

Renewable Energy Tracking and Claims: Experience from the United States

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Webinar Presenter

Jenny Heeter National Renewable Energy Laboratory

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Sean Esterly

Hello everyone, I'm Sean Esterly with the National Renewable Energy Laboratory. Welcome to today's webinar, which is hosted by the Clean Energy Solution Center in partnership with the National Renewable Energy Laboratory. Today's webinar is focused on renewable energy tracking and claims experience in the United States. One important note of mention before we begin today's webinar is that the Clean Energy Solutions Center does not endorse or recommend specific products or services. Information provided in this webinar is featured in the Solution Center's research library as one of many best practices, resources reviewed and selected by technical experts.

For the webinar, you do have two options for audio. You may either listen through your computer or over your telephone. If you do choose to listen through your computer just go to the audio pane in the Go to Webinar panel and selected Mic and Speakers option. If you choose to dial in by phone in that same pane please select the telephone option and a box on the right side will display the telephone number and audio PIN that you should use to dial in. If anyone is having technical difficulties with the webinar today you may contact the Go to Webinar's help desk at the number displayed at the bottom of that slide. That number is 888-259-3826.

If you'd like to ask a question during the webinar and we do encourage anyone from the audience to ask questions at any point we ask that you just submit that question in the question pane. So you type it in there and send it to us through that. If you're having difficulty viewing the materials through the webinar portal we did post PDF copies of the presentations at cleanenergysolutions.org/training and you may follow along as our speaker

presents today. Also, we'll be posting and audio recording of the presentation to the Solution Center training page within a week or two of today's broadcast. We are also now adding recordings to the Solution Center YouTube channel where you'll find other informative webinars as well as video interviews with thought leaders on clean energy policy topics.

So today's webinar agenda is centered around the presentation from our guest panelist, Jenny Heeter. Jenny has been kind enough to join us to explore renewable energy certificate definitions, explain how renewable energy certificates are tracked and traded electronically and examine the tradeoffs to buying and selling renewable energy certificates. Before Jenny begins her presentation, I'll provide a short informative overview of the Clean Energy Solution Center initiative and then following the presentations we will have a question and answer session where Jenny will address the questions submitted by the audience followed by some closing remarks and a brief survey.

So this slide provides a bit of background in terms of how the Solution Center came to be formed. The Solution Center is one of 13 initiatives of the Clean Energy Ministerial that was launched in 2011 and it's primarily led by Australia, the United States and other CEM partners. So now comes snail comes to this unique initiative include support of developing countries and emerging economies through enhancement of resources on policies relating to energy access, no-cost expert policy assistance and peer to peer learning and training tools such as the webinar you are now attending.

The four primary goals for the Solution Center. The first goal is to serve as a clearing house of clean energy policy resources; second is to share policy best practices, data and analysis tools specific to clean energy policies and programs and; third is to delivery dynamic services that enable expert assistance, learning and peer to peer sharing of experience. Then lastly, the center fosters dialogue on emerging policy issues and innovation around the globe. The primary audience for the solution center is energy policy makers and analysts from governments and technical organizations in all countries but then we also strive to engage with the private sector, NGOs and also civil society.

This slide shows a bit on our marquee feature that the Solution Center provides which is the no-cost expert policy assistance known as Ask an Expert. The Ask an Expert program has established a broad team of roughly 30 experts from around the globe who are each available to provide remote policy advice and analysis to all countries at no cost. So for example, in the area of renewable energy policy markets and finance mechanisms we are very pleased to have Camilla Ramos, Managing Director and Founder of Clean Energy Latin America serving as one of our experts. So if you have a need for policy assistance in renewable energy policy markets or finance mechanisms or any other clean energy sector we do encourage you to use this valuable service.

Again, the assistance would be provided to you free of charge. So if you have a question for our experts please feel free to submit it through our simple

online form at cleanenergysolutions.org/expert or to find out how the Ask an Expert service can benefit your work please feel free to contact me directly. My email and phone number are both displayed on this slide. We also invite you to spread the word about this service to those in your networks and in your organizations.

So now, I'd like to provide the brief introduction for today's panelist. Jenny Heeter is a renewable energy analyst at the U.S. National Renewable Energy Laboratory. She focuses her research on the voluntary green power market, renewable energy certificate markets, renewable portfolio standards, net neighboring policies and utility regulatory issues. With that, I'd now like to welcome Jenny to the webinar.

Jenny Heeter

Great. Thanks Sean. Thanks for having me on this webinar. I'm just going to pull up my slides here. So I wanted to talk today about renewable energy tracking and claims and provide some perspective from what's happening in the U.S. and hope that that might translate to what's going on internationally.

So the overview for today is to, first, define RECs, renewable energy certificates, and other tracking instruments, discuss some of the motivations for why these instruments were created, provide U.S. market context for where these instruments and how these instruments are used. Then I want to discuss the roles of regulators as well as sites that are hosting the renewable energy facility, organizations that may be purchasing renewable energy and finally for utilities and generators. Then I'll conclude with a little bit of international perspective on tracking instruments and we'll end with question and answer session.

So definitions and motivations. This slide provides an overview of how renewable energy certificates function and renewable energy certificates or RECs are the tracking mechanism used in the U.S. but you may be familiar with GOs or CECs or other acronyms that describe a similar product in a different country. But the essence here is on the left you will see the electricity pathway is going one way from the renewable generation source while the REC pathway is going separate. So RECs allow the one-megawatt hour of renewable generation to be tracked separately from the electricity pathway. This is really essential because renewable generation, once it's put on the grid it can't be physically tracked because those electrons, the electrons from fossil fuel will flow independent of where they are ultimately consumed. So RECs were created as a way for consumers and utilities to demonstrate that they had a renewable energy.

There are different definitions of RECs. Each organization or sometimes each state in the United States will have its own legal language defining a REC but in the U.S., the primary definition is that it represents the environmental attributes of one megawatt-hour of renewable generation. I provided two examples here. One is from Green-e Energy, which is a third-party certification body in the United States for renewable energy certificates. They have their own definition of a REC. Similarly – we'll talk about tracking systems later but the North American Renewables Registry is one of those tracking systems and it has its own definition for a whole certificate or a

whole REC. Basically these definitions allow for both parties transacting the REC to know exactly what they're getting.

So why do we track renewable electricity? There are a number of reasons but this market in the U.S. began when two policies were beginning to be put in place. One of them is the Renewable Portfolio Standard, which is an obligation on utilities or load serving entities to supply a certain portion of their load from renewables. The second was fuel disclosure policies. So those require the load serving entity to publish how much of their supply is coming from different resources like – excuse me – how much is coming from coal, natural gas as well as renewables.

So in order to demonstrate compliance and make that fuel disclosure entities needed a way to figure out, to track how much renewable electricity they were purchasing and using for compliance in some cases. Then later, sort of in the late 1990s in the U.S. the voluntary green power market began using RECs and tracking systems. So voluntary actions are those outside of compliance obligation like in RPS but that voluntary green power market is one where utilities may offer green pricing products to their customers or where large corporations may be buying renewables directly from renewable generators.

So with that in mind I wanted to provide a little bit of background on the market in the U.S. It might provide some context for those internationally so that we understand how important is REC tracking and why is it taking off. So I mentioned the voluntary green power market, which is seen here in blue. We also have on this figure compliance markets. So in red you'll see compliance or RPS mandates for new renewable energy and then in green we have compliance markets for existing renewables.

This data goes through 2013. We're about to update through 2014. But the basic trend you'll see is that all of these markets are growing and there is a good chunk that contributes from the voluntary green power market. So RECs and tracking are used in both of these markets and it helps the end user be able to ensure that one REC is not being double-counted between markets or within a market.

We have seen on the voluntary side a lot of emerging models for purchasing. So I mentioned one option is that utility or load-serving entity may offer a green pricing product but there are also a number of other emerging methods. What we have in the existing methods which I've put here in blue are the utility green pricing options, competitive supply options which are offered in restructured states or deregulated states and then some entities are purchasing RECs unbundled which is separate from their underlying electricity.

These yellow options are beginning to emerge in the U.S. Onsite renewables we've had for a while but are really starting to grow. Increasingly corporations are interested in power purchase agreements. So, they are contracting directly with a renewable generator perhaps for a longer term like 20 years. We also have community choice aggregation in the United States, which is a bit of a hybrid between having a municipal utility and being served

by an investor owned utility. It allows the municipal government to choose the electricity supply and resource mix for its constituents.

Community solar or shared solar allows folks who may not have access on their roof for solar to participate in a larger array and still get the financial benefits of that array. Then I'll just leave off the other two because they're pretty small right now but wanted to highlight the different value propositions and REC treatments for these options. So the first three you'll see that the purchaser traditionally keeps the REC associated with those products or the RECs may be retired on behalf of the purchaser, which is a way of saying that the utility or whoever is providing that product is making sure that those RECs are no longer used by anybody else. Those products are usually used by folks who might be wanting to meet corporate sustainability goals or just in general match all or part of their electricity consumption with renewable energy.

For these new products, we're seeing that purchasers do not necessarily keep the RECs but they may have other motivations for participating in that product. So sometimes, these products in yellow can provide a lower electricity bill or they might provide a price hedge or companies or other organizations might want to provide a host site for a renewable generator but they're not necessarily interested in keeping the RECs with that purchase. So, we are seeing some new ways of handling RECs, which has complicated how folks talk about their renewable generator onsite in particular.

So with that market context in mind I wanted to provide some background on tracking systems in the United States. So what are tracking systems? Tracking systems are electronic and they provide assurance that RECs are only retired once. So I mentioned that term earlier but just again, it means that the REC has been used by the owner and it can no longer be sold. So it's a way of ensuring that the REC is used only once.

What tracking systems do is they assign a unique serial number to each megawatt hour of renewable generation and they also assign other attributes to that megawatt hour, typically things like what type of resource does it come from, where was it located, perhaps which state is it eligible to meet RPS compliance, things like that. So I mentioned systems were created for RPS compliance and also for product disclosure labels but increasingly they're being used by the voluntary market, which I have some information on later as well. Renewable generator participation in these tracking systems is pretty high. So in the U.S. most of the states that have an RPS do mention that generation must be tracked in one of these tracking systems. So in order for generators to get revenue from their RECs to meet RPS compliance they are registering these tracking systems.

So here's a map overview of tracking systems in the U.S. You'll see that they are pretty regionally based. Tracking systems tended to emerge in similar regions to RGOs or ISOs in the U.S. So you'll see in the Northeast we have NEPOOL GIS. The Midwest is served by M-RETS and most of the West is WREGIS and then there's a smattering of other systems.

Just a note on this. Some states have created their own tracking systems. For example, Michigan and North Carolina both created their own tracking systems. In some cases, states may decide to do that because they feel they have certain parameters that they want their tracking system to cover and prefer to do that themselves rather than figuring out how to do that within another existing tracking system. New York right now I should just note is in the midst of creating its electronic tracking systems. It has had its own system maintained by the agency but it's moving towards an electronic system similar to the others we've seen in the U.S.

In the U.S., it's really important to talk about how RECs can be transferred between agencies. So when a REC is generated it might be, for example, in WREGIS in the West but perhaps a purchaser that's not in WREGIS wants to use that REC. The next couple of slides will explain how those transfers can happen. It's something that is increasing over time as REC tracking systems work more and more with each other to create protocols for importing and exporting RECs. Some of the tweaks that have to be done in order for that to happen are increasingly happening.

So in the Midwest, we have M-RETS and Red there and we can see transfers between M-RETS, MIRECS, which is the Michigan system, NARR which is the North American Renewables Registry, which is serving Kansas and Missouri as well as NC-RETS, which is serving North Carolina. The only exception here is that M-RETS does not accept RECs from NC-RETS. So RECs can flow one way in that transaction. In the East, you'll see PJM GATS, which follows the PJM footprint, can export to MIRECS or NC-RETS. Then in the West, they are just exporting right now. So RECs from WREGIS can go to NARR, NC-RETS and then RECs from ERCOT can also go to NC-RETS. So you'll see we have sort of a smattering of export and import in the U.S. This is something that is evolving over time and that we may see more of when states are interested in collaborating with each other perhaps to meet EPA's new clean power plan requirements.

So why would a generator want to use a tracking system? One way or one reason is to meet Green-e certification requirements. So Green-e is a third-party certification program administered by the Center for Resource Solutions, which is a non-profit out of California. Participants in the Green-e program are audited annually and that process can be simplified through use of a tracking system. So you'll see on the bottom right there this is data that's a few years old but helps you understand some of the trends here that increasingly generators are using a tracking system as part of their Green-e certification. I don't have a figure for the most recent reporting year but I do recall it, as there was an increase from that 50 percent or so.

Another organization that encourages use of a tracking system is the EPA's Green Power Partnership. That is a federal program that has more than 1,400 partners and it provides some recognition to organizations that are buying renewable energy. So many companies or colleges and universities or governments they want to be recognized for their renewable purchase. This program doesn't require the use of tracking systems or Green-e certification but it strongly encourages it as a matter of best practice.

So I wanted to talk a little bit about double counting. It's a term we use here in the U.S. quite a bit to discuss this issue of, "What if a REC were purchased by one person but claimed by another person?" You would have essentially a double counting of that megawatt hour of renewable energy generation. So we do have potential for double-counting if a REC were, for example, registered in two tracking systems or a REC were registered in one tracking system but also selling RECs off a tracking system. So there are some concerns there that folks have worked out through tracking system protocols, which basically specify that the generator can only be registered in one tracking system, it can't sell megawatt hour in a tracking system and also outside of a tracking system and things like that. So those governing documents associated with tracking systems really help ensure against double counting.

So finally on the tracking systems overview I wanted to talk a little bit about who pays for these systems, what are the fees like if you were thinking of setting up a tracking system for your government or in your region to give you a sense of how this works more on the administrative side. So in the U.S., the funding mechanisms do differ by tracking systems and tracking systems develop their own ways to recover their operational costs. Some tracking systems the account holders and generators that are registered in that tracking system pays these. I'll talk about these fees later. But in other systems they were set up so that the generators or the purchasers don't pay anything but the fees are paid by the utilities or load serving entities in that region.

So this is probably way too much detail but to give you a sense of how big are these fees, what are the costs and things like that, annual fees for account holders which would be, for example, a utility or somebody else wanting to demonstrate their renewable purchase, sort of range from \$250.00 to \$2,000.00 for these first 4 tracking systems here. Other tracking systems like NC-RETS, NEPOOL and PJM the fees are paid by the electric power suppliers. That is based on their retail sales. So the larger suppliers in those systems pay more than the smaller suppliers. ERCOT doesn't have any fees.

So the fees for REC retirement on the right they also vary but are usually on a per REC basis and you'll see like half a cent to retire or issue a REC sort of a general range that we see here. This information is all publicly available. The websites are listed there below for their fee schedules.

So fees for generating units also vary by tracking system and tend to vary by the size of the generator. So your very, very small generators have a minimal fee and then your large generators are paying something around \$1,000.00 or \$2,000.00 in some cases. Also, some tracking systems like NC-RETS and NEPOOL they don't have any fees for generating units. So how the costs are recovered is really up to you, can be customized by a tracking system. In the U.S., folks have done it different ways.

We also see that tracking systems in the U.S. don't have restrictions on the size of generators eligible to participate but we do see that in some cases third-party aggregators are handling that transaction. So for example, in some markets in the U.S. we have a lot of rooftop solar that is tracked through

tracking systems and a residential homeowner is not interested in learning how to create an account in a tracking system and monitor the accuracy of that account and transfer RECs to your third-party and things like that. So what happens is an aggregator can come into their tracking system and input 200 or 300 accounts so that those homeowners are not having to deal with that on their own.

Then also note on the type of generators there are many, many, many types of generators that are in tracking systems today. Tracking systems are also flexible in that a new generator type can easily be added to a REC tracking system. So we did see some state policies in the U.S. call for eligible technologies like solar thermal or, for example, in North Carolina they have a carve out for swine waste which is not seen in other tracking systems or RPSs. So NC-RETS tracking system created that technology type to be allowed to be tracked through NC-RETS tracking system.

One other note on generator types that are tracked in the U.S. is on thermal RECs. So some state RPSs allow for thermal resources, for example, solar thermal to be used to meet RPS compliance. There are some challenges with converting the thermal output to a megawatt hour equivalent. So the thermal generation comes out in BTUs and then RECs are issued in megawatt hours.

So there is some meshing of that calculation and tracking systems are beginning to include thermal RECs depending on if the states have a requirement or allow thermal RECs to be used. I just have two examples here. One is in Maryland and they basically required that thermal systems be certified using a certain protocol or have a specific type of meter. That allows them to measure the thermal output in a certain way. New Hampshire is also allowing for thermal RECs to have a new carve out essentially of their RPS, which allows for thermal RECs.

So in this next section I want to talk about different roles of stakeholders regarding RECs and tracking systems. So if we have any regulators on the line regulators have an important role in establishing RECs definitions and potentially requiring the use of a tracking system. So if there's, for example, an obligation on utilities to buy a renewable energy the regulator might require that a tracking system be built or require that those load serving entities or compliance entities participate in an existing tracking system. That really can help simplify the process of compliance. So instead of a utility coming in with a bunch of paper contracts and things like that they can just pull a report from a tracking system.

Regulators can also create publicly available market information. So one way to do this is through tracking systems providing public reports. These reports I'll show an example of next but they can help the renewable industry understand what's going on in the market by providing credit pricing, trading volumes or retirement numbers for RECs. That can be done in a way that doesn't release any confidential or business sensitive information.

So these are also just a few considerations in reporting REC data, a few things that are of interest to renewable markets, things like how many RECs are

issued or created versus how many are retired or used for compliance or a voluntary purchase. The thing about the frequency of reporting, how fuel types are represented, whether those RECs are eligible to meet RPS or other standards, presenting REC retirements by state or by region, whether it was for an RPS or voluntary purpose, whether there's a tie to the company or organization that's retiring the credits or the facility ownership type. Then just the clarity of data reported. So in the U.S. we did see that some tracking systems began making reports like this but initially they didn't have enough information available to help the user understand what was actually being reported.

So I have a snapshot here of some great reporting that's done by PJM EIS which is a tracking system sort of in the mid-Atlantic region. Their list of public reports there is on the left and then I have just pulled a screenshot of one report that they have which is the RPS retired certificate report. So in this report you can select the state as well as the compliance period and then the information is pulled up on the table that you'll see there. So you can see the quantity of RECs that were retired to meet D.C.'s RPS.

You can see the fuel type that's being used as well as the state that those RECs are coming from. You can also export these results to Excel or export them in CSV format. So I think this information is really helpful to industry and research analysts but it's also helpful for the PUC to ensure that the data they're getting has some background to it. [Sneeze] Excuse me.

Generator roles. So generators are, you know, going to register in the tracking system. They're going to ensure that contracts that they enter into provide clear language on attribute ownership. Utilities or load serving entities do have a compliance obligation; will be purchasing RECs or attributes to meet that obligation. They'll also be ensuring that those attributes are retired in the tracking system. So again, they're being set aside and not used again.

For hosts of renewable energy and purchasers of renewable energy they have to make some evaluation of whether they want to own those RECs or own that attribute. There can be some reasons for wanting to retain the RECs or wanting to sell the RECs, depending on how well financial statements worked out as well if the host site or organization wants to make a renewable energy claim or not. So that's a decision that needs to be made. If you have an onsite solar facility that are selling the RECs and the power you just need to make sure that you are accurately talking about that facility and not making a double claim.

So if you do not own the RECs to that facility you want to make sure that you are not claiming that you are renewable powered or anything like that. There is in the U.S. some guidance on this. The Federal Trade Commission has some guidance as well as the Center for Resource Solutions that I mentioned earlier, that third party verification program. Green-e Energy has some guidance on what types of claims you can make.

So finally, I just wanted to end with some international perspective to note that this is how things have evolved in the U.S. but there is definitely interest

in tracking certificates in other markets and also establishing tracking systems to handle compliance or voluntary purchases. So in the E.U. we see guarantees of origin. In Australia, they use RECs. In India, they use RPOs. So the terminology is all a little bit different but essentially all of these things are enabling an entity to track renewable energy. In Mexico, they are in the midst of restructuring their markets right now but they will have clean energy certificates that will be used by compliance entities to demonstrate compliance with the country's renewables obligations.

Then finally, I wanted to mention IREC standards. International REC standard is a list of rules, regulations and best practices that can be used by attribute tracking systems. They also have an operational tracking system that can be customized for individual countries. So for example, if there's a country out there that doesn't have a tracking system right now but is interested in starting one or developing one they can work through IREC, International REC to have a tracking system that's customized for their country. Currently this tracking system is being used by generators in Spain, Turkey and Taiwan.

So I just wanted to conclude with a couple of resources for you. For information on U.S. markets, the Department of Energy has the Green Power Network, which you can see some publications there and also sign up for email updates. These are a few additional resources that are more specific to this topic. The first one is a great video for understanding RECs in the U.S. We weren't able to show it today due to the webinar platform but if you want to take a look at that, it's on You Tube or share it with folks who maybe are new to RECs or new to attribute tracking.

A couple other reports there are just on the status of these markets in the U.S. and then some of this information on REC tracking systems. Then finally, in the U.S. we have a federal state RPS collaborative which is a group of administrators in various states that have RPS obligations. That collaborative produces a number of reports and webinars related to RECs and REC tracking. So with that I'll just – there's my contact information if you have questions or if I can help point you in the right direction to a particular topic just let me know. Then I guess I will turn it back to Sean for questions and answers.

Sean Esterly

Great. Thank you very much Jenny. Great presentation and we did have a couple questions come in. I'd just like to remind the audience at this time that if you do have any questions for Jenny you may submit those through the question pane in the Go to Webinar window. Again, also the slides are currently available at cleanenergysolutions.org/training. So we'll leave up Jenny's contact information for a little bit and move right into the question/answer session. So Jenny, the first question we received from the audience asked, "If you have any insight into the observed prices for RECs over time could you talk a little bit about how those have changed?"

Jenny Heeter

Sure. So RECs pricing in the U.S. has fluctuated quite a bit and REC pricing is dependent on the individual state and market. So we see pricing in some markets that's considerably higher than other markets. For markets where

there may not be as much renewable energy coming online and the utilities may be a little bit short in meeting their RPS you'll see higher pricing compared to other regions where renewable energy may be pretty low cost and is coming online pretty quickly it's readily available to meet RPSs or voluntary supply. So that – yeah, the pricing will fluctuate over time depending on that supply/demand balance. We do have some pricing information on that website, the Green Power Network that is GreenPower.energy.gov.

You will see that some markets were really constrained and had really high pricing and then perhaps they made a change in their legislation or perhaps they saw just the cost of development decrease so the pricing declined over time. So that's sort of the general pricing information. In general, pricing information for RECs is hard to get in the U.S. There's not a lot of transparency around pricing. That is one of the ways that REC tracking systems can help is providing that pricing information although they tend to do it in the U.S. But it is definitely an option. But we at NREL do buy some data from a broker that helps us get a sense of pricing trends over time. So yeah, if the person can't find that pricing information that I referenced just let me know and I can point you to it.

Sean Esterly

Thanks Jenny. I'm going to skip ahead to another question that's similar. You might not know because it's one of the resources that you mentioned. Someone went on the PJM EIS public reporting website and they noted that the historical weighted SREC prices are available but do you know why other types of renewable generator REC prices are not available?

Jenny Heeter

Yeah, so the information that is reported on tracking systems is really a function of what state regulators have required. So for the case that they're referencing here about solar REC or S-REC pricing I believe that started out in New Jersey with New Jersey requiring that S-RECs, their pricing be reported. Then they sort of transitioned that tracking to PJM EIS. So it would be great from a market perspective if they had other technologies available but right now, it's just those solar RECs or S-RECs that have their pricing reported. That's a little bit of function of the fact that some S-REC pricing is really high in the U.S. in certain markets like New Jersey and other states in PJM and utilities and regulators in those states may have a lot of attention paid to those markets. So unfortunately, there aren't other generator types available with that similar report.

Sean Esterly

Great. Thank you Jenny. Then switching topics a little bit, for the tracking systems funded by the utilities. Do the funds come from the customer surcharge or assisted benefit charge?

Jenny Heeter

That is a good question. I'm not sure where the funds actually come from. I know the utility will have to recover those costs in some way but I'm not sure if it's channeled through their system benefit charge or it's just rolled into their rates, their average rates and not broken out. So yeah, unfortunately I don't know the answer to that but you could probably find out if you just looked at some of the major utilities in those tracking systems.

Sean Esterly

Great. Thank you Jenny. Are RECs from other countries also used in the U.S.?

Jenny Heeter

So you do see a little bit of International RECs coming in to the U.S. through Canada primarily and that's a function of the fact that the tracking system – actually I can go back to our map of tracking systems. Yeah, so here you'll see that actually some of the tracking systems in the U.S. actually extend up into Canada and typically follow regional power pools or RTOs. So for example, Manitoba in Canada feeds into M-RETS and there's a lot of large scale hydro or other renewables in Manitoba that actually supply those states and the U.S. that are part of M-RETS. So there are some international RECs that are flowing into the U.S. that way.

We also see a little bit of Mexico that's included in WREGIS, the green region in the West there that has – is feeding power into the U.S. So those RECs or associated RECs are also tracked in WREGIS. So it really just depends on the region of the tracking system and how powerful are happening on an actual basis. You'll also see Canada in blue there has no tracking system for a lot of it but those generators if they wanted to probably could petition to be part of one of the existing tracking systems.

Sean Esterly

Great. Thanks again Jenny. That's the last question I've received at this point from the audience. So we'll go ahead and move onto the attendee survey at this point. So we do have just a couple questions for the audience. It just helps us evaluate how we did and improve for the next webinar.

So the question will appear, a statement will appear on your screen and just respond right in that window. The next question. Then the final one. Great, thank you very much for answering our survey. So on behalf of the Clean Energy Solutions Center I'd just like to extend a thank you to our expert panelist today, Jenny Heeter, and also to our attendees for participating in the webinar. We do very much appreciate everyone's time.

I invite the audience to check the Solution Center website if you would like to view the slides and listen to a recording of today's presentations as well as any of the previously held Solution Center webinars. Additionally, you will find information on other upcoming webinars and training events. Just a reminder, we're also posting the webinar recordings to the Clean Energy Solution Center YouTube channel. Please just allow for about one week for the audio recording to be posted.

We also invite you to inform your colleagues and those in your networks about Solution Center resources and services including the no-cost policy support. So with that I hope everyone has a great rest of your day and we hope to see you again at future Clean Energy Solution Center events. This concludes our webinar.