

Community Solar  
NREL Decision-Makers Working Group  
February 17, 2015  
Meeting Transcript

*Joyce McLaren:* – but I don't want to start too late and run over. So today, I wanted to introduce you to two folks here in Colorado who have a lot of experience with community solar development from two different sides of the equation. We have Tom Hunt from the Clean Energy Collective. He is the vice president of corporate development for CEC and has also previously worked in the Colorado governor's energy – the governor's energy office. So he has a lot of experience on the development side of things and how contract structures work, and the business development issues.

Then, we have Keith Hay from the Colorado PUC, and he is going to be able to talk to the statutory side of the equation here in Colorado and what some of the lessons learned were from the process here. And we're hoping to touch on issues like financing and supporting low-income projects – projects for low-income participants. Excuse me.

So, I think a lot of folks are now online. We have most of the states from the community solar working group represented, and then a few people from the rate design working group as well. I just want to point out that since we are using GoToWebinar this time instead of GoToMeeting, everyone enters the meeting in mute – automatically in mute mode, and I will have to unmute you if you want to talk. So, during the presentations, I'm going to keep everybody muted. And then, if you'd like to ask a question and you don't want to forget it, you can type it into the questions box; or, you can just save it for later and I'll unmute folks after the presentation so that we can have a discussion. I think we're gonna focus a lot just on the discussion. The presentations probably won't be too long.

So, with that, let's just get started. Tom? I'm going to let you go first since you have an engagement later. So, let me unmute you, and I'll give the floor to you.

*Tom Hunt:* All right. Can you see my slides okay?

*Joyce McLaren:* Yes, I can see them. I presume everybody else -

*Tom Hunt:* Okay. Well, thanks for having me, and it's good to talk to all of you. Just looking through the list of people here, I know I've

talked to a few of you before, so I apologize if some of you are hearing a little bit of repetition. But, as Joyce was saying, I don't really plan on spending a lot of time in a presentation; really, just kinda want to offer to answer any questions. I know you all have a long list of questions you're asking about community solar. I'm happy into our experience we've built under a number of different regulatory and policy regime – put together financing in a number of different ways, brought in all sorts of different types of customers. So, we can give you our perspective on what works and what doesn't, and some ideas on what could improve things going forward. I'll just give a brief presentation to give a little bit of a background on who we are and what we do, and touch on a few topics that I know people have raised already.

So, I guess first of all, Clean Energy Collective, who we are; we are the nation's largest developer of community solar projects. We do that all over the country, and – sorry, my slides kinda disappeared here. Here we go. We do that all over the country. So, the dark green states there, the ones that we have projects that are active right now. Light green states – there used to be a little bit more interesting map. The light green states are the ones where we're talking to utilities in those states, and now it just looks like everywhere because we're talking to utilities all over the country. And so, I think that speaks to the demand for community solar and the interest in it, and probably why all of you are here for this call. It's really coming along all over the country, and there's a lot of different types of utilities and types of customers, and types of policymakers that are interested in it.

We only do community solar, so we don't build any other facilities. We don't do any rooftop solar or anything like that. We've put a lot of effort into our program and how we roll it out by making that it's fully compliant with all sorts of tax laws, security laws, making sure that we can raise money to finance it, and of course, making sure that it works for customers and utilities. That's really the end goal.

We do this – we don't necessarily build the arrays ourselves; we partner with the local communities to make that work. So, we'll partner with local firms to actually build the array. We worked with utilities – from really tiny cooperatives, to some of the biggest IOUs in the nation. We do bring all the funding and the administration to bear, and make sure that it works right, and it's a success for all of the parties involved.

Why community solar, why it matters, and probably why we're having this conversation – you know, I think you all are well-aware of this, but it's always good to bring in the reminder back to the forefront. This is our array in Rehoboth, Massachusetts. It's online now, and it serves people all across the community. So that includes schools. That includes individuals that can't put panels on their roof. That includes individuals who can't buy a big enough size array to make a rooftop array make sense. That includes businesses who don't own their roof or lease, but want to control their own generation. You bring everybody that's in the community, anybody who has the utility meter, essentially – is able to access community solar. That's a really powerful tool to bring to bear in terms of long-term growth of renewable energy. It's really the first solution that lets everybody in the community – everybody who votes, who pays into incentive programs, who supports their utility – whatever it may be, they're all able to participate, and they're all able to voice their desire for renewable energy via community solar.

And again, this is just kind of a – the other way to look at it in terms of who can participate: it's anybody. There's a number of different groups that can be served by community solar that may not be able to be served by others. We often talk about it from the aspect of people who can't put solar on top of their roof, and I think we tend to think about it as people who live in condos, or people who rent their house – essentially individuals that just have circumstances that prevent them from participating. But there's others that may not be able to make it make sense for rooftop solar or for other forms of renewable energy, but can make it work with community solar. So that's what you're seeing here.

So this is a slide that I'll spend a little bit of time talking about, and then I would anticipate we may come back to the same questions. And this is how it works for us in our contract structures, and you'll see different names on things depending on the regulatory regime, and so – in Massachusetts, for example, where it's built under virtual net metering, it's a slightly different arrangement. But it's essentially the same transactions. The idea here is that we build the array; we construct the array and interconnect it into the utilities grid. And to do that, we sign a PPA with the utility where they agree to take the power, they get the benefits if the clean power coming from the facility. It's a grid-type facility. It's a facility that's bigger and better maintained than what they typically see from rooftop arrays. So they know they can rely on the power more, and it's more understandable to them.

Then, instead of paying us for the PPA, they pay our customers. They pay to purchase panels in the array. That's essentially how we make our money as a company is that we sell the panels in the array to customers. And again, this can vary in different ways. You can bring financing to bear for the customers so they don't have to pay upfront, and it allows them to pay over time. You can have virtual net metering arrangements instead of a PPA. But essentially, this is what happens. You have to – the three different parties involved – hopefully all three of whom can come up with an arrangement that works for them. And that's one of the interesting things about community solar is that you can get utilities onboard with it and they're often very excited to support it. They see how it benefits them and it benefits their community.

Typically, we see that that only really works without any sort of policy or regulatory change for cooperative or municipal utilities, simply because regulated utilities tend to need clear regulations to be able to start a new program at all, whether they want to or not. But over half of our arrays that've been built thus far have been bilateral deals with utilities.

One of the questions we often get is: what happens if people move? And in reality, with community solar, people who move are in a better situation often times than those who put panels on their roof, because it can be unclear – although we're seeing more and more studies come out – that valuation of rooftop panels does translate through into valuation of the house, which is a really good thing. But with community solar, there's not really that question, especially if they own the asset. If they buy the panel in the array, they're able to sell it to another customer that stays within the utility network. They're able to give it to a relative who may want it, or they can pass it on as an inheritance, for example. They can donate it to a charity that they want to receive the benefit of the production of that array. But then, the easiest way is that if they do move within the utility network, or if there's limitations on the geography. In Colorado, for example, in the investor-owned utilities, customers have to be in the same county as the array that they buy community solar panels in.

If they stay within that same county or that same customer service territory, they can simply call us and we'll change the account number for which those bill credits come onto the bill, and it'll translate over to their new house.

I think this is my last real slide that I wanted to cover. I saw a couple things that were asked in the questions. One of them was in

dealing with low-income, and I think this is a big topic that we see around the country in people who are looking at community solar policy. We're working right now with anywhere from 10 to 15 different states that are looking at community solar policy, either new or expanded in 2015. So, it's coming up a lot. There hasn't been a ton of work done nation-wide on low-income customer inclusion, but it's absolutely a big benefit of community solar, and there's really three ways that that happens. The first one, obviously, is that you can require a community – a low-income participation for community solar, and that's what you see in Colorado. When the bill was passed in 2010, it included a requirement for low-income customer participation.

Oops, I apologize. That third bullet for Colorado is – I think I copied and pasted from the wrong slide. That does not apply there. But the first two apply to what we're talking about: low-income. I included a low-income requirement for the Colorado community solar gardens. It was left up to the PUC to implement it, and Keith will talk about that more. But essentially, they required 5 percent capacity going to low-income customers, but also made it easier for customers to participate.

So again, you know, that's one way you can make solar work for low-income customers – via community solar. The second is that there's less of a barrier to buy in, because typically you'll see rooftop companies aren't willing to come out and do an installation for just one panel. But buying, let's say, five kilowatts may be out of the reach of these customers. With community solar, if you set up the policy right, or if you set it up with this intent, you can buy in for any size down to one panel, and it allows those customers to participate.

And the third thing is that community solar makes it easier for customers – for low-income customers to participate for all the reasons we talked about earlier, why customers in general might find it easier to participate, in terms of not having to own your own roof. It can work if you move within your community. You know, you don't have to necessarily have a house that faces the right direction or anything like that. Those are all issues that affect all types of customers, but perhaps some of them affect low-income customers in greater – with greater intensity, and community solar helps address that.

The second topic that I wanted to touch on is making sure that you have participation from all types of customers, and especially small customers. This is an issue that we're perhaps seeing in some

states across the country. Minnesota's just opened up their program, and I know that there's people from Minnesota in this group, so they might speak to this more. But, I think some of the concern you're seeing, and Xcel just filed some comments on this – Xcel being the utility – just last week, is that because there's no requirement for a certain number of small subscribers in Minnesota, it seems like a lot of the community solar gardens are gonna be dedicated solely to large commercial customers. And while it's important that those customers can participate, because they can be an anchor tenant, and frankly, they're part of the community, too; serving only those customers, I don't think is really what policymakers intend when they're enacting community or shared fully legislation. I think Emma Krause from Massachusetts is on here, so she can talk about this in more detail if she wants, but we really think that what they put together is perhaps the best way to handle this that we've seen.

Essentially, the program works through virtual net metering in SRECs, but they require that there's a good amount of small customer participation, whether residential or commercial within their SREC qualifier language for community shared solar facilities. And what it says is that you can only have two customers bigger than 25 kilowatts of capacity per facility. Facilities, typically, are one megawatt for community shared solar in Massachusetts. Those customers – those two customers cannot take more than 50 percent of the facility capacity. So essentially, you're guaranteeing that at least 50 percent of the facility is small customers. That really drives the residential and small business participation I think policymakers want, but again, community solar enables, and that participation is what's really gonna drive the solar market in general for the long run because it's those people who get to participate, who all of a sudden have their voice involved in removable energy markets and are gonna be able to continue their growth and voice support for ongoing policies for the long run.

So that's all I wanted to talk about from – it looks like we're pausing the screen sharing, but that's all I wanted to talk about for my presentation. But more than anything, I wanted to – do questions, and just see what it is that you guys were wanting to talk about. I'm really happy to talk about any subject, whether it's financing, or how we get customers involved, how policy works – new policies that people are looking at. I'm happy to address any of that, and really just dive into any questions you have.

*Joyce McLaren:* Great. Thanks a lot, Tom. As I mentioned, I'll have to unmute anybody who has a question. So, if you can just hit the little raise-your-hand button, I can do that. Go ahead, Max.

*Question:* Hi. Hi Tom, this is Max Joel at the New York State Energy Research and Development Authority. I had a question about Colorado's low-income carve-out. So, from your perspective, how does CEC or any other community solar developer develop a product that's accessible to those low-income customers? Is it the same thing you're offering everyone? Is it sort of different requirements? Credit scores, or upfront payments, or what not? And also, how do you market it?

*Tom Hunt:* Sure. Well, it's good to hear from you, Max. The way it works for us in Colorado is it's essentially our standard product. We partner with housing agencies in the local communities where we're building arrays to find eligible customers that we can involve. And typically, it involves giving away that capacity. You're selling it for a very, very minimum – minimal amount of money. I think that's what most developers are gonna do if you have a requirement in there, and I think that's a good way to get participation. We have a couple hundred low-income customers that are already participating with – I think over 400 kilowatts of capacity already involved. So, you know, that's a lot of solar, and that's offsetting a lot of bills for a long time. If you're looking at products developed or want to come up with a new way of marketing it that is somewhat unique, I think that would probably need to be done within an incentive structure, rather than the policy itself, rather than the program structure itself. I think if you get into the program structure with something that specific, it's going to end up being kind of convoluted and isn't necessarily going to work exactly as you intend, and you're gonna find people that are trying to get around it. But if you set up incentive programs saying, you know, facilities that have over X percent low-income participation or market their products solely to people between certain income buckets, receive this level of an incentive. That may encourage some of that creativity. That would be my thought there on low-income.

And the other side of it, I guess, is you're gonna have – I know an issue that's been raised with low-income now, because we've worked with before is: credit check qualifications, credit score qualifications for low-income customers for products that we offer that are pay as you go. That is gonna be an issue because our financial partners – we're essentially bringing and financing for that, and they're the ones who dictate how that financing can go.

On the other hand, if those customers are able to meet that credit score requirement, they're able to get solar with no money down and pay as they go, which is a pretty unique circumstance, and that's what we're able to offer in Massachusetts. So, that is a benefit they get even if there may be that requirement on it from financial partners.

*Question:* Thanks.

*Joyce McLaren:* Okay. Rebecca, did you have a question? Rebecca? Did you have a question? Okay, let's see. I'll go into Emma. Let's see. Okay, Emma. I've just unmuted you.

*Question:* Hi folks. Sorry about that. Hey Tom. Nice to hear from you again, and thanks for the presentation. On the low-income piece – quick question. It's not true we're in Massachusetts. We have different rate classes. You can qualify for an R2 utility rate if you are low-income, and I'm wondering how – what you look at to sort of make energy from a community shared solar kind of cost competitive with that R2 rate class in Massachusetts, or any other state, because it's something we're looking at now, and it's really a big factor as to – well, you know, if you can just get this reduced utility bill, because you qualify for low-income, is it really worth going solar to increase – to further decrease that bill if the decrease is about the same?

*Tom Hunt:* Yeah. That's a good question, and to give a full answer I'll probably have to think about it. Maybe we could follow-up later, and have to get some more detail from you. Just thinking through it from our side of the fence – in Massachusetts, because your policy is virtual net metering, and correct me if I'm wrong – you know this better than I do, obviously, but I believe that the credit rate that our facilities generate is based upon a facility itself, not based upon the customer's rate class. And so, I don't know if it would matter what rate class the customer is in. I don't think it matters what rate class the customer's in unless being in the R2 rate class would exclude them from eligibility for solar programs. And if that's the case, well then I think that's an issue. But otherwise, we can assign the bill credits on the schedule to any customer, and the bill credit value is based upon the facility's meter rate.

*Question:* Right, right. Of course. I think where we're seeing difficulty is – if you have a low-income customer who's going to get their utility rate reduced by 25 percent, and that's about what you're gonna get reduced from participating in the Clean Energy Collective program, how do you essentially make the solar more attractive as

opposed to just getting them on that R2 rate? Because you're decreasing their price either way, and you know, if you're trying to get low-income customers to go solar instead of – to go solar, I think that's something where we're seeing might prove to be difficult because the reduction in their bill is gonna be the same across the board and it's tougher to make the sell for solar, we're finding, to that community if there's not some kind of cost-benefit that's attached to it.

*Tom Hunt:* Yeah. I think you're absolutely right that making the sell without a cost benefit is virtually impossible. And I apologize if I'm not understanding this correctly; and if so, happy to have a longer conversation one-on-one. I would – I guess my thought is: we could still make that work for them because we can stack our benefits on top of the reduction they get from going to R2. So, if they reduce by 25 percent going down to R2, we can reduce them another whatever percent that we're offering for participating in community shared solar. They would essentially get a lesser capacity in the community shared solar array because the credits generated from that array are at a fixed value and they need less of that value if they have less of a bill to offset. But we could still do that, I guess, is the way I would approach that. And again, sorry if I'm not understanding it correctly.

*Question:* No. That's actually very helpful, and I might want to chat with you further offline about this 'cause that is exactly something we have thought about, so I'd love to tease that out with you a little bit. So I'll be in touch.

*Tom Hunt:* Yeah. Well, and I'll be out at the next taskforce meeting on the 25th. So if you're gonna be out there, I could certainly talk then.

*Question:* Okay. I'll shoot you a note.

*Joyce McLaren:* Great. I got a note from Rebecca that she was trying to talk to us and wasn't getting through. Do you want – I'm gonna unmute you again and you can try again if you'd like to, Rebecca. You are unmuted, as far as I can tell.

All right. So, I'm gonna read her question that she wrote to me via chat. She says she wonders whether anyone has advice on how to convince the local utility that community solar works to their advantage. They have a situation currently where the utilities attempting to reduce the terms of the PPAs to two years from 20 years. She wonders how they can educate the utility and the commission about the issues – the relevant issues there.

*Tom Hunt:* Sure. So, this is Tom, Rebecca. Sorry I can't hear your voice, but I'll give you my take on that, and I'd love to hear others'. I would say reducing the contract term from 20 years to 2 years is gonna make it pretty difficult when it's an asset that pays off over, you know, more than a decade. So that would make it hard to get customers in, for sure. In terms of educating, you know, we put a lot of effort into that, and that's how we – you know, that half of our deals that I mentioned that are directly with the utility – on how it benefits the utility, how it keeps customers as their customers. It gives them power that's more reliable than what they're seeing elsewhere. It's a lot of good publicity for them if they do it well, and it can be branded in their name. There's a number of benefits like that, and we have all sorts of materials to go through that. I think maybe you can see my e-mail on the stream here; if not, I'm sure you can get it from Joyce. It's just Tom.Hunt@easycleanenergy.com. I'd be happy to shoot you some more thoughts on what we have. But, I think it's really about voicing the benefits to the utility that are unique to community solar, and maybe how they can use that to address some of the customer demand that they're seeing, but in a way that's more positive for them. And of course, it's not always easy; it's often easier said than done, but we spent a lot of effort doing just that. We'd be happy to help follow up with you and see if we can support you on it.

*Joyce McLaren:* Great, thanks. So, Mike, it looks like you had a question? I am going to try to unmute you, although I've just received an error message. So – did you receive a message, Mike?

*[Silence from 0:26:20 to 0:33:38]*

*Tom Hunt:* Can you all hear me now?

*Tom Hunt:* Hey all. This is Tom Hunt at CEC still. I'm not quite sure what's going on. We seem to have lost Joyce in control. If you guys can hear me, I don't have any further questions, I think, from you all, because you guys are all muted. But, my e-mail is Tom.Hunt@easycleanenergy.com. Keith, I think, will be on in a minute if we're able to get him unmuted. Or if you can, via chat, you can send in messages. Oops, is somebody there?

*Keith Hay:* Tom, can you hear me now?

*Tom Hunt:* Hey Keith. How are you doing?

*Keith Hay:* Wow, that's amazing. I'm not sure why that worked all of a sudden. Is there anybody else still on with us, or is this just Tom and Keith at this point?

*Tom Hunt:* \_\_\_\_\_?

*Keith Hay:* \_\_\_\_\_ attendees here, so –

*Tom Hunt:* It says everybody's unmuted now – or, a lot of people are, so maybe we can talk.

*Question:* Emma Krause here. Still online, if you can hear me.

*Tom Hunt:* Emma?

*Question:* NYSERDA is still here.

*Tom Hunt:* All right. So, we have audio back, it seems like.

*Keith Hay:* Great. Well, then, since there are at least a couple of us on, my name is – I'm one of the advisors at the Colorado Public Utilities Commission. My – I apologize in advance for not having slides at the moment, but I will have some in the follow-up. I just wanted to offer a couple of things today. One, a little bit of background on Colorado's solar gardens legislation. Second, how that legislation was then worked into a set of rules that were promulgated for community solar gardens. And then finally, just some insights on a recent community solar gardens filing before the public utilities commission where the commission issued a decision making some determinations for gardens going forward over the next two years. And then, I guess as background to all of that, let me start by saying the community solar gardens legislation in Colorado really pertains to the states to invest their own utilities, which are very different entities here in Colorado. They're the two entities over which we at the commission have jurisdiction. One is Public Service Company of Colorado, or more commonly, Xcel Energy. And I apologize. I'll flip back and forth between those two names. The second is Black Hills Energy, and it's much smaller. It serves only about 90,000 customers in one of the poorer areas of the State of Colorado. That's important down the road in our conversation only because we've seen most of the development for community solar gardens in Colorado within the investor-owned utilities in Xcel Energy service area, and not really in Black Hills.

So, the community solar gardens in Colorado started in 2010 with a statute. It was part of a broader effort that year to increase the

state's renewable energy standard and increase the amount of renewable energy that was brought onto the system. So, as I said, the statute applied only to the state's investor-owned utilities. It was also very prescriptive. It set out a lot of both the requirements and the constraints on community solar gardens for the state, so maximum size of two megawatts or less. It required a minimum of ten subscribers.

Here in Colorado, we have a retail distributed generation, or largely on-site solar, provisioned within the state's renewable energy standard. And as part of that, a customer who has onsite solar can only have capacity on their home up to 120 percent of their average use. That provision was carried over into the community solar gardens. So, if I, for example, were a subscriber to a solar garden, I would be limited to 120 percent of my use in exactly the same way as if I had put it on my roof.

Another piece of the statute was that community solar gardens and the either energy or renewable energy credits that the utility would receive would count towards the renewable portfolio standard or renewable energy standard here in the state. So that's sort of a key provision for the utilities. As Tom alluded to, it also required developers to have a low-income component of community solar gardens.

Finally, the last piece of the statute was a directive to the public utilities commission to go through a rulemaking process and to put into commission rules. All the requirements that were part of the statute, and that's just sort of part of how our process works, but then some of the language for the statute said, well, also go ahead and figure out how to do, for example, the low-income component. So that was – there was a little less prescription and a little more latitude for how the commission would do that.

So, in 2010, the commission went through a rulemaking process. We had a number of parties, developers, utilities, other solar advocates, some regional renewable energy advocates as well, and the commission took a fair bit of time to go through the rules, and I will share with you in the slides at the end both the rulemaking proceeding number and all of the decisions. So if you're interested, you can get all of that background information.

The one sort of interesting thing in our rulemaking process – and this may be of benefit to those of you from some of the smaller states, the rules do allow developers who are building community solar gardens in states with particular – sorry, counties in the state

with particularly small populations – that being fewer than 20,000 – to aggregate with neighboring counties. And so, typically, a solar garden would have to be in the service territory for the utility, and customers would have to live in the county where the garden's being built. And in recognition, the fact that you do have some large, relatively sparsely populated counties. The rules that the commission put forward do allow for that sort of aggregation.

Just adding one thing to what Tom indicated on the low-income piece. He's right. It is the five percent satisfied. And for us here in Colorado, the way the determination for eligibility is largely made is through our low-income energy assistance program. So, any customer that's on the LEED program would automatically qualify as low-income for the purposes of the solar gardens or the solar gardens set aside.

Just to sort of give you a background on what we've seen in terms of the implementation here: by statute, the utilities could offer up to six megawatts in the first three years. Because the first year of the program offering largely was taken up with the implementation of the rules, the commission allowed Xcel Energy, which submitted an application, to take some of that capacity and instead offer a nine megawatt program in 2012 and a nine megawatt program in 2013. And from that, the commission has seen about 19 solar gardens in Xcel's service territory. It's my understanding that most of them were in about the 500 kW size.

And then, I'm happy to answer any questions about how the REC payments or the bill credits for customers get worked out, if there are any of those types of questions. Finally, just turning then to the commission's recent decision, Xcel Energy, as part of its 2014 renewable energy compliance plan filing, submitted as part of that, a request to the commission to include community solar gardens at the same, roughly nine megawatt capacity size. In its decision of approving the plan, the commission looked at the statute and determined that for 2014 going forward, the statute actually said that the commission should set a minimum and maximum for community solar gardens based on the record before it, and its determination of market interest and need. And so, in the decision – the final decision approving Xcel's plan, the commission allowed community solar gardens up to 30 megawatts, not for an individual garden, but the total program up to 30 megawatts in 2015 and 2016, and also gave Xcel the discretion to acquire within the program size at 6.5 to 30 megawatts – any of that capacity it believed was reasonable and met its interests.

So, one of the challenges that was presented to the commission as they considered what was before it – considered the decision, is the primary motivation for the utilities. Pursuing this may well be the RECs that they need for renewable energy standard compliance. But, Xcel energy has a sufficient amount of RECs, so I think one of the things that the commission and a lot of the parties here in Colorado will be watching to see over the next two years is how community solar gardens will get built out in light of the fact that the utility doesn't really need the RECs for compliance purposes during the next two years.

And that, I think as background, was all I had. As Tom had suggested at the start, I'm really prepared to answer any questions you have on the statute or the commission's rules, and happy to share more insight in terms of the most recent decision the commission issued on solar gardens.

*Question:* Hi Keith. This is Max Joel at NYSERDA in New York. Can you hear me?

*Keith Hay:* I can, Max. Thank you.

*Question:* All right. Great. So, I had a pretty general question about the rulemaking process. By way of context, our commission just last week opened a proceeding on what they termed community net metering – but you know, essentially shared solar. So, my question was, you know, the translation from statute, to rules, to implementation. Just as we're kinda looking ahead to our pathway, are there any things that you know, the commission staff really had to address in the rulemaking process that were important but weren't really identified or anticipated in the statute? And then, as you've seen this roll out, are there any things that have come up in the market and in implementation that you feel maybe should've been addressed in the rulemaking process, or maybe should be in this next round of the program?

*Keith Hay:* Both great questions, Max, and thanks for those. Let me start with the second one first, and that is sort of what might've been addressed or what we're seeing now in the market. In the last proceeding that the commission just issued a decision on, one of the solar community gardens developers argued that there's a lot of pent up demand for this – in fact, indicated that there was well above 80 megawatts of potential out there, and utility had come in suggesting a 6.5 to 9 megawatt size program. The commission again looked and said, well, we've gotta implement some sort of maximum, thought that 80 was too large. But I think the

conversation that's going on now within the state is whether or not the program should be - community solar gardens – should be uncapped and really determined just by market size and market demand. So that was one piece of it and answering your second question.

Now, back to your first question, in terms of the translation from statute, to rules, to implementation. As Tom and I both suggested, the statute here in Colorado was actually really relatively prescriptive, and there wasn't a lot of lie-between for the commission to make determinations, for example, around how the bill credit would be calculated. That was spelled out in-statute. So, we didn't have a lot of those issues that we might in the rulemaking, and where we have in the rulemaking is where the statute simply says, well, commission promulgator rule from community solar gardens. No. Then you get the much more contentious rulemaking process. So, we didn't really have a lot of those experiences upfront. I think right now, it's really program size that's being questioned.

The other issue that wasn't part of that rulemaking but there's been some conversation around is the extent to which you should allow a REC payment, or a renewable energy credit payment of zero or potentially negative dollars. There has been some talk from some of the developer community, at least as far as I understand it – and Tom, please correct me if I'm wrong – that it's possible that developers would be willing to bid to a zero REC price, and the commission so far has not allowed that. Did that answer your questions, Max?

*Question:*

Yeah. I have a couple follow-ups, but I don't want to dominate the conversation if other people have questions. All right. Well, hearing that, I'm gonna ask my follow-ups. So, Keith, if I heard correctly, you said they took over a year to implement the rules. You know, given that the statute was so prescriptive, and you're saying there wasn't a sort of a longer, contentious rulemaking process, what took a year to implement? Was it kind of on the utility side, the administration, or what accounts for that gap?

*Keith Hay:*

Just the process here at the commission. We issue a notice of proposed rulemaking. Then that has to sit at the secretary of state. You know, even though it's not contentious, there are rounds of testimony in terms of how pieces that were not specifically called out should be implemented. And then we go through a couple of rounds of draft rules. So, it's really just the due diligence

commission process that takes us close to that one year mark in order to implement any set of rules here in Colorado.

*Question:* Gotcha. And then, sort of my bigger follow-up question, and just kind of framing this in the abstract. Obviously, you had to implement rules that complied with the statute, but you know, if another state were to have a more open-ended rulemaking process, are there any sort of best practices or – based on what you've seen in the market and the way this program has rolled out, would you recommend anything, for example, for the bill credit mechanisms that are different from what's in the Colorado program based on your experience?

*Keith Hay:* I'm not gonna speak to the bill credits right now in part, Max. The commission here in Colorado has an ongoing open proceeding on net metering bill credits generally. And so, it's unclear the extent to which that proceeding would touch the bill credit for community solar gardens. So I probably shouldn't speak to that piece of it.

*Question:* Sure. I understand.

*Keith Hay:* Maybe offline, you and I could have a conversation, but – you know, in general, I think that the one thing that you want to think through, and I think worked really well here in Colorado – and it was in-statute – was having a small program size set up initially where the utility could go out with a small set of RFPs, the commission could see what the uptake was like, and then try and work with the utility through its applications and filings to adjust the program size. So, while we've had a lot of programs, or, you know, the 19 different gardens here, we didn't simply go from zero to an uncapped program. We went from no community solar gardens, through a couple of small planned filings, to a slightly larger plant filing. The commission approved something above that based on what they think market demand is, and the record before them. So I think having that staged set of implementations was key for the commission in terms of making sure that you didn't end up with programs that were too large for utility needs, that didn't have an undue impact on customers early on, and I think it also – having a requirement within the rules that a certain portion of the program be dedicated to 500 kW and under systems probably speaks to Tom's comment about what happened in Minnesota with it largely being directed to the bigger customers. In Colorado, that hasn't been the case. I think we've had fewer gardens that have gone in that direction because of the requirement on the smaller systems, or the standard offered program that we have here.

*Question:* Thanks.

*Question:* Hi, Tom? This is Mike \_\_\_\_\_. Can you hear me?

*Tom Hunt:* Hey.

*Question:* Hi. Can you hear me?

*Tom Hunt:* Yeah, we can hear you.

*Question:* Okay. Just wanted to make sure. So, it's very interesting here what you're doing, and I've been approaching the financing issues kind of a completely separate – or completely other side of the picture – to open up capital market investment to standardization of contracts and best practices and installation and now and then. And, I guess I have a multi-part question. First, I'm kinda looking at community solar as a potential fix to the untapped markets of multi-tenant office and retail and housing as – you know, you have many tenants, and the credit each one of those is not of merit to – in order to build a solar system and so on, and if there's a community solar based sort of fix to those markets. And also, I'm interested in whether or not you've developed contracts that are replicable and usable in other jurisdictions, or if that process is ever going to take place as a matter of those who are interested in the community development there.

*Tom Hunt:* Yeah. Well, so, a few questions there, and let me know if I don't address everything you're getting at. In terms of contracts that can work across jurisdictions, absolutely. We put a lot of time and effort into our legal framework that we use for our projects in our facilities, and we use that across the facilities. So, we certainly have that – it is proprietary to us. It's not something that we would share publically, per se, but we know it can be done. In terms of addressing the market for multi-tenant housing and multi-tenant commercial entities and things like that – obviously, it does do that because those tenants have utility bills, they're able to buy into community solar. I'm wondering if you're talking more specifically about, you know: can we put an array on top of a commercial building that has seven tenants and has all seven of those tenants receive the benefits? The key thing for community solar – so, that's what we're talking about. The key thing for community solar is that the people who are buying into it can receive bill credits. Because otherwise, you run afoul of securities and tax law, or it becomes much more difficult. And so, if those seven customers, seven tenants each have their own utility meter,

then yeah, they could certainly do it. I know that Washington DC is just about finished rolling out its community solar program – community renewables program. It's just about done at their public service commission.

And, that's one of the big target markets that the advocates there have been thinking of because you have such a dense population there. They're thinking of people who live in duplexes or business buildings where they have four or five buildings. Things like that. So, that's certainly a market that can be addressed

*Question:* Right. Okay, great. Thanks. And you said your contracts – so, your documents are not publically available? So would you – would you be open to making them publically available for – you know – easy replication by other jurisdictions?

*Tom Hunt:* No. Most of our contracts – you know, we put a lot of time and money into, and they're part of what we have as our intellectual property. So, we couldn't share our customer contracts publically, for example. We could certainly give input on what needs to be there and now, to make sure the policy is structured right to allow \_\_\_\_ programs; but the documents themselves, we'd hold onto.

*Question:* Okay.

*Question:* This is Martin Hyman with Missouri Division of Energy. Thank you, definitely, for taking the time to do this today. I guess my main question would be what the value proposition is for a customer who does buy into a chunk of community solar, if you will – where their value proposition comes from buying into this. Is it somewhere in the bill credit? And if so, how does the bill credit exactly work?

*Tom Hunt:* Yeah, so the value proposition – at least for all of our projects, and Keith, speak up if you heard anything differently – is with the bill credit. Maybe they receive additional compensation if there's a separate payment for renewable energy credits or some other sort of stream. But typically, it's a bill credit. And it's simply that the sum of the bill credits over the last time of the array is gonna be of a higher value than what they have to pay up front or over time to buy into the array. And so, we don't get involved in projects where that's not gonna be true simply because we don't think customers are gonna adopt it and we haven't seen that happen – even the ones that we have that are marginal. But if they're able to see some sort of payback over time, and it doesn't have to be a \_\_\_\_ payback by

any means, customers get very excited about it and we think it's pretty easy to find them.

*Question:* So what do the – what do you typically base the buy-ins and build credits on?

*Tom Hunt:* Sure. So, the buy-in is based off – when we structure it, it's based off the cost of building and administering the array. And so, it's linked to the price of solar, and you know, how much panels, and racking, and inverters, and all of that cost, plus the soft costs. So, the more you can do to drive those costs down, the cheaper it is up front for customers. That's where soft costs come in, and especially setting up programs that are pretty easy and efficient to run and don't have a lot of hoops to jump through – directly drive that cost to customers down. The bill credit, if it's in a state like Colorado or Massachusetts or Vermont or Washington DC where there's a regulated program that's set by the regulations and it's typically – you know, typically some derivative of, or it's just the net metering rate depending on the state. I fit's a deal that we find directly with the utility, then we – it's a PPA, effectively, per unit of power produced. We negotiate that price with them. And from that standpoint, we're negotiating to find a price that we know allows us to salvage customers – in other words, the price that we know provides a benefit to customers, and yet doesn't provide an excess benefit to the point where the utility doesn't find it worthwhile, either.

*Question:* Okay. Thank you.

*Keith Hay:* And just quickly as follow-up: here in Colorado, the community solar gardens bill cred it is a little bit different than a residential customer bill credit. The residential customer bill credit \_\_\_ at the utility's full retail rate. For the community solar garden, it is the retail rate, less some transmission and distribution system charges, and that was spelled out in statute, and then worked out in the rules. And as Tom pointed out, it is a tariff trade, and it changes annually. Exactly what that credit calculation will be here.

*Question:* Okay. Thank you.

*Joyce McLaren:* Hi. This is Joyce again. I'm hoping that you can probably hear me now. Sorry for the technical problems, but thanks for staying on line. So, yeah, I just wanted to let you know that I was back, but definitely, everyone go ahead and continue asking questions if you have more.

- Tom Hunt:* We had a good crowd-sourced discussion with our leader leaving us briefly, so it worked out.
- Joyce McLaren:* That's for sub-managing. I don't hear anybody else jumping in to ask questions at this point, but I definitely wanted to let everybody know that we'll be sending out some slides that Keith is going to send me later today, and as well as contact information so that you can get in touch with them if you think of anything later on.
- Question:* Hi Joyce. This is Mike again. I have one more question. Do you think – Tom – there's a market for securities based on the pooled cash flows of different community projects, and that's something perhaps with state or public sector credit enhancement – you know, we can create a portfolio large enough and viable enough that – debt investors to look at?
- Tom Hunt:* That's a good question, Mike. I think up until now, probably not, just because there hasn't been enough volume going forward with market size increases that we're hearing about and that we're considering. There might be. I think, you know, standardizing is always gonna be the issue because you have so many projects that look slightly different based on the regulatory regime or the deal that's signed with a utility. And so, I think you'd have to put a fair amount of work to figure that side out. But I know we're putting a lot of effort into figuring out the lowest cost capital resources we can find with community solar, and getting bigger markets, and thus being able to pull projects together and get cheaper cost to capital for that group of projects is a big part of that.
- Question:* Right. Yeah, and that's what we're working on – and certainly in our community distributed projects to facilitate that standardization and what we're showing now in the next month or so – best practices and systems \_\_\_\_\_. But hopefully garners enough investor confidence that, you know, entities or projects that followed us have enough consistency in the way they approach development and that \_\_\_\_\_ that they're pooling, essentially.
- Tom Hunt:* Yeah, absolutely.
- Question:* We should keep in touch about that and see if – something we can –
- Tom Hunt:* Yeah. Happy to chime in if you ever need our take or if you want info from us on it. I think one of the issues you run into – as Keith was talking about – the procurement for Colorado, for now, for

example, because it is on a limited basis. And because it depends on allocations that have to go before the commission, and then it also depends upon a bidding process after that. Just getting the projects is difficult enough that, you know, it's not like pooling rooftop projects in uncapped markets where you can – no, you can keep checking them in if the economics work. There's a lot of hurdles to jump through. That would be the other issue, just to figure out, probably.

*Question:* Thanks.

*Joyce McLaren:* Anybody else before we call it a day? Well, hearing no more questions, I guess we'll wrap it up for today. But like I said, I will be sending out a few slides from Keith and contact information for them. So, if you want to get in touch, I'm pretty sure they would be happy to answer questions that come up later. Sorry again for the technical problems, but I'm really glad that everyone was able to stay on through that and figure it out. So, yeah. With that, I just want to say thank you very, very much to Keith and Tom for joining us today. It sounds like they were great choices for being able to provide information on some of the questions that the – I'm getting some feedback – the questions that the members had.

*Keith Hay:* Well, thank you for the invitation, Joyce. This is Keith, and I'm very happy to answer any questions in follow-up. And you will have my e-mail later today to share with everyone.

*Joyce McLaren:* Fabulous.

*Tom Hunt:* And this is Tom. Same here. I appreciate the opportunity to talk, and to be here with Keith, and thanks for all the questions you guys had. Happy to follow-up on anything you want.

*[End of Audio]*