

Developing Energy Efficiency Programs for K-12 Schools

Webcast Transcript

October 13, 2009

Contents

Introduction.....	2
Overview of the Local Climate and Energy Program.....	4
Green Power Partnership for Schools.....	7
ENERGY STAR for Schools.....	10
EnergySmart Schools.....	16
Dekalb County Central United School District Energy Efficiency Program	19
Carrollton-Farmers Branch Independent School District Energy Efficiency Program	25
Questions and Answers.....	31

Introduction

Slide 1: The U.S. EPA Local Climate and Energy Program webcast titled “Developing Energy Efficiency Programs in K-12 Schools” will start in a few minutes.

Operator: Good afternoon. My name is Melissa and I will be your conference operator today. At this time I would like to welcome everyone to the U.S. EPA Webcast on Developing Energy Efficiency Programs for K-12 Schools. Our lines have been placed on mute to prevent any background noise. If you should need assistance during the call, please press star then 0 and an operator will come back on line to assist you. Thank you. Miss Patel, you may begin your conference.

Neelam Patel: Well, I'd like to start out by welcoming everyone that has joined us for today's Webcast on behalf of the EPA Local Climate and Energy Program. Our presentations today are about Energy Efficiency in K-12 schools. And it's a great opportunity to save money on energy and reinvest in our students. So you'll hear two presentations from practitioners in school districts who have staggering results on how much energy they've saved in the districts and how much money they've saved in associations.

So I'd like to quickly go over today's agenda and I'll start off by introducing two of my colleagues at work on the U.S. EPA Local Climate and Energy Program, Andrea Denny and Emma Zinsmeister. And if you could just hold one second please. In one moment I'll be going over the rest of the agenda.

Slide 2: The U.S. EPA Local Climate and Energy Program webcast titled “Developing Energy Efficiency Programs in K-12 Schools” will start in a few minutes.

Neelam Patel: Okay. So now we have the agenda up on the screen. Our presentations today will begin with Katy Hatcher discussing and providing an overview of the U.S. EPA Energy Star Program for K-12 schools. Our two local practitioners, our energy managers, are actually ENERGY STAR Partner Schools and have won awards through the ENERGY STAR Program. After Katy talks about the EPA Energy Star Program, we will have Margo Appel from the U.S. Department of Energy discussing and providing an overview of the EnergySmart Schools Program.

Following an overview of the federal program to support schools, we will have Ed Benbow from DeKalb County Central United School District talking about the energy program there. And we will have following Ed, Victor Melton from Carrollton-Farmers Branch Independent Schools and he'll talk about their energy and environmental program, and he's located in Texas.

At the end of all the presentations we will have a question and answer session. Please, remember as you think of questions, submit them electronically using the GoToMeeting.

On our next slide, we're going to go over some of the logistics and Lauren, who's helping us with this Webcast, will go through some of those details with you.

Slide 3: GoTo Webinar Software Logistics

Lauren Pederson: Just so that you will know, you will be muted throughout this Webcast in order to minimize background noise and you'll be able to submit questions and comments in writing. Which we will go through in a couple of slides. Today's session will be recorded and will be made available for download in a few weeks at EPA's Clean Energy Web site, which the URL is located there. Throughout the Webcast if you have problems with GoToMeeting or the phone lines, please contact Nikhil Nadkarni at the following email address or phone number. Next slide.

Slide 4: Attendees

Lauren Pederson: You'll be able to see who else is participating in the attendee's list in the GoToMeeting and GoToWebinar dashboard. Next slide.

Slide 5: Questions

Lauren Pederson: And if you have a question, submit the question through the question pane and we'll compile these questions and ask them during the Q&A session after all of the presentations are over. And if you could please include the name of the presenter who should answer your question and that way we can find out the questions for each of the presenters. So you simply put your question in the question box and click on Send and we'll organize the questions on our end. Back to you, Neelam.

Overview of the Local Climate and Energy Program

Slide 6: Local Climate and Energy Program

Neelam Patel: Thank you, Lauren. So I'll start off by giving a quick overview of the Local Climate and Energy Program at EPA. We're an informational and peer exchange network. We provide comprehensive climate and energy information and technical assistance to local governments and their communities. And our main goal is to help communities reduce their greenhouse gas emissions. We do that by focusing on established cost-effective best practices and we really do encourage energy efficiency as a first step to reducing greenhouse gas emissions and cost-effective strategies.

We also try to work with other partner organizations and programs that can help provide the best information to our local government audience. And today we have ENERGY STAR, the Green Power Partnership, and DOE's EnergySmart Schools Program. Part of what we provide are tools, resources and guidance and I'll shortly be going over a background document that can help local school districts interested in pursuing energy efficiency. This document captures a lot of what you will hear today on the webcast and you can use it in developing your own programs in the future.

Another element of our program is facilitating peer-to-peer exchange and part of that will be today on the Webcast as you submit your questions in writing. We will answer those and provide you with feedback. And of course we showcase success stories and you'll hear two of those today.

Slide 7: Local Climate and Energy Program Goals

Neelam Patel: So I mentioned basically what some of our goals are. I just wanted to reiterate in addition to reducing greenhouse gas emissions to help different local government entities reach their sustainability goals, we also want to help you reach your economic goals. And today you'll hear again the great examples about energy savings and cost avoidance. And lastly, one of the things that we promote through our program is really how you can maximize multiple benefits and that includes public health benefits and having local energy. So, as you develop programs we do encourage you to think about these benefits.

Slide 8: Local Climate and Energy Strategy Guides

Neelam Patel: Some of the resources as I mentioned earlier we do have a local climate and energy strategy guides. And these guides cover four main sections as you see listed on the slide. Each of these guides goes through how to develop and implement programs at the local government level. And we have eight guides currently available. They address energy efficiency in different areas including product procurement which is another very good tactic for saving money in your organization. And on-site renewables,

you'll hear a little bit about that. Green power procurement and some upcoming guides are also listed. There's a URL at the bottom where you can access these guides.

Slide 9: Featured Local Climate and Energy Guide - Energy Efficiency in K-12 Schools

Neelam Patel: For today's audience the most relevant guide that we have was just released earlier this week. It's the Energy Efficiency in K-12 Schools Guide. It captures some of the content that Katy Hatcher will be discussing in an easy-to-use format so as you're developing programs, you can have a resource to go to. And there's a quick snapshot of some of the planning and designing approaches to energy efficiency that are addressed in the guide and will be part of Katy's presentation.

Slide 10: Webcasts and Training

Neelam Patel: So another element of our program are these webcasts and training opportunities. And you can see future topics for those interested in other topics are workforce development, transportation control measures and smart growth. And we also have some URLs for additional webcasts that may be of interest to you.

Slide 11: EPA ARRA Resources for Energy Efficiency and Renewable Energy Projects

Neelam Patel: As part of our program we do try to maximize greenhouse gas reductions through energy efficiency and renewable projects so you can see that when the ARRA money came out, we have many resources that can be helpful in implementing and developing programs using the recovery money, but also as you pursue other programs and so there's a website where you can check for more information. So that gives you a quick overview of our Local Climate and Energy Programs.

Slide 12: Additional EPA Resources for K-12 Schools

Neelam Patel: For the next part of the presentation, we just want to let the audience that works with schools know that we do have many programs at EPA that relate to healthy schools. There's a website here listed that gives you a sense of all of the programs and then we'll have Allison Dennis from EPA's Green Power Partnership Programs talk about some of the opportunities for K-12 schools through that program. And lastly, some resources on siting schools, and additional training opportunities.

Slide 13: Overview of EPA Programs and Resources for K-12 Schools

Neelam Patel: So as most of you on the phone already know, why do we care about healthy schools? It's a teachable moment. It's an opportunity to work with students and you can see at the last bullet on the slide, financial impacts, and we want to try to help reinvest that money back into school systems that we can save through energy efficiency.

Slide 14: School Environmental Issues

Neelam Patel: There's many environmental issues in schools and as you can see EPA has many programs that can support this.

Slide 15: EPA Programs for Schools

Neelam Patel: So while we can't discuss all of these programs today, we do want to talk about a few that are related to energy efficiency and renewable energy. And with that I'm going to turn it over to Allison who will talk about the Green Power Partnership.

Green Power Partnership for Schools

Slide 16: Green Power Partnership

Allison Dennis: Thank you, Neelam. Hi, I'm Allison Dennis. I serve as the Communications Manager for the Green Power Partnership where we work with businesses and organizations, including K-12 schools, to help them purchase green power. So I thought today I'd begin discussing just the basics of green power and then talk a little bit about our Partnership Program and resources that K-12 schools may be interested in taking advantage of.

Okay, so what is green power? Well, green power is emissions-free electricity generated from a subset of environmentally preferable renewable resources. This includes wind, solar, biomass, biogas, and low impact hydro. By using green power a K-12 school can dramatically reduce its greenhouse gas emissions associated with its conventional electricity use. Now there are a number of other benefits using green power provides, including energy price stability offered by some green power products as well as the chance - or being able to demonstrate environmental leadership within your local community.

Today every school effectively has access to green power. Buyers can choose among three main green power product types depending on availability and can really mix and match these products to meet their desired goals. These products include first, of course, on-site generation. This is the solar panel on your roof, the wind turbine next to your facility. The second green power product option is purchasing a green power product from your local utility, or maybe another utility, depending on your electricity market. And the third green power product option is purchasing a renewable energy certificate. These are commonly referred to as RECs.

So to become an EPA Green Power Partner it's a pretty simple process. First, a school or another prospective Partner is required to submit a voluntary Partnership agreement to us. This is just a two-page document. And then complete a qualifying green power purchase using any of those three green power products I mentioned earlier. And they need to make a certain minimum purchase within six months of joining our program.

So, to date we have more than 1100 Partners, including Fortune 500 companies down to the mom and pop burrito shop, all levels of government from federal agencies to the local city hall, and also of course the K-12 schools. And collectively our Partners are purchasing more than 17 billion kilowatt hours of green power annually. Next.

Slide 17: Green Power Partnership

Allison Dennis: So in return for joining our program we offer a number of benefits to our Partners. First we offer technical expertise. Our staff can help provide guidance and advice, answer questions relating to a successful green power procurement plan and

ultimately this expertise will hopefully save you time and money in the end. Second, we have a lot of tools and resources to offer. For example, we have a Green Power Locator on our Web site. This is where partners can log in and find out what green power products are available in a local area as well as on a national level.

We also have tools that can estimate the environmental benefits of your green power production on-site or purchase. This is available through our Green Power Environmental Impact Calculator, which you can find on our home page. We also have a guide to purchasing green power and this is written for organizations that are considering buying green power or installing on-site generation and really gives an overview of the green power market as well as the necessary steps to purchase green power. And actually we expect to release an updated version of this guide this December, so stay tuned for that.

And finally we also host on an almost monthly basis a green power webinar series where we cover a number of topics including solar power purchase agreements, on-site generation and next month we will be co-hosting a webinar with the Green Schools Alliance on Green Power Procurement for K-12 Schools. So check back on our website for that.

Next we also offer recognition opportunities. We have a number of top ranking lists where we highlight our Partners market-leading purchases. And one of our top lists that we'll be releasing later on this month, a whole new list on top 20 K-12 schools where during the last week of this month we will rank our top 20 K-12 schools by their green power commitment size. This list has both public and private schools on it, from little independent schools to entire school districts, so it should be pretty exciting.

And next we also co-host an annual Green Power Leadership Award where on an annual basis we recognize our most worthy Partners. And lastly, we also allow our Partners to use the Green Power Partner mark, which you see here on the slide. And they're allowed to use that on their promotional materials. So if you're interested in checking out any of these resources I mentioned or learning more about our programs feel free to check us out on the web at www.epa.gov/greenpower or contact me directly and my contact information is on the slide. So thanks, Neelam.

Slide 18: School Siting Guidelines

Neelam Patel: Thank you, Allison. So that's one of the EPA programs we have that can support schools as they think about becoming more environmentally friendly. Another program that EPA has, and there's a quick overview on the slide is related to school siting guidelines. And where a school is placed provides opportunity for integrating many community goals. Some of those are listed here on the slide. And if you're interested there's a web URL at the bottom and keep in mind the state and local governments have also developed resources on this topic as well.

Slide 19: EPA School Siting Resources

Neelam Patel: Additional resources on the school siting at EPA are available through the Indoor Air Program, the Smart Growth/Land Use Planning Program and our Brownfields Program, another initiative in cooperation with the Department of Education and the Department of Health and Human Services at the federal level for developing model guidelines that schools can use. So we've got a lot of information on EPA programs that can be a benefit to the audience, but we do want to bring it back to our main message today and that is energy efficiency. So with that, we'll switch over to Katy Hatcher from the ENERGY STAR School Program.

ENERGY STAR for Schools

Slide 19: ENERGY STAR for Schools

Katy Hatcher: Hi, everyone. This is Katy Hatcher. I'm the ENERGY STAR National Manager for the public sector portion of the ENERGY STAR Program, and K-12 schools falls within that.

Slide 20: What is ENERGY STAR

Katy Hatcher: What is ENERGY STAR? Hopefully many of you on the call today have heard of ENERGY STAR or seen ENERGY STAR on a product that you've bought. However ENERGY STAR more broadly is a government-backed voluntary program that helps organizations and individuals identify best practices and products that are energy efficient for their homes, businesses and institutions such as schools. We're proud to say that more than 75% of the American public recognizes the ENERGY STAR as the symbol for energy efficiency.

Slide 21: ENERGY STAR

Katy Hatcher: Here are some products that do carry the ENERGY STAR, hopefully you've seen some of those out there.

Slide 22: Opportunities in Buildings

Katy Hatcher: Well, for buildings actually there's a big opportunity to save energy. Many of you may know, but some may not, that 50% of U.S. Carbon dioxide emissions come from commercial and industrial buildings, and that typically there's an opportunity to save 30% of the energy consumed in these buildings and direct the energy savings from that into investments that improve the building. And for little or no cost, you can actually achieve 10% or more energy savings. For schools, typically the largest expense after salaries is utility operating expenses.

Slide 23: What is ENERGY STAR for Commercial Buildings?

Katy Hatcher: So for commercial buildings the ENERGY STAR Program works with many market segments and one such segment is K-12 schools.

Slide 24: K-12 Schools and ENERGY STAR

Katy Hatcher: Recently we launched a challenge to the K-12 schools market and we're calling on school districts across the country to save 30% or more on their energy bills. And right now to date in our program which has existed for longer than the new challenge that we've launched, we have more than 16,000 schools that are tracking their

energy use in our Energy Management Tool called ENERGY STAR Portfolio Manager which I'm going to tell you about in more detail in a second.

Nearly 2,000 K-12 schools have earned the ENERGY STAR, which I'm also going to tell you about. That's our label for top energy performing schools. And the another type of recognition that we have, and we have two such ENERGY STAR leaders talking today on this call, we have 58 school districts that have been recognized by EPA for saving between 10 and 40% district-wide, in terms of energy efficiency. We are really proud of these districts.

Slide 25: Standardized Measurement Enables Energy Efficiency Strategy

Katy Hatcher: So to share with you what the ENERGY STAR Program is for schools, it's really an energy management program that you can adopt off the shelf. It comes with something called the ENERGY STAR Guidelines for Energy Management, which actually that's the symbol that you see on the right of the slide, where school districts make a commitment to improve - continuously improve their energy performance across their whole district. Then they proceed to benchmarking all of their schools in our ENERGY STAR Portfolio Management Tool, which is free and accessible online. And then after doing that, they need to prioritize their energy investment opportunities and re-benchmark their buildings or again it's actually continuously benchmarking their buildings. And then as they achieve energy savings for individual schools, there may be the opportunity to have those earn the ENERGY STAR, which is that bronze plaque with the blue ENERGY STAR logo you see in the center of the screen.

Buildings that score 75 or higher on our ratings scale in Portfolio Manager may be eligible to earn this high honor of having the ENERGY STAR on the outside of their buildings for top energy performance in the nation. For new schools, we also have something called Design to Earn ENERGY STAR and that's over on the left of the screen. That's a logo that can be used on design plans for a school to ensure that the school is designed to earn the ENERGY STAR in the future. And I'm not going to go into that in great detail today, because there isn't enough time for that, but we do have Webcasts about how to design schools to earn the ENERGY STAR. Schools that actually earn the ENERGY STAR have to have operated for 12 months at the ENERGY STAR level.

Slide 26: Key ENERGY STAR Tools

Katy Hatcher: Some key ENERGY STAR tools are again the ENERGY STAR Guidelines for Energy Management and then the tools below that are actually sort of nested within that Guidelines for - that Guidelines for Energy Management or they can be accessed directly. The tool for new buildings that helps you learn how to design a school to earn the ENERGY STAR is called Target Finder. The tool for existing buildings, in terms of measuring the energy used across a whole portfolio of schools, setting a baseline for improvement for each school and, also, earning the ENERGY STAR for individual schools, that tool is called ENERGY STAR Portfolio Manager.

In addition, we have a resource called the Building Upgrade Manual and that is a manual that helps school districts understand - and all types of organizations - understand how to improve the energy efficiency of individual buildings and their whole portfolios. We also offer lots of web-based training to explain how to use these tools. And something that's new for schools is the opportunity to ask a volunteer professional engineer to come and verify the information about a particular school that may be eligible to earn the ENERGY STAR. Sometimes it's been a barrier for schools to be able to bring in a professional engineer to validate their ENERGY STAR label. And so to make sure that, for schools that may not be able to afford that step, which is actually not a very expensive step - often it takes about four hours of a professional engineer's labor to go through and verify a school. Sometimes even that small procurement can be troublesome, so we have a growing list of professional engineers that have volunteered to do the verification process for, you know, a few schools each, and that list will be published very soon on our Web site.

Slide 27: ENERGY STAR Guidelines for Energy Management

Katy Hatcher: So a little bit more about the Guidelines for Energy Management - I did explain this already - but essentially you can see it a little larger here, to see the various steps of the process. And really what we're asking schools to do is assess their buildings across their whole portfolio and commit to continuous improvement and then share their results, in terms of our recognition paths that we have to offer them.

Slide 28: ENERGY STAR Portfolio Manager

Katy Hatcher: So, Portfolio Manager is a free online tool and it can assess the energy use of any building. In addition to measuring energy use over time for an individual school and a portfolio, for K-12 schools, it offers the External ENERGY STAR Rating, which is an external benchmark that says this is how this individual school compares to K-12 schools in the nation. When a school receives a rating on this rating scale of 1 to 100, that is a 75 or better, then that school may be eligible to earn the ENERGY STAR or that brass plaque that I showed you before.

In addition, our tool allows organizations to track their water consumption, calculate their carbon emissions, it also tracks energy costs, energy efficiency upgrades and investment costs and it - right in through the tool, it has mechanisms for allowing you to group and share buildings among various organizations, while protecting the (unintelligible) access.

Slide 27: Assess Performance for Strategic Energy Management

Katy Hatcher: So very quickly, because I want to make sure there's plenty of time for the rest of the speakers, here are the steps again: When a K-12 school district participates in the ENERGY STAR Program, what they're needing to do is benchmark all their buildings; establish a baseline; set goals for improvement. Maybe they're going to go after a 10% district-wide improvement or a 20% or 30% goal. Those goals are established

for each individual building. And then they track their progress for each building and of the portfolio over time.

Slide 27: 1. Identify Best Opportunities for Energy Efficiency Improvements

Katy Hatcher: The tool allows you to identify, across the portfolio, which buildings are the better performers and which are not. This allows you to strategically screen or identify the buildings that are best suited for energy efficiency improvements, whether it's through operations and management changes or technology investment.

Slide 27: 2. Track Progress Over Time

Katy Hatcher: Then the tool allows you to track this progress and verify your results.

Slide 27: 3. Verify Savings Results

Katy Hatcher: You can generate a statement of energy performance for each building that's in your portfolio that says this is how this building performs today. And that statement of energy performance can be stamped by a professional engineer. If this statement of energy performance shows that the building is achieving a rating of a 75 or higher and meets indoor environmental quality standards and is stamped by that professional engineer as being correct and accurate, then that building is going to earn the ENERGY STAR.

Slide 28: Data for K-12 Schools

Katy Hatcher: The data that's needed to do this is very simple. It's 12 months of energy consumption data for all sources used in that school and some information; simple information such as the ZIP code so we can understand where the building is located in order to weather normalize the data. Then there're a few characteristics that you see here that are questions that we ask so we can then identify whether schools have similar operating characteristics for the external or national comparison for the ENERGY STAR rating.

Slide 29: Automated Data Options: ABS

Katy Hatcher: We also, through our tool, Portfolio Manager, provide a feature that allows automated data sharing and there's a number of energy services companies and utilities - the list of utilities is growing - that provide energy data directly into Portfolio Manager. And then the energy services companies, they take the energy data from a school district that might be working with them, they send it into Portfolio Manager because they host our rating in their own software, their own third-party software package, and then ENERGY STAR ratings and other metrics from Portfolio Manager come back into that third-party software interface.

Slide 30: ABS Providers (as of 6/18/09)

Katy Hatcher: Some such companies that already host our ENERGY STAR rating and other metrics are these right here, so if you, as a local government, are working with one of these, you can also get ENERGY STAR rating information from Portfolio Manager potentially through your agreement with them. You may be interested in contacting them about that. For school districts, the number of school districts may already be using one of these packages and, once they then understand whether the school earns the ENERGY STAR, they may not be sitting on an opportunity that can be recognized right away as an ENERGY STAR school.

Slide 30: How to Improve? Building Upgrade Manual

Katy Hatcher: How to improve; I've already talked about the Building Upgrade Manual a little bit. There is a specific chapter that's also referenced in the guide that Neelam mentioned earlier for K-12 schools that specifically addresses things that are unique to K-12 schools, such as the use of geothermal and also indoor air quality and ventilation issues.

Slide 31: Upgrade Manual Contents

Katy Hatcher: Our Upgrade Manual has a number of chapters and they address things like benchmarking and financing.

Slide 32: 5-Stage Approach for Building Upgrades

Katy Hatcher: And then we have something called the Five Stage Approach for a Building Upgrade and what this - the chapters associated with this and the Building Upgrade Manual are really telling you that what you need to do is make sure that everything's operating correctly in your building, and you're taking a look at your operations and management practices. Once you've assessed that through a retrocommissioning effort, then you should move on to looking to see whether you need to upgrade your lighting, how things are going with any supplemental load such as high plug loads associated with computers. And as schools get more technology oriented, this is always growing.

And then you want to right-size your HVAC system and your air handling to make sure that you're bringing down the energy use and using energy only when and where you need it and not where you don't, and using the equipment that best meets your needs.

Slide 33: ENERGY STAR Resources for Kids

Katy Hatcher: To wrap up, I just wanted to share a little bit of information about the resources that we have on our website about ENERGY STAR resources for kids. We have an interactive Web site that is designed for kids and this website connects into the Department of Energy's resources that you're going to hear about in a minute.

Slide 34: “Join the Lorax” Screen Shot from ENERGY STAR for Kids website

Katy Hatcher: We have a character who speaks for the trees, the Lorax, that is helping us promote energy efficiency and protecting the climate to kids, and there’s interactive activities and games and so forth. And there’s an activity workbook that can be ordered from our publications Web site.

Slide 34: “You Can Make Big Changes” Screen Shot from ENERGY STAR for Kids website

Katy Hatcher: And then also there’s things like interactive information and quizzes. This is an animation that you can mouse over and kids can learn why each one of those products may have star on it. And those symbolize energy efficiency opportunities, some of which can be helped through ENERGY STAR products.

Slide 35: For More Information

Katy Hatcher: So that concludes my presentation, and thank you, Neelam.

Neelam Patel: Thank you Katy. Next, we'll have Margo Appel from the Department of Energy talking about the EnergySmart Schools Program, and she is the Program Manager of that program. Margo?

EnergySmart Schools

Slide 36: EnergySmart Schools Overview

Margo Appel: Thank you, Neelam. Today I will provide you with an overview of EnergySmart Schools, and I will begin with a short overview of the program and its goals. Next I will go over the resources that the program provides to K-12 school districts around the country to save energy.

Slide 37: EnergySmart Schools Overview: Convergence of Challenges

Margo Appel: Well, this slide addresses the conversions of challenges and the many realities facing K-12 school districts today. Schools are experiencing rising costs, limited budgets, and aging facilities. Outside of their walls, energy prices are increasing and the focus on reducing greenhouse gas emissions is intensifying and EnergySmart Schools bridges the gaps between these realities. We have an information and education strategy to provide resources, tools, and strategies to solve these challenges, and our goals are to promote 30% improved efficiency in existing buildings and 50% in new construction and major renovations over current energy code.

Slide 38: EnergySmart Schools Overview: EnergySmart Schools Program Focus

Margo Appel: Our primary focus is on both new construction and existing buildings. New construction and major renovations occur primarily in suburban districts and states with growing populations and existing building and retrofit projects occur primarily in urban and rural districts.

Slide 39: EnergySmart Schools Overview: EnergySmart Schools Solutions

Margo Appel: This slide addresses the many resources that we have, and I'll be talking about each of them individually. EnergySmart Schools helps school districts achieve these goals with a series of solutions for planning, financing, designing, operations and maintenance, and energy education.

EnergySmart Schools promotes the ASHRAE Advanced Energy Design Guide for K-12 school buildings to help design new schools. The Guide to Financing and Operating and Maintaining EnergySmart Schools address strategies necessary to execute energy savings projects. They help both schools that are just getting started and those that are experienced in energy management. We also have a Guide to Financing EnergySmart Schools, and that provides a business case for promoting EnergySmart Schools. The Get Smart About Energy CD is a tool that helps schools develop courses and lessons around saving energy, and we have distributed over 20,000 of the Get Smart About Energy CD. And all of the solutions are available on the EnergySmart Schools Web site. Let's go into more detail.

Slide 40: EnergySmart Schools Overview: EnergySmart Schools Solutions - Financing

Margo Appel: The Guide to Financing EnergySmart Schools helps - gives guidance on schools financing and planning energy retrofit from new construction. The guide helps schools make a business case for energy efficiency improvements by using standard principles of project financing. It also helps school districts explore alternative options, and provides examples of districts that have implemented these strategies successfully. And it also highlights state, federal, and nonprofit financing briefly.

Slide 41: EnergySmart Schools Overview: EnergySmart Schools Solutions - Designing

Margo Appel: And this slide addresses designing. For help designing an EnergySmart School, districts can turn to the ASHRAE Advanced Energy Design Guide for K-12 School Buildings. This design guide helps new schools improve their energy performance by 30% relative to the ASHRAE 90.1 1999 Building Code. It's organized into chapters that focus on predesign, design, bidding, and construction phases, and it also lists recommendations by climate zone which enables schools around the country to customize their strategies based on locations. And there are several how-to case studies also provided throughout the guide.

Slide 42: EnergySmart Schools Overview: EnergySmart Schools Solutions – Operating and Maintaining

Margo Appel: This addresses the EnergySmart Schools solutions operating and maintaining EnergySmart Schools. We recently launched the Guide to Operating and Maintaining EnergySmart Schools with accompanying action plan. The guide focuses on creating energy savings through low-cost and no-cost strategies targeted towards the energy novice and also expert. The guide includes a comprehensive technical section to help schools implement more energy-focused O&M.

A key feature of the guide is the O&M action plans. The action plans are customizable spreadsheets available electronically or in hard copy to help schools schedule and coordinate building O&Ms. The guide also includes a comprehensive list of additional O&M resources and a separate quick-win factsheet are available online.

Slide 43: EnergySmart Schools Overview: EnergySmart Schools Solutions – Energy Education

Margo Appel: The Get Smart About Energy CD is a curriculum enhancement tool designed for K-12, and it includes lesson plans on energy-related topics such as energy efficiency and conservation and renewable energy basics. The activities are organized by grade level, and they are aligned with National Science Education Standards.

Slide 44: EnergySmart Schools Overview: Future Activities and Priorities

Margo Appel: Our future activities and priorities focus on partnership development, existing buildings, financing, and engaging school districts. Under partnership development, the program will release the EnergySmart Schools Solutions CD later this month to provide a one-stop location for all of the EnergySmart Schools resources. The program will also host the 2010 EnergySmart Schools National Conference May 5-6 in Chicago. DOE will continue to build a portfolio of existing building technical resources such as case studies and fact sheets. A complementary Web-based training program will be launched as well as - that will focus on the application and best practices.

In regard to financing, future activities include facilitating a financing panel discussion during the April 2010 and FDA Annual Conference in Chicago and FDA's National School Board Association. Lastly, DOE will continue to reach out to school districts across the nation to help upgrade their existing infrastructure.

Slide 45: For More Information

Margo Appel: Thank you for your time and attention. I hope you will consider using and disseminating EnergySmart Schools Solutions to your constituents and local school districts. And my contact information is included on this slide. Thank you.

Neelam Patel: Thank you, Margo. I want to take this opportunity to remind all of our participants that are listening in to submit questions, as they come to mind, and send them then electronically.

Dekalb County Central United School District Energy Efficiency Program

Slide 46: Graphic of Smiley Face with Green Thumbs Up

Neelam Patel: And include the name of the presenter that you're directing the questions, and that can include questions that provide more detail about some of the things you've heard in the presentation and also how you can get more support in the future. So we're coming up on our local practitioners. These are the energy managers in the schools that are making things happen. Our first presenter is Ed Benbow from DeKalb County Central United School District.

Ed was a teacher for 40 years and not only did he teach but he was a guidance counselor, an assistant principal and a principal and also moved up to the assistant superintendent level. So he's very familiar with school systems. He was a program officer for a community foundation for four years, after he retired from his teaching/administrator career and, since then, has been involved in many extracurricular activities in his community. But most recently, for the last five years, he has been the energy manager and we'll talk about some of his successes. Ed?

Slide 47: Dekalb County Central United School District Energy Program

Ed Benbow: I would like to thank all of you for the opportunity of spending a little bit of time with you today. Just a little bit about DeKalb Central Schools, we're located in northeastern Indiana about 20 miles north of Fort Wayne. We're a relatively small rural school district servicing about 3900 students; high school of about 300,000 square feet; middle school about 200,000 square feet; four elementary buildings ranging from 70,000 square feet to 90,000; and we also monitor and track the superintendent's office, our bus facilities and our maintenance shop.

Slide 48: Why

Ed Benbow: As to why we got involved in energy conservation, it's not unlike what's been talked about earlier today and the same types of things that most school districts are facing. And that is limited funding--that we're faced with more and more unfunded mandates, less and less funding, more and more competition for the funds that are available out there, and little room to make reductions in school budgets without negatively impacting programs for kids.

Slide 49: When

Ed Benbow: Our program began back in January 2004, when the superintendent of schools took a recommendation to the board of education that we partner with Energy Education. They approved that recommendation and, in April, hired an energy manager.

In May of 2004 district guidelines were established and disseminated and then in June of 2004 the program began.

Slide 50: Partner

Ed Benbow: The partner that we chose was Energy Education located in Texas. This is a program that basically works with school districts to train people to effectively and efficiently utilize the equipment that we have on hand. It involved extensive onsite training where a facility consultant comes to the district to work with us. These are folks who have been energy managers in the past. A lot of these are physical engineers, people with specialized training and degrees. We also have access to data consultants who help us set up our base year information and our computer software so that we can track and monitor what we're doing. In addition, they provide training seminars three times a year. And this is a contracted process for four years and then once that is up, without cost we continue to receive services on an as need basis.

Slide 51: Primary Goals

Ed Benbow: The primary goals that were established, when we started the program: One, to obviously eliminate energy waste and through that to save dollars that could be redirected toward better meeting the needs of kids. At the same time we're doing all of that, we want to maintain comfort and safety in the areas that are occupied by students and staff and, of course, have a positive impact on the environment.

Slide 52: How - I

Ed Benbow: How do we do that? Everything in the district that uses energy is examined, nothing is left out. All aspects are analyzed, audited, adjusted as needed. Obviously this time of year, in northeast Indiana, we're moving from cooling season to heating season and there are lots of things that need to be adjusted so that we can optimize our savings. The monitoring is ongoing, it never stops. All members of our staff are involved in this project. It's not just one person; everybody contributes. As I mentioned before, it's a people program. Custodians and maintenance personnel are key people. They are involved with a lot of the equipment on an ongoing basis that most of the people never see.

Slide 53: How - II

Ed Benbow: And vital to the success of this program has been the support and the example that we've received from the superintendent's office. Smallest items are not overlooked in this program, computers, monitors, projector lights, vampire electronics, promethium boards, white boards and the list goes on and on and on; many refrigerators, coffee makers, microwaves. But much of the work is done when students and teachers are not in the building. So for a lot of them, the big stuff is very transparent. The energy manager is in the buildings all hours of the day and night, including weekends and holidays making sure energy is not wasted, that the equipment is operating the way it should be at those various times.

Ed Benbow: Visits result in an audit report and they're prepared and distributed to the building principal, the head custodian and the recording senior for the program. When individual classrooms or areas are audited, those folks get immediate feedback also as to how things were going.

Slide 54: How - II

Ed Benbow: We've listed here for you just a few of the things that are monitored and certainly this is not an extensive list. Ventilation rates, obviously are relating to safety in the building, carbon dioxide levels, periods of occupancy, transition to when the buildings are unoccupied, humidity levels, preserving classroom environments, temperature guidelines, all aspects of the HVAC systems. Chillers, boilers, air handlers, unit ventilators, VAV boxes, variable speed drives, all of those things are monitored. Food service areas, athletic areas, auditoriums and, as you can see, the list goes on and this is certainly not by any way inclusive.

Slide 55: Little (And Big) Things Mean a Lot

Ed Benbow: I think one of the important things about this program is simply shown here in the header, "little and big things mean a lot." As I mentioned earlier we start out with some very obvious and small things, but it all adds up. Somebody told me years ago, if I took care of my pennies, the dollars would take care of themselves. So much of the same is true here. We take all of the little things and, you know, it only may be one item relatively small, but if you've got 1400 of them sitting around the district, that stuff begins to add up. Couple that with the big savings that comes from the big equipment and so forth, we have had what we feel are some excellent results based upon the efforts of just a whole lot of people in the district.

Slide 56: Program Monitoring

Ed Benbow: Important in all of this is being able to monitor what's going on. In setting up the program originally, we utilized EnergyCAP Professional by Good Steward Software. We established the base year which, in our case, was June of 2003 through May of 2004. The software, in addition to entering the data for costs and amount of energy utilized, can make adjustments for billing cycles, weather, et cetera. It calculates our cost avoidance, our, for lack of a better term, savings and also calculates our energy reduction. In addition, we can generate a number of reports where we can analyze buildings on a building-by-building basis and an energy-type basis.

A little over a year ago, we became aware of the opportunities available through ENERGY STAR, the type of support materials and resources, but in addition, the ENERGY STAR Portfolios which - where we had to set up base year, benchmarking, much as we did with the other. We have entered exactly the same information, which gives us a chance to cross check the EnergyCAP results and we're finding that the two give us very similar results, even though it may approach analyzing that information in a

little different format. And then important for our staff and our district is the fact of availability of recognition, whether it be through buildings labeled as ENERGY STAR buildings or leaders and so forth, our folks have done a tremendous job and appreciate that recognition.

Slide 57: Energy Reduction Impact

Ed Benbow: As far as the results, we'll give you the results here for both EnergyCAP and ENERGY STAR. As I've said, before our base year was June 2003 through May 2004. Both means of measure are showing about a 43% savings. EnergyCAP is showing us about 240 million BTUs saved in this five-year, three-month period of time.

Slide 58: Cost Avoidance Impact

Ed Benbow: Cost avoidance impact, certainly we are interested in dollars. So through the use of our software, it's able to calculate expected energy cost, deducting the actual energy cost to get cost avoidance or the savings. And of course, this represents dollars that could have/would have been spent had we not been in the program, and more importantly dollars that can be directed to better meet the needs of the boys and girls as compared to sending them to the utility companies.

Slide 59: Energy Savings Attained by DeKalb Central

Ed Benbow: What we've been able to do in five years and three months is about \$3.6 million in cost avoidance, roughly 42%. Energy Education projected by the end of year seven would be a little over 2 million and certainly, our goal would be to more than double that figure by the time we get to the end of year seven.

Slide 60: Table of Energy Savings Attained by DeKalb Central

Ed Benbow: This gives you a breakdown of a year-by-year basis. You can get an idea of the type of cost avoidance dollars per year as well as the percent. Don't be too misled by the first three months of this year. That 59% figure was achieved during the cooling season where we can make great, great changes and that figure will begin to moderate as we go down to the heating season.

Slide 61: Environmental Impact - I

Ed Benbow: Environmental impact, both EnergyCAP and ENERGY STAR do calculate the metric tons of carbon dioxide equivalents per year, and as you can see, with EnergyCAP, it's showing about 4600 metric tons of carbon dioxide, and ENERGY STAR about 4200 metric tons.

Slide 62: Environmental Impact - II

Ed Benbow: Another way to look at it though, is equivalency. When we talked to our folks metric tons or pounds of greenhouse gas emissions is impressive, but what does it really mean? And so we do have ways to calculate equivalencies, and you can see some of those here. And these figures tend to be more meaningful to our staff, our community and to our students to see just what they've been able to accomplish during this period of time.

Slide 63: Programming/District Impact

Ed Benbow: As far as programming and district impact, many, many of the school districts in our area have been reducing staff and reducing programs and at least through the first five years, we've been able to retain a certain number of staff and programs directly related to the savings that we find here. This is confirmed by both the Superintendent and our Business Manager who is delighted with the program. We've been able to redirect some of our funds to the library materials, staff, and teacher supplies. Funds for increased wages when funds have not been forthcoming from the state, some of these funds have been used to supplement what has come from the state towards wages.

We've taken some of the funds and put back into the facilities. It wasn't required, but in those areas in which we felt we could get a very quick return on our investment, we chose to do so, and we look at a two to three year return before we make that investment. We find that this has worked its way into the curriculum with many of our classes having energy components to them. In addition, we find that students are getting directly involved in a lot of this. Also, it's impacting our community. Students are taking a lot of the information home and sharing it with their families. Staff is taking it home and sharing it with the families. We've had very good media coverage. We give two reports a year to the Board of Education, and the folks in the media have done a super job of getting that out.

Slide 64: Unmeasured Impact

Ed Benbow: Unmeasured impact are those things that we really can't quantitatively measure. One of them was just as we mentioned a transfer of these practices to the community. We know that we're getting a very positive public relations aspect in the community. We hear a lot about it, but very difficult to quantify. And we're finding that by better using our equipment, we feel we're getting reduced wear and tear on the equipment, but again, we can't put that in quantitative measure.

Slide 65: Summary

Ed Benbow: In summary, we feel and continue to feel that energy conservations exist in every corner. We find that preventative maintenance activities do improve the efficiency of our equipment and reduce energy consumption. It can be done without spending capital. This is a people program and we really would not have had to spend any money on equipment. The little things add up. We've done the math on a lot of things, and it's

impressive to our staff what happens if you start turning computers off and multiplying that times the number of computers. And of course, key to the whole thing are the people that we work with.

Slide 66: The Challenge Ahead

Ed Benbow: As far as what we are looking at and the future, certainly to sustain the culture of conservation that's developed over the last five years, to continue to apply to the savings to benefit the kids, look for ways to fine tune what has already been done, and constantly explore additional ways. It's interesting that students and staff bring up additional ideas that we might want to look at.

Slide 67: These Exemplary Savings Made Possible by the Support and Cooperation of All Members of the DeKalb Central Staff

Ed Benbow: I can't impress enough that all of that we've done, the savings, whether it be in energy, dollars, environmental, it's the staff that have been the key to it, everybody working together.

Slide 68: For Further Information

Ed Benbow: Again, thanks for the opportunity. We've listed here the names of folks that would be happy to communicate with you, our Superintendent, our Director of Safety and Facilities, our Business Manger, and the Energy Manager. We've listed our address. All of those folks can be accessed through that phone number, or if you prefer to email, email us first initial last name without the comma, first initial last name at dekalb.k12.in.us. So thank you very much.

Neelam Patel: Thank you, Ed, that was great, and I just wanted to remind all of our participants, if you could please put the name of the presenter that you are addressing your question to, that would be great. And please, keep those questions coming. Just a quick reflection on Ed's presentation. Those numbers for energy savings and money saved are staggering, so we really do want to encourage anyone who's considering to pursue these types of programs to go for it.

Carrollton-Farmers Branch Independent School District Energy Efficiency Program

Slide 69: The C-FBISD Energy Management: A TEAMS Approach

Neelam Patel: I'd like to introduce our next speaker, Victor Melton from Carrollton-Farmers Branch Independent School District in Texas. Victor has been with the school district for nine years as the Environmental and Energy Manager, and he has been an advocate for many of the programs that you will hear him discuss in his presentation. And these cover energy savings as well as recycling. As you know, their district recently was rewarded with the ENERGY STAR top performance award, and we're looking forward to hearing some of their great results and some of the efforts that Victor has been involved with. Victor?

Victor Melton: Hello everybody. My name's Victor Melton. I'm with the Carrollton-Farmers Branch Independent School District. We're located just north of Dallas. We're in six cities, including Dallas, with schools. We serve about 26,000 students, and about 5,400,000 square foot under roof. Today I'd like to talk to you a little bit about the TEAMS approach. Like Ed said earlier in his comments, the people do make the difference, and the more you get them involved the better off things are going to be. Again, I'm Victor Melton, the Environmental and Energy Manger for the District.

Back in '01, '02, there was a media blitz down here in Texas, it might even have been up in your area, and also deregulation. I was fielding calls about mold and about energy prices daily, sometimes two or three mold calls a day, and really got to wearing me out. So I called Mr. Miller at the EPA, and he sent me some Tools for Schools kits. I took that kit home on a Saturday morning and went through it and made notes. When I got back on Monday morning, I looked at my notes and sure enough, I had written "education" and "educate staff" five or six times in my notes. So I realized then that the key to success was educating teachers and staff, and that's how we came up with TEAMS. We integrated into air quality, energy efficiency, safety, and security in a program that we call TEAMS.

This is the slide that we actually take to the schools. This is just the first slide that we take to the schools and this is what we train them on. And it's Tools for Schools Indoor Air Quality, Integrated Pest Management, Energy which is our Green Teams I'll discuss more. We educate our teachers and staff about asbestos. If their school has asbestos in it, we show them a map of where it's at. Moisture Management, we have a Fix the Leak program; Safety; and of course, Security. And if you're in the school business, you know these are all the items that you deal with on a daily basis.

Neelam Patel: Victor?

Victor Melton: Yes.

Neelam Patel: This is Neelam. I just had a quick question. I wanted to make sure that your slides were advancing.

Victor Melton: Yeah, it seems to be fine for me.

Neelam Patel: Okay, thank you, I think we're having a little bit of technical difficulty on this end.

Victor Melton: What do I need to do?

Neelam Patel: I think you're probably okay, if you on your computer are seeing the slides advance.

Victor Melton: Yeah, they're advancing fine for me.

Neelam Patel: Okay, if you could just hold it one moment...

Victor Melton: Sure.

Neelam Patel: ...while we kind of resolve this technical difficulty. For our audience, we are going to advance the slides so that everyone will be able to see them advancing. Victor, as you're going through your presentation, if you can just say, "next slide," we will go ahead and advance those for you to make sure that the technology is working properly.

Victor Melton: Okay, I can do that. I'm on TEAMS mission statement.

Neelam Patel: Okay, great. Thank you.

Victor Melton: Let me know when we're ready.

Neelam Patel: Okay. Thank you for your patience, for the audience. And again, keep those questions coming with the presenter names.

Victor Melton: Oh.

Neelam Patel: While we're adjusting this technical difficulty, I did want to mention that the guide that was featured at the beginning of the Webcast in the introductory presentation, does capture a lot of what you've been hearing in the presentations today. So we hope that you find that guide useful as you develop your program. Victor, I think we're ready...

Slide 70: TEAMS Missions Statement

Victor Melton: All right.

Neelam Patel:...to continue, thank you again.

Victor Melton: Yes, as I was explaining earlier, we created the TEAMS and the TEAMS program and presentation. And this is the TEAMS mission statement, strive to produce a quality environment for employees and students. Next slide.

Slide 71: TEAMS Members – C-FBISD

Victor Melton: Well TEAMS, it's more than just an acronym for those seven items that I gave you earlier, it's also a group of people. All of these people, which you can see, the Chief of Facilities Director is there. The Head Nurse is there, Athletics Director, HVAC Controls, we all meet at the school when we give this presentation to answer or help out with any problems that the school has, be it indoor air quality or energy. Next slide please.

Slide 72: Outreach to Schools

Victor Melton: Okay, a TEAMS program is not mandatory. We do not force any school to have it. We don't force any school to have the Green Teams Program either. However, when the school has an indoor air quality issue, major league, or wants the TEAMS program, or Green Teams Program, then we ask them to have the TEAMS presentation. The TEAMS presentation takes about 45 minutes. It has lots of visuals - excellent visuals I might add - facts, and we add in a lot of humor in order to keep the audience's attention. And all this, again, is to reinforce the point that we all use energy, we all sometimes create our own indoor air quality problems, and it takes us all collectively to make a difference in solving them. Next slide please.

Slide 73: Energy Efficiency

Victor Melton: Like they said earlier, at Carrollton-Farmers Branch School District payroll is our number one expenditure. Second, here in Texas, is Chapter 41, or Robin Hood, that's where the rich districts give to the poor districts. We probably paid, in the last nine years, approximately \$350 million to Robin Hood. Then it's utilities. We spend a little over \$8 million a year in utilities. Most school districts, however, would be payroll, then utilities. Wasted energy equals indoor air quality problems. I think this is really important, that's why I stuck it in here. A lot of people don't understand. If you're wasting 30%, 30% more has to be made and then brought to your school, so therefore, you're polluting 30% more at that particular area. Most schools have one teacher in them that wants to be a Green Team Coordinator. Every one of us has somebody in the school that is granola, and all you need to do is find that individual, and then ask that individual to help you out which is what we've done here at the district. And we call them Green Team Coordinators. The Green Team's motto is the most energy efficient device is the world is a device turned off when it's not in use. You don't have to have all the fanciest most energy efficient equipment if you've got good cultural mind sets. Next slide please.

Slide 74: Energy Efficiency Cont'd

Victor Melton: Here at the district, the Carrollton-Farmers Branch rating is now at an 82. We received the top performance at 78. So in the last six months, we've done even better than I ever thought we could with our energy savings. We have approximately 600 Green Team students, 30 staff. The district saved over 3 million KWh and recycled over 700 tons of paper last year. At the end of each year, we have a Green Team rally. At the rally I usually have somebody from the EPA, Halliburton, a few other organizations come and speak to the kids at the rally, bus them all to a high school. And then I give out four awards for the most energy efficient schools, four awards for the ones that recycle the most, and then a top performer award for energy efficiency and recycling. I very rarely let the same schools win at the same time. I am judge and jury on who can win.

Watt Watchers, I want to tell you a little bit more about the Watt Watcher students. This is a program that educates students about the importance of saving energy and changing cultural mindsets. They do this by walking the school and giving out tickets. Let's say that fourth and fifth grade are eating lunch, the third graders walk that area and give tickets to the teachers who have left something on that doesn't need to be on during the day. It takes about 30 days, and then the kids are having trouble finding somebody leave something on in school. I have about approximately 30 schools that do this. Students also take this mindset home with them and keep these good habits throughout their life. Next slide please.

Slide 75: Energy Efficiency Cont'd

Victor Melton: Of course, upper management, if they don't support you, it's going to be awful tough. I've got it made here and lots of people tell me that. I've got all the support in the world, and it really, really has made a big difference. Also too, we passed a \$300 million bond package back in '04, and we've been using that to retrofit and build new buildings very energy efficiently.

Engineering, engineering companies - well, engineers and architect companies, they get paid a percentage of how much the building costs. So with that in mind, don't let them forget the golden rule. He with the gold makes the rules. You can tell them what you want and how you want it. Don't let them tell you what you want and how you want it. Technology, here in this district we have Altiris software. This software controls 16,000 of our computers. It actually allows us to boot the computer up or take the computer down, so we can shut them off in an elementary school at 3:30, 4:00. We can shut them at middle schools at 5:00, and high schools at 5:30. We can then boot them all back up, add software, and shut them all back down however we decide. This is extremely good because before what we did was we would have to leave all the computers on over spring breaks or over long weekends, so that the technology group could do an upgrade.

Once they started adding in the energy cost to their upgrade, they realized that we paid a lot more for the electricity to leave them on than we did for the actual upgrade. So that's where Altiris came in. Be real careful with technology. If it plugs in, lights up, beats,

flashes or gets warm, it may or may not be saving you money. I'm very skeptical of something that plugs in and saves electricity.

Kitchen Watchers and Watt Watchers, this is cultural. Our Kitchen Watchers here, I work with the foodservice staff for about a year and a half, and we got a really good program going with them. What they basically have done is they put all of the kitchen equipments preheat and warm-up times on the recipe cards. This allows the kitchen staff to look at the recipe card and they know exactly how long it's going to take for that piece of equipment to warm up and cook that instead of coming in the morning and turning everything on like they used to.

So work with all your departments in your district. Engineering, technology and cultural are the three main categories to save utility costs. Just about anything you can think of to save is going to fall under one of those three categories. Next slide, please.

Slide 76: Energy Challenges

Victor Melton: Cultural mindset being the biggest challenge to energy managers facing today. People don't like to be told no. We have formed bad habits. Staff - they don't see the utility bills. We don't send the cost of each school what it takes to run amuck, so they don't see that stuff. Personal devices from home, which Ed brought up. And the fact is here in America we're spoiled. Bottom line. Reminders to always keep a positive attitude. You're going to run across in your program people that just refuse. They just cannot do it. They don't want to do it and refuse to go along with it. Don't let that bother you. Just keep right on moving. You've got to keep a positive attitude. If you lose it, get mad, get grouchy, you've already lost the war. Next slide. Well, that must be a good slide. I don't think that next slide's coming.

Neelam Patel: We're just waiting while the program advances to the next slide.

Victor Melton: It's not doing very good.

Neelam Patel: No, I think you're right, Victor, I think it's going to be a good one. Actually, while we're waiting for the next slide, I just want to share a quick story. When I spoke with Ed and Victor separately to invite them to present on the Webcast, the opening statement in both conversations had to do with how much energy and money had been saved through these programs. And they both said, "You know, we work on 50% commission, so that \$3 million you saved, half of that is mine." And while that's not true, we do know that these programs do pay for themselves. Victor, I think your summary slide is up.

Slide 77: Summary

Victor Melton: Here we go. In summary, the team's approach incorporates all the facets that Carrollton Ranch organization has through education and training, ultimately

providing an objective of a higher learning and working environment for all. Next slide, hopefully it's quicker.

Slide 78: Texas Energy Managers Association

Victor Melton: This is a Web site that you can go to. It's a new TEMA, Texas Energy Managers Association. It's a state-sponsored association. Next slide, please.

Slide 79: Special Thank you

Victor Melton: A special thanks to these people here: Estes, McClure, our engineering outfit; The State Energy Conservation Office, SECO; Mike Miller of the Environmental Protection Agency; Janet Hurley at the Texas Extension Agency for Integrated Pest Management. Last slide, please. Questions and answers.

Slide 80: QUESTIONS and ANSWERS

Neelam Patel: Thank you so much, Victor. I just want to thank Victor and Ed for both those presentations. They were excellent in talking about not only how you develop and implement a program and some of the benefits associated with energy savings and money, but also covering the social impacts and how to create an infrastructure to further energy savings, not only in the school system but also with the students and for the community.

Questions and Answers

Slide 81: Additional Training Opportunities

Neelam Patel: So with that, we'd like to open it up for questions that have been submitted in the past. The process will be someone on the other end, Lauren, will be reading off the questions that have been submitted throughout this presentation and if you have more questions, please feel free to continue to submit those. While we transition into the Q&A session, I did want to bring your attention to additional training opportunities on some of the topics that were covered today. So the EPA ENERGY STAR Program will have a Webcast on how to use the tool Portfolio Manager that Katy Hatcher discussed and there's a link where you can get more information on that.

And also there is a Green Power Partnership Webcast coming up later this week on Thursday - it's not the schools Webcast that Allison Dennis mentioned but it will help you become familiar with how cities and other entities can use the Green Power Partnership to help develop climate action strategies. And for more information on that Webcast there's a link. So with that, Lauren, would you please start asking some of the questions and all of our speakers, if they can unmute their lines when they're asked a question. Thank you.

Slide 82: Local Climate and Energy Contacts

Lauren Pederson: We received a lot of great questions today. This first question is for Allison. And the question is I know that there's a federal tax deduction which is a maximum of \$1.80 per square foot if a 50% energy savings is achieved. Is that federal tax deduction that also applies to schools that you're aware of?

Neelam Patel: Thanks, Lauren. This is Neelam. Allison is actually not with us for questions, but we will look into that question and post it on our Web site when we do post the Power Point presentation, the audio files and the transcript.

Lauren Pederson: Okay, great. The next question would be for Katy Hatcher, then. The ARRA Energy Block Grant excluded K-12 schools and districts from applying. Are there, or will there be any grants for K-12 schools help the schools become more energy efficient?

Katy Hatcher: I would suggest that school districts go to their local governments and talk to them about the energy efficiency block grant funds the local governments may have received, or to the state energy offices about the local government-related funds that the states are administering as well as any activities that are being run by the states with ARRA funds having to do with the state's energy programs.

Lauren Pederson: Okay, thank you, Katy. And then another question for you. There is a participant who has 32 campuses with multiple buildings at each site and only one

electric meter. How should they go about applying for ENERGY STAR when they have multiple buildings and can't separate from like each building uses?

Katy Hatcher: Well, unfortunately the ENERGY STAR - well, fortunately and unfortunately, the ENERGY STAR is about the individual building when it comes to K-12 schools, so what you would need to do is submeter those buildings and then apply after you have 12 months of energy use for the individual buildings. In order to measure and track energy use and see how you improve over your own baseline for energy management purposes, this tool is still helpful and useful. And we have a campus feature that allows you to put in the master meter information today and then as you submeter you could break that out later and it is a very informative exercise.

Lauren Pederson: Great. And the next question to you as well. There are few questions about downloading the guidelines you presented, such as the Building Upgrade Manual. Are participants allowed to post them to their state site or are there copyright issues they should know about?

Katy Hatcher: I think you could link directly to them. In terms of taking the PDF and posting them I believe that's also perfectly fine. If there is a copyright issue I will find that out and give it to Neelam, but I do not believe that there is.

Neelam Patel: Yes, most federal documents can be displayed on other Web sites so we don't anticipate any copyright issues.

Lauren Pederson: Okay, thank you. And last one for Katy. A participating school district has already been auditing the utility and water usage for two years. Can that information be submitted to Portfolio Manager and be considered retroactive?

Katy Hatcher: Yes. You can put historical data for schools into Portfolio Manager. However, actually for earning the ENERGY STAR, the ENERGY STAR is awarded to buildings for their current energy use for a 12-month period and the energy data can be no older than 120 days from today.

Lauren Pederson: Okay, great. Thank you.

Katy Hatcher: No, actually I'm going to add another piece of information to that. My answer actually covered two pieces of recognition that EPA gives out. One is the ENERGY STAR label for an individual school. The label has a date on it that says it's an ENERGY STAR label for 2009. Those are the ones we're giving out now. That is for energy use of a 12-month period. For ENERGY STAR leaders, which is a district-wide recognition, the baseline data can be historical, and you can go back to the year 2000. This is just a use portfolio manager overall, you can put in historical information as you will, as you wish.

Lauren Pederson: Great, thank you for those answers. Then we had quite a few questions for you, Ed. The first question is, is the Energy Education Program only behavioral education or does it involve an equipment component as well?

Ed Benbow: There is an equipment component. The trainers that we work with, the consultants we work with, many of them are experts. Some in chillers, some in boilers, you know, various pieces of equipment. They know and instruct us how to use those as efficiently as we can. But again, it's up to us to put those parts into place.

Lauren Pederson: The next question is, How involved is the process for school staff and was their buy-in easy?

Ed Benbow: The program actually began at the superintendent's level and then we began to implement and talk with staff as we moved along in the program. As far as implementation, it was not as difficult as one might suspect. Part of that is because of the support that we had from the superintendent's office. As Victor pointed out, it is a change in the culture. Some adapted very quickly, others it has taken a little bit longer. I think a big impact was one year when 2% of the 3% raise came out of the energy conservation program. That sold it for a lot of folks.

Lauren Pederson: Thank you for that answer as well. And another question for you, Ed. What are some of the big savings items and what gave you the biggest impact in terms of savings?

Ed Benbow: Well, your - the big impacts, the way in which we operate the big equipment - the chillers, the boilers, the air handlers - the timing of these things. I think Victor alluded to, you know, the most energy efficient item is an item that's in the off position. And therefore we really work in monitoring all this equipment that if it's not needed, it's off. And there are various ways that we can do that. But you can't overlook the little things. Those little things add up and they add up real quick.

Lauren Pederson: And now on to some questions about the cost of the program. What would you estimate the annual cost over the four years of the program was?

Ed Benbow: Well, the cost of the program for five years and three months is a little over \$500,000, but you have to keep in mind that four years of that it was where we were paying a fee - a contract fee with the consulting firm. And that was a four-year contract. So if you take five years and average it out, it's about \$100,000 a year, but in reality that's not the case because much of those funds were concentrated or focused in the first four years.

Lauren Pederson: And one of the last questions. Are any of your buildings ENERGY STAR rated?

Ed Benbow: Yes. We have three of our elementary, four of our elementary - no, let me back up. Three elementaries, the high school and the superintendent's office are currently

ENERGY STAR rated. An additional elementary school qualifies and we'll be working to get that certification. It's just getting a PE in here to take a look at it. So we still have our middle school to be ENERGY STAR rated.

Lauren Pederson: Ed, thank you. And then Victor, we do have a couple questions for you. How many campuses does your district have and what's the risk manager's role on the team?

Victor Melton: We have approximately 38 campuses. We have the risk manager. She actually goes - walks the school before the team's presentation and we go in closets and things of that nature and we take pictures and we add that to the presentation before we physically give it to the school. Does that make sense?

Lauren Pederson: Yes, it does. And then did you answer how many campuses your district has? Sorry.

Victor Melton: Yes, we have 38.

Lauren Pederson: Thirty-eight. Okay. And then this question could apply both to you, Victor or you, Ed. How did you convince the school district to award schools that implemented energy savings programs?

Ed Benbow: Could you repeat the question, Neelam?

Lauren Pederson: Sure. I guess how did you convince the district to reward schools that actually implemented energy savings programs? Was there an award structure in place?

Ed Benbow: In our case, the district does not award individual schools for the performance. We're looking at a total district and we really don't have a situation where schools are competing with one another.

Victor Melton: I concur. We haven't done that in our district either and, you know, at first we were giving them out. We were giving out dollars that were saved and of course I get emails, "Well, I want half of it." So now we give out KWH saved and they can have that if they want. But it doesn't do you any good to save the money and the energy if you're just going to give it back to a particular school. We're doing the same thing that Ed is doing, we're doing it district wide.

Lauren Pederson: Okay, great. Thank you for your responses. And Margo, there was one question for you. In your presentation, you mentioned savings over existing code and one of the attendees was curious as to what you considered the existing code.

Margo Appel: ASHRAE 90.1 1999 for the existing code.

Lauren Pederson: Okay, great. Thank you. Another question for Katy Hatcher. Do any of the programs provide a cost free energy audit for district schools?

Katy Hatcher: The ENERGY STAR Program does not provide a cost free audit. We don't come to the school and deliver that audit, but our resources can give you information in order to do, you know, basically to benchmark the school and see how energy efficient it is. And then maybe just see what your energy efficiency savings might be to see if you want to pursue an investment grade audit, which would mean that someone else would need to come in and do the audit, that you would essentially hire someone to come in and do an investment grade audit. Many districts use energy services companies that come in and evaluate the buildings and you can enter into something called a guaranteed savings performance contract. And essentially what that is, is something that helps you get energy efficiency projects done by paying for the contractor through the energy savings in the operating budget that you accrue through being energy efficient.

Neelam Patel: Thank you, Katy. Thank you, Lauren, for asking the questions. We're coming into the end of our Webcast presentation time, so I would like to just close by thanking all of our speakers and all of the participants. And just to reiterate some of the key messages that we heard throughout the Webcast. You know, one of the things that came away from this is that any size school district can really pursue an energy efficient program and there's little investment to start the program. The savings pay for themselves. It's helpful to have partner organizations that you can work with to develop the program. Have you heard about the ENERGY STAR K-12 School Program? There's support and resources available. And the DOE resources that Margo discussed cover other additional information and these two programs have complementary resources that everyone in the audience here can benefit from.

And the last thing I'd like to close out with is remind everyone of the ENERGY STAR challenge from K-12 schools and try participating in that. You know you'll be able to save money and reinvest into the education coming from your school district. So on the slide you do see the contact information for the Local Climate and Energy Program, that's Andrea Denny and myself and Emma Zinsmeister.

If you have questions on today's Webcast you can contact us or any of the presenters. And also look forward to future Webcasts from our programs. Thank you, everyone.