

Greenhouse Gas Inventory 101
Session 2: Translating Inventory Results into Action
November 6, 2007

Transcript

Operator: Ladies and gentlemen, thank you for standing by. Welcome to the Translating Inventory Results into Action conference call. If at any time during the conference you need to reach an operator, please press * and 0. I would now like to turn the conference over to Karl Hausker – please go ahead, sir.

Slide 2

Andrea Denny: Thank you, and welcome everyone to our second session in the Greenhouse Gas Inventory 101 Webcast series. This session is on Translating Inventory Results into Action. My name is Andrea Denny, I'm with the USEPA.

Slide 3

I just wanted to just give people a quick welcome and a little bit of background on what I do at EPA. I'm with the Clean Energy Environment State and Local Programs at EPA, and what we work on is promoting cost-effective clean energy strategies that achieve environmental, energy, public health, and economic benefits. We do this primarily through two programs; our Clean Energy Environment State Program, and our Clean Energy Environment Municipal Network. And there is a URL on your screen, which you can get to and access resources for both state and local government. I wanted to point out that we do have some additional inventory expertise on the phone today. We have a representative from ICLEI, from the U.S. Conference of Mayors (USCM), and also from ENERGY STAR.

Slide 4

I wanted to go over some logistics very quickly. Other than the speakers, the phone lines are muted to control background noise, so you will not be able to participate directly by voice in this web training. We do ask you to use the question and comment box to submit questions. We will be consolidating questions, and there will be a Q&A session at the end of the presentation, where we will try to get to all of the questions. There are color indicators that you can use on the bottom of your screen. If you want to change it to purple, if you are very confused, we'll keep an eye on that, and we'll ask the presenter to slow down if we see that a number of people are having difficulty understanding something. We will be recording this call, and we will notify participants of where the recording can be found online once it's available. We do welcome your feedback, or any follow-up questions that weren't answered during the Q&A session. You can email them to me, at denny.andrea@epa.gov.

And with that, I would like to introduce Karl Hausker, who will be running the presentation today. Karl is a Vice President in ICF's Climate Change practice. He's worked for over 20 years in the fields of climate change, energy, and environment. Before coming to ICF earlier this year, he was the Deputy Director of the Center for Climate Strategies, where he helped states develop climate action plans. His career also includes 3 years as a Deputy Assistant Administrator in EPA's Policy Office, 6 years as the Chief Economist for the U.S. Senate Committee on Energy and Natural Resources, as well as worked for leading think tanks and consulting firms, including a year sabbatical in India. He has a B.A. in Economics from Cornell, and an MPP and PhD in Public Policy from UC Berkeley. Thank you, Karl.

Slide 5

Karl Hausker: Thank you Andrea for that introduction, and welcome to everyone on the line. Our audience today is rather broad. We hope that what we are presenting today is of interest to those working on multi-state initiatives. At the regional level, those interested also will include state governments, representatives from cities, counties, other local government organizations, tribal representatives, and urban regional organizations. Our goal today, as the title suggests, is translating inventory results into action. Many of you probably participated in our first session on inventories, and now we are going to turn to how we can take inventory data and use it to set emission reduction goals, and how you all could examine policies that would meet those goals. It's important to emphasize at the outset, that what we're doing today is a "positive" exercise not a "normative" exercise. In other words, we're not going to be endorsing any particular policies in a normative way, but simply describe what has been done by various states and local policymakers, and the kind of rationales they have used. And then it's up to you to use that information however you deem fit in the context of your policymaking.

Slide 6

So, quickly to run through an outline of our presentation today. We're going to be covering the uses of inventory data; talking about the tracking of emissions and progress; we're going to examine how policymakers set emission reduction goals; the criteria they have cited in setting those goals; then we're going to turn to the various types of policy options they have considered in meeting goals; and then we'll discuss how they evaluate those policy options; and then finally, we'll a little bit about the processes they use in performing those functions of setting goals and setting policies.

Slide 7

So, turning first to the uses of inventory data. When you've completed an inventory for your jurisdiction, it'll provide a number of useful perspectives for you. First, it will help you identify some greenhouse gases emissions that are really so small they might be categorized as de minimus. They might not be worth focusing policy attention on. That might be one judgment you would make. Conversely, another use of inventory data would be to allow you to identify major sources – sources that are large, have been large

in the past, or are experiencing steep growth. These (are?) obvious candidates for policy action. Another use of inventory data, of course, is that it serves as a foundation for projecting future emissions. And we'll be covering how to project future emissions in Session 3 of these seminars. That session will be relevant to state governments, and we would ask that local government representatives should contact ICLEI about projecting emissions in the local government context. And then a final use of inventory data is to benchmark progress toward goals, or benchmark progress to similar counterparts in your jurisdictions.

Slide 8

A couple of important notes about tracking emissions, and benchmarking progress: it is important to keep in mind that you'll likely want to improve your estimates of emissions over time – you'll want to stay on top of any changes in recommended methodology. You'll also want to improve your data or change data sources over time in the quest for the most accurate inventories and projections. We also feel it's important to always be building infrastructure for the measurement of emissions, meaning the routinized and regular collection of data, especially from major sources.

Slide 9

Let's turn now to the process of setting emission reduction goals. There are a couple of key facets of this that you'll want to consider. First, there are two aspects of the scope of your emission reduction goals. The first being: are you going to set for all six basic greenhouse gases; or, are you going to set goals for your jurisdiction for some subset of those gases? The second facet to consider in goal setting is: are you going to set goals for the entire economy of your jurisdiction; or, for some subset of that economy, some particular sectors that you will want to focus on? So, that's one key aspect that we label "scope". Another key facet of setting goals is the timeframe you want to consider. And, we have observed policymakers taking what I'd refer to as a short, mid, or long-term perspective, or, several of those perspectives in their policymaking. Short term we usually consider in the range of a 2010-2012 outlook. Mid-term, we've seen policymakers looking at a range of say, 2020-2030. And also, finally, long-term goals, we see policymakers looking out to the year 2040, 2050, or even beyond. So, that's another key facet of setting emission reduction goals: which timeframes do you wish to consider? And finally, coupled with a choice of a timeframe, you'll also want to consider a base year from which to compare emission reduction goals. We've seen policymakers say they want to achieve a certain goal relative to what emissions were in 1990, or 2000, or 2005 - obviously, a very important choice, and can often be limited by what kind of data is available.

Slide 10

Let's turn now to some examples of goal-setting we have observed out there. We'll look at regional goals, state goals, and local government goals to give you a feel for how policymakers have set goals. Here we have three examples of regional initiatives: the

Western Climate Initiative, the Regional Greenhouse Gas Initiative (or sometimes known as RGGI), and the New England Governors and Eastern Canadian Premiers climate plan from several years ago. In two of these cases, these regional initiatives chose a scope of economy-wide perspectives. In the case of RGGI, they have at least begun with a focus on the electric power sector, I believe then with intent to expand that over time. In terms of the scope of the gases considered, again we see that two of these initiatives looked at all six gases, whereas RGGI is focusing initially on simply carbon dioxide from the power sector. Timeframes range here looking out to typically a mid-term range of 2020 for the goal-setting, and the emission goals are again different percentages chosen relative to base years such as 2005. So you can see that there's sometimes reduction goals set, stabilization goals, in the case of the New England Governors, looking at a long-term goal of ultimately reducing emissions on the order of 75-85%.

Slide 11

Let's now turn to some examples at the state level. Here, we've illustrated state policymaking by looking at California, Arizona, and Minnesota. In each of these states, and in terms of the scoping decision they have looked economy-wide, and all of them have looked at all six gases. In terms of the timeframes, they have set both mid-term and long-term goals, and in the case of Minnesota, also looking at a relatively near-term goal of 2015. Again, California's chosen a base year of 1990; Arizona, a base year of 2000; and again, illustrating the range of decisions that states have made.

Slide 12

And finally, turning to some local government examples on how this has been applied. Here we see the examples of Los Angeles, Boulder, and Burlington – two cities choosing an economy-wide perspective, with Burlington focusing in on the business sector and the household sector. And here we see a little variation the scope of gases considered: Los Angeles focusing on CO₂, methane, and N₂O; and Boulder, a narrower range of CO₂ and methane; and Burlington focusing in on CO₂ emissions. The timeframes again vary, depending on what these local decision-makers have decided to do in terms of base years and percentage reductions. We see a choice of a 1990 base year by two of these cities, and a 1997 base year. Again, our message in conveying these is not to say that any of these particular decisions is the best one or the recommended one. These different jurisdictions have applied different criteria, and this gives you a sense of the range of what policymakers have selected. It's also important to note that, particularly at the local government level, we often see not only the inventory process, but a goal-setting process performed from two perspectives. And these may sound familiar from the last session, when we talked about inventories. The two perspectives are “municipal operations”, that is to say the city-owned and operated facilities within local government, and the second perspective being “community-wide” or equivalent to economy-wide in this context.

Slide 13

Let's turn now to observing the kind of criteria that policymakers have cited in setting these goals. And I think as you look across the executive orders, the press releases, the documents put out by these policymakers, a couple of different criteria emerge in reading those. One I would characterize as "science-based", meaning particularly in the context of some local and state governments shooting for long-term goals, say 80% below 1990 by 2050. In putting forth that goal, they will cite that some climate scientists argue that cuts of that magnitude are necessary to stabilize atmospheric GHG concentrations at levels that don't create extremely dangerous impacts. So this is a case of citing the climate science as a basis for a long-term goal. Another criterion cited, or that I think is a reasonable label to put on it, is calling something "precedent" or "consistency". And here I think a good example of this is the Mayors' Climate Protection Agreement, that I think roughly 600 cities have endorsed, which essentially uses the emission reduction goals from the Kyoto Protocol, and adopts those as local government goals. In this case, meaning a goal of aiming for emissions 7% below 1990 levels by 2012. Similarly, I think whenever a state or local government might use 1990 as a base year, this may be considered a tip of the hat to the Kyoto Protocol, which also uses 1990 as a base year. However, as we noted earlier, sometimes the data from 1990 is simply not available, and that may force the consideration of a base year later in time. Another set of criteria that we believe policymakers are attempting to apply is some kind of hybrid of technical and economic feasibility, particularly applied to short-term goals and mid-term goals. When you examine the outputs of the various policymaking processes, you will see both the technical and economic factors cited. There is an increasing use of a base year equal to 2000 or later, but we haven't observed a peer plug and chug formula on how goals are set, and I think it's fair to say that policymakers are treating the setting of emission reduction goals as an art, and certainly not a science.

Slide 14

A couple of other observations on goal setting, and then the selection of policy options, and the interplay of these two I think are worth making. First, in looking at the kind of technical and economic feasibility I just mentioned, it's fair to say that many policymakers want to know the "cost-effectiveness" of the options they are looking at. There is substantial attention paid to the dollar per ton costs of reducing GHG emissions, and we observe out there that policymakers seem to have a desire to avoid very expensive options. We also observe a very strong interest in the environmental co-benefits of policy packages, the macroeconomic impacts on a state or local economy, job impacts, impacts on energy security, oil use, etc. So this seems to be another important part of how policymakers are pursuing action plans. And finally, we observe an interesting interplay between goal-setting and selecting policy options. We've observed some governors or mayors first setting goals, and then asking their staff or blue ribbon panel bring back policy options on how to achieve those goals. And this becomes sort of a set a goal and really light a fire under people to figure out how that could be met. In other cases, we sometimes see policymakers go through an analytic process first to guide the setting of goals. Again, both of these can bring satisfactory outcomes, both of them applied successfully. Hold on one moment, folks – a little technical difficulty...sorry about that – a little problem on flipping the slides here.

Slide 15

We're now going to turn to policy options for meeting emission reduction goals, and we're going to offer some categories - kind of a taxonomy of the range of policy options that have been considered by state and local governments. And we hope that this exercise gives you sort of a broad perspective on the range of things that can be used. And it certainly does cover a range from relatively strong action-forcing types of policies, and one might say on the range of carrots to sticks, to influence behavior – some policy options leaning heavily toward sticks, and others leaning more towards carrots. And you can sort of see that range in the categories on this slide. Regulations and standards obviously have always been an important tool in policymakers' hands. There are also market-based mechanisms, such as tax mechanisms, cap and trade mechanisms. Governments have access to tools such as tax incentives, loans, and grants. Governments can conduct lead-by-example projects, conduct pilot projects to move technology along. There are tools such as information disclosure, reporting, greenhouse gas registries. There are a whole slew of voluntary programs. And finally, there are the softer tools, or carrot tools, of technical assistance, information, and education. And we see examples of all of these types of policy options being proposed and/or implemented out there in recent years, and also, these being applied either economy-wide or tailored to specific sectors, particular emissions sources.

Slide 16

What we'd like to do now is run through a couple of examples to further illustrate these different categories. Turning first to regulations and standards - there are several good examples here. For instance, states are taking on biofuel mandates, low-carbon fuel standards; some are adopting GHG regulations for light-duty vehicles (what's known as the "Pavley standards" in California). At the local government level we've seen a program to phase-in all taxis into hybrid vehicles in New York City. On the energy efficiency front, we've seen state governments pursue a package of appliance efficiency standards for appliances not covered by the federal government. We've seen both state and local governments putting in effect building energy codes that will reduce greenhouse gas emissions.

Slide 17

And continuing this category, also in the power sector we've seen state governments adopt GHG performance standards for new plants. We've seen state renewable portfolio standards, and then key policy tools such as the net metering and interconnection standards designed to also increase use of renewable power.

Slide 18

Let's turn now to market-based mechanisms. On the local government front, we've seen at least one example of Boulder, Colorado, adopting what they label a carbon tax – the form of this is actually a tax on electricity to fund various climate programs. So that's one

interesting example. And also on the local government front, we see a New York City proposal for congestion fees to reduce car use traffic in the city as a part of New York City's GHG action plan. Moving to the regional level, we've seen cap-and-trade proposals put forth by the Western Climate Initiative and by the Regional Greenhouse Gas Initiative. And also, I think falling in the market-based mechanism category would be things like offset requirements for new power plants, such as Oregon has adopted.

Slide 19

In our next category of tax incentives, loans, and grants there is a whole range of tax reductions we've seen applied by state and local governments that are related to the adoption of energy efficiency and renewable energy. The tax levers, particularly at the local government level, of course include personal property tax. At the state level, we've seen tax policy tweaks for income tax, corporate tax, and sales tax. So, several levers available there. We've also seen production incentives for biofuels adopted at the state level, as well as the creation of public benefit funds for regulated utilities, which then translate into a whole spectrum of programmatic activities.

Slide 20

I'd like to turn now to the lead-by-example and pilot project categories. As we noted earlier, state and local governments can lead by example in many ways, including setting GHG goals or the footprint of government operations. We've also seen green power purchasing activities by both state and local governments. And we've seen energy efficiency standards adopted for public buildings by both state and local governments. The government can also conduct pilot projects to lower barriers to new technologies. Examples here at the local government level I think would include Chicago putting a green roof on the city hall; we have an example in Ohio of a pilot plant demonstrate carbon capture and sequestration for power plants; and in Pennsylvania, we've seen for example, public support for the first biofuel blending station.

Slide 21

Let's turn now to the category of disclosure, reporting, and registries. As all good students of public policy know, the disclosure reporting of information can be a powerful tool, and we've seen it applied in this setting too. For instance, mandatory reporting of GHG emissions by large sources – here, the example of what Wisconsin has done is illustrative. There's also a relatively new policy adopted in California which would mandate disclosure of building energy performance to prospective buyers of buildings. And also for those who track greenhouse gas registries, you're probably aware that recently 39 states have agreed to collaborate in establishing the Climate Registry to link together what were formerly several separate initiatives. So, all of those fall in the category of using information to try to influence behavior and achieve reductions.

Slide 22

Let's turn now to voluntary programs. There is a range of programs in this category that are open to state and local government participation. EPA runs things such as ENERGY STAR, WasteWise, Natural Gas Star. And then there are just dozens upon dozens of state and local initiatives that would fall in the category of voluntary programs targeting particular emissions sources or sectors. And, to go into a little bit more detail here, I'd like to turn it back to Andrea to talk more about ENERGY STAR.

Slide 23

Andrea: I just want to do a quick check – we were hoping to have an ENERGY STAR representative on the line...

Katie Hatcher: Yep, I'm here.

Andrea: Ok, great. I'll hand it over to you then.

Katie Hatcher: Great. I can't see the web portion of the meeting; however, I've only got one slide there, so I think everyone's on it. I'm Katie Hatcher with the ENERGY STAR program. And, what I'd like to make you aware of is the resource that we have for the ENERGY STAR program called Portfolio Manager. It's a great tool for inventorying the energy use of your commercial buildings, and now wastewater treatment plants. And, it also allows you to identify your top performers and your worst performers, and figure out really where you would really want to make your energy efficiency investments in order to save money as well as reduce greenhouse gas emissions. So, it's a great tool for screening for where your good energy efficiency projects lie. It's also – the tool allows you to establish a baseline for a particular building, and measure your improvement over that baseline. And it also has lots of great features for sharing building energy use data within your organization. You can basically, for example, a local government could have a master account and then give access to various departments within the local government. And each department could put in their energy use information, and track their energy use reductions, and then the central administrator of the master account can see all that information. In addition, we've just – actually, as of October 1st - modified the tool in terms of the emissions calculations to be consistent with the WRI. And basically it's one of the accepted protocols of measuring greenhouse gases in terms of an inventory. Our method of measuring reductions between a base period and a current period, however, is actually slightly different than approach out there with WRI, and so people do need to do additional calculations to determine reductions in that way. But the tool is very helpful for inventorying energy use, and as I said, at measuring improvement over a baseline. And also, it is great for generating a statement of energy performance for each building, and that can be used in your performance contracting process, to convey to the performance contractor what your baseline energy use is. And then also, they can re-benchmark the building after the project to show the improvement, and then you can use it through the contractual process actually to help keep things on track. So that was actually all I really wanted to share.

Andrea: Great, and I just wanted to mention, there are trainings available on Portfolio Manager, as well as a similar webcast as what we offer today, and there's a link at the end of this presentation, where you can get more information about that.

Slide 24

Karl: So, that was the second part of our discussion on voluntary programs. And then, turning to our final category of policies: technical assistance, information, education. Here there are some good examples that various levels of governments have applied, such as support for Smart Growth, form-based codes, transit-oriented development. Here also at the state level, or potentially at the local government level, you could encourage the use of smart meters to better inform consumer decisions on electricity or gas consumption. Also falling into this category would be various driver education programs on vehicle operation and maintenance that could reduce gasoline consumption and thus, GHG gas emissions. So, that kind of provides a spectrum of policy options, again applied by different jurisdictions, applied to different sectors. There may be other categories not fully captured here, but I think the take-away message we certainly like to offer is certainly anyone who thinks there's only a handful of things or almost nothing that a state and local government could do to affect this problem, needs to think of this full range – and it really is quite impressive, and people who have tried to catalog the policy options – literally count them – they can run into the hundreds.

Slide 25

So, let's turn now to how one might go about evaluating or screening these policy options to consider whether your jurisdiction would want to adopt any particular policy. And here I think there's both simple and complicated ways to look at these. Perhaps, the best way to describe a simple approach is to simply talk with colleagues in other jurisdictions, and ask, how is the policy working? Does it seem to be having an effect? What is it costing your agency? Moving beyond that, a lot of jurisdictions attempt an analysis of what kind of tons reduction a policy might achieve, or what it might cost. And this could be done through relatively simple spreadsheet analysis, and projections into the future for the policy option by policy option. And, moving up to the highest level of complexity, we've seen some jurisdictions engage very complex computer models – dynamic multi-sector models that look out into the future and as in detailed a way as possible, forecast the cost of achieving those tons, and the interaction with the macro economy and employment, and how policy options interact with each other. So that's probably the most complex approach to evaluating policy options. The choice you make is probably going to depend in part on resource availability and the timelines for decision-making.

Slide 26

Finally, I'd like to close with just a few points on the processes your jurisdiction might use for choosing emission goals and the policies to meet those goals. When we look at how various jurisdictions have tackled this problem, I think most approaches or processes fall into two broad categories: one I would describe as a stakeholder-driven process. Here a governor or a mayor or a policymaker will convene some kind of "blue-ribbon panel"; they will have that panel be professionally facilitated, and go through a collaborative, consensus-building process, and come up with a set of recommendations. Typically, these recommendations have not been binding on the government that calls for them, but it can

certainly build public acceptance for that set of recommendations by going through that process. The flip side of that, of course, is that this can be a very time- and resource-intensive process. The other broad category I would label more agency-driven. Here a policy leader will ask, say, one agency in the government to take a lead on developing a plan. That agency typically seeks expert input, stakeholder input, but not in the formal consensus-building process just described. This process may be quicker, result in a quicker set of recommendations. But the flip side there is that there may be less public acceptance of the package as it moves to a governor's desk or a mayor's desk.

Slide 27

So I know I've tried to cover a lot of territory in this brief time. Andrea's going to talk a little bit about follow-up and resources, but I just want to highlight a couple of websites that I think would be of interest as you delve further into this. EPA State and Local Government page has a wealth of information; the State and Local Clean Energy Program also; the ENERGY STAR website; there's an excellent Database of State Incentives for Renewables and Efficiency listed there; and also, targeting the local government level, I have the ICLEI USA highlighted there also. That is just a partial listing of a vast wealth of information resources out there on the web. So, with that, let me turn this back to Andrea.

Andrea: Thank you Karl. As Karl mentioned, we covered a lot of ground, and threw out a lot of policy options, and we hope that we peaked your interest and that you'll use some of those follow-up links to pursue things that sounded interesting and sounded like they might be good possibilities for your state or for your community. I did want to specifically mention that on the Clean Energy State and Local page, we do have a best practice guidance for state clean energy programs, and we are currently developing a best practice guidance for local governments as well, that we hope to start having chapters of that available early 2008. So that webpage is a great resource for learning more about some of the options we touched on very briefly today. We have one more greenhouse gas related webcast coming up, scheduled for December 5th at 2 pm Eastern time. This will be on the State Inventory Tool specifically. Because it's on the State Inventory Tool, and because the State Inventory Tool uses data that's typically not available at the local government level, this training is really intended for state level officials. And for local governments, it would probably be best if you follow up with ICLEI about what training might be available to you through them. We're not excluding local governments from this training; I just want to warn local government officials that it's probably not the best use of your time because the tool is not really appropriate for the type of inventory local governments typically do.

I just provided my information here – I'm certainly willing to answer questions that come up after this call, taking your feedback about the call, or about some of the policies you heard about today. If I'm not the right person, I'm happy to connect you with the right people. And with that, we'll turn it over to open up the Q&A – if you haven't already submitted questions, you can submit questions through the comment box on your screen.

Adam: Ok, thank you Andrea. As the presentation has been going along, we've been receiving some questions that we'll go through right now. The first one concerns the ICLEI software – we're wondering if the ICLEI software for cities will let you choose the greenhouse gases that you want to scope or track?

Andrea: Alex, would you like to answer that, please?

Alex: You bet. This is Alex Ramel, I'm a Program Officer with ICLEI Local Governments for Sustainability. The short answer to that question is that yes, you can use the software to consider only one, or two, or up to all six of the Kyoto gases. It's kind of got a default setting to it that assumes that what you want to do is track the three that are the generally most relevant to local governments, which are CO₂, CH₄, and N₂O. But it could be used to consider only one or one of those, and it also has coefficients built in for calculating some of the other gases as well.

Andrea: Thanks, Alex.

Adam: Thanks Alex. This is another question related to ICLEI, so I guess it's directed towards you – for a small town with limited or no staff, would we rely on ICLEI to choose goals and policies?

Alex: I don't that we would totally establish your goal for you – in general, we can offer advice and technical support to our members. And in terms of developing policies, one thing I wanted to bring up, and now's as good a time as any, we are coming out with a tool that I hope will be a really exciting way for local governments to sort of craft or select the best policies, and craft the best local action plan. This tool should be ready to roll out within the next few months, and we're calling it the Clean Energy and Climate Protection Planning System. And essentially, it's a little bit more complicated way of doing the cost-benefit analysis that Karl was talking about. And we're sort of adding more dimensions, and just costs and benefits in terms of CO₂-equivalent reductions. We're also considering benefits in terms of how popular is the measure, or how is the measure offering the community an opportunity for leadership on the national scale, or how does the measure pay for itself over time as opposed to first cost. And so we've got six or seven different dimensions that are considered for each of the 200 possible measures that are outlined in this tool. And, by entering in some basic information about your community - including your baseline inventory and your reduction target, and how you weight on a 1-5 scale how important is first cost compared to payback, as compared to each of those different dimensions - it will develop a plan for you that maximizes all of those different values, based on the actual experience of real-world communities that have already implemented these measures. So that will be one way that we will be able to assist in developing policies. But in terms of actually adopting those policies, that will still come down as the responsibility for the local government. This is just a tool to make a first draft of a plan.

Andrea: Thanks, Alex. And I would just add on the EPA side, you know, there are a number of EPA programs that kind of highlight for local governments some of the

typically adopted, or things that state and local governments have adopted and found to be very cost-effective, such as some of the basic energy efficiency measures. And there's a lot of information available about that through ENERGY STAR; there's a lot of best-practice information available as well; and I think it's always helpful – especially for smaller local governments – to look at what other local governments are doing, especially ones of similar size or in the same general part of the country, that might be facing a lot of the same similar issues. You can often borrow, and learn from, and not recreate the wheel by looking to your neighbors. And another option is to look if there are any kind of regional efforts going on in your area that might encompass a council of governments, or if you're a smaller community that's part of a county, and your county is active, you may be able to join in with what they're doing, and save yourself some resources.

Adam: Thanks Andrea and Alex. Another question here – have you analyzed results of the different programs or policies for local governments? In other words, are they achieving targets?

Andrea: EPA doesn't specifically have local governments reporting to them, but ICLEI does have some quantification protocols, and they do get results reported from the local governments. Alex, I don't know if you want to elaborate on that, or where people can get that data?

Alex: We don't have a comprehensive list. We have individual governments that have said, we've achieved our target, or we're on track to achieve our target. But we don't have anything that's comprehensive.

Andrea: I would say that ENERGY STAR has also collected some data as well. You know, it's not necessarily specific to just local governments; it encompasses a range of different sectors ENERGY STAR works with. And there's definitely a tremendous amount of anecdotal data available through different case studies, and best practice reports, and that kind of thing.

Adam: Thanks Andrea. Another question here – how do you go about assisting industry stakeholders?

Andrea: I'm actually going to let Karl take a crack at answering that question.

Karl: I'm going to have to guess a little bit at the context of the question. In the formal collaborative processes that we've observed, say the blue-ribbon panel, there've been stakeholders there from industry, from NGOs, from academia, from various agencies and governments. And in those settings, industry stakeholders, along with all stakeholders, benefit from the facilitation of the expert advice that's provided to those blue-ribbon panels. The other context for this question might be in the context of voluntary programs, where industries are participants, certainly in a program like ENERGY STAR, they're receiving technical assistance from the ENERGY STAR program, and things like that. I'm not sure if I've...if the person who submitted that, you might resubmit, and we'll take another whack at it.

Adam: Thanks Karl. This is a broader question talking about the relationship between policy tools and the geographic scope of the inventory or plan.

Andrea: There are definitely different policy tools that are applicable – I'm assuming that when the submitter said geographic scope, they are referencing to a matter of scale – so, looking at state versus local or regional greenhouse gas inventories. There's a very broad range of policy, and some policy levers are best used at the state level, and some are more applicable to the local level. In some cases, the most appropriate government to use a particular policy lever may depend on the legal structure of that state or of that community - issues like home rule, and who has control over certain things from a legal framework come into play. I think that it's difficult to answer a broad question like that without knowing a little bit more about what the submitter was looking for. I'd certainly be happy to have that person email or call me, and I can try and answer the question more thoroughly, and I'd also encourage them to look at the websites that are on that resource slide, because it does start to delineate some of the policy options that are more applicable for one state, or for a state versus for a local government. The other aspect that I could interpret geographic scope to mean would just be different policies are more applicable in different parts of the country – that's absolutely true, and that's why it's very difficult to recommend one policy for all states, or one policy for all communities. And it really becomes a matter of looking at your own emissions, and looking at the activity, and the industry mix, and the residential mix within your community or state in determining what is the most appropriate measure for that.

Adam: Thank you very much Andrea for that response. There was a little bit of confusion – there were a couple of questions that people were asking about what was meant by form-based codes – it was on the slide about technical assistance and smart growth. Could you please elaborate on that?

Andrea: Sure, and I'll pass that to Karl.

Karl: I'm not an expert in this area, and so I'm going to give the answer that I think is right and I encourage others to chime in if this appears wrong. I believe that in the zoning decisions of local governments, there are at least two sort of classic approaches to doing that. One is zoning on the basis of use, meaning this sort of area can only be residential, or commercial, or industrial. And that was been the predominant sort of zoning I think at least since World War II in this country, and that will tend to produce of course urban areas that are uniformly residential or commercial or industrial, etc. I believe that a form-based code is one that does not specify the type of use that an area must have, but more the physical form of the building. And so it will shape the physical appearance, but not determine residential, commercial, or industrial use. And that will tend to create more mixed-use neighborhoods, and which will, according to a lot of the literature in this area, will mean that there will be less demand for like single-occupancy vehicle transportation modes to move between the zones.

Andrea: Great, thanks Karl. I would just also throw that question out to Brett Rosenberg from the U.S. Conference of Mayors or Alex Ramel from ICLEI, who work with local governments a lot, in case you have anything to add on building codes? And if you don't, that's ok too.

Alex: This is Alex, I don't have anything to add.

Andrea: Ok.

Brett: This is Brett. Same boat here.

Andrea: Ok, great. I just – you guys talk to local governments more directly more often than I do, so I wanted to make sure we weren't missing anything key there. So, next question...

Adam: Thanks Andrea. There was talk in the presentation earlier about the co-benefits that are associated with tracking greenhouse gas emissions. Are there any readily available tools for calculating the greenhouse gas emission reduction co-benefits from, for example, ozone-depletion reduction measures?

Andrea: There are some tools available that do that. For example, ICLEI's Cleaner Climate Section software does track air pollutants, and we're in the process of adding some particulate matter – well, they're in the process with EPA funding – adding some particulate matter quantification to that as well. There's also some other tools that you can access through EPA's Clean Energy site. If you go to that link, there's a "Tools and Resources" page, and a number of those tools look at different co-benefits, which include environmental co-benefits, as well as economic benefits. We also have a co-benefits risk assessment model, which starts to look at the health benefits that are associated with different emission reductions. So there are a number of tools out there. I don't have time to get into all of them, but there are definitely tools available that are available at no charge as well that you can access. And we do try to put most of those on the Clean Energy and Climate pages of the EPA site.

Adam: Ok, thanks Andrea. This kind of goes along with getting information about the tools that are available. One person here was wondering if there was any sort of newsletter that might keep us aware of new tools and measures available to us.

Andrea: Absolutely, and I'm glad I get a chance to plug EPA's Clean Energy listserv – it's for state and local governments. And what we'll do – it is available on that Clean Energy website, but it can be a little difficult to navigate through and it's a very long url. So rather than trying to recite it to you, when we send out the follow-up email for this conference call letting you know where you can access the recording and other information like that, we'll include information about how to sign up for that listserv. We send out about one message per week on average, and it's just an email message, but it will announce funding opportunities, new tools, conferences, and other things that we think would be important to state and local officials.

Adam: Thanks again, Andrea. Earlier in the presentation, we were talking about evaluating and screening policy options and various models used for that – we were just wondering, who uses dynamic multi-sector models?

Andrea: And I'm going to pass that off to Karl, who works with a number of states.

Karl: Yes, to my knowledge, the Regional Greenhouse Gas Initiative in the Northeast used a sophisticated dynamic model to analyze the proposed cap-and-trade on the power sector, so that engaged a complex program that analyzed dispatch of power plants, and the addition of new power plants, and how that would all shake out. I'm also aware that the State of Illinois used a multi-system dynamics model to analyze its package of mitigation options. And I also understand that California, going forward, will also use that approach in analyzing their package of measures under AB32. Those are the examples that I am aware of to date. There may be more.

Andrea: Typically, it tends to be something that's used more at the state level. I don't want to say that it's exclusively used by states, but it can be very expensive, so just from a budget constraint issue, and some of the policies that are looked at through those models are used more at the state level. So it tends to be used more by states or multi-states who have policy issues that are more appropriate for it.

Adam: Thanks Andrea and Karl. We have another question here – can we get some more specifics on the best practices that you said would be coming out in January of 2008?

Andrea: Sure. What we're developing is a best practice guidance for local governments. As a mentioned, we already have one that's available for state governments, and that's available through that Clean Energy site. But for local governments – it covers a range of different policy measures and actions that local governments are taking across the country and have found to be successful, fairly easy to implement, and cost-effective, and that get fairly substantial results. And it's broken down into a couple of main sectors - we look at some energy efficiency options that include things like energy efficiency in affordable housing, in K-12 schools, and in municipal operations, as well as looking at building codes. We have some renewable energy best practices, which include both purchasing green power to replace some of your electricity purchases, as well as on-site renewable generation. And we have some waste-related best practices, such as capturing methane at your landfills, or different ways to address your waste stream that have climate and energy benefits. We look at some urban design or urban planning practices, including heat islands and smart growth. We look at environmentally-preferable purchasing – I'm probably missing a few, but that should give you an idea of the kinds of policies we're looking at. And what we do is provide some basic information – fairly short chapters with supplemental resources that you can go to, and places that you can get additional information about them. We try and cover typical costs, typical savings, both economic and environmental – and so, like, emissions-reduction associated with some of those practices. We give you some case studies and examples of how local governments are using those different practices. So, that's it in a nutshell. I should also mention that to

accompany those best practice guidance, we will be holding additional webcasts, starting next year on best practice measures for local governments and we'll be sending information on that out through our listserv, so it's a good way to keep informed. Because as of now, we don't have those dates set.

Brett: Hey Andrea, this is Brett with the Conference of Mayors, can I interrupt for just a second?

Andrea: Absolutely.

Brett: I just want to announce that the Conference of Mayors released the new best practices guide last week, and it's on our website right now at www.usmayors.org/climateprotection. What we did is essentially asked mayors and their staff to do something that gets at the heart of protecting the climate, reducing greenhouse gas emissions, and tries to assess how much it costs, what the benefits are, and things like that. And some of them actually answered the questions sort of specifically, which is nice, and you can review that on our website – it should be organized based on kind of comprehensive sustainability types of programs and regional programs, and then a range of statistic programs.

Andrea: Great, thanks. The U.S. Conference of Mayors and ICLEI are both great resources for local governments to look to for ideas on how to tackle climate change and clean energy. Alright, I think we're ready for the next question.

Adam: Thanks Andrea. Should local governments be working through our state environmental agency, or EPA, or both, or the state first? Are state agencies on board with EPA practices?

Andrea: Well, I guess the short answer to the first part of that question is yes; definitely I would encourage you to work with your state to the extent that you can and to the extent that your state is receptive. Different states have different levels of support for local governments, some have a lot of very well established programs that you can turn to that are already prepackaged with other states. You may be working in a more unique situation where they're able to support local governments more independently rather than having an established program. It really varies across the country, and it's really difficult to say exactly what resources each state has. We have the desire database that Karl mentioned that's on that resource list – it does have a lot of information in it about different funding and incentives that states offer that may be applicable to local governments, so that's a great place to check out. But definitely I would loop in with your state government and find out what they might have, or how they might be able to help you. And certainly EPA wants to support local governments – in addition to our headquarters office where I'm based, I would recommend that you talk to staff in the regional offices that are across the U.S. – we have ten regional offices, and they often do a lot of our on the ground work with local governments, and they're very interested in helping local governments as well. And we've had very good reception from states on the materials and the technical assistance we can offer to states. So, I mean I would say, to

the best of my knowledge, yes, states are receptive to EPA's clean energy message. Next question?

Adam: Thanks Andrea. This question concerns the criteria cited in setting greenhouse gas goals – you had mentioned using science-based and other criteria in setting those goals – if we don't use the science-based determination, and of what the reductions are necessary to avoid catastrophic impacts, aren't we just kidding ourselves?

Andrea: Oh, there's always one really tough question. You know, a lot of the science-based goals are very long-term goals, and a lot of local governments find that what might be more productive and achieve more short-term reductions is to use a shorter-term goal that will let them start investigating this issue and demonstrate to people that there are cost-effective measures that can be taken that have a lot of benefits for both the environment and society as a whole. And by taking that first step, it's the first step down a longer road to those long-term reductions. So, I wouldn't say that states and local governments that are using different criteria are kidding themselves at all, I think that they're taking a first step towards a much longer process that we're going to have around for, well, probably exceeding the lifetimes of all of the people on this call. So, it really just depends on your perspective, and you know, whether you want to set that long-term goal or whether you want to look at a more near-term goal, and with the view to going beyond that down the road. Next question?

Adam: Okay, thanks Andrea. Another question here – is there any no cost technical assistance that's available to states to assist state blue-ribbon climate change panels in analyzing the cost-benefit analysis of greenhouse gas reduction strategies?

Andrea: One of the chapters in our Guide to Action – Best Practices for States does cover working with collaboratives, both with state agencies and with stakeholder input. So that's definitely one place to start. Our program does offer, you know, a certain amount of – depending on how exactly you define technical assistance – you know, it's always free to call us and pick our brains a little bit, and we're always happy to help on that. So there is some available. I wouldn't say there's necessarily...you know if you need really extensive technical support - that may or may not be available depending on resources.

Adam: Thanks Andrea. Do you have any tips on how best to proceed so as to provide a positive, if possible, or at least instructive example to other local agencies interested in undertaking this greenhouse gas inventory process?

Andrea: I'm sorry, Adam, could you repeat that?

Adam: They're just wondering if you have any tips on how best to proceed to provide a positive or instructive example to other local agencies who are interested in undertaking this process.

Andrea: Sure. You know, I think one thing that resonates really, really well with local governments that we've found is hearing from other local governments about what

they're doing. And there are a number of different forums – the National Association of Counties has a discussion forum for counties. There are other similar types of listservs and discussion groups that are getting started – and I'll ask Brett and Alex to chime in as well as some of that ways that it might be available to share experiences through their organizations. You know, through our webcast series that we're hoping to develop for local governments, we are hoping to have local governments on the phone, presenting, speaking directly about what they're doing. And I would certainly welcome hearing about innovative or successful programs in your local government. We're always looking for good examples of stories that we can share, because across the country, definitely local governments want to hear what is working. And so if you have a good, positive story to share that you want to get out there feel free to send me an email, as I would love to hear about it and see what we can do to get that story out there. And I would say also, you know, the media is very excited about climate change, and about what states and cities and local governments are doing on climate change, so that's definitely another avenue to explore as well. Brett or Alex, did you want to add anything about how people might be able to share stories and experiences through your organizations?

Brett: Yeah, this is Brett. I just want to say that we're always certainly ready to accept best practices from the cities, and periodically through the year we'll publish those in some form or another, either online or in a big document, or both. But from my experience, it seems like the mayors at least get a great deal from one-on-one communication at our meetings. And so I would encourage you to encourage your mayors to attend our meetings, because that seems to be where a lot of the action takes place in terms of coming up with new ideas and building on old ideas. It seems like that...and then they go back to the cities, and make things happen.

Alex: This is Alex. I would absolutely second that. I've heard nothing but positive feedback about the Mayors' Conference meeting last week, held in Seattle. It seemed to be a really positive experience for a lot of people. Some of the things that ICLEI is providing along those lines – we do have some communications staff who are there to help our members develop press releases about some of things that...some of the measures they've taken, and to most effectively communicate those stories. And in terms of sharing directly with your peers, we routinely organize conferences within the region, sometimes teleconferences, sometimes in person, and are always looking for good stories, good examples to tell at those meetings about some best practices. We also regularly publish best practices guides which are specific to a particular kind of measure – right now we're developing one for revolving energy loan funds. And so we'll look for the best examples from around the country of programs that have worked, and then bring those collective experiences together into a short guidebook on sort of how to do that.

Andrea: Great. And I was also say too, to the extent that you can make information about your programs available online, you know, these days that's where people often turn to first to look for examples and things to learn from. So having a good website is a great way to draw attention to the work that you're doing. Next question?

Adam: Ok, thank you guys. If a state or a city were to implement a greenhouse gas reduction plan now, and later on the greenhouse gases are regulated by EPA, will the area get credit for reductions that are already implemented?

Andrea: I can't answer that question – it depends exactly what might be regulated, and there are so many different options that are out there in Congress right now, and it's not certain if or when anything, or what that regulation would look like. So it's very difficult to answer that. My recommendation would be to keep very accurate records of what you're doing and what you did, when you did it, and your estimated emissions reductions from that, and being prepared is the best way to face whatever eventuality might come down the pipe. Do we have time for one more question?

Adam: Yes, thank you very much Andrea again – this concerns ICLEI – would it make sense for ICLEI to have funding to continue supporting local governments, rather than EPA developing their own sets of best practices?

Andrea: EPA has a long history of funding ICLEI, and it has a very strong collegial relationship with ICLEI, and with the U.S. Conference of Mayors. We see ourselves as being very complementary to those programs, as well as to a number of NGOs that work with state and local governments. And we coordinate very closely to make sure that the resources we're developing don't overlap or repeat what those other governments are doing. So we all have things that we refer to as best practices, but the documents are always slightly different, have different information, and convey different information to local governments. So we do work very hard to make sure that we're not duplicating efforts and using our resources in an ineffective way. But there are certain – we all have access to different expertise, and have different kind of niches in this arena, so by working together, we actually feel that that's the most effective way to get that information out.

Andrea: Ok, everybody, thank you so much for staying on the line and participating in the call. We hope you found it helpful. We will be sending out follow-up information with some of the links that we talked about, as well as information about how to access the recording of this call. As I said, I would welcome your feedback both on this call, as well as any questions that you might have about upcoming calls or suggestions for upcoming calls. And with that, I thank you once again, and that will end our call today.