

MARTY ROSENBERG

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THOMAS PIERPIONT INTERVIEW

Q: Hi, and welcome to Grid Talk. Today, we're pleased to have with us Tom. Pierpoint who is Vice President of Engineering at Austin Energy down in Texas, the eighth largest municipal utility in the United States with close to half a million customers. Hi, Tom.

A: Hi, Marty. Good morning, how are you?

Q: Good, good. I'd like to talk to you about the issue of integrating emerging technology in Austin Energy. What does that mean for you? How do you think you might have freedom to tackle that as a muni as opposed to an investor-owned utility?

A: Yeah, Marty, I think we have a fair amount of latitude in tackling it as part of a municipal. We have a strong backing of our City Council and the Electricity Utility Commission in

advancing technologies especially to get towards carbon-free environment to the degree possible in the power sector. It's given us a great deal of latitude to implement new technologies, especially that can reduce our carbon footprint as those technologies become available.

Q: Specifically, you have been able to incorporate 43% of your energy as green energy as of the end of last summer on your way to hopefully achieve 65% by 2027. Do I read those metrics correctly?

A: Marty, we actually-- so, that number is right, but we are at 63% when we include our part ownership in the South Texas Project which is nuclear and carbon-free. Yes, we are at 63% now which includes the 40% renewable PV and wind. Our goals have been revised, and I will talk about that in a sec. For 2025, we are

looking at 86% total, and 2030, we're looking at 93% total. If I could, kind of as a backdrop, this is pretty recent news, within the last couple months. We have the Electric Utilities Commission which is kind of an oversight and guidance group as part of the City Council, and this group commissioned a working group last fall and looked to do an update of our resource plan, so we had a working group formed. It was comprised of community representatives plus Austin energy staff, and the group worked pretty quick. They worked 6 months to create what's called the AU (Austin Energy) Resource Generation and Climate Protection Plan to 2030. For listeners on the podcast, a search of Austin Energy EUC working group will bring up of the page of all the materials. It's really a nicely organized page, has all the materials from the working

group process and the outcome. The recommendations were approved by city council just a couple months ago, here in March. Basically, just a couple high points if I could, there's no new carbon generating assets as part of the plan. As I mentioned, our carbon reduction goals go from 63% which is where we're at right now to 93% by 2030. Continuing to pursue additional, renewable generation, you know, one component of this, that I think the staff at Austin Energy is particularly proud of, is a program called REACH which is Reduce Emissions Affordably for Climate Health. It's basically a market-based approach to reduce carbon using our legacy generation plants and do that in the most economical manner. Key to the plan is when the costs of electricity are low, a lot of times that means renewable is running in great

quantity. We kind of back down on our internal plants. In periods where generation requirements are much higher and the margins go up, we bring our plants online. During times of peak demand, that's when all the, if I could, the more carbon-intensive stuff is running. Our plants are relatively clean.

Q: You have two natural gas plants in the Austin area, and you own half of a coal fire plant; is that correct?

A: Correct, Marty. Yes.

Q: Is there any plan to get out from ownership of that, or are you going to continue to own all those facilities?

A: Yes, we have it on the online site. We're already retiring ownership in Fayette. That process is underway, and then the two closer-in natural gas plants, we're incrementally going to be retiring units with those plants as well

over the next 10 years.

Q: Operating off of probably some dated information, your wind portfolio is at 1200 megawatts and solar is 645. Can you update those figures and tell us what your goals are on those specific categories?

A: The goals are to continue to grow those numbers. I don't have the exact numbers at this point.

Q: Okay, and what about-- what is your attitude being a muni and not-for-profit? What is your attitude towards customer-owned generation, and would you like to see that grow?

A: Yes, I think that's going to be part of the plan to accommodate customer-owned generation, whether it's PV, especially at the local level, and then also help with interconnects and whatever we can do for the grid level PV.

Q: Talk to us a little bit about your plans for

EVs being a fairly progressive community with a university based there. I am sure EVs are popular. How do you see that growing? What are you doing to encourage that?

A: Thanks, Marty. We have quite a footprint in the city of Austin and surrounding area. We're working with national organizations to continue to grow that footprint. There are quite a few charging stations in the Austin area, and we are continuing to build those out.

Q: I was kind of fascinated on your website of a program where folks can pay something like \$4 a month and have access to 800 charging stations in the Austin area. Talk a bit about how that works.

A: Yeah, so there's a number of national programs. We're affiliated with one that's exactly to your point. For a low monthly cost, there's access to multiple charging stations

through a network and through apps so that it makes it easy for customers and owners to pull up to a charging station and use the charging station, in a lot of cases regardless of who owns it.

Q: Okay. Let's turn to housing stock for a second. You launched a green bill program back in '92, so close to 3 decades now. That's one of the models in the country, one of the most aggressive ones. What's that enabling you to achieve?

A: I think we are continuing to roll out the green building, increase our support of those programs and having a more energy efficiency stock. Especially in the case of Austin and the Austin area (which is growing rapidly), you know, there's the ability to roll out new standards and have those incorporated into the new housing stock.

Q: Turning to the grid itself. How distributed is it today, and where are you headed? Is it at the end point, or are you going to progress towards a point where you hope to have greater capability? Talk about that continuum.

A: Sure. I think right now, you know, I'd characterize our position as having a control center, obviously an EMS/SCADA for transmission, and an Advanced Distribution Management System for the distribution grid. Both are leading vendors, relatively new vendors to the industry, very progressive, so we're continuing to roll out new features, especially the ADMS to better manage the grid. You know, we're also weaving in programs like the solar, other kinds of generation the customers might have and create programs where it's advantageous for customers to employ those technologies.

Q: Talk for a bit about energy storage and battery deployments. Do you encourage that? How is that affecting the operation of the grid?

A: The battery deployment-- we are working with some organizations that are doing battery deployment and offer that at the residential level. Marty, we're also working at more of the grid level. We had a partnership with the Department of Energy with the Sunshot Program. Austin Shines is what we called it. Austin Energy did win the largest ground from DOE which is \$4 million. We did a matching funds as part of this program. We have sets of 1.5-megawatt batteries at 2 substation sites, Mueller and Kingsbury. The Kingsbury one works in conjunction with photovoltaic. We're looking kind of at both ends, and you know, we're involved with the roll out of the DOE

Energy Storage Grand Challenge. We did one of the keynotes for this area, for the DOE workshop in this area, so we are looking forward to, you know, more industry advancements especially at the grid level, with batteries.

Q: What will that allow you to achieve both at the granular level, the smaller units as well as the larger storage units?

A: At the granular level, with our energy customers, we have the ability to take the load off feeders, reduce energy going through the system and achieve carbon-reduction goals that way, especially in conjunction with photovoltaic. I think at the grid level, kind of the same thing, we're got batteries that are tied to large-scale grids. We have the ability to reduce, significantly reduce load off the system at the grid level.

Q: Talk a little bit about microgrids. Do you see that as a solution in your service territory? Are they popular? Are you hoping to get a few off the ground?

A: We have some work in micro grids and hoping to expand that further as the technology becomes viable and further advanced, especially on the battery side.

Q: You serve on the IEEE PES Technical Support Committee. In your prior life at Pepco Holdings, you lead the Emergency Incident Command Team. To what extent do you find these kinds of technical evolutions we've been discussing over the last few minutes positioning you to, at Austin Energy, deal with challenges to service-- whether it be storm-related or bad actors, what have you?

A: Sure. You know, Marty, I think I talked first about the PES (Power Engineering Society) and

the ITSLC Group. that's one of the things that's fortunate in this industry, that we can collaborate broadly and generally openly amongst all of us in the industry. The PES has a tremendous number of resources and standards, certifications, education, training, and so on. One of the things that was done with the PES Group and this special committee (the ITSLC) was to work directly with the organizations to address issues of mutual interest. Some of the organizations we have set up MOUs with (Memorandums of Understandings) is NERC, the DOE, North American Transmission Forum, and then a number of utilities are participating, ComEd, Vermont Electric, National Grid, and the Northeast ISO. It's been great to kind of leverage the technical expertise of many of the members across all different industry segments to come together and work on common industry

problems.

Q: Case in point, is the pandemic we're living through-- that committee, I believe, came out with a paper. How have utilities been able to respond to the challenges of the pandemic, specifically as a result of some of these technologies that have been deployed in recent years?

A: Sure. It is interesting. With the group that worked on the COVID knowledge sharing paper, it was a global group. We had North America teams. We had folks from Asia, including China, Europe, Australia, New Zealand, Latin America. Really, kind of my takeaway from the group, it was really interesting worldwide from a COVID standpoint and a utility standpoint, we're all kind of grappling with these same issues and, in a lot of cases, kind of solving them with the same techniques. This stood out

for me with the group, not only with IEEE, but with my interactions in the industry. One of the things we looked at was the Smart Grid. One of the conclusions was that COVID might slow the pace of individual projects in different countries and with different utilities, but it's interesting-- no one expects COVID to have a long-term impact on smart grid and carbon reductions overall with the overall pace of these programs. We're also have some countries that are looking forward to the possibility stimulus funds. Some governments may come out and encourage things to start moving a little faster. That was something that was encouraging is that the pace of carbon reductions and smart grid doesn't seem like it's going to slow. Another area that I will mention too is control rooms. You know, most utilities, all utilities actually

have essential staff which are in the field or control rooms, non-essential staff are staff that can tele-work and then some folks in between that need to come in periodically or go on site periodically to serve customers. One of the interesting areas that we did work on was control rooms and continuity of operations. It's really fascinating to me to see some of the innovations that have been done in the control rooms. For instance, the number of organizations including peer groups here in Texas, including ourself, immediately went to back-up control centers to try to break up the staff in the traditional control room, getting them into a backup control room as well. It's interesting how many organizations, how many utilities built like a third and fourth control room kind of on the fly using some of the advanced technology that's available. Some of

these new systems have easier capabilities, and then all of us were looking at ways to increase flexibility of staff, that will put people into nontraditional roles if they may have some control and experience, bringing in some cases retirees, and then also moving regular support staff, nonoperational people to another site. Those are 2 things that kind of pop to the top of my mind with the COVID paper that the IEEE worked on.

Q: Do you think some of this new flexibility in work force deployments that was evidence in the last few months might change operations going forward or do you think when the pandemic goes away things will go back to the way they were.

A: Marty, that's a great question. I think that there's no going back to where we were, at least not fully. You know, I think for workers that have flexibility, organizations moved

really quickly to increase the flexibility, so you know, more online processes, you know, quicker support, technical support for folks that are mostly, might be working from home or working remotely. I don't see, you know, organizations going back on that. I think people will still be coming into the office, but you know, I think remote working is kind of here to stay in my opinion. I think on the front-line staff, the field workers and control rooms, we've proven, really as an industry, that we can have workers on the front lines, but protect them from risks such as the pandemic. The sick rate at Austin Energy as far as effected workers has been really next to nothing, and so we've proven that we can protect our work force. I think it's consistent with a lot of other utilities as well. I think it's kind of here to stay.

Q: Let's turn for a bit to energy efficiency and demand response. I think you have a goal of trimming 900 megawatts by 2025. What have been some of the stellar accomplishments, and what do you look to achieve?

A: Yeah, I think the demand response component, the new plan, has us at 225 megawatts. We're currently at 75 megawatts, so we continue to roll that out. Our solar programs again, we're continuing to encourage solar. We do have goals for thermal industry storage, about 40 megawatts, so you know, that's an area we're going to be looking into. You know, one thing Austin Energy does have is a chilled water plants that serve air conditioning load to our big commercial customers, especially in the downtown area, so there might be some opportunities there.

Q: Tom, talk a little bit about the corporate

culture at Austin Energy as it relates to technology. Do you find that you're very aggressive to go after new technologies? You mentioned a number of federal grants, and what do you attribute that to? What has it enabled you to accomplish?

A: I've been very happy to have come to Austin Energy. It's only been-- it's hard to believe-- it's only been about 7 months, I think. Very progressive utility. As I mentioned, the EMS/SCADA which just went live in January is state-of-the-art. It's not one of the mainstream vendors. It's a leading product in the industry. The same with the ADMS, the distribution management system. We're upgrading that this summer. Very leading vendor, out front in the industry, and again, one of the nontraditional mainstays with a lot of advanced features. The rest of the

technology platform, you know, modern customer information system with Oracle, and the rest of the technology footprint, Marty, at Austin Energy on the engineering operations and electric system management side, I'm extremely pleased with. It's all best-in-class, straight down the line. There's the right quantities. There's not too much overlap or cases where folks have gone out and bought a lot of stuff. It's packages that make sense in this space that each of them are in. It's a very progressive organization. I'm really proud and happy to be part of it.

Q: Any pilot programs that you'd like to discuss that you think may be under the radar that the rest of the industry should be paying attention to?

A: I think with the ADMS there's the vendor (and Schneider is the vendor) that has 150

capabilities. Austin Energy has the largest utilization of those capabilities, so I think one area to watch with us and other utilities is rolling out new use cases. We're trying to create industry excitement and trying to get others on board with other utilities to try and roll out some of these more advanced features. I think another area, Marty, is continuing to take these large battery systems that we have on the grid at substations and weave these into our day-to-day operations increasingly, deal with, you know, the challenges that are faced in battery systems, making sure that they're operated safely, maintained properly and hopefully adopting this technology as it becomes more and more prevalent and more commonly accepted in the industry.

Q: Great. Thanks, Tom. I really enjoy chatting with you.

A: Thanks, Marty. I really appreciate the time and sharing of thoughts, and just kind of final word from me, if I could, I really appreciate this. Like I said, we're truly blessed to be in an industry where open sharing and collaboration is just a wide spread trait. There are a lot of industries that are more closed due to their nature, and it really has been a joy in my career to work in an industry that's this open. As part of this, I really appreciate the opportunity to talk to you this morning.

Q: Great. Thanks, all, for listening to Grid Talk. Thanks to Tom Pierpoint for sharing his insights about changes in the electric industry down in Austin and across the country and the world. You can send us feedback or questions at GridTalk@NREL.gov. We encourage you to give the podcast a rating or review on your favorite

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