

**MARTY ROSENBERG**

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**Grid Talk #218**

**LAUREN FABER O'CONNOR INTERVIEW**

Q: Hi. Welcome to Grid Talk. Today, we have with us, Lauren Faber O'Connor, the Chief Sustainability Officer for the City of Los Angeles. Hi, Lauren. How are you today?

A: I am great, Marty. Thanks for having me.

Q: Well, we've got a lot to talk about and a lot of folks including myself did not until recently know about LA100. The State of California has as its objective to be renewable by 2045 and as I understand it, LA100 says maybe we could beat that by a decade. How are you going to do that?

A: That is correct. Thanks to this incredible partnership that the Los Angeles Department of Water and Power (LADWP), our City of Los Angeles municipal utility, the largest municipal utility in the country partner shipped inked with the National Renewable Energy Laboratory, of course you know a premiere lab with the U.S. Department of Energy. This is over three and a half years ago came together and said we need to figure out our path to 100% renewable energy and then we have to get off of fossil fuels and determine our clean energy future. We have the power within this city to be able to do that because we control our

energy operations through municipal utilities so it's an incredibly exciting process.

Q: So, let's stop right there and we're going back to 2016 and 2017, and/or 2017 when the city council and Mayor Garcetti directed LADWP to start figuring out the strategy and investment hat to getting to 100% renewable. That was the dawn of the Trump era. What did LA feel like going basically on its own on this path and do you think it's been justified?

A: It was a really interesting time. In fact, at the beginning of 2016, we were just on the heels of and still very much deep dealing with an unmitigated natural gas blowout in the Aliso Canyon; a natural gas blowout happening over...very, very close to a neighborhood in Los Angeles called Porter Ranch, and we had many, many households that were displaced for months on end and this was an incredible disaster that affected so many people in Los Angeles and was unmitigated for so long and it really did wake up Angelinos to the perils of a fossil-fuel dependent economy and something that Mayor Garcetti had already been calling a lot of attention to. We had the sustainability plan, the Campbell Plan of 2015 that called on significant renewable energy commitments, but it was really this moment that said we're going to figure out our path, so yes...

Q: So, folks that don't know the political and cultural climate in LA, let's draw an analogy to the COVID vaccine nationally where there is pockets of states that endorse it and primarily blue states, and there are other regions that are red that don't get inoculated at quite the same rate. Tell us, the City of Los Angeles and its LA100 Project; is it universal buy-in; is there a split in the city? What's the mood and what's the consensus around this?

A: You know, that's a really interesting question because I think that every...I think that there's a wide consensus that a clean energy future is where we need to go and that LA is in a position to lead. Part of what we did to try to get at your question of how do we ensure this consensus across Los Angeles is that this, this comprehensive study between PWP and NREL included an advisory group of dozens of stakeholders across the city representing major customers of major electricity users, customers of Los Angeles Department of Water and Power, neighborhood councils, environmental justice organizations, environmental advocates, rate payor advocates, labor - really across the board to be a part of the process to understand how do we chart out the questions that we're trying to answer, and then coming together and understanding how do we reach the conclusion that we did reach, and I want to say that we didn't

know what we were going to find out when we started. We really didn't know what was going to come out on the other end and we didn't necessarily know what "cutting to the chase" what the conclusion of LA100 is, is that 100% renewable energy grid is achievable, reliable, and affordable and that is what helped the mayor moved forward by ten years, say ten-year acceleration of our zero-carbon grid goal.

Q: So, the study was launched at the direction of the city council involving a wide range of groups and NREL. The head of NREL, Dr. Keller said, "The scale is untaken and cannot be overstated," and you, Lauren, said, "It was unprecedented," and you also said, "We don't like to shy away from challenges and neither does NREL." So, with LA, we're dealing with the second-largest city in America; close to four million population. It's ranked as the fourth richest city in the world. It has a gross economic metro product of about a trillion dollars. This is not some small-scale pilot. Talk a bit about what you and Mayor Garcetti see as the national and international implications of what you're about to embark on.

A: Yeah, I think you're exactly right that not only are we doing right by Angelinos by leading the charge and really making sure that we are ushering in a clean and reliable and affordable energy system but we know that what we do in LA has

reverberations way beyond our border. The mayor takes that responsibility extremely seriously as well, understanding that climate change is indeed a global challenge and so what we do here really matter from a global stage. We are moving markets when it comes to our pursuit of renewable energy of distributed local clean generation. New technologies that we're piloting here in Los Angeles - it has the ability to really move and commercialize new types of technology that's going to be needed not just in LA but anywhere else. And so, when other cities see this and what I'm so excited to see from NREL and from the Department of Energy all the way up to our new, wonderful DoE Secretary Granholm, is an understanding that this study, this effort can be designed in a way can meet the needs of many cities across the country and the world. And that they're going to be re-tooling the effort to go and take it way beyond LA.

Q: Would you...do you know of any other city - London, Paris, any other city in the world - that's embarking on something quite the scope and scale of what LA is doing here?

A: Well, it doesn't...I can't think of another city off the top of my head, but so many cities are taking on this challenge in different ways. Again, one of the things that is unique to LA is our municipally-controlled utility that doesn't just deliver the electricity, isn't just in charge of the poles and wires and the

billing system, but actually builds the generation, owns and operates the generation that those big wind farms, the solar farms and battery installation but also manages the grid; the actual managing of the electrons that are running through so we are ensuring we're meeting supply and demand twenty-four/seven. So, we have a lot of agency in this and that makes it so complicated and comprehensive, but there are cities across the country that are looking at how are they going to be able to manage their 100% renewable energy future given that they either buy from a private utility or themselves may own their own public utility as well.

Q: So, given the power of this integration of city, city policy, the utility generation, is that to say and suggest that other cities - large cities like New York or Chicago that have investor-owned utilities - might not be able to replicate what you're doing in LA or are there lessons that they're watching and possibly learning from?

A: I think there are a number of lessons. One of the things that we've seen even in just out of LA County now, of course, LA City being the largest city in the much larger area LA County, they themselves put together a...what's called the Clean Power Alliance, their own, basically, their own utility company for unincorporated parts of LA County and now taking it city-by-city

within the county and they're offering 100% renewable energy and going out and inking those contracts with renewable energy generation themselves, so a lot of cities and counties jurisdictions are taking control of their energy systems through the proliferation of community choice aggregation and other types of programs which should require participation/partnerships with some of the private utilities but I think we're really seeing a new trend of localities' wanting to take control of their energy systems and have agency over the energy that they are using locally.

Q: So, let's drill down now into the LA100 story.

A: Yeah.

Q: We're sitting here in 2021. You have fourteen years to take the fourth richest city in the world and make it 100% renewable. Sketch out what the timeline is. What you're going to be doing this year and next year, and the next five years and beyond. How's it going to play out?

A: The study was so exciting because it really does demonstrate that there are multiple pathways to get to this end goal. And it also shows that we're well on our way with the way DWP has been making its own plan with its resource planning over the years. So, we have hundreds of megawatts of renewable generation in the pipeline, thousands of megawatts in the

pipeline already. Just in...just last year, a really tough year globally because of the pandemic, just in that year alone, we were able to begin development of two renewable energy projects alone that would add an additional 13% of renewable energy to our portfolio. This was a combination of solar and batteries through the ELAND solar and storage center in Kern County, which is one of the largest solar and battery energy storage systems in the country as well as the Red Cloud Wind Farm located in New Mexico; all be online by the end of the year or next. Red Cloud alone is going to deliver enough clean energy to power 222,000 homes in Los Angeles. So, in one year, we've already added 13% renewable energy. This is just the way we're going to be seeing DWP move forward year after year over the next as you say, thirteen plus years and beyond. And, we'll also see..

Q: Just to understand, Lauren, when you say added 13%, did you increase your renewable portfolio by 13% or do you have 13% of your generation now renewable?

A: Oh, we already have over 40% of our generation in the city as renewable. In fact, 52% of LA's generation of the energy mix already is carbon-free; 52% is carbon-free as of today. This is now when they come online so our Red Cloud coming online at the end of the year and ELAND Solar and Storage coming online just a



year or two later, that will have bumped up that 40% renewable energy, another 13%, just those two projects alone.

Q: Okay.

A: So, we expect to be at 80% renewable energy in our portfolio by 2030, an unprecedented acceleration; 97% carbon-free by 2030.

Q: So, how a scenario as bold as this and fast-moving as this, do you antici...write-in development of technologies that might not be there. For instance, can you do this with today's storage technology or do you need new kinds of storage coming along down the pike?

A: The study showed that a lot of the technology is available that we can get upwards of 80% total achieved through wind and solar alone and of course, smart grid management, which is deploying technologies in our wires and in people's homes and businesses that does exist, so we can get a significant amount of the way there. There is...it is clear that we will need technology that offers a little bit longer, longer term either storage or generation in really, really kind of rare but likely moments of either peak or just as insurance policies to have it in a backup capacity which you have to have a certain amount of backup over and above your regular supply for peak-hiking days which, of course, we expect more and more of and NREL took into

account climate change and climate impacts of high heat and needs associated with that and the grid stability issues associated with heatwave; took all of that into account so that's where discussions of new technology, like green hydrogen come into play, but they can play a role on the margin but really important role when they're needed and that allows for fully...fully zero carbon, renewably generated fuel that can be longer duration when it comes to generation and the ability to store that fuel.

Q: Talk to us about EVs. How big is the electrification of transportation today and how do you see it expanding in coming years?

A: Well, in LA, we're really bullish about electrification of the transportation sector because of, I mean a number of issues that really, because of the air pollution mandate in terms of cleaning up the air coming from the transportation sector. As expected, it's the number one contributor to smog in LA and the second largest contributor of greenhouse gas emissions right behind building in Los Angeles. And so, we have been working really hard for a long time and Mayor Garcetti is very passionate about all of these issues and particularly about transportation decarbonization. We have more electric vehicles chargers publicly, commercially publicly available than any city

in the country. We surpassed our 10,000 commercial EV chargers' goal by two years; we're already at 12,000-plus commercially available EV chargers. So, that's on the street, in parking lots, and employee lots and multi-family building were really important areas to get people where they live and where they work and as well as just on-street and off-street. So, we're working - we're really pushing hard at on all those areas and the exciting thing about the study is that it showed when you couple electrification of other sectors than transportation and building and things, it actually helps lowers the cost of meeting that 100% renewable energy grid and of course, is increasing the air quality and health benefits, so LA100 just reinforced how all these things need to work together and how we actually benefit by them working together.

Q: Have you done any estimates of what the economic impact of this project would be, I mean in terms of..

A: The study..

Q: Jobs generated, new businesses started, energy savings?

A: We've studied it..yeah, we've looked at some of that and that's another reason why I think Martin over at NREL would say that's one of those comprehensive things. It was exciting to see how NREL and the cities also partner with local universities so USC, USCLA, all play these big roles and different parts of the

analysis, whether that was the air quality analysis, the economic impact, the jobs impact, they all and organizations that are really powerful institutions, we're working together. And so, we did look at things like the employment impacts of LA100 and it really did focus the employment question on specifically like the power sector spending. So, it didn't look at things like transportation electrification, or the buildings' retrofits and retooling, but we know are really important and so we know it's really over and above what the analysis even showed. But, I mean, it was showing on the order of 13,000 jobs annually on average just from the grid and generation, clean energy generation itself; really exciting things. It also showed a significant reduction in...

Q: Lauren, just some clarification; 13,000 new job per year are being created or total of jobs?

A: So, these are...this is annual employment in the power sect... from the LA100 spending so there's a lot of investment already in play; a lot of jobs that are already in play of course, through the power sector but this had to do with that ten-year acceleration to 2035 and what we have to do to get there, so that's 13,000 annual jobs.

Q: So, there'll be 13,000 jobs tied with this, not 13,000 growth every year, is that right? Which is...

A: Well, I guess you would stay, it's like a steady 13,000...

Q: Got it.

A: Each year. Yeah.

Q: Okay.

A: Again, that's over and above where the investments that DWP already has in place and that does not include the work that has to be done to electro fit all of our buildings, to electrify them, to make them zero carbon as well as installing the charging infrastructure and building out our zero-emission transportation sector as well.

Q: Does NREL have any ongoing engagement or is its job basically done?

A: This partnership has been so fruitful and its been really wonderful to see how both LADWP, how our community at large and how DoE has really valued it and so the next step: one of the really important conclusions of this first massive study is that there's still more than can be done on the equity implications and approaches to implementation but really focus on and prioritize equity in our communities. That summer and inclusive process standpoint but also that the outcomes of benefitting frontline communities, communities in greatest need either from under-investment in their neighborhoods or also really just disproportionately impacted from poor air and impacted from

industrial operations and the energy industry overall. So now, NREL is embarking on a project with LADWP focusing on an equity study engagement and engagement in...engagement with communities over the next three years in order to really ensure that the implementation of LA100 has benefits that are really prioritizing communities that need it the most.

Q: Lauren, I'd like to talk about you and the journey you're on here. You've worked for Mayor Garcetti for six years. Before that, you were West Coast Political Director for the Environmental Defense Fund for three years, and you worked four and half years for the British Embassy. Your not a Brit, are you? I assume it was just a profession.

A: I'm not and I thought I was by the end of it, but I'm not. I'm actually a born and raised Angelino.

Q: Okay, so, given this track record, talk about what you feel about the work you're doing; how you approach it every day; how consuming it is and how are you prepared for this journey that you're taking part on?

A: Well, thank you for the question. You know, anyone who's in this work is...is a passion project. It's not just going to work every day and growing up in Los Angeles, I knew immediately when I was thinking about my future, thinking about college that I wanted to work in the environment; I wanted to improve the air

that I was experiencing myself growing up in Los Angeles and learning about these issues and what they really mean to our health and our future; this is something that I knew I wanted to work on. I did kind of in my early career really did believe that you had to go to the international scale, international solution to get to the international problem of climate change as global crisis. And it was incredibly impactful and incredibly exciting. The thing I did after leaving the British Embassy though was to go work for the State of California. The state was working on its global warming solutions after implementing it, I thought, okay. I've been working at the international scale and been doing a lot of work at the national scale with Congress, with the White House, but it's time to go home to California. California's really making an impact. It's going to make an impact on the rest of the world; I'm going to come home to California and work for the state, for the California EPA. Also, an incredible opportunity in place to have I think an outsized influence on climate change and clean energy. But then as I got further and further into my career, I think it just really fascinated me personally that I kept getting closer and closer to the local scale. I never in a million years thought growing up in Los Angeles, that I would work in Los Angeles and for the city because growing up here, I didn't think that that was where

to have the most impact and that's what LA really stood for and wanted to be. And that has completely changed. I could not be more proud to be here, to be working for the mayor who himself has just embodied the issues but also couldn't be more proud to be in a place where I think we are having a global impact. That the city of Los Angeles is operating on the global stage and helping communities, our neighboring communities as well as really showing the rest of the world how it can be done.

Q: Thank you, Lauren.

A: Thank you so much.

A: Thanks for listening to Grid Talk. We've been talking with Lauren Faber O'Conner, Chief Sustainability Officer of LA. By the way, how many are there in the world?

A: Chief Sustainability Officers?

Q: Yeah, for major cities?

A: You know, this is becoming much more a mainstream important key part of most local government's operations is sustainability, so we have a really strong network both nationwide and globally.

Q: That's where we'll start our next conversation.

A: Wonderful.

Q: Please send us feedback or questions at [GridTalk@NREL.gov](mailto:GridTalk@NREL.gov).

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END OF TAPE