U.S. EPA
State Climate and Energy Technical Forum
The Emissions & Generation Resource Integrated Database (eGRID): Potential Uses for State and Local Governments

Moderator: Robyn De Young
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Robyn DeYoung: I think it's time for additional questions.

Catherine Morris: OK, Robyn. We have quite a few.

And I forwarded some for you to look over. But in the meantime, let me ask some of the questions that are coming in. A number of them are asking about how to make the determination about whether – when you would use the baseload emissions factors versus the non-baseload emission rates.

One gentleman has actually provided this very lengthy and specific example. But, for instance, on the case study that you provided here, where you are looking at the LED lights and the reductions coming from that – can you explain a little more the rationale behind why you did not use the baseload or you don't think it affects baseload emissions?

Robyn DeYoung: Yes, that's a good question. I – the reason why there was – we used the non-baseload emission rates is because it's more likely that the change in lighting will affect non-baseload generators.

Catherine Morris: So it's – you know, there – the reductions aren't so continuous over all hours that baseload plants would be affected?

Art Diem: Yes. This is Art.

Yes, basically, the – you have a choice of the total output emission rate, which is the whole system mix. And in that system mix, there are some – you know, there's a certain amount of baseload generation. There's generation that's happening –no matter what kind of variations in electricity load are

happening. There is a minimum amount of load out there that's happening. All those generators are operating.

And pretty much the rationale, I presume, is that these changes in efficiency – this new efficiency – is going to affect more of the non-baseload facilities and less of these baseload facilities. And that's why things got weighted that way. And that's how the non-baseload emission rate in eGRID is set up – as basically a deep marginal emission rate – looking at what's happening at the margin. And it's basically – any nuclear plants that are – that are running are going to keep on putting their output, no matter what's happening, on the demand side.

Robyn DeYoung: And also, the LED change out program is just such a small amount of change compared to the total electricity consumption. So the efficiency project wouldn't go deep enough to affect any of the baseload plants.

Catherine Morris: Thanks for that.

Another question was whether or not the data is available at a county level. You gave an example in this last local area – and, again, someone in our participant group is apparently in that area and said it – that's basically the greater Philadelphia area – your last example?

Robyn DeYoung: Right.

Catherine Morris: Well, some of the other participants are wondering if it – if you can break it down to the county level if need be.

Art Diem: Well, I mean, you can start with consumption that's taking place at anywhere – a particular building, a group of buildings, a city, a county, a state. And one thing that we recommend is, just because you use, energy in a county, doesn't mean that all the electricity is coming from there. So that's, again, for the quick-and-dirty estimates– why we recommend going to the eGRID subregion level of your county. So if you don't know your eGRID subregion, go ahead and use Power Profiler, put in a zip code and pick a utility. And you'll find out what your eGRID subregion is.

Catherine Morris: OK, thank you.

Another question asks whether or not there – you have some advice about one of the limitations you mentioned. You mentioned that you can't, even with the capacity factor approach, necessarily assume that some of that power that we're – isn't exported out of the region.

One of the participants wonders that, for instance, even after you've implemented an energy efficiency program and you have savings from that, "How do you know that that power isn't, then, going to be exported to, or provided to, a municipal government contract or something else?"

So is there any advice you have about how to control for those types of limitations?

Art Diem: These are estimates, and there are some limitations there. If you want to really get into the details, there are a lot more complicated ways of putting this together. There are dispatch models that will account for things like that. So, short of doing some really expensive analysis, this is kind of a – an easier and cheaper way of doing it that gets you, hopefully, to a pretty close answer – or answer that as close to what you would have gotten if you spent a lot more resources on a more rigorous analysis.

Catherine Morris: Art, I have a question that goes back to some of your presentation materials.

One was – you noted that there were gaps in the data. In other words, you aren't covering every single year. You have some years that you've skipped. Can you just explain why?

Art Diem: I can explain – year 2006, EIA didn't collect some data, and it made it really difficult for us to actually do anything with it. So we had 2007 data ready to go. And I made the decision that it's better to go with the more recent year of data and start working on that, than to fret over year 2006 data, which was missing a whole bunch of information from EIA. So I kind of made the decision to go ahead on that.

I think for the years 2001, 2002 and 2003 – that was before my tenure with eGRID. I understand there were some data issues that happened. I'm not exactly sure why those years didn't happen. But if you're really looking at some detailed plan information, you can go ahead to the CAMD Website and the EIA site. And if you're only looking at a few plants, you might be able to filter out what you need from there.

Catherine Morris: OK.

Another participant is having problems separating the combined cycle generation from the boiler generation, and would like to know if you have advice on how to handle that through the eGRID data.

Art Diem: Yes, yes. There is – a combined cycle system is where there is generally, a combustion turbine and a heat recovery steam generator and an additional steam turbine. So those are reported different ways in EPA, in CAMD, and also in EIA. I think EIA will generally, from combined cycle systems, they'll have information on the prime-mover level – prime-mover fuel level in the 906/920.

I think combined cycle systems – they'll have CC as the code for the combustion turbine part of the combined cycle. And CA is the steam generation that happens there. And so they'll list the different prime movers. So – and that's where – that's where it gets really tricky with eGRID – is when we're trying to combine the information from different data sets together and try to match them up.

And sometimes we see some mismatches, so we thought, "OK, are those really the same unit, or do they have different prime movers listed, are there two units? Are they the same unit?" So, yes, it does get very tricky. And I guess, check the prime-mover codes. And if you need help navigating the CAMD data, feel free to give me a call or send me an email and I might be able to help you identify what kind of prime movers there are for the different units in CAMD program.

Robyn DeYoung: OK, Catherine. I can answer the question from (David Alloway).

Catherine Morris: OK. Well, David's asking about a particular kind of situation. He says, "Consider a case where a municipal utility has a different – specifically, a lower – greenhouse gas generation mix than the – their eGRID subregion. Say, for instance, they were getting more of their power from hydro. Using the eGRID subregion greenhouse gas rate doesn't really acknowledge the utility's decision to purchase from lower greenhouse gases. But using the utility specific greenhouse gas rate would send a potentially misleading message that their electricity purchases are low carbon and we don't need to reduce use. So do you have advice for us how to move forward? Do you use both the sum average – what approach?"

Robyn DeYoung: Yes, so one way that this community could move forward is –if you have utility calculated data for a specific plant, and their purchases, then you can use that to show –what the greenhouse gas impact is from your purchases and generation in your community, for your municipal power plant.

Most communities don't have that type of information and they don't have resources to get that. So that's when we recommend using information in eGRID –that's the time where you would use the eGRID subregion emissions rate. You could even compare the emissions from the two approaches to show how a municipal generation resource is cleaner than the region's average.

And in terms of the perception of not needing to reduce your electricity consumption because you have low carbon generation – there are a number of different benefits that I think would resonate with communities to get them to change their behavior and be more efficient in their energy use. You could talk about lowering your electricity bills if you use less electricity. You're also avoiding cost of new generation that could come down the line in the future.

And we – even have in our – assessing the multiple benefits of clean energy resource. We talk about how certain clean energy policies can save or create jobs. So that's another factor that could be communicated. So those are some ways that can help answer this question.

Catherine Morris: Thank you very much. Well, we're at the end of the hour and we're also just about out of questions. We've covered most of the questions.

And I just want to remind people that the contact information for both Art and Robyn has been posted on the Website that also has their presentation materials. So if you have specific questions, they've agreed to – I think we have both their phone number and their email so that you can get in touch with them directly, and they'll be happy to follow up with you.

So with that, we're going to close this session. And just to reminder – that you will receive the survey questions at the end. If you can just take – there's only a few short questions. It won't take you more than five minutes. So if – it would be very helpful in planning the next three sessions that are going to be on multiple benefits, and we'd appreciate your input.

Thanks very much. And we'll talk to you again next month.

Operator: This concludes today's U.S. EPA State and Local Climate and Energy Technical Forum Conference Call. You may now disconnect.

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