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SAM DUPONT INTERVIEW

Annapolis Pilots Efficiency

Q: Hi, and welcome to Grid Talk. Today, we're very pleased to have with us Sam DuPont who is at Baltimore Gas and Electric in Maryland where he is Principal of Strategic Programs in the Strategy Group, a core group of just under a dozen folks who are steering strategy for one of America's major utilities on the east coast. Hi, Sam.

A: Good morning, Marty. How are you?

Q: Good, good. I want to talk to you about energy efficiency which has become a focus of your company with a new program called the Connected Home and Small Business Demonstration. Fill us in on its broadest dimensions, and then we will get into the details.

A: Sure. Thank you so much for having me today on your program. I'm very excited to be here and talk with you. Yes, it's as you said-- we are working on a hyper-targeted program in Annapolis, Maryland that we call the Connected Home and Small Business Demonstration. It's essentially a technology tutorial, and we are aiming for 200 participants across 4 different segments: seniors,

early adopters, small business, and low income. What we are really seeking to do is bring the next generation of involvement to this group of customers. We're deploying smart and connected home technology to these customers and using our AMI data to evaluate whether these smart home technologies have a measurable impact on our customers. With energy use, we're also doing a lot of qualitative assessment around which devices are of preference to these customers. That's the long and the short of it.

Q: Tell us, Sam, about the back office investments and the investments you've had to make out in the grid to be able to launch this demonstration.

A: Sure. As you and perhaps many of your listeners know, BGE was, fairly early on, taking on the deployment of AMI, and so back in 2011, 2012, we began to roll out smart meters to our electric customers. That was a very large investment. Over the last decade or so, the services and information that we've been able to deliver to our customers sort of progressively-- you know, sort of started out with a really fundamental thing like knowing when someone's power is out. Obviously, that's the first-tier operational benefit, but as time has gone

on, our energy efficiency team has rolled out all kinds of interesting programs that are enabled by AMI, so that grid investment is starting to bear fruit. In this latest technology endeavor we rely on its AMI data because, without it, we would not be able to, first of all, assess whether this connected technology is having some positive effect, and the customers would not have the same visibility that they have into their own energy use.

Q: Being in the strategy group, I'm sure you're well aware of all the efforts being undertaken at utilities across the country, large and small, investor owned and public immunities. How would you characterize your ambitions here? How much on the leading edge are you going to be with this demonstration?

A: I think we're approaching this demonstration perhaps slightly differently than I have seen out there in the marketplace. Of course, there's a lot to keep track of. I don't claim to know what everybody is doing, but I think there are a couple key pillars to it. One is that customers are really the center of this technology trial. We really started with the community issues and requests and built from there. It wasn't the other way

around. We didn't start with the system we had pre-intentions to deploy and then force it in. We started from the bottom up, which I think is emblematic of our Connected Communities initiative and how we approach that. I think that's one thing. You know, the other is trying to understand the level of education and outreach that is really the best mixture in order to make this technology fulfill its promise. That's a big part of what we're trying to do as well. Honestly, this was meant to be a very high-touch demonstration. Of course, we were rolling it out right when the pandemic restrictions kicked in, so our ambitions for having a live physical demonstration area in the city of Annapolis and having a number of in-person activities were curtailed. We have had to pivot to doing a lot of that virtually. I think, in that sense, we're very, very ambitious. We're trying to get that mixture right. If you realize, you know, the technology can be brilliant. It can be leading edge. It can be amazing, but if no one actually uses it, then it doesn't really matter. We're trying to balance that leading edge tech with leading edge community engagement.

Q: Overall, at the macro level with these 200 participants,

what is the range of energy savings percentage wise and maybe gross megawatts that you hope to achieve?

A: We don't have those goals particularly spelled out. I think we really are in a pre-pilot kind of environment, and to be honest with you, even if we had spelled them out, the pandemic would have then sort of changed our perception, not only because we've had to rejigger how we market the program, but also it's changed some of the timeline. I don't have specific goals in mind in terms of energy savings. I think, again, what we're really focused on is what kind of education and outreach is best to make people actually adopt the technology, which devices really rise to the top in terms of customer preference, and then putting all that in the mixture, what kind of energy savings are we seeing.

Q: Just in bold strokes, I'm going to twist your arm a little bit here. Do you see savings of 1-2% or closer to 10%? Just give us a ballpark sense of what you think it's capable of demonstrating.

A: I am really hesitant to throw out numbers. I would say 10% is probably very, very optimistic. I think it's probably less than that, but I think it wildly depends on, for example, the type of small business that we're

talking about. If it's a restaurant, a really high-energy user or something more like a routine boutique of some kind. In terms of overall nominal savings, in terms of percentages, we're a little bit early to really nail that in. I think that could be an appropriate statistic to get specific on for perhaps the next phase of the demo.

Q: Fair enough. Let's dive into a couple of the technologies. I will just read a few off of your website that I saw. One is smart thermostats. Are these your typical Nest devices? What are you going to be using, and what do you hope to see there?

A: That's a good question. The thermostat has been one of the tougher items to pivot on because the pandemic. Originally, part of what we wanted to test was would folks more easily adopt this and pick up and use the technology if we did some professional installations. Then, with the recent restrictions in Maryland, we have not actually been able to send installers out. Thermostats are actually lagging in terms of the devices that we're installing. We've given each participant a coupon to have the thermostat installed with the restrictions ease.

Q: Give us a sense of-- I don't mean to be cavalier about it-- but absent the pandemic, how did you see this working (and hopefully down the road fairly fast you'll be able to implement it)? How would it work if we were not in a pandemic situation?

A: I think that's an excellent question. Obviously, it's very different implementing a 200-participant demonstration in the amount of innovation and pivoting and things that you do during that environment versus a multi-hundred-thousand device deployment. What we're seeking to do is learn a bunch of best practices that we might be able to use in a larger deployment. That said, I think there are ways-- and this is again pre-pandemic thinking-- that you can scale a high-touch deployment strategy. I think that's very much in our minds. I think that the pivot that has come is what is that high-touch [experience]? In-person, installer training versus online, virtual training. In-person, professional installation of some of these devices versus really leaning into how we can do that without actually sending a person into the home. I don't know that our overall goal-- goals still are fundamentally "let's try to derive some value from energy savings;

let's derive some value from experience in terms of how these things work." I think it's more just what's been impacted around how you do it.

Q: In addition to thermostats, you have lightbulbs and plugs. Similar story there that your deployment is going to be slowed by the pandemic or moving forward?

A: I can break that down a little bit. The thermostat is really the outlier there. That's the one where professional installation is often required. The other devices-- professional installation isn't really required. We were planning to do professional installation for a few of the segments or maybe a couple of the segments that I mentioned-- seniors for example-- to see if that moved the needle in terms of their satisfaction level. We do not. We are actively recruiting qualified participants right now, and we have shipped dozens and dozens of device kits absent the thermostat because that takes some wiring and other things. It's a little complicated for the average customer, but a lot of these devices are not complicated for the average customer. I mean, we are gathering great intel, and we had a female customer the week before last say she would never have considered this

kind of technology for her home, but because BGE was actually the one offering the demo, she turned out to be really interested and has been super enthusiastic about it.

Q: These lightbulbs and plugs are providing gratis or low, discounted fee or rebates? How are you getting them into their hands?

A: For this specific demo (and again hyper-targeted, super low numbers), we are providing the technology for free, and in return, we are asking for the participants' participation in a number of surveys and, I think, one live focus group. It's free technology in return for some of their time.

Q: Give us the timeline. Has this started? Are you already underway? How long will it last? A year? Two years?

A: Thank you, sure. So as I said, we have been doing planning basically all through the fourth quarter of last year and into the first quarter of 2020. We were winding up to do things like secure physical space to demonstrate the technology live and in person. We were able to begin that, and we were about to start doing the trainings literally around the second week of March of

this year. We pivoted, I would say, end of first quarter, but we have been qualifying participants since late May and have been sending out numerous kits per week. As soon as we fill the demonstration, which we're pretty close to doing at this point, we would like it to run for, say, 3 quarters, through the spring of next year to really capture some seasonal changes in temperature which obviously drives energy.

Q: Another technology is temperature sensors. Is that in any way going to be involved with peak saving? How do you envision using those?

A: I think the ultimate use case for these kinds of technology packages are probably still to be determined. There are a lot of-- you know, my colleagues at BGE would could probably speak better than I can about how it could impact a particular program or that sort of thing. Yeah, the temperature sensors, I think, are really important. It gives folks the ability to install into different areas of their home or their small business, and they can be used in a wide variety of different ways. Small businesses are a huge part of downtown Annapolis. A lot of their footprint looks very much like a home or a small apartment or something like

that. A lot of them are restaurants. You know, think about a scenario where you used a temperature sensor either inside or just outside a large freezer, something like that. That's directly related to-- are you being most efficient or have you had an appliance failure or something like that? Or I think you left the door open. Same thing for any number of rooms in the house. What does your individual footprint look like? It's giving the customer accessibility to their own domicile, I think, that's so important.

Q: BGE, of course, is gas and electric utility. In addition to the 1.3 million electric customers, you have gas customers. Is the savings here primarily on the electric side, or do you see potential gas savings as well?

A: I think that there is potential for gas savings when we talk about that primarily in the winter time to be honest. A lot of people have primarily gas heat. I think that could be where you're going to see some visibility into their home or small business. For example, we also have door and window sensors. You can very easily set an alert to let you know that, after a certain time, that door/window is opened. If you are

outside of the home and you've left the home and you set your program that you're away, it lets you know that you have left a window by mistake or the door came open by mistake and you therefore would run up your heating bill. This would allow you the ability to either turn around and shut that door or have somebody in your family shut it. You can see some gas savings on that side of things, I suppose.

Q: The classes that you're experimenting with this are pretty interesting: seniors, low income, early adopters (which one would assume is generally higher income), and small business. That about covers the gamut. Nobody is being left out, are they? It seems like you're going to be sampling just about every aspect of your customer base.

A: That was certainly our intent. I will say the nature of this technology does not lend itself particularly well-- at least the package we put together-- to very, very large spaces. It's more interesting in more of that residential tight space. That's why we included small business or one of the reasons why we did because a lot of small businesses in Annapolis occupy a space that looks like a residence as I said. Yeah, we try to be as

inclusive as we possibly can. We believe the low-income customers are hugely important to make sure that they are engaged in this kind of forward-looking technology. We value the input of all the different customer classes. Seniors is actually an early surprise. We're in no position to draw ultimate conclusions here, but the senior group is really surprising. Very high level of engagement there, very high level of adoption which is great. We actually had one woman set up the kit in her father's home, and he's a senior. There was a great cross-generational use case there. She was really appreciative that she could keep an eye on him and check the temperature in his home and know that things looked good there. We have seen a lot of really interesting anecdotal use cases.

Q: Sam, you work in a Strategy Group. I am sure at BGE, like every utility in the country, strategy is also focused on the new utility business model. During these extraordinary COVID times, energy sales have to be down at BGE as elsewhere. Your utilities come in with a proposed rate fee freeze that's going to last through 2023. Do you see the strategies that you're testing here in this demonstration as pointing the way to a

potential new business model where the amount of energy consumed is not the driving force for revenue as it has been in the past?

A: That's a good question. I think we're all trying to sharpen the pencil on what ultimately the utility of the future looks like. I think that the evolution of what that vision can be-- it does not happen overnight. It doesn't happen all at once. It happens with constant innovation and constant seeking engagement from the community, working with our communities, and understanding what really brings value to them. "Perhaps," I think, is the answer to your question. There are plenty of very, very qualified people across Exelon working on that question as well. I think we remember our core here, if we remember our pillars which is to listen to the community, be responsive to what they're telling us they want and what they are telling us brings value to them, if we do it in a way that is cost-effective, if we do it in a way where technology supports the community, then it's not always all about the tech. The technology brings a supporting role that I think we're going to successfully bridge that, bridge ourselves to the ultimate utility of the future.

Q: Fascinating. Thanks, Sam.

A: Thank you, Marty.

Q: Thanks for listening to Grid Talk. It's been our pleasure to be talking to Sam DuPont who is Principal of Strategy Programs in the Strategy Group at Baltimore Gas and Electric. Please send us your feedback or questions to GridTalk@NREL.gov. We encourage to give the podcast a rating or review on your favorite podcast platform. For more information about this series or the 20 podcasts that we've recorded already, please visit SmartGrid.gov.