

EPA

**Moderator: Verena Radulovic
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Maleka Greene: Good afternoon, everyone. Again, this is Maleka Greene with GSA. I want to welcome everyone to part two of the Supplier Greenhouse Gas Emissions Inventory Pilot Training.

Today, Verena Radulovic from EPA is going to provide you with an in-depth walkthrough of the GHG Emissions Calculator. Because of the technical nature of the things that Verena is going to go through today, we're going to hold all questions until the end.

Before we get started, I'd like to poll everyone to see if you have already started your inventory. All I need is a yes or no. It's no big deal. I just want to get an idea of the companies that have already started. So if you could do that for me, I'd greatly appreciate it.

So now, I am going to turn it over to Verena who will go over the calculator with you.

Verena Radulovic: Great. Thanks, Maleka, and thanks to all of you who are voting -- excellent. Get those answers in and we can get a sense of who has started their inventory and who hasn't.

By the end of today's training, our goal is to have you understand how to calculate your company's greenhouse gas inventory using the simplified Greenhouse Gas Emissions Calculator that we have on our website. And also by the end of this call, we want to make sure that everybody understands what else you need to fill out and submit to EPA and GSA as part of the pilot

requirements. So I'm going to go ahead and walk through all of the documents that you need to submit, but the majority of today's training will focus on actually using our calculator.

I'm going to walk you through a brief overview of the scopes that we talked about last week in terms of what goes into your inventory, and we've created for you a sample company with a description, and we're going to walk through from start to finish how you would go about calculating this company's inventory.

Many of you, who are participating in the pilot, are a mix of different kinds of companies. Some of you are consumer goods manufacturers, some of you are engineering services firms, some of you are consultants, and some of you offer other kinds of goods and services to the federal government.

The sample company that we've created for you to follow is a small manufacturer that has both emissions from manufacturing but also from offices. And the idea behind our construction for today is to help you get familiar with very different aspects of an inventory that will, most certainly, apply to your companies.

So 89 percent of you voted. And of the 10 percent that hasn't voted yet, please do. What we're seeing here just before we get started is that about a third of you have started to develop your inventory. About 70 percent of you have not yet started your inventory. OK. So that's good to know, and we appreciate you letting us know that.

So this is a slide from last week that I just wanted to have you look at one more time before we get started. We're going to look at what the different scopes are underneath your inventory. Scope one or your direct emissions is what is actually being produced on site. It's your fuel combustion onsite, particularly, if you're a manufacturer and for all of you, if your company-owned vehicle is going to be included. Your scope two is going to be your purchased electricity and purchased steam. And your scope three is everything else.

And please note also, the six greenhouse gases that we are going to be focusing on that comprise your inventory -- carbon dioxide, sulfur hexafluoride, methane, nitrous oxide, HFCs, and PFCs. And for most of you, the majority of your emissions are going to be coming from sources that are concentrated on your carbon dioxide, methane, nitrous oxide, and HFCs. We'll get to that as you see this particular company that I'm going to unveil in just a moment.

Before I do, I also want to reiterate where you can find all of the tools and resources that you will need to at least begin developing your inventory. This is the page that should be your best friend. This is going to be where the guidance is, where the actual calculator resides, as well as your inventory management plan.

For those of you who have questions, this presentation will be available and sent to you after this training. We will also have this training recorded and online in case you missed it or would like to share it with your colleagues.

So as you're getting started, this is the document you want to consult before you go ahead and begin to produce your inventory. So why don't I show it to you again? This is your guidance for low emitters and for small businesses and that's what's you're going to start before you end up here.

But what I'm going to do before we continue with this particular presentation, I'm going to close the poll. OK.

So let me go back really quickly because I think some of you may not have seen this. Where I was was looking at the different scopes. This is the website that you want to be looking at. And then here is the EPA's guidance on Greenhouse Gas Management for Small Businesses and Low Emitters. OK. So these are the tools that you're going to need to consult.

So let's go ahead and pull up this case study. So what we've done is we've created a company called XYZ. XYZ is small Ohio-based manufacturing company that sells widgets to the federal government. This company owns two manufacturing plants and leases three offices close to Columbus, Ohio.

For two of the offices, XYZ leases the top floors and is able to sub-meter its electricity usage.

However, for the third office, XYZ occupies only one floor in a large building. And for this third office, the utility bills are included in the rent and XYZ is unable to receive a breakdown in electricity usage from the landlord. We created this for you because we know that many of you may potentially be in this situation.

It's also important to note that XYZ purchases natural gas for its boilers at each manufacturing facility. And both of its plants -- its manufacturing plants -- use the refrigerant, R-22, in the air-conditioning and the offices use HFC-134a for their air-conditioning. Finding out what kind of air-conditioning you have should be relatively easy to do in terms of understanding what is used.

Then XYZ also owns a few vehicles. They own seven different kinds of vehicles -- a van, two trucks, small forklift, two pickup trucks, and a large forklift. And again, a very common refrigerant in vehicles is also HFC -- HFC-134a for the air-conditioning.

Another thing to note for this manufacturing company, both the president and vice-president of XYZ flew to conferences and meetings in Illinois, California, and Virginia. And remember, this is an Ohio-based firm. But these conferences and meetings that they flew to are the only business travel for the year.

For many of you, particularly in the services industry, we know a business travel may potentially be a large component of your carbon footprint so we wanted to include that.

So the very first thing before we even get to the calculator is figuring out how to draw the boundary around your inventory. Last week in the slides, we talked about a variety of different approaches. You can either use an equity share approach, which is whatever percent of ownership that you have in a company. You estimate the emissions associated with that percentage.

But a much more common and, I think, more appropriate for small businesses will be to take the control approach, and that would be either a financial control approach or an operational control approach. And for the financial control approach, again, it might make sense for small businesses to do that. The financial control approach is where you're able to direct the financial policies of your operations, but an operational control approach, which is what we would recommend for most of you is the authority to implement the operating policies at the operation.

So what we're going to go ahead and do for this company is we're going to go ahead and choose an operational control, and we're going to do this because this company is able to control how it operates most of its buildings, equipment and vehicles that are responsible for emitting greenhouse gas emissions. So remember that those three scopes -- what are all of the sources that may potentially be responsible for generating those emissions.

When you look at that, you have the trucks, the electricity, the air-conditioning -- all of that is within the operational control of XYZ. So we're going to do that because it's the easiest and most comprehensive. Once you figured out what control you're going to -- what control approach you're going to pick, then you actually have to begin to assess out what sources you're going to include. And I wanted to draw attention to that because just because you opt for an operational control doesn't mean that you include everything. You really need to look at what your company can affect.

Now, you remember that the company owns the manufacturing facilities, so all of what's in the manufacturing facilities is going to be included. But remember, the offices, it sub-meters two of the offices and actually, let me scroll back up here and show you. So remember that it include all of the emissions from the vehicles. We're going to include the electricity bills from the two manufacturing plants and the two offices where XYZ does have control over the electricity usage. So that third office, we're just not going to include it in this inventory.

Now, one thing to keep in mind and this is going to be included in a tip sheet that EPA and GSA have prepared for you, you want to look at the air-

conditioning from the offices and the vehicles. When it comes to refrigerants or air-conditioning, there are a couple of air-conditioning and refrigerants that are being phased out according to an international law called the Montreal Protocol that the U.S. has also adopted.

Those are refrigerants that are being phased out and as a result, you don't include them in your inventory at all. So we, at EPA, have had experience where some small companies, particularly manufacturers, may have the substance R-22 as part of their refrigerants, and we recommend that you just simply don't include that in your inventory. So that's you. Again, you can use a helpline and they can help you with that but it's just something to keep in mind.

We put that in there because it's a common question. You're going to see that we are not going to include the refrigerants from the plants because R-22 is used in the plants. We are going to include air-conditioning from the offices and the vehicles because remember, the offices and the vehicles have a different refrigerant that is commonly used.

And finally, remember we talked about business travel. The vice-president and president of XYZ took business trips to California, Illinois, and Virginia, and this is a company in Ohio and that's going to be important. I'll explain when we get to that part of the calculator.

Though it's not required for completing a company-wide greenhouse gas inventory, this company, XYZ, opted to include the emissions associated with its business travel. One of the things to keep in mind when you're developing your inventory is if you're going to include an optional source like your business travel or your product transport or your employee travel, it's really important to include all of it. So earlier in this particular example, we said that this is the only business travel that they had done all year. So if you're going to include business travel, employee commuting or product transport, you've got to include all of it.

One of the things before I go ahead and open up the calculator and actually plug in and you can see how we actually calculate an inventory, there's a

couple of tips that are really important to keep in mind. One is to define this organizational boundary at the very beginning of the process. If you can think about it, if you don't do the steps then you may be calculating your inventory wrong from the beginning and you'll just have to recalculate it. So it's really important to understand what this means for owned and leased facilities and vehicles and our guidance document that I referred to earlier can really help you with that.

It's also important to identify all of the emission sources upfront. So something that you don't want to forget and again, this will be available to you in a tip sheet that we will send to you, so don't forget vehicles. The vehicle suite may be really small and not essentially managed but you still need to include it if you have control over it.

If you're a manufacturer, you may have some less common fuels such as propane or kerosene or acetylene that you might be using. If you're a consulting firm that is mostly in an office, you very likely will not need to worry about those.

Refrigerants and fire suppressant systems are important to include, but in terms of vehicles and facilities for commercial air-conditioning, but if you're a small business and you have a cooler downstairs or a small refrigerator, you don't need to include the emissions from that because it's so small.

However, if you are in the food management business or if you have a manufacturing facility that has a pretty extensive fire suppression system, then you're going to want to include the refrigerants used in those systems. And if you do have systems, you know who you are. Again, if you're a service-based firm, you probably don't.

For those of you who are construction firms that are on the phone, if you have backup diesel generators for onsite construction sites, you would probably want to include those as well. But again, for the purposes of this pilot example, we've shown you a company that is pretty generic that can apply broadly to everyone.

Finally, last few tips before we actually go ahead and open up the calculator is you really want to gather all of the data that you're going to need before you start plugging it into the calculator. What happens is that this is going to avoid having to make multiple requests to your colleagues or perhaps miss data, and it's really good to think about relying on information that is already being collected. So you want to think is there someone in your company that's already gathering the data from your utility bills and can you work with that person.

We are sensitive that a lot of small businesses, you all wear multiple hats and we appreciate that you're taking an hour and a half of your day to participate in this because we know that you have a lot going on in a lot of other different roles. So use the people that are already collecting the information that you need and see if you can involve them as part of a project where you form a team to a pair a project schedule and establish check-ins. What that may do is actually reduce the burden across your entire company if this happen to those existing networks. So those are just some common tips before you go ahead and get started.

Now, what I'm going to go ahead and do and I do see that people have certain questions coming in and again, we'll take those in the end but I will also try and address some of them as I go through this particular exercise.

Let me actually pull up this PowerPoint. This is where we left off the guidance document. The next step is to go to this part of our website and actually download the calculator. It's an Excel-based calculator. It's free. And what it does is when you plug those numbers in, it automatically calculates your overall carbon footprint from all of your greenhouse gas emissions sources.

So with that, here we go. OK. What we have here is we have a calculator that has multiple tabs. I'm going to focus on the tabs that are relevant to this company. I'm going to show you what all the tabs are but I'm not going to go through each and everyone of them because some -- I would say 95 percent of you on the phone, not every tab is going to apply.

All right. So this is your intro tab. It explains everything in blue. It's going to be mandatory, so as part of your inventory, and everything in green is an optional emission source that you may include if you want to but you don't have to.

This is your summary sheet. This company XYZ, what I've done here is we've created an inventory for it and you'll see -- this is actually the last thing that you will look at once you're finished calculating but this is the end calculation for this company. It tells you that this company has 7,797 tons of emissions for its entire company footprint. You'll see how it's broken down, what's coming from their onsite combustion, what's coming from their vehicles, what's coming from their refrigeration, and what's coming from their purchased electricity and from their business travel. And what we're going to do in this next part of the training here is we're going to walk you through how we got to each and everyone of those components.

So remember, XYZ is a manufacturing facility and we know that for their direct emission, we saw that they buy natural gas for their boilers, and we also saw that they have seven vehicles. So those are going to be your two sources of direct emissions. And the tabs are specifically outlined accordingly.

So here, we have a tab. The first tab is about the natural gas that is collected for the company. Before you even get to the calculator because 2010 is going to be your base year, you need to collect the monthly bills from 2010 that show you how much natural gas has been purchased for the year 2010.

So in this case, XYZ -- and I'm just going to go ahead and simulate what they did. So -- OK. For plants, I bought boiler for steam and heat. And if you go to this tab here and you pull it down, you can pick what kind of fuel you have. We know that they chose natural gas. It automatically populates the units for natural gas and you would enter the collective amount of standard cubic feet of natural gas that you purchased.

And one of the things that we're going to do in the tip sheet that we're going to give you is we're going to give you conversions for some common billing units. For those of you on the phone who do have natural gas, we're going to

give you conversion units so that if you have it in MMBtu or if you have it in hundred square feet or cubic meters, we'll be able to give you the right conversion factors so that you know how to properly enter it into this calculator as standard cubic feet. So that is just to show you how to enter it in.

Now, if you scroll down, it actually calculates it for you. So this number, 3,147.5, is the total tons of carbon dioxide emissions. I'm just going to go ahead and change this number just to show you how this number changes and you'll notice that it's much smaller. You don't need to worry about these boxes here that -- carbon dioxide, methane, and nitrous oxide. It's just there to show you the breakdown is of natural gas according to carbon dioxide, methane, and nitrous oxide.

So that's it in terms of your natural gas. You just need to collect the amount of natural gas that you purchased during the year. Make sure it's in standard cubic feet, enter it in, it tells what fuel it is, and it does the calculation for you.

I'm going to move on to the vehicles. This is tab Direct 2.0. So we remember that company XYZ has seven vehicles. When you come to this tab, you're going to need to know what kind of vehicle it is, what year it is, and it'd be great if you had both your fuel usage and your miles traveled but you can easily get there if you only have one of the two data points.

The reason why the vehicle year is important to enter is because over time vehicles become more efficient due to more stringent fuel economy standards but also new technologies are enabling vehicles to become more efficient.

So here, we know that they have a gasoline vehicle. We know that they have a truck, we know they have a forklift, we know they have a Ford F250 and a Ford F150, another truck, and a forklift.

Just to also give you an example I'll play with this here, once you enter in under the Source Description what the car is, there's a dropdown menu and you pick what kind of a vehicle it is. You need to pick the model year. And then in terms of fuel usage, we know that, for this van, they had 386 gallons. We also know they traveled 9,650 miles with this van.

Let me give you an example. Let's say you know that your vehicle travels 10,000 miles. We're going to make something up here. We'll just say Truck and we'll say that this is a -- many of you will probably have gasoline like duty trucks. So let's say that you know it's a 2001 model. You know you went 10,000 miles and you know that you have about 20 miles per gallon and this car but you don't know how many gallons you used.

You take the miles traveled; you divide it by your fuel efficiency. Let's say, we saved 20 miles per gallon and boom, 500 gallons of fuel. And what we're going to do also in the tip sheet for you is give you -- just give you some easy handy tips that if you don't have both values, just some quick calculations you can use to get the estimates.

So one thing to look at down here once you've entered in the information for your vehicles, scroll down. Let's see. Scroll down all the way down, and it will give you your total carbon dioxide emissions from your vehicles. Here, we have 15.6.

Now, before I go on to the refrigeration, I'm going to walk us back to the summary. You remember, we've now done the calculation for the natural gas and we've done the calculation for the vehicles. So if you look, natural gas 3,148. And remember, it was 15 point something for the cars. They've rounded it up to 16. So what it does is it automatically populates it for you. So let's keep going.

We are now going to go to the next tab, which is refrigerants. OK. So again, if you are a food processing company or if you have extensive fire suppression equipment, this is where you're going to want to enter the information for the refrigeration for your air-conditioning and other refrigeration.

But in the case of this particular company, we know that we have refrigeration from the air-conditioning for the plants and for two of the offices, and we know that the vehicles have refrigeration. So I'm going to calculate all of that and you're going to see that it's actually a very small number but it's important to calculate it nonetheless. It's coming in and you know it's going out.

The third approach, I think, is -- potentially for this company XYZ is more appropriate for XYZ. It's what we call a screening method. This just says, "OK. I know I have a building and I know I have a vehicle." Roughly how much of a refrigerant do I have onsite. What's really nice about this calculator -- if you scroll all the way down, you can see roughly what the default capacity ranges are. So if you have a vehicle and really don't know how many grams or kilograms of refrigerant I have. Well, this table can tell you. So you can eyeball it and estimate it according to this table.

So we've done here -- now, you remember, I'm going to go back to the R-22 refrigerant in just a second. You remember that the offices and the vehicles use a specific kind of refrigerant. Just like in the other tabs, there's a dropdown menu. Here, you enter, OK, what kind of equipment are we looking at? Are we looking at chillers, transportation refrigeration or is this just residential or commercial air-conditioning.

So we pick Residential and Commercial Air-Conditioning. And then it asks us what gas are you using? So there are some pre-defined sections here in terms of which gases you can pick from. Gases like R-22 are not on here because again they're being phased out and we'll get to a question -- actually, I can answer it now. One of you asked a question in terms of it being phased out and then eventually, I use a new refrigerant, aren't my emissions going to go up if I have to use a new refrigerant later.

It's really important to do this exercise because you might see that the emissions associated with the refrigeration are so tiny that it will be negligible so that's why it's important to just get a handle on their refrigeration. But generally speaking, we don't see that that's a huge problem with companies in terms of their emissions going up exponentially if they switch out to a new refrigerant.

Also, if you're using a refrigerant that is being phased out, it might not be phased out for quite sometime onsite for you. So again, I wouldn't worry about your emissions going up exponentially if you're phasing out of a particular kind of refrigerant. If you do find yourself in that situation, you can talk to us but we would be surprised if you were in that situation.

All right. So we picked HFC-134a. And we know because we know from the building maintenance facility manager that it's 26.7 units and it automatically calculates the emissions for us. I'll just do a quick change. If it was 20 units, you would see this number here changed so we know it's 26.7 units.

So again, we're not including the refrigerant from plants one and two because it's using a refrigerant that's being phased out. We are using refrigerants that are in the air-conditioning for the offices one and two.

Now, we are also going to include the refrigerants for all of the seven vehicles. And again, all of these vehicles, if you look at the dropdown menu here, everything from the vans, the trucks to -- we didn't include the forklifts because the forklifts don't have air-conditioning on them but again, they're all light duty trucks so we pick light duty trucks and, XYZ because I don't really know how much a refrigerant I had in my vehicle. No problem, we can find that out very easily, scroll down.

And if you look under Light Duty Trucks, this very last line here, for their air-conditioning units, you have capacity of 1.5 kilograms. So scroll back up. And under your capacity for your operating unit, you're going to put 1.5 kilograms. So again, your values are there. It's just a matter of spending time on this particular tab and just understanding what they're asking. And you put in the kilograms here, and we automatically get a number. Scroll all the way down. You see that 9.6 tons are attributed to your air-conditioning.

Let me go back to the Summary tab -- the very first one here and I can show you they rounded it up to 10, so right now what we've done is we have calculated all of the direct emissions for XYZ Company, which include their natural gas, their vehicles and their refrigeration.

So this is -- at this point, the company is pretty much half-way done with its inventory. So if you have all of the necessary information, the actual calculations can be done very quickly. It's gathering the data that's going to take time.

Now, what we're going to do is we're going to move toward the purchased and consumed electricity. This is going to be you indirect emissions. Actually, let me -- before I do that, let me just quickly walk -- show you what the other tabs are. Again, I don't think it's going to apply to any of you but so you know what it is. There's a tab here for direct emissions from fire suppression equipment.

Again, if you have like two portable fire extinguishers in your office, you don't need to include those. It's really tiny. This is more if you have a fire suppression system. If you have a database center like a data center where you might have a more extensive fire suppression system in a room full of computers then you may want to consider it. But if you don't have any of those, you probably are not going to use this tab.

And again, in our history of the Climate Leaders Program, a very small percentage of companies use the following tab which is about waste gases. This is direct emissions from the combustion of different gases that you would be using onsite for manufacturing. If you're a welder, if you're sort of a smelter perhaps, you would encounter this. But again, unless you're specifically using these gases, this tab is not going to apply to you.

OK. So now, what we're ready to do is we're ready to go to our indirect emissions. This is where the majority of all of you on the phone who are participating this pilot, this is where the majority of your emissions are going to be coming from.

And anybody that owns or leases office space when you have operational control, all manufacturing facilities, this is probably the tab that is going to comprise the bulk of your inventory and where you should be sure to spend a lot of time on this one.

I mentioned that the company is in Ohio, and that's an important distinction because what we're going to do here is we're going to look at the electricity bills from this company and we're going to add up from the electricity bills all of the monthly kilowatt hours from January of 2010 until December of 2010. So we've done that exercise theoretically offline and what you see here is you

see plant one and office number one and office number two, their total purchased kilowatt hours to the 12 months.

Now again, if you have -- if you're missing a month of data, there are ways that we can help you estimate what that is. If your electricity bills are not neatly from the first to the thirtieth of each month. That's fine. There are ways that you can estimate what that might be if you can just also gather the electricity bills from the end of 2009 and also from the beginning of this year, you can put that together pretty easily.

But it's important that I say Ohio because one of the things that I have here is it says what's the eGRID subregion and there's a whole long list of things. I'm going to scroll down on this tab for just a second, so you look all the way down. The U.S. is split up into what's called eGRID subregions. And what this is it tells us, depending on where you are in the country, the power mix that you get from your utility is going to have different levels of greenhouse gas emissions depending on what kind of fuel it uses. So you'll notice in Washington State, in Oregon, it's called the NWPP region. That's going to have a different energy mix than Ohio or West Virginia or Texas.

For some companies that are in parts of the country where coal is more heavily used, you're going to have a higher greenhouse gas footprint because the electricity mix has higher greenhouse gas emissions.

Now, one common mistake that we see, sometimes when people say, "Oh, how am I supposed to know exactly what emissions factor to use?" Well, the best emissions factor to use is this eGRID factor because you'll notice sometimes within the same state; you're going to have a different profile of electricity. So what we've done with this calculator is we've taken that research part out of the equation for you and we've made it really easy and so all you need to do is find out, look at this grid, figure out where your company is, scroll up.

Now, we know that Columbus, Ohio -- I'm going to scroll down again -- sorry, guys. Columbus, Ohio is in this region here -- RFCW. It's in a light green region. The entire State of Ohio is in there. So I go here and I pull

down RFCW as one of the options to -- so that it knows what that calculation to do.

And then basically, I -- let's say that for all of 2010, this manufacturing plant had 3,000,549 kilowatt hours. I'll get rid of it so you can see what happens. I'm going to put it back and boom, it automatically calculates it for you. It tells you how many pounds of carbon dioxide. It tells you how many pounds of methane and how many pounds of nitrous oxide. And if you remember from that slide at the very beginning, all of those six greenhouse gases, these are three of them.

And the great thing is if you scroll all the way down, it converts all of those three greenhouse gases into carbon dioxide emissions, spits it out for you. We have 4,621.5 tons of emissions. Let's go back to that Summary Sheet. OK. I'm going to jump back that Summary page and there you go. It's automatically populated in there.

Now, XYZ Company could stop here because what they have just done is completed a company-wide or a corporate-wide and we use those terms a bit interchangeably because we know that for many small businesses, they're not corporations but for intents and purposes, corporate-wide inventory, and they could be done here if they wanted to be, but they want to also include their business travel. So let me just show you one more tab before we move on to this green section here where you'll see that they have three metric tons of emissions associated with their air travel.

So we're going to go back to the tab we were just were. This is your Indirect Emissions tab. This is where you put in your electricity. And again, for the offices, you'll notice same thing. You're going to calculate 12 months worth of kilowatt hours, put it in, and it will spit the number up for you.

If you think about it from an operational control perspective, for those of you on the phone who don't have any operational control over your office space, the challenge then you may be able to enter this data but then over time, you won't be able to -- it may not reflect the emissions reductions that you are making to reduce your footprint. So I know that's going to be one of the

questions that's going to come up. We'll talk about that again, but it's really important that people see why in this particular tab, if you have operational control of your inventory, you really can put the number in here and over time when you do this again in year two and you start to make behavior changes around the office, when you start to make -- do things like maybe switch out certain lights or change up some of your computer settings, this number should be able to go down.

The next indirect tab is Purchased Steam. I don't think most of you will have this issue. Maybe some of the construction firms might have it -- some of the manufacturing firms. But again, if you're buying steam, you're going to know how much you're buying, you're going to know what kind of fuel type, and you're going to know your boiler efficiency usually. So -- but again, for most of you, this probably won't apply for the purposes of this pilot.

OK. So we're going to move toward the optional emissions and we're going to focus on business travel. OK.

OK. Yeah. So before we go ahead and dive into business travel, there was a question earlier about what if you have a company car versus whether you rent a car on a business trip. If you own a company car or if you lease a vehicle as part of your ongoing day-to-day operations, that's going to be part of your scope one -- your direct emissions -- because those are the things that you can control -- in terms of what you can control on a day-to-day basis.

So when you're setting your goal to reduce emissions, you can make emissions reductions around your optional -- your optional emission. So if you wanted to include vehicles from a rent-a-car company and over the next couple of years, you want to make sure you only rent hybrids, that's great. And you can include that as part of your scope three, but a rent-a-car would really be part of your business travel and your -- and if you have cars that you lease as part of your operational -- day-to-day operations, you would include that under scope one.

And also, we've got our technical support people on the line that can jump in and help with some additional questions later.

OK. So what we're going to do is look at employee business travel. This is different from employee community. The three options that we have on this calculator are -- I'm going to bounce around here but I'm going to come back to this one. Your optional one, which is your Employee Business Travel, your optional two which is your Employee Commuting, and your third one which is your Product Transport. So this is if you are sending business services to the end customer, how you're sending it to them.

Let's go back to optional one and we're going to look at Employee Business Travel. There are lots of different kinds of travel that you can include here. The first table here, I'm going to scroll through it, is if you have rental cars, taxis, or other vehicles. The second one I'm scrolling down is if you travel by rail. The third one is going to be bus -- if your employees take buses to get to their meetings. And the last one here is your business air travel.

I mentioned that the company was in Ohio and they went to a meeting in California, Virginia, and Illinois. There are three different kinds of flights, and what's interesting is that the shorter the flight, sometimes the more the emissions are. So you want to be able to put in -- OK, well, if the vice-president went to Illinois, he probably -- it was a short-haul flight. This long-haul flight is to California, and the medium-haul flight is to Virginia, and same thing with the president. We did one way legs here but these are not roundtrips. These are one-way legs.

And what you do -- I'll just give you an example here. Let's just pretend I'm going to California, and let's say it's 3,000 miles -- boom, it calculates it for me. And again, very much like with the emissions that you purchased from electricity, our calculator breaks it down for you in terms of what's carbon dioxide, what's methane, and what's nitrous oxide but what we do at the end is it sums it all up and it sums it up in the equivalent -- carbon dioxide equivalent in metric tons. And one thing to keep in mind here is that a lot of these calculations are done in kilograms. But again, at the very end in the box here, you have it in tons.

So if we move back to the Summary sheet, we see that those those three tons - - those 2.7 tons from air travel has been rounded up and they've been added

here to your employee business travel. So this is actually -- when we look at using our calculator for the purposes of Company XYZ that has two manufacturing plants, two offices, seven vehicles, air-conditioning and vehicle refrigeration, and a few business trips via plane each year, this is our inventory. So they've got 7,794 tons of emissions as part of the required tonnage -- their direct and their indirect scope -- scope one and scope two and they've got three tons of optional emissions so when you add it all together, they've got 7,797 tons of emissions, and that's it.

I know that we're going to have a ton of questions, so what I want to do now is I want to show you what other forms you need to fill out so you have it, and again, you will get this presentation. This will be available online to you. But before we open up the floor and go back to this particular example, while I have your attention, I wanted to show you what else to do going forward.

So you've done your inventory. So you've looked at our guidance, you've set the boundary around your company, you've figured out which kind of -- whether you're going to do an equity share approach or you're going to do a control approach. If you're going to do a control approach, which we recommend, we would recommend that you do an operational control approach. And then you're ready to drive the boundary and then you gather the data that you need and you plug and play the data into this calculator and there you have your number.

Oh, somebody just wants me to go through the Optional Employee Commute. OK. Let me just show you that real quick before I move you to the other stuff. It's going to be the same thing for commuting. I mean, I must see if people are commuting by plane which I don't think that they are. I'll just -- I'll scroll through it and I'll plug in some numbers and show you.

So this first table here is your -- whether you're commuting via your car or by taxi. So you would just figure out, OK, well, I'll say, OK, I have a colleague named Susan, she comes in a passenger car and each year, she travels 1,000 miles to come to work. So it'll break it down for you. The other options are if the employee commutes by rail or if he commute by bus, and again you can enter those options in.

Similarly for the product transport, if you're transporting your product by vehicle, you can select whether you're doing it by light duty truck or heavy duty truck or your passenger car. You can figure out if you're transporting your products by -- you do it by 10 miles depending on how -- what kind of vehicles you're using. Some of you transport your products by rail; some of you transport them by water borne craft or by aircraft. But I would imagine that for most of you here, it's probably going to be by rail or by vehicle.

So the principles are the same, gathering the data, gathering all of it so that if you are going to be gathering data from your employees, make sure that you're gathering data from all of your employees, not just a few of them that volunteer. It's important that you'd be thorough so you can -- if you're going to include a source, you include all of it.

So just so we have enough time remaining for questions -- oh, and one of the things to -- 2010 -- I saw one question just come in -- 2010 was selected as a base year for a couple of reasons. One, we know that it's going to be easier to gather all of this data in 2010 than if we would go back and ask companies to gather some of the data for 2008 and 2009. So for simplicity's purposes, we picked 2010.

In addition, we wanted all companies to be working off of the same base year. It makes it a lot easier for us to manage the pilot and understand kind of where companies are in the process. But also, it's to your advantage to do that and we specifically design the pilot to give companies the best opportunity for success. We wanted to give you the opportunity to understand your base year soon so that you have the remaining years of the pilot to achieve your greenhouse gas reduction goal. The reduction goal is one percent per year. And if you have a base year that is 2008 or 2009, then you're halfway through your goal period and if you haven't really done things to reduce emissions, it puts the company in a difficult spot in terms of being successful. So our intent is to set you up for success so that you can understand what your emissions are and that you have time to make those reductions.

All right. So what you're going to do after you're here, OK, after you've got your summary, there's a form that we have on our website that is called our Inventory Summary and Goal Tracking Form. It's available on our site. I'm going to pull it up right now so you can see it. And what this is, is this a form that we developed for our Climate Leaders Program, and it's a really great form to help companies track their progress.

Those numbers that you have in the calculator, all we're asking you to do is to plug them in here. And what this does is this serves as your company -- kind of your dashboard, if you will, in terms of what your emissions were for your base year and then what your emissions are for subsequent years so you can track your progress. It also gives, those of us here at GSA and EPA that are reviewing your documentation, a much easier time to make sure we don't make mistakes in understanding your data. So this is the second piece that you fill out.

And the third piece, again also on our website and I'm going to review these documents before we turn them over for questions is your Simplified Inventory Management Plan.

The Simplified Inventory Management Plan is a Word document that is available also on our website, and this is a really important piece to develop as you're developing your inventory. So all the things that we talked about for this sample Company XYZ, what kind of an approach to take whether you're going to do operational control or something else, or what sources to include. Why didn't we include building office number three? Well, it was because they didn't have the ability to affect their electricity bills or why didn't we include refrigerant R-22?

This inventory management plan is a document that is -- I don't want to scare you but it's a couple of pages long. Oops, sorry, my computer is doing funny things. And just going through it, you can see things like listing what company-wide direct source of emissions you have or what your indirect source of emissions are. This document is intended to help you. So if you're the only person that is developing the inventories of your company and you decide to take on other responsibilities, that person that is going to step into

your shoes can also be setup for success and know how your company developed this inventory.

It's also important that, if over time, there are changes to your companies, really big changes like if you sell part of your company or if you buy another part of your company, those are all questions that we can tackle in future trainings after you've done your base year inventory. So this document is going to be really helpful in helping you manage that and managing the data around that.

So to go back to the PowerPoint presentation, again we were here -- let me go ahead and do this. We were here when we left off in terms of, step one is to fill out your simplified greenhouse gas calculator. Once you've done that, which is lion share of the work, you're going to fill out this inventory summary and gold tracking form. And while you're developing your -- while you're calculating your inventory, you're also going to fill out the inventory management plan as you go so that you know what it is -- what processes you put in place.

The other reason why the inventory management plan is super helpful is that when it does come time to get third party assurance or when you do submit things to EPA during the first phase of the pilot, those of us that look at it can eyeball any mistakes. We can catch anything that we may see where that might need to be a tweak. And it's important to catch those mistakes early. Everybody makes mistakes. They're often not a big deal, they're easy to fix. But you don't want to get two -- three years down the road and not have this in place and not know where to make the correction. So this is -- that's why we make this a requirement for our pilot.

Don't forget to set your goal. We went over this last time so I'm not going to spend anytime on this webinar but in short, between now and September 30, 2011, there are four things that you need to submit to the following email address, climateleaders@epa.gov. One is your filled-out Simplified Emissions Greenhouse Gas Calculator, which is what we spent the bulk of our time on today. The second piece is just to plug in those numbers into the Inventory Summary and Goal Tracking Form so we can make sure that we've

got the dashboard for the company, your inventory management plan, and just your goal. And I know it sounds like a lot but really, it's -- once you've got the data, filling it in is really pretty simple.

And with that, I know we've got a ton of questions. We have a half an hour for questions. I'm going to go ahead -- I'm going to go ahead and pull up the calculator because I think that's where a lot of the questions are going to come from. And why don't I turn it over to my colleagues, Maleka and Melissa Donnelly who is our Communications Director at Climate Leaders. And I also want to introduce in advance Eric Christiansen who is one of our contractors who is very -- who helped us on our help desk. And I'll go ahead with them take the questions and we'll go ahead and answer them.

Melissa Donnelly: Hi, everyone. This is Melissa. And Verena, actually I think you answered a lot of the questions as we were going through. I was just reading through them as we were going along.

But one question that I think remains is there was a question about if you're in the D.C. area, what sub-region to use for your emission factor. And also, this might be a little bit of a broader question for others -- what if you buy 100 percent wind power from your utility? How would you factor that into your emissions?

Verena Radulovic: OK, great. So I'm going to go ahead and -- I realized I need to grab the computer here.

OK. So let's get the easy one first. Let's go back to this Indirect 1.0 for the question on emissions from the D.C. area. All right. So I roll down.

Now, D.C. looks like it is in this blue area -- RFCE. It might be in the orange region but you could -- the eGRID is a whole website within EPA. Literally, if you Google eGRID region, Washington D.C. or eGRID EPA, it will take you to the site within EPA where you can actually entering your ZIP code and find out what eGRID region you're in. So I would look at the map.

If you don't see your...

Eric Christiansen: Energy or greenhouse gas management for small businesses that was mentioned earlier discusses this a little bit and also will point you to a green power and REC guidance document on the Climate Leaders website that describes those eligibility and criteria.

A couple of key things. One that the purchase of green power would have to be above and beyond what is in the utilities' typical mix. So let's say your utility company has -- operates 10 percent or generates 10 percent of its power through wind power just as part of its standard mix. That situation is reflected in the emission factors for that particular region of the country and so you can't take additional credits for that renewable energy that's part of the standard mix.

But if your utility has a green pricing program as they're often called where you can pay a premium to buy 100 percent wind power, then those programs almost always meet these eligibility guidelines. And you could consult those guidance documents that I mentioned and also your utility company to make sure they are eligible.

Verena Radulovic: And that's -- this is Verena. Thank you, Eric.

So one of the reasons why we didn't introduce a full-scale training on green power is we first want to make sure that people understands their base year inventory. And when you're buying green power, it's important to make that as part of your strategic plan for your company. But in order to know how much -- to know how much green power you need to buy whether you want to become carbon neutral or whether you want to just have emissions reduction reflected in your inventory, you first needs to know what your inventory is and you know how much to buy.

And the inventory summary form that I showed you -- that second piece that you need to fill out, that has an area where you can account for your purchase of offset or renewable energy certificates.

Our calculator, unfortunately, at this time, does not account for it although we are in discussion of looking to see if we can revise it in the coming year so that it can take into account green power. So if you are interested in green

power, I think what would be really helpful would be to send Maleka an email afterwards or maybe in the first few months of 2011, once you've gotten a handle on your inventory and I think in the late winter, we can put together a specific training on green power. But yeah, what Eric said is definitely the case.

Melissa Donnelly: Thanks, Verena. I think we talked a little bit about sort of the difference between if you were to include optional emissions related to your employee commuting or your employee travel and how that's different from your scope one emissions, which would be your vehicles that you're using in your every day operations.

But there is another question here that is specific to if an employee or multiple employees work from home either once a week or more than that, how do you incorporate that into your employee commuting in your optional emissions.

Verena Radulovic: And Eric, I'm going to ask you to tackle those as well. So the first one is if you have an employee that is working from home, part of the time, how do you account for those emissions. And then if they are renting vehicles.

Melissa Donnelly: I think that most of it -- and I think you went over pretty clearly the difference between employee travel and employee commuting dealing with the vehicles like if you're renting a car and how that's different from the vehicles that you own as a company that you're using in your everyday operations, which would be part of your scope one emission.

Verena Radulovic: OK. Could you tackle -- add anything into the vehicles and also tackle what to do if someone is working from home?

Eric Christiansen: Sure, sure. So employees working from home, I think Verena touched on this a little bit in the first training session a couple of weeks ago. And as you mentioned, if it's possible to identify specifically how much energy an employee is using at their home to do -- to work from home, and that is something that could be included in the inventory.

Often, that's not really possible due to all other energy uses that are going on in a home during the day. And so, often, companies aren't able to include those emissions in their inventory from the actual energy use of the home itself.

In terms of the impact on commuting, this is often one of the ways that companies look to with these -- the emissions from employee commuting is by introducing programs where companies can work from home either part or all of the time. And so you would -- as you're collecting and tracking data for employee commuting and determining how -- what distance and how often employees are commuting to work as you -- if you implement work from home types of programs then as you gather that data in the future, you will tend to see a reduction in the number of employees that are commuting to work and the number of days a week. For example, they are commuting to work and you will often see a reduction in your employee commuting total emissions as a result.

Verena Radulovic: Thank you, Eric. And if those -- if there are some of you that primarily have your offices in your homes or if you have an extensive work from home program, do come talk to us. But I think, as Eric said, a great way to account for the benefits of working from home is to include the employee travel in your scope three emissions and watch that go down over time if you implement more of a telework program.

We did have a quick question come in terms of how do you submit your goal. And in an effort to be really simple, we actually just -- in a slide before in which you will all get, we did use the language that we're going to use in our website, so it would be, Company XYZ pledges to reduce total U.S. greenhouse gas emissions by two percent from 2010 through 2012. You just submit it to us in an email.

If you want to submit it in the same email as you submit your inventory, that's fine. We purposely didn't design a forum because we didn't want to add the administrative burden to everybody's load. But if it's confusing, we apologize. We'll just try to keep things simple. So just send an email to climateleaders@epa.gov with your goal. We'll make sure it's in the right

format. We'll confirm it with you. And again, it's got to be a minimum of one percent per year, so two percent from 2010 to 2012.

If you want to go above and beyond that, you're more than welcome to -- I mean, encourage it, we just don't require it.

Let's see. OK. So what other questions do you think?

Melissa Donnelly: Sure. Well, there is a question about comparison. So if a company is to put together their inventory for this first year and then, their company is to grow in the next year, how would you sort of work to normalize those two years together?

Verena Radulovic: Uh-huh. OK. So this is a question -- and Eric, I'm going to answer it but I'm going to ask you to add to it as well. This is a question for having to do with how you set and express your company's greenhouse gas emissions reduction but also your profile.

Essentially, what's going to happen is you're going to use the calculator every year that you're in the pilot, so for three years. You're going to use it once to calculate your base year inventory. You're going to populate the summary form with that information. Second year, you're going to calculate it again for the second year's data. You're going to populate the summary form and you're going to keep the boundaries, the operational control approach the same and you're going to keep the boundaries the same.

If your company has exponential organic growth and you really like double your emissions because you're doubling your manufacturing output, you doubled your staff, it's very possible that your emissions are going to go up. And so when people ask about a normalizing factor, one of the things that we encourage is that you also have -- that you're tracking your emissions on a per unit or per person or per product produced basis.

You want to tie it to whatever -- wherever the emissions are coming from. So if you're a retailer and most of the emissions are coming from your retail space because you have to light and cool the whole retail space. You're going to tie your emissions to square footage.

If you're a manufacturer that creates widgets and each widget has a pretty intensive process, you're going to tie your emission factor to that widget. So, your profile could say such and such company's carbon dioxide emissions per square foot or per product are as follows, X.

Now, Climate Leaders used to have normalized goals where we would encourage companies and unlike companies express their greenhouse gas emissions reduction effort in terms of a normalized factor so that it demonstrates efficiency so you might create a product with 10 tons of carbon dioxide per product and the next year, you might create it with eight tons of carbon dioxide emissions per product because your processes are getting more efficient. But in truth, if you're growing like that, the atmosphere is still getting more greenhouse gas emissions even though you're being more efficient.

So we decided to take a stand last year in our program and really work with companies and encourage them and require them to set absolute reduction goals so that they can decouple economic growth with the emissions growth to their company.

Part of the reason also why we set for a one percent reduction per year was we were sensitive to this in a sense that for some companies that are growing really, really quickly, they may experience a rise in emissions and how do we keep it so that they still create a reduction even while they're growing.

So getting back again to developing the base year, set your base year, look and see what your company's projections may be and that is where you might need to think about creative and innovative ways where you can still grow your company but get those emissions reductions to one percent a year.

In many cases, it's going to be very easy. In some cases, it's going to be more of a challenge.

Eric, did you want to add anything to that?

Eric Christiansen: No, I think that covers it.

Verena Radulovic: Melissa, is there any other questions coming in?

Melissa Donnelly: Sure. Not to go over the point again but just to clarify a little bit for this one question. This company is an online company so actually, everybody works from home and -- so how would they account for any electricity use? Would they try to designate one location as sort of their head office or would they try to look at the electricity bills from all of their home office and separate outlet is being used for work, or how would this company develop their indirect emissions?

Verena Radulovic: Yeah. Eric, can you talk on that one?

Eric Christiansen: I'd suggest that's probably one that you need to discuss directly with the company to better understand their situation and what the opportunity is. That's a very unusual situation.

Verena Radulovic: OK, great. So whoever you are, please get in touch with Maleka and we will setup a way to connect with you and EPA, and we'll figure out the next step for you.

Melissa Donnelly: Great. Thank you. And I know we talked a little bit about green (powering house) and perhaps factor that into your inventory. So there's a question about if you have solar panels that are generating renewable energy on your home office, if there is a way to add that into your inventory.

Verena Radulovic: Yeah. Eric, why don't you go?

Eric Christiansen: Sure. If you are able to take into account the emissions associated with that home office, then you could factor in the impact of those solar panels which essentially would be that effectively you're reducing the amount of electricity that you're purchasing from your utility and that purchased electricity is what you're calculating emissions for. And so in selling a solar panel on a home office or on a commercial facility as well serve to reduce the amount of purchased electricity and therefore, your purchased electricity emissions.

Verena Radulovic: Thank you, Eric.

Melissa Donnelly: Thanks, Eric. There's another question here about if a company has some painting operations and they also use solvent cleaners, how would they be able to take that waste gas into account?

Verena Radulovic: Eric, what I'm going to do is I'm going to pull up for everybody online to pull up that cab about waste gases. And again, for many of you, this is not going to apply but yes, unless we have some manufacturers on the line that would.

So let's have direct emissions number five where when you look at your waste stream make up in terms of what gases you're using, we have a list and most of them are commonly used gases. We do have a line here for other gases that they may not necessarily be there and you have to know the molar fraction of the gases that you're using.

Eric, can you speak just very briefly about kind of general approach one should take when you're looking at waste gases?

Eric Christiansen: Generally, what you would look at, the first question would be whether you are combusting those waste gases at your facility through, say, a thermal oxidizer. If you are, then you would need to take into account the CO₂ emissions that are associated with burning those waste gases, which are carbon-contained gases.

I'll get more the detailed responses.

Verena Radulovic: Thank you, Eric. OK. We got about -- it is a few more minutes so I'm going to turn it back over to Maleka. Do we have any other questions that are coming in?

Melissa Donnelly: I think that's the majority of the questions. So if there is another burning question, I encourage you to send it in and we can answer that in the next few minutes.

Yeah. There was another clarification question on the employees working from home, but it seems like in a case where you feel like all of your employees work from home or the majority of them, you may have to get in

contact directly with EPA to understand how you would sort of address that situation because it seems to be a very specific case where we may have to talk through an approach for you.

Verena Radulovic: And that's a thing too. We look at employees working from home, again when you think about an operational control approach of the company, it isn't so much -- when you think about what does your company own and what does your company operate, I mean, that's -- well, if your business is run out of your home then that I think is an instance where if you can figure out kind of what the mix of -- what the allocation of your electricity and fuel usage is for your work, then I think it's a much more clean-cut drawing of your organizational and operational boundary.

If you have a company that primarily has an office in let's say in Illinois but you have employees that work in their homes in all different parts of the U.S., well, look at what your company owns and operates and then it might make sense again to think about including your employee commuting or your business travel and looking at your employees working from home as a way to help reduce those costs.

I don't know if your employees working from home, the electricity and the fuel they're using just at their homes on behalf of your company would be appropriate to include as part of your inventory. So again, if you are in a situation where you are a virtual company or you're all online and everybody works from home, I think that's unique and we'll work with you for sure because we want to be able to help all companies of all kinds develop their inventory.

If your company has a hub office and you have a lot of companies -- people teleworking, I would urge you to just look at what your company's operational control is and then identify, including employee commuting and then using the telework as an opportunity to demonstrate reductions in your scope three emissions.

Maleka Greene: OK. All right, everyone. I want to thank you for calling in today. We are going to wrap up if there are no more questions.

I want to let everyone know that the contracting office at GSA is still working on negotiations for the help desk so we hope to have that up and running by the beginning of the New Year. But keep in mind; you can still use the EPA Climate Leaders technical support. They're still there to assist you. The GSA help desk is just completely dedicated to you so you can use both interchangeably if you'd like, so it's no big deal.

I also want to let you know that we're going to be providing with all of the slides that you saw today, and we're also going to be providing you with few resource documents, including a glossary that you'll be able to refer to as you go through the process of pulling your document and just to help you better understand some of the terms and concepts that you've been hearing.

Let's see. Do I have anything else?

Verena Radulovic: We're going to have this webinar recorded. We're going to have it up on the Climate Leaders website, and we're going to also have those slides in terms of what you need to submit also up on the website so you can always refer back to that, and that will probably go up either right before Christmas or right after the New Year.

Maleka Greene: OK. One last point I wanted to make is that during the training two weeks ago, I did forget to point out that during the second year of the pilot, you will - - we will actually participate in a survey in some focused groups just to talk to you about the process that you've gone through and any challenges that you've had and the benefits that you've noticed from completing your base year inventory.

Verena Radulovic: And I think just to wrap up and add to what Maleka said, even though we know that this may be -- for many of you -- some kind of a time-consuming exercise. Our hope is, is that, once you identified where the bulk of your missions are coming from in taking steps to reduce those, one of the first benefits that you see is cost savings -- cost savings because you are lowering your electricity bills, cost savings because you're commuting less and I think that that -- and especially in today's times, really trying to decouple economic

growth with emissions reductions, we want to show that yes, you can reduce your emissions and you can save money by doing so too.

Maleka Greene: Great. All right. Well, if there aren't any more questions, then we will wrap up, and any further questions that you have in regards to your inventory, you're pulling your documents together, go ahead and send those questions to the help desk, or if you have specific questions, then you can give Verena or I a call. Thank you.

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