering as well and you can use these links to access those webcasts.

Slide 10: Climate and Energy Contacts

Emma Zinsmeister: And here's our contact information for the Local Climate and Energy program and our URLs for our website and also for our listserve where you can sign up to receive updates on our webcasts as well as the other resources that we publish and I will turn it over to Neelam to introduce our speakers.

Neelam Patel: Thank you, Emma. Again, as our speakers are presenting, please enter questions in using the Question Manager function during the presentation and at the end we will get back to those.

Residential Energy Efficiency and Related EPA Resources

Slide 11: Encouraging Energy Efficiency Improvement in New and Existing Homes

Neelam Patel: Our first speaker is Dale Hoffmeyer from the Energy Star Residential Program. Dale's a team leader for Energy Star Home Improvement and he's been with the agency for almost 20 years and has been working at Energy Star since 2000. Dale has policy experience in home energy bench marking, home performances and HVAC quality installation. So, Dale?

Dale Hoffmeyer: Thank you, Neelam. Again, I just want to go over some, give you the context today for the webcast topic and also review some of the Energy Star resources that are available to you.

Slide 12: Residential Energy Use

Dale Hoffmeyer: First, let's just talk a little bit about residential energy use, and we want to specifically look at in this graph here how energy use in the residential sector continues to grow and one of the effects that I think is interesting is that the energy use in the average house actually causes about two times as much greenhouse gas emissions than does the average car. Many consumers assume that the greenhouse gas issues is really a transportation sector, but if we want to tackle this issue we also need to focus on our homes and the greenhouse gas emissions that are generated from generation of electricity, particularly from power plants. So, just to give us a little context.

Slide 13: Residential Energy Use

Dale Hoffmeyer: Let's look at actual energy use in the home. There's some interesting statistics here. One of them is that 69% of the homes are built before 1980, which is when we have modern energy codes being implemented around the country. So there's a lot of improvements that can be made in existing homes that are out there. There's been a lot of work in the new construction area over the last several years, but not as much focusing on the existing home stock. and I think there's a huge opportunity there. Most of the energy use, or about 50% if you look at the water heating, heating and cooling, you're gonna get over 50% of the energy use in the home comes from those three sources. So there's been a lot of focus on products, and Energy Star has been very successful in improving the efficiency of products as well as the higher standards that have been implemented, but focusing on heating cooling and water heating are areas where there's still a lot of opportunity.

Slide 14: Energy Savings Potential

Dale Hoffmeyer: Let's talk a little bit about what the potential is and here's some interesting factoids. Energy Star has had a promotion in the past we called change a light, change the world. And you know, if every household in American replaced just

one light with an Energy Star qualified light, we would save about \$700 million in annual energy costs and prevent 9 billion pounds of greenhouse gas emissions per year. And that's just by one simple measure. But we can go even further and people can take other actions besides that. They can focus on adding insulation to their attic, and we could even save more or, focusing on heating and cooling system, not only changing air filters, simple maintenance, but sealing and insulating heating and cooling ducts in unfinished areas using programmable thermostats. Those types of measures can save even more. So these are the types of things we want to talk about and we want to encourage home owners to do in their homes, the actions that we want them to take.

Slide 15: Thomas Edison Quote

Dale Hoffmeyer: I really like this quote here from Thomas Edison, "Good fortune is when opportunity meets with planning" and I think that that's really where we are today and many of you are probably facing this. The American Recovery and Reinvestment Act is a great opportunity for all of us. But the real question is what's your plan? What are you going to plan to do with that? And not everybody is there.

Slide 16: What Do You Want to Achieve?

Dale Hoffmeyer: And not everybody is there with a plan already, or anticipated that and there are a lot of resources available to help you develop a plan. So that's one of the places where you want to start. You want to start by setting a goal and here are some examples of climate action plans from cities around the country and there's some really good guidance on developing these plans from ICLEI, and many of you are probably aware of that and have used those resources.

Slide 17: What barriers stand between you and your goal?

Dale Hoffmeyer: But this is the place to start, to set a goal. Once you've set a goal, the next step is to evaluate what are the barriers. What are the barriers to energy efficiency that stand between you and your goal? So that's the place you're gonna want to go, if you haven't already.

Slide 18: Energy Efficiency Barriers

Dale Hoffmeyer: Let's talk a little bit about what some of those barriers are. Here are some of the barriers that you will typically face. Consumer awareness is definitely one of them. Many consumers don't realize that they consume more energy than most other homeowners around them. They don't really know how much energy they use. And so that's a barrier. They also don't understand sometimes what the benefits are. For some measures its not just saving energy its also comfort and there are maybe other benefits with making improvements like insulation and air fueling. They also don't know how to change sometimes. They don't actually know what's the step, what can I do and they just need some help. So consumer awareness is actually a big barrier we need to get over. Availability perception, and I say perception because I'm not sure that availability is as

much of a barrier. In some sectors it is, in others, not so much. But there is a perception that it is difficult to find energy efficient products, homes or a weatherization contractor. There is that perception. And there's also an affordability perception. You know, consumers may feel like it costs too much to upgrade energy efficiency. And again, I think that this is a perception and not necessarily a reality.

Slide 19: What policies will help clear each hurdle?

Dale Hoffmeyer: Here are some of the barriers that we talked about and after you've set a goal and you've identified what some of the barriers are, now what, what do you do next? Well, you're likely already hearing many voices encouraging you to adopt different policies. And here's an example of some of those that you may be hearing. And EPA's state and local programs as well as Energy Star and some of the other resources that were mentioned earlier are all here to help you try to evaluate these things and help you sort out which policies make the most sense for you.

Slide 20: Oprah Winfrey Quote

Dale Hoffmeyer: You know, most of you probably have plenty of work already, and unfortunately, reaching your energy efficiency goals will probably mean a little bit more work. But, there is good news.

Slide 21: Energy Star Products

Dale Hoffmeyer: Energy Star has been around for a while, many of you are aware of Energy Star, and it can help. Specifically in the products sector there has been a lot accomplished through Energy Star partners, providing not only awareness of energy efficient products, but also about the availability of energy efficient products. So many of the barriers for products have been addressed. There are still some out there, but a lot of good things have been done through Energy Star.

Slide 22: Energy Star Homes

Dale Hoffmeyer: There's also Energy Star qualified homes, if you were not aware of this. Energy Star qualified homes are at least 15% more energy efficient than homes built to the 2004 International Residential code. They also include additional energy saving features that typically make them 20-30% more efficient than a standard home. So these are a great value, Energy Star Qualified homes are a great value, and if you are not aware of them, you might want to look into that. Typically, the things that are included in a Energy Star qualified home are effective insulation systems, high-performance windows, tight construction and ducts, efficient heating and cooling system, appliances and lighting and they are also third-party verified. So I just want to bring that to your attention.

Slide 23: Home Performance with Energy Star

Dale Hoffmeyer: Energy Star has also done a lot of work on existing homes. And that's an area where I focus. Home Performance with Energy Star, this is one of the programs, one of the least mature programs Energy Star has. But we work with utilities, states and local governments that sponsor this program and develop a network of specially trained contractors that evaluate the home's energy use, recommend comprehensive improvements and can complete the work. There's a lot of similarity between this program and the low-income weatherization program. One of the key differences is that in this program homeowners choose and pay for the improvements based on the information that they will receive in that comprehensive audit. So that's one of the key differences.

Slide 24: Overcome Awareness Barrier

Dale Hoffmeyer: I want to talk just a little bit about overcoming some of those other barriers that we talked about earlier. And one of those is the awareness barrier. And educating consumers on the value of energy efficiency. One of the things I'd like to bring up is that Energy Star has Change the World Campaign this is a great opportunity for cities, counties, local governments to participate in a much bigger campaign to educate consumers about energy efficiency. As I've mentioned, we've talked about Energy Star products, you can sponsor education at home shows, write an article for a local newspaper. Some other things you can do are work with a local utility, and some local utilities have offered energy use feedback on bills, and SMUD is an example of this. They have recently been offering this on the bill, some comparative energy use information, which has seen some success. Energy Star also has this Energy Star Home Energy Yardstick where homeowners can benchmark the energy use of their home and find out how their energy use compares so that they will know.

Slide 25: National Campaign

Dale Hoffmeyer: Another thing you might want to consider is working with local realtors, and educating them about Energy Star qualified homes. I mentioned the Change the World Campaign, Change the World, Start with Energy Star. Again, this is a national campaign encouraging all Americans to join with millions of others and take small, individual steps that make a big difference in the fight against global warming.

Slide 26: Change the World

Dale Hoffmeyer: You can get more information on our website. What we're looking for is what we call pledge drivers, we are looking for organizations to help us talk to consumers about taking those small steps. I can only talk to so many people, and that's a limitation that we all have, but if we all work together, we can make a big difference. So we are looking for communities, local governments to partner with us in this campaign. We have a number of materials to help get you started. You can see a list there on the slide. And you can check it out on our website, and this is a great and a very easy way for you to get involved.

Slide 27: Homeowner Education Through the Web

Dale Hoffmeyer: I'd like to highlight a few of the tools we have on the website, we have a tool called the Home Energy Advisor. And this helps consumers make a plan, what kind of improvements they might want to make to their home. There's also the Energy Star @ Home tool, which goes room by room and provides recommendations for improving the energy efficiency of the home. And this is a tool that can actually be hosted on your website. I mentioned the Home Energy Yardstick. This is a good tool for homeowners to track their progress. If they decide to make improvements, they can benchmark their energy use, get a score, from 0 to 10, that tells them how their energy use compares with others. And then, after they've made improvements, after a year, they can come back and find out how they've improved. Again, this is a tool you can host on your website.

Slide 28: Energy Star Home Energy Yardstick: What's Your Score?

Dale Hoffmeyer: Here's a simple example of what the yardstick looks like. And a certificate can be printed out for the home owner. They could possibly use that in a real estate transaction if they are interested.

Slide 29: Energy Star Publications

Dale Hoffmeyer: Energy Star also has a number of great publications for the residential sector. We have a guide to heating and cooling, and a do it yourself guide for air sealing and insulation. These are two great guides, I believe these are also in Spanish. And you can either download these from our website as a PDF or you can go to energystar.gov/publications and you can order free copies. We also have some great, good educational resources for kids. This "You can be an Energy Star" publication is a great resource for kid's education.

Slide 30: Overcome Availability Barrier

Dale Hoffmeyer: I just want to mention the other two barriers. Overcoming the availability barrier, what sort of things that local governments can do. One thing that we have heard people do is sponsor events, like refrigerator or room ac recycling. We are going to hear a little bit about a program like that. That's a great way to help homeowners reduce their energy use. Get rid of that refrigerator that is out in the garage cooling that case of beer, I mean, that's all it's doing anyways. So let's move that old refrigerator out and get it recycled. Another thing in the Energy Star new construction that you can help with, you can help develop and nurture a HERS infrastructure, a Home Energy Raters, and that might be helping to provide training for that. Also we can help to motivate builders and contractors to deliver energy efficiency, possibly through some technical training. But, some simple ways for a county or city government is a discount or a delay on the permit fees for these Energy Star qualified or these special energy efficiency homes. Or offer priority code processing. So those are some ideas. And I mentioned Home Performance with Energy Star, you might want to consider sponsoring

a Home Performance program. We are going to hear from Austin Energy, they are a good example of a municipal utility who has taken that program on and they have been doing this for several years.

Slide 31: Overcome the Affordability Barrier

Dale Hoffmeyer: Lastly, I want to take about the affordability barrier. One thing that you might be able to do is work with utilities and facilitate incentives for Energy Star Qualified homes, possibly a discount on the utility hookup fee for an Energy Star Qualified home, or even discounts on the bills. Those are two of the approaches that have been tried. You might also encourage financing for energy efficiency. We're hearing a lot about financing, community funds. Recently, I was just on a call and we were hearing about Boulder county and the funds that they have set up, Berkeley, as well as the city of Babylon, New York. So these are some examples were the financing is set up and the homeowner can pay for it on their property tax bill or water bill, something like that. So those are some great opportunities that are out there and I expect that there'll be a lot more of that happening around the country. So, something to look into. And then, also in the Energy Star Qualified products, you might offer incentives, if possible, for the Advanced Lighting Package for new construction. Or the refrigerator room AC and then in combination with the recycling program.

Slide 32: RDEE Toolkit

Dale Hoffmeyer: Again, there's lots of different opportunities for local government and working with energy star and partnering with us. We are trying to help you, help make it a lot easier for you because we know that you've got a lot of work on your plate already, and so that's what we're trying to do. I wanted to mention this resource, it's called the Rapid Deployment Energy Efficiency Toolkit (RDEE) and this toolkit is being developed through a joint effort with EPA and the Department of Energy, building on technical information provided by the Leadership Group of the National Action Plan on Energy Efficiency. And this toolkit provides detailed program and implementation guides for ten broadly applicable energy efficiency programs, not only residential but also commercial. And so if you are developing plans for the ARRA funds, you might want to look into this and see what funds are available there.

Neelam Patel: Okay, thank you Dale, that was a great overview of resources and opportunities, including the Energy Star Home Improvement, which focuses on single family free standing homes.

Responsible Appliance Disposal Program (RAD)

Slide 33: Responsible Appliance Disposal Program (RAD), Evelyn Swain

Neelam Patel: So transitioning into our next speaker, we will be connecting some of the appliance issues that Dale raised to another program that we have at EPA. And Evelyn Swain from EPA's stratosphere protection program will be presenting on the Responsible Appliance Disposal Program.

Evelyn Swain: Thank you very much. So, today I've been asked to give you a really brief overview of EPA's Responsible Disposal Program, or RAD. So my time's pretty limited, I'm going to try to get through these slides in about five minutes. So I might skip through some of the slides here pretty quickly, but they will be available in full on the website if you want to go back to look. So the RAD program is one of EPA's partnership programs that helps to not only protect the ozone layer, and reduce emissions of greenhouse gases, and also to improve residential energy efficiency. And through this program, partners encourage consumers to retire those old inefficient refrigerants, and provide for disposal of them using the best environmental practices that are available today. So, just to be clear about the appliances that I am talking about for the RAD program, the RAD program only deals with those appliances that have refrigerant in them. So I'm talking about refrigerators, freezers, window air conditioners and dehumidifiers. And refrigerators are typically one of the largest energy consuming appliances in the home, so removing or replacing one of those old inefficient units can have really large energy savings benefits.

Slide 34: Scope of the Problem

Evelyn Swain: This is just a quick overview of what the problem is, how many units are out there, and as you can see there are just millions and millions of units out there, and lots of secondary units. I am going to skip by this real quick and get to some of the meat of this.

Slide 35: Why Take Old Appliances Off the Grid?

Evelyn Swain: So why is it important to take some of these old units off of the grid. Well, one is that it reduces energy demand. Taking a secondary unit out of the basement can help a lot or even replacing an old one that is your primary unit for a newer, Energy Star unit is very helpful and that in turn saves consumers money on their electric bill every year. And I know that local governments sometimes run these energy efficiency programs to have appliance rebate, so they'll actually give consumers money to go out and buy, say, a new Energy Star refrigerator. And they actually ran a program like this with the city that I was with a few years ago, but the only problem with that program was that the city didn't offer, they didn't require the old units to be given up. So the energy demand could have actually gone up because you are not requiring residents to give up that old unit and recycle it, so you can easily put it in your garage or basement and

increase your energy demand. So that's why getting these old units off of the grid and recycled is key to improving residential energy efficiency.

Slide 36: Why properly dispose of appliances?

Evelyn Swain: So once the unit is off of the grid, its important to properly dispose of them. And that's because a lot of the components within the refrigerator or freezer can be harmful to the environment. The refrigerant and foam inflation which is in a refrigerator or freezer has a, in the old units it has CFCs in it, and that CFC is a high global warming gas. It actually has a global warming potential of about 10,890. So that means that the CFCs which are refrigerants in your refrigerator has over 10,000 times the warming effect of carbon dioxide on the environment. So you can see that preventing the emission of CFC from old appliances can have huge, huge climate impacts. You also want to make sure that they are disposed of properly because there are harmful substances like PCBs, mercury and oil in those old units. And also to recycle them saves landfill space and energy by recycling rather than landfilling those durable components, like the metal and plastic and glass.

Slide 37: A Single Refrigerator Manufactured Prior to 1995 Typically Has. . .

Evelyn Swain: So here's just a quick snapshot of all the components in a refrigerator, the required proper disposal, and these are also all the components that we address through the RAD program.

Slide 38: RAD Program Objectives

Evelyn Swain: The objectives of the RAD program are to work in partnership with utility companies and also local governments and municipalities, retailers, manufacturers and universities, to achieve all of these benefits of reducing the ozone depleting substances, reducing greenhouse gases, reducing the energy demand, and also to recognize and support the best practices that are going on in the industry right now. So I think that the next speaker from Austin Energy is going to talk a bit about this, but basically when utility programs join the RAD program, often times they encourage the retirement of old refrigerators and freezers by offering a small monetary incentive to give up that secondary unit. And then they'll typically hire a third party to come in and typically collect the units, and recycle, reclaim or destroy all of the components that need to get handled. And appliance recycle programs are a cost effective way for utilities to reduce energy demand because taking those old inefficient units off of the grid is obviously less costly than generating more energy. So our utility partners often see a benefit cost ratio for these recycling program of about three to one. Southern California Edison is a great example because they have one of the longest running appliance recycling programs in the country. They've operated those continuously since about 1994. And SCE still claims that it's one of their most cost effective programs. In 2008, they actually increased their support and funding for the program. I think they increased their bounty on those old units from about \$30 to \$50, so they're getting great results from that increase. So the RAD program, for municipalities, the program looks a little bit

different. Local governments can ensure that the appliances that they collect through their pickup programs or drop-off programs are disposed using the best environmental practices available, and then, like I said before, if the local government is offering one of those rebates programs on the purchase of a new unit, they should couple that with the disposal of the old.

Slide 39: Benefits of Responsible Appliance Disposal

Evelyn Swain: The next slide is just a quick overview of some of the benefits you achieve through proper recycling and this includes both the energy savings you get from retiring the old unit and the emissions reductions from the proper disposal and not emitting the CFCs from the refrigerant and foam. The greenhouse gas benefits are quite large.

Slide 40: RAD Utility Partners

Slide 41: RAD Retail Partners

Evelyn Swain: Here's just a quick overview of some of the RAD partners.

Slide 42: U.S. EPA RAD Program Contact

Evelyn Swain: And there is my contact information and a link to the RAD program website. And with that, I'm going to turn it over, but feel free to contact me directly if you have any questions or interest in the program. Thanks.

Arlington's Fresh AIRE and Green Home Choice Programs

Neelam Patel: Thank you Evelyn. As Evelyn said, this is a great example of a cost effective program, so as you're planning to use your American Reinvestment Recovery Act money, this may be an idea for you. And you'll hear more about Austin Energy's program shortly from Matthew Philips. But now I'd like to introduce the next speaker, who is from Arlington, Virginia. We have Helen Reinecke-Wilt and Helen's been a land use planner in the Washington DC area for the last twenty years. She has a Masters in urban and environmental planning from University of Virginia and she is an American Institute certified planner and she is also a LEED AP. She is currently with the Arlington Virginia Green Home Choice program. Helen?

Helen Reinecke-Wilt: Thank you. Welcome everybody.

Slide 43: Fresh AIRE

Helen Reinecke-Wilt: Today we are going to talk a little bit about two programs in Arlington county. One is called Fresh AIRE and one is called the Green Home Choice program. I am actually the Green Home Choice coordinator, but I am also going to talk a little bit about Fresh AIRE. So, AIRE stands for the Arlington Initiative to Reduce Emissions. And in 2007, the county launched this program to try to reduce greenhouse gas emissions. Prior to 2007, actually for a number of years, the county already had two green building programs, a commercial one and then in 2003 a residential one was begun, that's the one that I work with. So this Fresh Aire program is a collaborative effort between government, businesses and residences to reduce emissions through energy efficiency measures, green building, alternative transportation, improved recycling and water conservation.

Slide 44: Fresh AIRE

Helen Reinecke-Wilt: So when we first looked at implementing Fresh Aire, we looked at some statistics and realized that the government emissions were responsible for less than 4% of the total in the county, so it was then realized that community outreach to business and residents was really critical to reduce emissions. And this program was paid for through a residential utility tax.

Slide 45: Key Elements of Fresh Air

Helen Reinecke-Wilt: There are five basic components of the AIRE program. One is internal commitment to reduce the government's energy usage by 10% by 2012, to assist businesses to reduce emissions, to encourage residents to reduce energy and to encourage other localities around the region, and finally, to keep the community updated about the program and how it's performing through a website and blog.

Slide 46: Fresh AIRE – government

Helen Reinecke-Wilt: The county government reductions are focused on energy efficiency in buildings, employee engagement and education and vehicle fleet efficiency. We have a lot of hybrid vehicles in the county.

Slide 47: Other AIRE Activities

Helen Reinecke-Wilt: Another program, or a separate program within the AIRE program was an Energy audit program that was begun in 2007. The county decided to offer to residents the ability to apply to win a free energy audit. They had to provide a bunch of data about their house from the previous year, how it was performing, and I guess they were chosen randomly and we did perform 20 audits in 2007 and 20 in 2008. It was so successful in terms of collecting data from the applicants after the improvements were made in the home. The problems we experienced in the program were finding enough auditors, so it was good to see that EPA has some advice for trying to increase the number of auditors in an area because we certainly have that problem in the Washington DC area. So it was hard to get these audits done. And then the other issue was that we realized that the types of people that were willing to spend the time to collect data from their houses and try to win the audit were also the types of people that had already made a lot of improvements to their homes, so that they weren't willing to spend money to make additional improvements, so there weren't huge changes made in a lot of these homes. So that's something you should think about if you are thinking of similar programs. You might need to find a way to try and target a broader range of people. So coming soon to Arlington, we hope, will be a Communitywide Climate Action Plan. We have not developed that yet, but hope to in the next couple of years. And we are also trying to develop incentives for promoting energy efficiency in residents and businesses using our EE block grants funds that EPA staff were talking about. We have been working on how we will use that money for energy efficiency and we are looking at starting a pilot with Home Improvement Energy Star and we are also looking at trying to decide whether we will be using the revolving loan fund or grants, or how will we encourage energy efficiency.

Slide 48: AIRE and GHC – Connection

Helen Reinecke-Wilt: So now I'm going to start talking a little bit about Green Home Choice. Green Home Choice is a residential program that the county began in 2003. It is not technically part of the Fresh AIRE program, but it overlaps quite a bit and we have similar missions in terms of our outreach to the public. The Fresh AIRE program sort of has a general outreach function where they talk to residents and businesses about ways to improve energy efficiency. Green Home Choice also has that public outreach component. We focus primarily on construction projects to new and existing homes, but we also play the role of going out and speaking in public, and answering questions of people who call us about re-insulating their attics and all kinds of things like that. So the county, even though we are not part of the same program, we are sort of on the same team, and because we have a lot of staff blended together, we can target larger audiences

and leverage resources. We quite often will trade off with each other between the two programs requests to go out to the public.

Slide 49: Residential Outreach – AIRE and GHC

Helen Reinecke-Wilt: If one group can't go, they'll come to us, because we are all sort of cross-trained in teaching the public about reducing energy usage. So here's some of the outreach programs that both programs are involved with. We conduct workshops on a seasonal basis all year round, we have the Spring series, the Fall series, the Summer series, and we've called it "green it" Arlington the last two years. We have workshops on building rain barrels, on air flow and energy leaks in homes. I did one of those a couple of weeks ago. On insulation, on pretty much everything you could think about on home efficiency, energy efficiency.

Slide 50: Residential and Business Outreach – AIRE and GHC

Helen Reinecke-Wilt: We also spend a lot of time out in the community. We get asked to speak at specific association meetings, at rotary club meetings, at garden club meetings. . .I'm having trouble loading this image for some reason. We distribute information and Energy Star compact fluorescent bulbs at community events and so far we have distributed over 2,000 light bulbs. We also partner with local non profits very often, called Arlingtonians for a clean environment on many events to connect with events on green living tips, they have a green living challenge. We also work with them on the green building directory because we can not recommend green building contractors or products we use this non-profit and help them with the directory that they publish online. And of course we maintain a website and blog as I mentioned earlier.

Slide 51: Green Home Choice – History

Helen Reinecke-Wilt: So now I'm going to talk a little bit about Green Home Choice itself. It was begun in 2003, it's a voluntary single family home program. So far to date we've had 77 homes that have been certified or are in the process of being certified. I think the program began fairly slowly, but in the last couple of years and particularly with the economic downturn, builders have been looking for a way to get a leg up on filling their homes and they are very interested in having their home certified by our program, and the Energy Star program and some other green residential programs. Of the 77 homes, 48 are new and 36 of those 77 homes will have been ENERGY STAR certified, or Energy Star Qualified as EPA may call it. That means the whole house has been certified as meeting certain energy efficiency standards. And they've done that voluntarily to date. Most green building programs require that, ours has been voluntary, although we are considering changing that pretty soon as our program is currently considering some significant revisions.

Slide 52: Green Home Choice – Incentives

Helen Reinecke-Wilt: A few of the incentives that we offer to try and get builders and homeowners to go through the Green Home Choice program are we offer an expedited plan review process, this always sounds easier than it is to do. You have to get all of the departments on board and our plan reviewers are very diligent about trying to make these homes go through the process quickly, but sometimes the permits get held up in zoning or in environmental services or other issues, so it's not an easy thing to do but it's a good goal if you can try to accomplish it. We also put our builders and designers names on our county's website. They are very anxious to have that done as soon as they start in the program. It's a good way to get exposure. Annual awards ceremonies, we just had that actually this week, for this past year and we recognized builders and homeowners there with our county board. We are also, as I noted, have a big increase in interest in this program because builders are seeing that it is giving them a market advantage to promote that the homes are more sustainable and more energy efficient.

Slide 53: Green Home Choice – Energy

Helen Reinecke-Wilt: In terms of objectives for the program, the primary one is energy efficiency, as in most green building programs. Our current program requires a minimum of 75 points and allows up to 85 of the 175 required for the full certification. So 75 out of 175 has to be related to energy, has to come out of our energy section of our checklist. Under our new proposed program, we are going to keep the minimum at 75, but we are allowing up to 100 energy points for homes, to promote that. And we are going to give 100 points to remodels and home improvement projects that are Energy Star Qualified. On the other side, for new homes, we are recommending that all new homes be required under this Green Home Choice program to be Energy Star Qualified.

Slide 54: GHC – Engaging the Private Sector

Helen Reinecke-Wilt: We have worked really hard through making these revisions to our Green Home Choice program to try to engage the private sector. We have tried not to do it in isolation. We have worked closely with, on our side too, with our inspectors and our plan reviewers, who are most familiar with all of the different building features. But we've also invited, last week we had a large group of builders come in who have participated in our programs to provide feedback on our draft changes. We've had large and small meetings with permit builders. We've also been talking with regional industry groups and various product suppliers about how to update our checklist to make it as up to speed with technology as possible and to meet a lot of the goals that we are trying to achieve through this program. We weren't exactly sure how builders would react to requiring an Energy Star Qualified Home for all new homes and because we've already had about 75% of the builders already participate in building Energy Star Qualified homes, we felt that the other 25% could be more strongly encourage to do that. So far the reaction has been fairly good, but there has been some concern about some people having problems getting their Energy Star certification completed for various reasons, whether the HERs rater was overloaded with projects and they don't necessarily want to be held up from their Green Home Choice certification because of the Energy Star certification – that's an issue we are trying to work on now. Also, this is a very delicate balancing act,

we want to encourage people to use our program, we have to balance both the costs and the abilities of the builders to the requirements and the goals that we are trying to achieve.

Slide 55: Green Home Choice – Energy Categories

Helen Reinecke-Wilt: So here are the main categories for the Green Home Choice program – very similar to LEED for Homes, NAHB’s new green building standard, these are very typical categories. Air sealing, insulation, windows and doors, passive solar design, heating and cooling, on-site renewable energy sources, energy efficient lighting and appliances, resource efficient design.

Slide 56: Green Home Case Study – New

Helen Reinecke-Wilt: And the last thing I am going to do is walk you really quickly through two case studies. Very simple examples, one of a new home in Arlington that went through our Green Home Choice program and one of an existing home that went through a major renovation.

Slide 57: Green Home Case Study

Helen Reinecke-Wilt: The first one is this new home, as you can see, very modern, had many, many green features, probably the most that has been done in any home in Arlington to date. It was structural insulated panel construction, partial green roof on top, it had geothermal heating and cooling and geothermal assisted hot water, a desuperheater on the hot water system, which I will not try and explain, an Energy Recovery Ventilator, that’s mechanical ventilation, ultra-efficient windows, solar photovoltaics, and the result of this is essentially a no net annual energy usage home. It’s been certified under the Green Home Choice Program, it has just received a platinum rating under the LEED Homes program with the US Green Building Council, that’s the first one of platinum rating in Virginia, and also Energy Star qualified. So that is sort of, on the new house end.

Slide 58: Green Home Case Study – Existing

Helen Reinecke-Wilt: On the existing house, this is a good example, a homeowner and an architect that have worked together and have been very diligent about collecting data on before and after for the project, which has been very helpful to us.

Slide 59: Green Home Case Study

Helen Reinecke-Wilt: This was kind of a traditional Arlington colonial home where the owners built a very large addition and here’s some components of that house. One thing that makes this so interesting is that this house almost doubled in size, we’ll see what happened with these features, with their energy usage. It involved reinsulating the whole home with a spray foam closed cell insulation, which also achieves air sealing, energy

efficient windows, radiant floor heating, that means under the floor heating with a concrete floor, ENERGY STAR wood burning fire place, a high efficiency air conditioning unit, Energy Star appliances and lighting, and again an Energy Recovery ventilator for mechanical ventilation because you are sealing the house up so tightly you need to bring in fresh air which is often done in this region through an Energy Recovery ventilator.

Slide 60: Green Home Case Study (continued)

Helen Reinecke-Wilt: So here were the results of that renovation. It increased the square footage by 72%, so almost doubled it, and yet the electricity use prior to the addition was 8,066 kWh for the year prior to the addition, and for the year after the renovation it's total use was 7,544 kWh, an overall decrease of 6%, even though the house increased in size by 72%. That translates to a kWh per square footage drop by 46%. Obviously, this renovation was done very diligently, the house was sealed up very tightly, and a lot of thought was put into the way it was designed to improve energy efficiency. But I am hearing very often stories of people who have added a significant amount of space, including my own home, where the energy use for the overall envelope has actually dropped after the addition because of various insulative improvements that were made – changing out windows, changing out appliances, HVAC is very critical in energy use. So that's the end of my presentation, and my contact information is here, I apologize I forgot the put the web links, but Arlington county's website is www.arlingtonva.us and the Green Home Choice program is under Environment, Green Buildings and then Green Homes.

Neelam Patel: Thank you, Helen. Those were some great examples to show what local communities can do in the residential sector. I'd just like to remind everyone, if you have questions, please submit them during presentation, and it would also be helpful if you identified which speaker they were directed towards. So, if we don't get to them, we know which speakers to send them to after this broad cast today.

Austin Energy's Energy Efficiency Programs in New and Existing Homes

Slide 61: Energy Efficiency Improvements in New & Existing Homes – Matthew Phillips

Neelam Patel: With that, let's introduce our next speaker, Matthew Phillips from Austin Energy Residential Energy Efficiency Program. Austin Energy has some great work going on. Matthew himself has 17 years of diverse experience, merging his education with a practical background in building science and management. He has been the residential coordinator with Austin Energy for 3 years, managing many aspects of the Residential Home Performance program with Energy Star rebate and loan program. He is also a project advisor and works on many other aspects of the program, including community outreach and public relations. As you'll see in Matthew's program, Austin Energy has a lot of excellent activities going on. So, Matt, go ahead and take it away.

Matthew Phillips: Great, thank you very much for having me. I'm going to go ahead and just flip ahead through the first couple of slides due to time constraints, but. . .why don't you go and change it for me. . .It's not working.

Neelam Patel: Sure. And if you can just go ahead and say "next slide" we would be happy to forward them for you.

Slide 62: Residential Program

Matthew Phillips: Great Thank you. Next slide.

Slide 63: Overview

Matthew Phillips: Okay, Austin Energy, just an overview. It's a municipally owned electric utility company. We're the tenth largest in the country. Our population is about 888,000, about 320,000 residential and about 40,000 commercial. Our generation is about 3,170 MW and that is made up of Coal 35%, Nuclear 28%, Gas 28%. Purchase Power 5% and renewables 4%. Slide change.

Slide 64: Energy Efficiency

Matthew Phillips: Now, the Austin Energy Efficiency Program, since 1982, conservation programs in Austin have reduced peak demand by 837 MW with more than 1 million Austinites and business participants. Now that includes both the residential and the commercial. Now the average annual results from over the 4 years, from 2005 to 2008, about 59 MW reduced peak demand, which is what we mostly concentrate on, 103 million kWh saved, about 45,000 customers participated, which basically comes out to about \$9.8 million dollars worth of savings on the electric bill. Next.

Slide 65: City Council

Matthew Phillips: Now the good thing about all this, because we are a municipally owned utility, is that the City Council and Resolution on September 14th, 1999 were quoted as saying, “cost-effective conservation programs shall be the first priority in meeting new load growth requirements of Austin Energy.” And then in August 28th, of 2003, “Austin Energy Strategic Plan to ensure Austin remains a national and international leader in the development and use of clean energy.” The reason I say that’s a good thing is because my boss, all of our bosses, here at the municipal utility, has acted as city council, and the city council is a very strong advocate for the environmental conservation program, which makes our job somewhat easier to implement. Next.

Slide 66: Promoting Energy Efficiency

Matthew Phillips: Now, promoting energy efficiency – we have a very aggressive incentive program, cash rebates that pay about 20-30% of the cost, then we have free installations, like direct installs, which would be like programmable thermostats, we have low income weatherization, free home and business energy audits, and we also partner with local vendors and contractors, we also have a very aggressive grass roots outreach program marketing department, who do things like put out newsletters, either monthly or bimonthly, direct mailers out to our customers. We are also about to implement a thing called the ECAD which is Energy Conservation Audit and Disclosure ordinance, it was passed by our city council, which is going to require that if you are selling your home here in the city of Austin, that you have to have an audit done, either a HERS or a VPI rated auditor, and we’re still going to be looking at the weatherization, testing the duct work, insulation, solar screens. So this is one more tool that we can actually use to help our customers make more energy efficient decisions and also get rebates or a loan on those rebates. Next.

Slide 67: Why Promote Energy Efficiency

Matthew Phillips: Now the thing is, why do we promote energy efficiency. The main reason why we promote energy efficiency as a government entity is because our power plant, natural gas and combined cycle per kW is about \$750, Pulverized coal is \$1,549, Nuclear is \$2,800 and then our energy efficiency program per kW is about \$450. Last year, through just the residential program, the Home Performance Energy Star program, we saved about 9.27 megawatts. Next.

Slide 68: Residential Program

Matthew Phillips: Now, Home Performance with Energy Star. In October of 2003, Austin City Council approved the acceptance of the grant awarded from the U.S. Department of Energy. And in the first quarter of 2004, Austin Energy transitioned from the Total Home Efficiency Program to the Home Performance with Energy Star Program. Now, Dale had said earlier about all the different types of marketing materials, and utilizing the Energy Star website and the resources, and I can’t stress that enough. We used them quite a bit in terms of the marketing materials that we used to send out to our

customer base, training our contractors in terms of the various types of measures in which we rebate, it's an excellent tool to use. Next.

Slide 69: 27 Years Promoting Energy Efficiency!

Matthew Phillips: 27 Years of promoting energy efficiency. Now originally the program was developed in 1982 and all we had was a low interest loan offered, our core group of contractors was between 4 and 5, local contractors, and the home improvement offered high efficiency AC of 10 SEER and Home sealing less than 0.7 ACH and Attic insulation of R-26. The energy savings since inception, the energy savings, the demand savings, that's what we've been concentrating on throughout this whole program. Next.

Slide 70: Today's Program

Matthew Phillips: Now today's program, we have partnered with the EPA in 2004. In 2007-2008 results, our current budget is about \$1.6 million, estimated jobs that we did last year was 1700 in the Home Performance, and the average was about 2549 KWh per customer. Now the recognition and credibility. The customers recognize Energy Star. That's made a big difference in getting into people's homes, having contractors with brand association both with Austin Energy and the Home Performance with Energy Star programs. It helps with laying out the whole program, that's been very successful. Now the increased contractor participation for utilities and others that are really new and that are thinking about doing this, which I very much encourage, if you remember on the last slide, we only have 4-5 contractors starting out. Over the past 27 years, we now have 90 participating contractors, so it's a growth. As it was said before, we've picked an area that we could really concentrate on starting 27 years ago and we've built on that. So we've stayed very focused, had a plan, and then we built from there. Now internally, we have 6 Austin Energy inspectors that go out and do verification on these particular measures that specifically look at the measures that we rebate or loan on.

Slide 71: Residential Program.

Matthew Phillips: The programs that we offered through our residential program, we have a rebate program, we have a loan program, and then we also partnered with Texas Gas, which is the local gas company here, and they offer some matching rebates with ours, so we can also give more incentive to our customers. We have an appliance efficiency program, solar shading program, which includes windows screen too, attic insulation, radiant barrier and then lighting. Next.

Slide 72: Residential Program – Program Offerings (Continued)

Matthew Phillips: We also have air infiltration, we have free weatherization, and then we have a HCAV replacement, both packaging and Central Split Units. Next.

Slide 73: Home Performance with ENERGY STAR

Matthew Phillips: We have weatherization bonus program incentives. All recommended measures must be completed and air conditioning system installed (size 600 sq. ft. per ton) start with 14 SEER/11.5 EER or greater. Now this bonus rebate is based on the actual weatherization cost. The bonus ranges from \$200 to \$650 and may cover up to 20% of the total cost of the job. This is an incentive bonus for our contractors to go out and sell the job and look at the house as a whole system. Both address the weatherization and change out the HVAC. This is kind of an advantage to the customer to make sure that the contractors are looking at the whole house. Next.

Slide 74: Home Performance with Energy Star: Contractor Equipment & Training Rebate

Matthew Phillips: Now we know that it takes a lot for our contractors to do things like get diagnostic, and things like that, so we have a contractor equipment and training rebate. It to assist local Home Performance contractors with specialized testing equipment, development of personnel for the home performance field, rebates are available for the purchase of specialized equipment, rebates are available for HVAC Industry and home performance training seminars. We also rebate on trainings, not just equipment. They must be currently registered as a Home Performance with Energy Star Participating Company with Austin Energy's Power Saver Program and must recently registered as a vendor with the City of Austin's Purchasing Department and must complete a minimum of five Home Performance with Energy Star Program jobs per year in order to actually qualify in order to submit their rebates for this particular program.

Slide 75: Residential Program

Matthew Phillips: We have a loan program, and we use a local credit union. Now, the reason we use a local banking facility, is because they have a vested interest in our community and so we try and keep it as local as possible and so far we've been very successful. We have a 0%-6.5% unsecured APR loan and this is going to be for Single family Duplex properties eligibility. Next.

Slide 76: Residential Program – Appliance Efficiency Program

Matthew Phillips: We have the appliance efficiency program, that's just to drop the box. In other words, they go out and they change out the compressor in the furnace and that's for an existing home only. And that's 14 SEER and 11.5 EER and that includes the air conditioner and heat pump, Energy Star room air conditioner units, and then solar, heat recovery and heat pump water heaters also. Next.

Slide 77: Residential Program – Free Weatherization Program

Matthew Phillips: Free weatherization program. Now, the eligibility for this is insulation, caulking and weather stripping, duct sealing and repair, and solar screens. Now part of the package that we are looking at is that if everything works out, we are looking at trying to get about \$6 million over the next two years. Currently the weatherization's program budget is about \$150,000 and that translates out to about \$1500

per house currently. Now with this proposal, that would pump it up to about \$6500 per house. So what we'd end up doing is also looking at the mechanical and also applying the appliances to this actual program. But, as everyone knows, it is still on the drawing board and nothing has been solidified just yet. Next slide.

Slide 78: Residential Program – Free Weatherization program – Eligibility Requirements

Matthew Phillips: Now, the other parts of the eligibility. They have to be an Austin Energy Customer, the value of the house cannot exceed \$150,000, elderly (60 years or older) & Disabled, 80% of median income, regular weatherization to about 50% of the median income and the Guidelines of 2007, HUD Income Guidelines required. Now also with that, if we do get the part of the stimulus package, we will probably end up setting up another weatherization program where it will be completely grant funded and we will obviously need more inspectors than we have right now, now we have 4 and we have 4 contractors that actually work in the free weatherization program. Next slide.

Slide 79: Residential Program – Refrigerator Recycling Program

Matthew Phillips: Now, Evelyn did an awesome job explaining the refrigerator recycling program. I hope I can do as well as she did. The customer receives a \$50 rebate when they recycle their old refrigerator. Now, their old refrigerator needs to be in working condition. We need to know that it is working, and that's because we need to know that when we pull that off the grid that we are actually capturing those savings. It's a Turnkey service offered by Appliance Recycling Center of America (ARCA). They contact the customer service, the customer does, to pick up and recycling, the service of single family and multi-family customers, and part of this particular program is that we make sure that if a turnkey company and that they invoice once a month, if you are going to get in through the refrigerant recycling program, we have found that it is a lot easier for the turnkey company to go ahead and invoice this once a month instead of having to pay \$50 a couple hundred times a month. And then we can also pull the environmental PAC data from them when we need it, so they keep all of that material, and then we also have the ability to do real time data off of them. Now, the other part of that is that we also segment our actual market towards this program through zip codes and then we track that through our marketing department, so we know what areas have already been hit as opposed to the ones that need to be hit. Next slide.

Slide 80: Residential Program – Refrigerator Recycle Program – Benefit to Austin Energy

Matthew Phillips: Now, as everyone was saying some of the major benefits of pulling these refrigerators out of the grid has to do with energy savings, but it also has to do with environmental impact. Now, ARCA actually takes these refrigerators and they process and recycle the polyurethane foam, the refrigerant, metals, glass, plastics and the compressor oil. So everything, they actually recycle. Next.

Slide 81: Accomplishments

Matthew Phillips: Now, our accomplishments in the past 27 years for our residential program. Demand peak savings, we have been able to save 433 MWs, energy savings of about 414,000 MWHs and the number of participants has been about 555,000 over the past 27 years. Next.

Slide 82: Strengths and Lessons Learned

Matthew Phillips: And then some of the strengths. Marketing and educating to your customer base. That's something we consistently do. Remain open to new technologies, to energy efficient technologies, that's a big one for us, we are always having all kinds of new technologies come our way and we need to have an engineering group that actually looks at it and assesses it. And then if it meets our cost benefit, then we assign a rebate to it. One-on-one communication with our contractors, I can't stress that enough. I have 90+ contractors that I am responsible for. Communication is the main element there. Solicitation of contractors' input on program. I get a lot of information from my contractors as far as what's out there in the industry. Ideas, both technological ideas and also marketing ideas. And in the Home Performance Participating Contractor Website it's free advertising if a contractor becomes a participating company through our Home performance Energy Star program, they can go on our website under participating companies, our customers can go and choose a participating contractor to go out and look at the work, both the verification and then do the work. We can't recommend our contractors to the general public because we are a government entity. So we always push them towards the actual website, but its also word of mouth. Program focused and contractor driven. That's the main thing about this particular program is that it's contractor driven, without our contractors we would not have a program. So that is one reason why we educate our contractors to the best of our ability and also give them rebates whether it be equipment rebates or training rebates. We consider our contractors our customers. So we treat them with the utmost respect and encourage them to actually go out and promote the Home Performance Energy Star program, Austin Energy so we can service our customers to the best of our ability. Lessons Learned and Challenges. Contractors must be treated equally. Once again, we can't do any kind of preferential treatment. So if you are setting something up in your community with utilities, keep that in mind. And then miscommunication concerning technologies is a always a challenge too. There's all kinds of technologies out there coming at us. Next.

Slide 83: Recommendations

Matthew Phillips: Recommendations. Develop strategies to increase supply (contractors) and demand (consumer awareness) at the same time. That's always at the forefront of our minds. And then ensure that good quality control checks are in place. Make sure you know what your objective is, your goal is. Because when we stay with that course we're a lot more successful because it's going to ensure that we have good quality checks especially through our inspectors, our six inspectors that go out. We have specific guidelines that our contractors have to adhere to, and then they actually inspect according to those guidelines. And then provide assistance to program sponsors. We're

always there for our sponsors, we are always there for our contractors, to make sure that it is a group effort. This is a partnership, and doing the best we possibly can for energy efficiency and for our customers and it's worked out very well for all of us. Next slide.

Slide 84: Questions?

Matthew Phillips: And here's my information. My website and my phone number. If you have any questions let me know. Once again, I really appreciate being able to participate in today's webcast, thank you.

Questions and Answers

Neelam Patel: Thank you Matthew, that was an excellent presentation of the work that Austin Energy is doing. So, we are going to move on to questions, but before that, we heard from two great city level examples, and I just wanted to mention one other one that was showcased at Local Climate Leadership summit held here in Washington, DC this past week. The city of Babylon, New York has been working with the Long Island power authority and Energy Star Home Performance to develop a program that's being used as a model. It's called the Long Island Green Homes program and they've had a lot of success in their community in designing a self financing residential retrofit program and basically they have no upfront costs. One of the things they are doing to help other municipalities is developing a forum website which is available now but hasn't been fully populated and will be populated in the next few months. They are working with other municipalities and counties like Montgomery County, Maryland and Boulder, Colorado to help develop these types of programs. It's very similar to the programs that Dale mentioned earlier and other programs. The website is the babylonproject.org and will be populated shortly. So that's just another example in addition to the two excellent examples we heard from Austin Energy and the City of Arlington. With that, we'll have questions now, and if you have questions please submit them, please direct them to a particular speaker and Lauren will be asking our questions.

Lauren Pederson: So the first question that came up during Dale's presentation, and it was, how does the Do It Yourself Guide for Air Sealing deal with safety issues, such as checking gas and combustible equipment?

Dale: The guide does address that and recommends that the homeowners should get a safety test. Typically though, a homeowner, sealing their own house on a do it yourself basis, it is unlikely that they are going to seal it up too tight. Most older homes are fairly leaky and someone who is inexperienced doing this is unlikely to seal it up too tight. But we do talk about that point in the document and making consumers aware that you could seal it up to tight, you should commission safety test.

Slide 85: Webcast Agenda

Lauren Pederson: Great, and this next question came up during Evelyn's presentation. One of the participants' local solid waste departments charges for pickup and disposal of appliances. And they were curious what the incentive is to pay the \$25 fee for the old refrigerator when residents can just put the old refrigerator in the garage. Does Evelyn have any suggestions on how to encourage them to change that policy or reduce the removal fee?

Evelyn Swain: Sure, yeah. And any time that a municipality charges for disposal of a refrigerator or a freezer it's a huge disincentive for people to dispose of that unit properly. And its great for cities that will offer not only a free drop off but a free pickup. Because if you imagine, refrigerators are heavy, and if you don't own a truck or a van, you have

no way even to get your unit to the drop off center. So the best way is for municipalities to offer a free pick up service and not charge. And another thing that happens in municipalities is that they will offer a free drop off service, but they'll say you can only drop off a unit that is free of Freon, that has had the Freon removed. So then the customer is left trying to hire a third party contractor who is certified to come in and remove the Freon, so it really creates a disincentive and creates opportunity for illegal venting of the refrigerant in order to drop it off. So yeah, I would recommend to remove those fees associated and to provide residents with drop-off and pick-up and handle all of the recovery of the components, including the Freon.

Lauren Pederson: Great, thank you. This question is for Helen's presentation. Does the group from Arlington perform the Energy Star rating, or is it outsourced to an independent rater? Is the group a government organization, and if so is the organization funded through the Department of Energy or some other source of funding?

Helen Reinecke-Wilt: Okay, I am not quite sure about the second part of that. But no, the county actually does do the verification for the Green Home Choice program, but not for the Energy Star component for the homes that have chosen to do that. It is a third party, usually a HERS rater that does that certification, so it's not a government entity, it's a private individual who does those ratings and works with Energy Star program to certify homes.

Lauren Pederson: Okay, great, thank you. The next question came up during Matthew's presentation and the participant was wondering if they could get more details about the requirements to have homes rated upon being sold, and they were curious about how this was implemented in Austin. Were all homes required to be rated that are for sale? And how many raters do you have per how many homes you sell each year?

Matthew Phillips: Well, currently, right now, it is actually going to go into effect June 1st, so we're not quite there yet, but it's going to be all homes that are sold within the city of Austin or Austin Energy customers. Now, if the customer or the resident has had \$500 or more worth of rebates done in the past ten years to their homes, they are going to be exempt from having to do the audit. Now the auditors right now, we have about 40 auditors lined up to work with real estate agents and such here in the city to do these audits. It's a very quick audit, it's a disclosure audit. So basically all that's required at the moment is either a HERS rater or a VPI auditor to come in and look at the weatherization, the duct work, the insulation and solar screens for that house and then make a recommendation. Basically, what this is all about is that we want the person who is going to buy the house knowing what they will be getting into. It is at that point that they can decide whether they want to go ahead and have the upgrades done or not. Now, if they do, it is a natural segue for them to come through the Energy Star Home Performances program. If not, we don't have a mechanism at the moment, to force them to make the upgrades, we just want to show them what is out there, so we can educate the public to let them know that these options are as far as doing the upgrades.

Lauren Pederson: Great, thank you for that answer. We have one last question that came in during Dale's presentation. There was a participating contractor in a state Home Performance with Energy Star program and the State' Public Service Commission has approved the utility taking over the program, however, unless the utility allows homeowners to use any certified energy auditor, the local auditing industry will be put out of business. And how can you encourage local jurisdictions to support local home energy efficiency without putting these local auditors out of business?

Dale Hoffmeyer: That's a good question. I think, like we saw with Austin Energy, there are utilities that offer, oftentimes, audits. And what we would really encourage utilities to do, if they are going to offer an audit, is to use it as an educational audit. Sometimes it is going to be a fairly simple walk through and then they are going to do some install measures, like compact fluorescent light bulbs or a low flow shower head and those are going to get the utility some quick savings. But to use that as an opportunity to educate the homeowner about other opportunities in the house and other programs like Home Performance with Energy Star program and that there are contractors in the area who can do a whole house comprehensive assessment and offer recommendations. A lot of times those simple audit programs that utilities offer, they don't really a solution, they are just offering some quick tips and so we really encourage those kind of programs that are our there to make the connection between that simple audit and a connection to contractors that are in the community that can deliver actual solutions. And that's what we encourage. We are seeing a lot of this from public service commissions wanting to see programs being delivered by utilities, and then there's going to be benefits to consumers and we encourage, like with Home Performance Energy Star, that those utilities, if they do a Home Performance Energy Star program, that they are going to be working with local contractors to deliver those services. So they might offer the audit, we've seen that in some states where the utility is offering the audit, but usually the work is going to be done by contractors that are in the community and those contractors are also going to be offering more comprehensive assessments, doing the blower door tests and those types of things. That's what I would offer.

Emma Zinsmeister: Thank you to all of our speakers for presenting today, and everyone for participating. With that we'll wrap up our webcast, and we hope that the examples we've heard today from Arlington and Austin Energy as well as the resources that we talked about from Energy Star and the recycling program, will help your utility develop programs for spending your stimulus money that should be getting through DOE and HUD and we will be posting the audio and the slides on our website in a few weeks and we encourage you to contact us or any of the speakers today if you have further questions. And keep an eye out on our website for upcoming webcasts. Our next will be the week of June 8th and again it's going to be about energy efficiency in municipal facilities and on site renewables and I thank you again for participating.