

Federal Green Challenge Webinar
Utility Green Tariff Programs in the U.S. – Overview and Opportunities for Cost Savings.
June 19, 2019

0:49

Hello everyone, this is Chris Newman from the federal green challenge will get started in about another minute as we allow people time to load the software under their computers, and that way they won't miss a beat. I will get started in a moment. Thank you.

2:10

Okay, we'll go ahead and get started. Welcome everybody to today's Federal green challenge webinar entitled utility green tariff programs in the US. This webinar is brought to you by the US Environmental Protection Agency and we're very pleased to have you participating. My name is Amanda Hong. I'm coming to you from Denver Colorado where epa's region eight offices located Chris Newman of epa's Region 5 office in Chicago is sitting behind the technology controls of our webinar. He's going to be providing our QA moderation later later in the session the FTC Web Academy provides information and guidance to help Federal facilities reduce their environmental footprint protect human health and gain operational efficiencies. Today's webinar features utility green tariff programs in the u.s. Providing an overview and pointers on how to take advantage of potential opportunities for cost savings. This webinar will explain how these tariffs are structured how to evaluate cost savings potential and what agencies need to consider.

3:10

when examining this purchasing option before we begin, please review our disclaimer while I cover some of our webinar Logistics. This is a recorded session. We will be posting the webinar recording as well as the presentations to our fgc Web Academy website at epa.gov backslash SGC. If you're having difficulty, seeing or hearing the presentation, please let us know by typing your issue into the question box. We will be moderating those questions and comments. You may experience a short delay on your screen as the slides advance but us as presenters will be trying to patiently wait a few moments before we speak to the slides contents, please again type your questions and comments into the question box into the chat box feature or to the right of your webinar screen, and we will be responding to them after the speakers have given their presentations for a Q&A session will be at the end of the webinar.

4:09

so to start just a few notes about our federal green challenge EPA brings us webinar to you as part of our federal green ChalleNGe Program, which challenges federal agencies to to measure and track progress toward reducing environmental impacts across six different categories these six categories include Energy Water waste Electronics purchasing and transportation this program enables EPA staff like Chris and myself to assist participating agencies in meeting their sustainability goals The cytokine challenge offers participants and number of benefits in their participation first your agency can maximize your your resources and you can improve efficiencies and that ultimately leads to potentially saving US taxpayer dollars.

4:56

Secondly, the Federal grand challenges data-driven measurement platform retrack allows you to record and track your facilities progress. And this is offered to participants free of charge third and perhaps most valuable your facility canner National and Regional recognition for your achievements or participant surveys do show that this is the area of most value to our participants as the recognition from EPA for these sustainability efforts helps to get your management on board and supportive of your work in these areas.

5:30

I'd like to feature one of our regional Award winners from 2018 and just briefly highlight an area that some of you even some of our current FCC participants may not think of as something that we are able to recognize and that's Innovation and how agencies engaged with their staff around sustainability argon National Laboratories site sustainability program one and Innovation award for his efforts to promote Earth Day back in 2017, their celebration featured a photo booths where employees could take a photo and describe their commitment to sustainability and you can see a few of those photos here at the bottom. They had 55 employees participate in this activity. Just taking these pictures with the different sustainability actions that each employee engages in over the two-hour event that they had the photo booth open and then following Earth Day each week on Wednesday one of these photos as well as an employee Spotlight were highlighted in their daily newsletter.

6:27

And in their blog this was Innovative because argon Communications research showed that people are more likely to click on and to read a blog story if it features information about a fellow employee. So the weekly frequency of the stories featuring different employees from across the organization really got a great response and they demonstrated that anybody can help with these everyday sustainability actions and not just the regular quote unquote green Champions at the lab this really reached everyone from April to September of that year more than 2,600 people viewed the various green action stories by clicking on on the profiles within the block or the newsletter. And this was way more traffic than any other sustainability feature story or article. They had posted had received it raised the profile of individual actions from people across the lab and it really had employees speak to each other. It's kind of that peer to peer sharing model and learning model. So it was really effective and it's something that we feel is worth recognizing.

7:26

It's something That can be transferred and scaled up across all of our agencies. So we encourage you to consider doing this for Earth Day 2020.

7:38

The Argan story is an example of a narrative or but we also have a national and Regional recognition based on the data that each participant submits each year. We then aggregate that data and we develop messaging to communicate the combined efforts of the challenge participants. So you can see here on the left that in 2017. We had 284 Federal green challenge participants who worked together and separately to

save US taxpayer dollars approximately 22 million. I'm sorry taxpayers approximately 22 million dollars through the efforts that you see listed there on the left and just as a side note we are able as are the FTC staff were able to work with individual participants to help develop little fact sheets like these to help you communicate the the efforts that you're engaging in to increase sustainability at your agency up to your management, or even out to your stakeholders.

8:36

If you'd like to learn more about the federal green challenge, or if you'd like to sign up I included this slide showing you who your Regional contact is depending on where you are in the country. So, please feel free to reach out to us at any time. We would certainly love to hear from you and find a way to get your agency signed up.

8:54

Up. So now let's go ahead and jump into our featured presentations for today's webinar. First. We're going to briefly here about epa's green power partnership program and then our colleagues from the national renewable energy laboratory are going to provide an in-depth. Look at utility green pair of programs in the US first up Christopher Kent of epa's voluntary green power partnership program is going to discuss the gpp which organizes or I'm sorry, which recognizes organizational use of green power. Chris has been part of epa's renewable energy team for the past four years and prior to this developed efficiency specifications for office and commercial equipment for epa's energy star program. So now we're going to turn it over to you, please go ahead Chris. Thank you so much for being here.

9:42

Thanks, Amanda.

9:45

de-ice whichever slides Good afternoon, everyone. My name is Christopher Kent. I'm with epa's green power partnership program and I'm going to briefly talk about the green power partnership program as well as touch on some of the green power supply options that are commonly available to organizations today.

10:09

So first starting off, what is the green power partnership? Well, the u.s. Environmental Protection protection agencies green power partnership is a voluntary program that promotes the organizational use of renewable energy by providing technical assistance and understanding the green power markets and helping our partners promote their green power leadership. It was begun in 2001 and was designed to help Spur new renewable energy supplies as well as to expand existing renewable energy supplies in the u.s. Through a a market-based approach by encouraging organizations to purchase ever-increasing amounts of renewable electricity.

10:46

A program objectives are to educate organizations on a variety of voluntary procurement options available here in the US and to motivate them to use be empowering to recognize leadership in the green power usage. We have more than 1,500 Partners who are purchasing more than 60 billion kilowatt-hours agree power in

your life. I see I need to update the slide so that 60 billion kilowatts is equivalent to over five and a half million us homes what the energy they would use in a year. So our partners include organizations from Fortune 100 companies to small privately owned and operated businesses retailers schools colleges and universities state and local governments as well as federal agencies. All of them are purchasing using green power.

11:39

So throughout this past year, we've developed a bunch of new tools and resources some of which I sought out include on the slide such as we've updated and expanded our list of green power supply options and definitions that reflected this ever-changing Market. We also created a tool to help new users to find what green power supplies options are available to them based on who they are and where they're located. We've also added a new section on our website that provides an overview of the u.s. Electricity grid, we crafted some new guidance on making environmental claims about organizational solar power use that describes some best practices in you know, helps organizations characterize their solar power activities, and we in these documents we highlight the fundamental importance of renewable energy certificates also known as Rex in making solar power use claims.

12:30

A document that we saw that was needed in the marketplace was an overview of the wreck Arbitrage this this activity occurs when Rex from one renewable energy project are sold and replaced by different less expensive Rex from another renewable energy project. It's a strategy often used by organizations who are looking to balance two objectives to decrease the cost of their renewable electricity, but also looking to substantiate their emission footprint reduction claims and we've recently posted a new guidance document and helping organizations that are confused about the differences between renewable energy certificates and carbon offsets. The these are both credible widely used emissions mitigation instruments, but they are very different tools that that different in several key ways. So this document helps describe those differences. I also want to point out that this past fall we manage a major revision to the guide to purchasing green power, which was authored through contribution from multiple organizations.

13:30

Is epa's clean power partnership World Resources Institute Center for research solution Department of energy and Rel. All of them were involved in the development of this or revision of this guide and has information about green power the process of and the range of options available for purchasing it.

13:53

So what do I mean by the term green power EPA uses the market definition of green power as electricity generated from environmentally preferable renewable resources, which is a subset of the total renewable energy sources out there. It represents those energy resources and technologies that offer the highest environmental benefit renewable energy includes resources that rely on fuel sources that restore themselves over a short period of time and do not diminish green power sources produce electricity with environmental profile Superior to that of condemned conventional

power Technologies and produce. No fossil fuel-based greenhouse gas emissions. These sources include those images on the right eligible solar wind geothermal biomass biogas and small Hydro. There are some Renewable Energy Technologies that can have an impact on the environment such as large hydroelectric resources that have some environmental trade-offs associated with them such as fisheries and land use issues and thus they are included in that definition of green power.

14:54

EP also requires that the green power resources, they must be new meaning that the green power has been has to be from projects that have been placed into service within the past 15 years. This is done to help encourage the use of newer renewable resources and help Spur new development. And finally, they must be considered voluntary voluntary green power markets are those in which consumers and institutions voluntarily purchase renewable energy to match their needs these purchase are in addition to the renewable energy that is used to fulfill renewable portfolio standards one way to think of ideas RPS renewable portfolio standards are the floor and the voluntary Market is everything above it. So really the sky's the limit.

15:41

So I've made some references to this term renewable energy certificates Rex. So what else are they? They are a tradable market-based instrument that represents the legal property rights to the environmental attributes of 1 megawatt hour of renewable energy generation a wreck is issued for every megawatt of electricity generated and delivered to the grid from a renewable resource because the electricity the physical electricity we receive through the grid says nothing of its origin or how it was generated Rex play an important role in accounting tracking and assigning ownership to the renewable energy generation and use on a shared grid whether it's on-site or off-site wrecks are the instrument that consumers use to substantiate their renewable energy claims. They are the currency of both the compliance and voluntary energy markets Rector.

16:29

Also a tool used to document an account towards corporate greenhouse gas emission goals as well as reporting Our state policy mandates under renewable energy portfolios standards. So for those who are interested in learning more about Rex the GP program created this video that you see on the link on the bottom here. It is one of the top 10 videos each month on epa's YouTube site. And today we have over 80,000 views.

17:00

So this slide sort of represents the main types of green power supply options available to buyers who are considering buying green power in today's market. Each Supply option has its own set of unique characteristics and purchasers need to weigh these different factors when determining the options that work best for them. This range of Supply options allows buyers to customize their green power procurement approach to meet a a wide range of unique financial and operational situations. So when you look at the the market there are two really broad categories of green power supply.

17:35

There's the retail option and the projects specific option retail options are those that are quote unquote off-the-shelf options that are typically standardized products for sales to Consumers from retail suppliers, such as utilities competitive electricity suppliers wreck marketers and such these generally involve short term commitments for a predetermined volume or percentage of volume tied to their Be consumption. The other broad category is Project Specific and as the name implies their Project Specific. These options are usually customized products negotiated between a consumer and a supplier these Supply options tend to involve long-term commitments by the consumer to purchase a volume tied to the output of a predetermined generation capacity.

18:28

But I sort of want to emphasize that all of these green power supply options from on-site off-site to utility project to these unbundled Rex all of these involve the generation retirement of renewable energy certificates, which again determines their ability to use renewable energy from a zero emissions resource.

18:50

So you as you can see from today's topic conversation green tariffs are what we considered a Project Specific Supply option. I think jenni's going to go into much for the detail about greed tears. But in short utility green tariffs are an emerging green power utility offering that is only available in about 15 regulated energy electricity markets and they're offered by utilities and approved by the state PCS and it provides typically for a very large energy consumer. It provides them the ability to buy bundled renewable electricity meaning both the power and the project Rex. They're delivered from a specific project in that regulated market through a special utility tariff rate. They are fairly new offering been available since about 2012 13 something like there.

19:46

This graph shows the various Greek sources of green power from our 1500 Partners over the past 10 years. And as you can see green tariffs, hopefully can see is in Orange and it really only starts showing up in the past year or so. So it's a fairly new OP green power supply option that we've been tracking in the green power partnership program.

20:10

And then finally here is a list of all of the green tariffs currently tracked by the green power partnership program from our partners, as you can see is just a few companies and who have completed the sort of power contract and if you look at this this chart the sizes and sources of this green power are quite varied, but when you look at when they came on most of these projects became operational in the past two years ago, there's two or three that are from 2006, but generally these are all fairly new projects that are come on and I guess I'll turn it over to Jenny.

20:51

Great. Thanks Chris. Yeah, it's nice to have that overview of the gpp and how folks are purchasing through different products.

21:02

X could somebody transfer the controls to me make sure we did have two questions come in. I just wonder if you could take a moment to answer. The first question is from someone in Texas is this program available in the Texas region? Yes, we're a national program that recognizes any part any organization buying green power as long as it meets our Benchmark requirements. We recently put out a new requirements for the program. Just updating it based on market dynamics, but yes, it's open to anywhere in the United States and territories.

21:45

All right, and the other question is is Community Choice aggregation the same thing as Community solar know they are very different beasts. We consider Community solar as a shared renewable and community service aggregation is really a local government taking control, but they're developing a program that the community in itself is buying green power and for Community Choice aggregation. It's an opt-out meaning that you have to work harder to not be included then being included. So it has a very high place subscription rate. It's great for the local communities that are looking to reduce their greenhouse gas emissions from that community community solar is a just a shared renewable that you buy subscriptions into and you get a percentage of the revenue or reduced electricity rates.

22:44

Geordie of the committee soldiers that are out there the the wrecks that I've been talking about do not convey to the individuals subscribers. They go to the project developer. So the folks who are engaged in community solar often are getting the reduced energy cost but may not be using renewable energy. So if you're involved in the community solar you should check to see where the risks are going.

23:10

Okay, great. Thank you. And now I will transfer control over to Jenny.

23:20

Great. Thank you.

23:25

You all right. So yeah again, I'm Jenny heater. I'm a senior energy analyst here at the national renewable energy lab. We are down the road from Denver and Golden, Colorado.

23:38

Whoa, so what I wanted to talk through today with that that great introduction from from Chris at EPA green power partnership is really digging into utility green tariffs. I want to spend some time talking about what our utility green tariffs because just understanding that takes a little bit of context and understanding then I'll walk through some considerations for federal agencies. So what do you need to be thinking about as you're trying to evaluate whether this might be a good option for your agency? I'll provide a few case examples of green tariffs around the country that might be a good fit for your agency. And then my colleague chunder Shan will conclude with some discussion of what to do if you're wanting to sign up. So what what do you need to actually do to take that next step?

24:31

But before we get started, I wanted to pull up the first polling question. I wanted to get a sense from folks about how much you know about green tariffs before joining this webinar. So Chris if you could go ahead and start that first polling question. Okay, great. Thanks. So yeah. We're just looking for your sense of you know, how familiar are you with green tariffs? We expect that you're on this webinar for a reason, but maybe that's just because you are curious and haven't heard anything yet, or maybe you're an expert and you've already done green green tear of purchase and you're here to kind of kind of learn what's going on in the market. So we realized there might be a diverse set of folks on the call today. I mean Chris, I don't know you're able to see if we've had enough folks reply yet to close that one out.

25:31

We've had just about 50% of the people vote and we'll give it about another 10 seconds. So if you can could get your votes in in the next 10 seconds, then we'll go ahead and close the poll. Okay, and Chris. I just realized that I don't know that I'll be able to see the responses once you close it out. Are you able to share kind of the rough rough estimate of responses or should we go pop up? Okay, great. So yeah good time. Kappa folks not really from not familiar at all yet some slightly familiar 12% 41% somewhat familiar. Nobody in the moderately or having signed up already. So that's great.

26:17

So yeah, that's good to know where everybody is at will go ahead and continue then with the presentation and start with just that that basic definition of what is green tariff So can we switch back to the presentation?

26:40

Yes, one moment.

26:42

It still shows you as presenter. Let me go to the pool. And I think I just need to close that one moment.

26:55

Okay, there we go. Great. Thank you. So utility green tariffs are an option for purchasing renewable energy that have a couple key components. So one is that the generator the wind or solar or whatever renewable generator is signing a long-term agreement for Rex and energy with the utility second component is that there is a long-term agreement then similarly from the utility to the customer for both energy and Rex. So those long-term Agreements are pretty key to defining a green tariff a couple other things are that under these agreements. There are some cases where the customer may have input into the actual renewable energy source that is contracted formed by the utility. So there may be certain large customers.

27:51

We've seen this on the it side with You know folks like Apple and Google having preferences for certain types of renewable generators with certain attributes. So in some cases that can happen under the structure. The other key component is that

under a green tariff customers are paying for the renewable energy, but they are also getting a credit for for the generation that their purchase results in so key here really is that you're paying something but you're also getting a credit will talk a little bit more about that as we go on but just keep that in mind when you're thinking through understanding the value of these programs is that it's not simply an Adder line item on your bill.

28:44

I wanted to contrast green tariffs with green pricing programs, which are typically that you know added cost average is around I think a cent Half per kilowatt hour that you're paying to a utility these commitments from the customer side, you know can be beneficial because they are short term. So typically these are month-to-month programs where you met, you know, as a customer just be paying that extra line item on your bill under the green pricing program. The utility is still procuring the renewable generation. It could be wreck only purchase or it could be wrecked with energy that they're buying from a generator.

29:32

So just to make this clear about you know, what's the difference between green pricing and green tariffs. The green tariff option does typically have that longer contract term. There's also potential utility cost savings green pricing products and contrast are typically a premium product and a shorter term contract and I would say when we're talking through these types of products that can get confusing because every utility green tariffs and green pricing program across the across the country looks a little bit different and we are starting to see some green tariffs that are starting to look like green pricing or you know, the question came up earlier about Community solar. We're seeing some green tariffs that kind of look like Community solar as well.

30:20

So we'll talk about you know, some key examples and some general attributes of these these types of products, but just know that Ever is offered by your utility may look a little bit different.

30:42

So why should you care? Why do you why should you be interested in utility green tariff programs. We think that you know, this may be a product that is of interest because it can help you meet your renewable purchase requirements. So that requirement is seven and a half percent of your electric energy from renewable.

31:08

And we also know that some of these programs do you provide an option that can result in cost savings? So in contrast to some of the green pricing products where you're just paying extra every month under a green tariff structure there is potential for cost savings.

31:25

So that's kind of the intro into what we're talking about with a dream tariffs and I wanted to pull up the second polling question. If you could go ahead and get that started Chris. We wanted to get a sense of whether folks are familiar with whether they

are utility where those are located in a state where utility has a green tariff or a bilateral contract could be yes could be no could be you don't know that's why you're here on the webinar and I should explain bilateral contract is where a customer typically a large customer has signed a unique agreement with the utility for renewable energy. So that might be you know, just one specific contract not a program that's open to everybody like a green tariff.

32:19

So why don't we get Stokes a little bit of time to respond? What kind of see if folks understand and we did get a sneak peek at this. I think with the map that Amanda presented at the beginning so maybe folks were able to clue into that.

32:39

Okay, we'll give it about another 10 seconds about 60 percent of the people have voted. Please get your votes in.

32:48

All right. We're going to go ahead and close the poll.

32:59

Sure. There we go. Alright, so yeah, it looks like some folks are in a state with a green tariff for a bilateral contract about 30 percent six percent are not in a good chunk. 63% are not sure so yeah, definitely some folks already know that know where they are in relation to a green Tariff in bilateral contracts. That's great. So you can go back to the slides now.

33:31

So here's your answer if you if you answer don't know here is a map that can help you. This is a great resource from the World Resources Institute. They are tracking green tariffs and bilateral contracts across the country the ones that you see there that are in the dark green are where the state has a utility with a green tariff. So I should say this just means that there is at least one utility in the state with a green tariff. Typically that is the you know, one of the larger Utilities in the state, but it could definitely be the case that you are located in the service territory in one of these dark green states where we're green tariff is not offered. So just a caveat there the light green are where those bilateral contracts have occurred.

34:27

So, you know one large customer Murr signing an individual agreement with the utility and then the the gray states are ones where customers already have retail choice. So you could switch to a renewable option offered by your supplier or sign a an off-site PPA already within those Green States.

34:52

And just to note I guess in terms of Market development. This is from WRI as well that has been tracking how much generation has been contracted for under green tariff. You'll see, you know, first one back in 2013 was about 20 megawatts pretty small and then had kind of a couple years to ramp up and in 2018 almost 800 megawatts of capacity were contracted for through these various green Tariffs. In addition to that. You do see that under negotiation Blue States there to see that these tariffs are expected

to grow. There are a number of utilities considering new programs. And there are also existing programs that are thinking through how to do a second round or a phase two of their program one thing.

35:51

To be aware of though when we when we just think about green tariffs in the context of the entire voluntary market. So the market outside of utility RPS has is that these contracts still represent a small chunk of what's Happening overall and some of this is because this is data that we collect this is 2017 data. So we haven't seen you know, those contracts that were signed in 2018. A lot of those projects have not come online yet, but just to note that, you know renewable contracts with utilities. That's what we call our green terror some bilateral contracts or towards the bottom in terms of sales and 2017 and about 2.8 million megawatt hours only about 15 actual participants on the subscriber side and 2017.

36:44

I will say that since then and we don't have twenty eight numbers yet, but we do know there have been a number of green tariffs that Of started in 2018, even in to 2019 that have been enrolling more residential customers so that customer purchase a patient number we expect for 2018 would increase quite a bit and some of those projects that were contracted in 2018 probably will be developed sometime this year.

37:17

So next section I wanted to talk about was you know, what should you be thinking about if you're at a federal agency and you're you know, you want to understand the green tariff and whether it makes sense for you to participate in that sort of structure.

37:36

I want to walk through each of these considerations and then we'll do a polling question and talk a little bit in more depth about the cost piece and then provide some examples. So first thing they think about is when must customers enroll. So typically these programs offer a dedicated enrollment period in some cases these programs have been very quickly subscribed liked subscribe to within a couple hours of them opening up. So something to think about is does your agency have enough information to participate given that there might be a short window. Well for enrollment second thing to think about is just who can participate and when we're thinking about that we're mostly looking at the minimum customer size.

38:32

So as I mentioned a lot of large it companies have pushed Green tariff, some of them have been created such that, you know, the minimum customer size in terms of your load is quite large so, you know tens of megawatts and we know obviously federal agencies have all different types of load ahem. But there, you know, there may not be enough load at your site to qualify. Another consideration under participation is just whether you have to have new or existing load. So some of these tariffs were really created for it companies that were bringing a new data center to the service territory.

39:13

So they were crafted to require that new load exist in order to purchase a see I'm sorry piece is looking at the different rate components and the net cost. So we'll dig into this one a little bit deeper as we go through the presentation, but just to say that understanding how you pay for the green tariff how you get credited and what that expected net cost is is very important. Next piece is just the length of contract some green tariffs to require a longer term contract like 20 years that we know that that may not be possible for federal agencies. So thinking about you know, screaming green tariffs for whether it's a 10-year requirement or less can be really helpful second to last piece is what are the program limits? So some programs are capped out certain megawatt or megawatt hour of participation and just thinking about you know, if you are ready to sign up making sure you get that.

40:21

I mean peace, correct. And the last thing is thinking about who owns the Rex the renewable energy certificates. The wrecks are required to meet your renewable commitments. So just making sure that you have a full understanding of how the wrecks are accounted for under these different green tariffs.

40:42

So I wanted to open up the last polling question and this is where we're going to ask you about. What do you think your agency might be concerned with? If you're thinking about a green tariff could be that cost savings potential whether there might be a way to save money by subscribing could be your biggest concern is minimum term length requirement minimum customer customer size, or maybe you're most concerned about just how to sign up. What is the process for that? And what is that? What does that involve if you if you are ready to sign up?

41:28

Okay, we'll give it about another 20 seconds and then close the poll. So please get your responses in. Thank you.

41:47

Okay, one more second.

41:50

and we'll go ahead and close the poll and There are the results. Okay. So yeah, it looks like a lot of folks 50% concern of the cost savings potential second-highest is minimum term length requirement followed by how to sign up. So that's great. Yeah, we're definitely going to dig into cost savings potential and also talk about we're gonna talk about all these things. But yeah, I have a couple of slides on cost saving potential so we can go ahead and switch back to the slide deck for that.

42:32

Great. So understanding the value proposition for green terrorists can be complicated. The value really is determined by looking at the net costs or benefits of participation over the life of the term. So to do this you need to look at how much you pay to participate and that's typically a set dollar amount per kilowatt hour. And then you also need to look for what credit do you get so we'll walk through a couple examples, but typically you might be not paying the fossil fuels charge on your bill.

43:12

You may be getting some credit in other ways for basically how much standard power that the utility buys is offset by your renewable purchase an important thing to think about when understanding value is knowing what attributes Whether that's the price or the credit are fixed over the term of the agreement versus what are floating or uncertain elements, so there can be an element of uncertainty with understanding the value proposition here where folks might need to gather some Market information or you know do their best to Benchmark high and low scenarios or things like that last piece to think about is just how complex is the structure to understand an estimate value. So there have been some green Terrace where the value is pretty easy to estimate and then somewhere it can be very complex and require, you know, a lot of understanding of energy markets and wholesale power dynamics and things like that. So having a sense of that is also important and to that end.

44:24

I wanted to dig a little bit deeper into the types of grain tariff and focus on On one subset of those for federal agencies. So we classify these into different buckets one is a subscription program. This is kind of what we've been walking through already where you pay for renewable energy and you get a credit on your bill a couple examples there from Puget Sound Excel Georgia power and Consumers Energy all have this kind of standard subscription program structure. I would say that there are a couple programs that are sometimes classified as green tariffs, but really operate in a different structure. These are the market-based rates programs and what these programs do is change the way that you pay for your electricity. So they take your bill and basically Peg your bill to the wholesale market and what that allows you to do is if you are paying something that looks very close to trend.

45:31

Towards wholesale Market rates, you can sign a separate contract for renewable energy. That might be a power purchase agreement. And that ideally those those wholesale rates are rates that are pegged as a wholesale Market will track with your separate contract for renewable energy. So that in essence you have a green tariff structure. If I haven't confused you enough. There's more you can dig into from the World Resources Institute on this, but just to say for purposes of this webinar, we're not going to focus on the market based rate program. So we're going to focus on the subscription programs at the top there.

46:14

So what we've done over the past couple weeks is do a little bit of screening for programs across the country. That might be a good fit for federal agencies. So a couple things that we were considering here one is is the program Open. Can you enroll now or is it if it's not open now? Is there a new phase that's being planned or enrollment period that's expected second one is what is the cost savings potential then? What is the minimum customer size restriction and minimum contract length requirement another consideration related to the minimum contract length requirement. Is that just some consideration of the pricing structure may vary with the contract length.

47:04

So we'll walk through this in an example, but some green tariffs offer multiple options for contracts length and A see a different price higher price if you're signing a shorter comp term contract or lower price with a longer term contract.

47:24

So I have three case studies. I want to walk through and I'll turn it over to Chandra. First one is Kansas City Power and Light you can see their service territory there in yellow. This is their Renewables direct program in their Kansas service territory. They also offer a very similar-looking program in their Missouri territory, but for purposes of this webinar, just wanted to to pick one so that you had an example of what this looks like. So this is a new program. No capacity has been signed yet. They're expecting that that will happen sometime in 2019 under this program. There is I would say, you know, you have to have a decent sized load.

48:11

So seven hundred and forty thousand kilowatt hours and annual usage when you're looking at subscribing it comes in basically chunks or Starting at 200 kilowatts up to a megawatt and then 500 kilowatt increments. After that when we're looking at the rate components and cost the the actual cost of this program is not known yet. But how it is structured is that there is definitely potential for cost savings. So what this program does is takes the fuel Factor charge on your electricity bill, which is called the ECA and this rate structure and replaces a fuel Factor charged with the renewable participation charge and that participation charge really is the cost of the renewable energy generation that's procured by the utility. So they don't know what that cost will be yet, but they have said that it will be no more than two cents per kilowatt hour and it will be fixed for the life of your agreement.

49:19

So as I mention the cost is not known yet, but the utility does Say and some of its marketing materials that they do expect that participation charge to me lower than the current fuel Factor rape.

49:35

In terms of contract length, this is a program that has multiple options. They have 5 10 15 or 20 year options for contract links. They do have a requirement that if you're signing up for more than 20% of the renewable resource, you do need a 10-year minimum. So if you're you're going to be a large part of this program, you need to have at least that 10-year contract and there's no program limit here and then the wrecks are essentially owned by the customers or the utility can retire them on your behalf.

50:13

I'm so that's the Kansas City Power and Light programme in Kansas. Next one I wanted to touch on is then NV Energy. It's called the green energy Rider NV Energy territory. Is there in green on the map? This program has seen pretty significant participation already from Apple switch, which is a data center operator as well as the city of Las Vegas.

50:42

Under this program. It's broken up into Northern Nevada and Southern Nevada. Basically, it is kind of large commercial customers on those particular rate structures in Northern Nevada. You do have to have 50 to 500 kilowatt of demand or monthly usage of ten thousand kilowatt hours or of more than ten thousand kilowatt hours and Southern Nevada. They just specify you have to be on this LG S one right class and larger this program kind of hard to understand the rate components and the net cost because basically the credit is negotiated with the utility. So we don't know for those existing projects how much that credit that credit has been or how much the Renewables cost, you know, if I had to guess I would say because you done did see such high purchase.

51:41

Patient that these companies that have signed up and in the city is well probably are are seeing some cost savings, but we don't have that information. This is one where also the contract length is negotiated with the utility. It has to be at least two years, but typically these contracts are longer term but that is something that is up for negotiation. How enrollment is handled. Is that NV Energy opens a what they call An Open Season event typically on an annual basis and the link is there for more information on that. There are program limits under NV Energy is green energy Rider and megawatt hours, but there is also some room for individual negotiation outside of these program limits.

52:35

And then the wreck treatment here is a little bit different or is different from what we typically see in the green tariff structure. So under this program, the utility does retire Rex for the customers share of their RPS and then anything above that will be retired on behalf of the customer. So example here is if the utility has a 20% RPS requirement 20% of the wrecks from your subscription will be retired for the RPS everything else. So 80% the remaining 80% is retired on behalf of the customer.

53:20

So last example I want to run through is Xcel Energy's here in Colorado renewable connect program. This program has had 50 megawatts subscribed 10 megawatts of that was residential and 40 megawatts commercial including one Federal agency, which is why I did want to include it as an example, even though this first round was capped at 50 megawatts and is fully subscribed. They are actively in the process of developing a second round. So the into anticipated schedule for that is this summer they'll be filing at the puc for approval of their program. They would complete an RFP to select the renewable resource in 2020. And then in 2022 generation of actually begin and folks would start seeing those payments and credits on their bills.

54:19

I'm sorry. I was talking about earlier. Some green tariffs are you know starting to look starting to look like green pricing or you know starting to have different attributes. This renewable connect program is one that is a little bit different in that it's open to residential residential as well as small commercial and regular commercial customers. So it is definitely open to folks who may not have a lot of lobe at one specific site. And

as I mentioned there is one Federal agency already participating in the first round of renewable connect.

54:57

Looking at the rate components in net cost. This is can be a little bit confusing. So I pulled together a table, but it is maybe we're spending a few minutes walking through so over here on the left, you'll see the the contract length. They have a month to month five year and ten years and you pay different amounts depending on that contract length, you get then a credit on your bill for your production under that under that subscription and then you have your net payment here.

55:39

So Now that I'm looking at this I think actually these two cells are incorrect. I will fix that before we send it out. But this is looking at 2018 here. So the net payment for folks in 2018, you'll see was nothing for the 10-year agreement, which is probably why they saw a lot of subscriptions famous were slightly higher Under The Five-Year in a little bit higher end of the month to month. But still, you know, you're looking a few decimal points out here. So under a penny per kilowatt hour and 2018 the credit values part of them change year to year. So I wanted to pull 2019 as well. This credit for 2018 should be point zero 40774 all of these you'll see in 2019 the credit decreased a little bit.

56:34

So the net payments then are a little bit higher, but you're still seeing Under a penny under all the contract terms.

56:48

Seems as I mentioned under the Excel renoble connecting Colorado. You can do it once a month five-year or ten-year that first program launch was capped at 50 megawatts that has been filled up but they are considering a second round. That sounds pretty likely and then under this program. The wrecks are owned by the customers or a retired on their behalf. So definitely want to be clear about that. You are getting the Rex for your subscription here.

57:24

So this is last slide that I wanted to review just looking at you know, how these three examples compare in terms of eligible participants. You do see excels program a little bit of an outlier there because it does include residential and smaller commercial customers potential for cost savings can be hard to understand but under that Kansas City Power and Light programme do utility expects cost savings under excels example, you know, we did see some fluctuation there and under NV Energy. It will really be determined by those negotiations with the utility. We are starting to see a lot of variation in terms of contract length the Excel program offers the shortest subscription, which is that month to month option the other programs. Do you offer 10 years or less as well?

58:22

Rough treatment under these for Excel and Kansas City Power and Light the customers get all of the racks under NV Energy structured a little bit differently and that some of the wrecks are retired against the customers RPS requirement. And then last thing is

just looking at enrollment status. So the Excel program is taking expressions of Interest right now for a second round that first round is currently all filled up for NV Energy. There's no specific enrollment period they have some notes on their website about it being an annual process. So it's when we're just kind of stay tuned or contact your account rep to to get in touch with that and then Kansas City Power and Light. They are taking ongoing expressions of Interest right now. And then once they have enough commitment, they will procure that renewable resource for the program.

59:20

So I wanted to Conclude there and turn it over to my colleague Chandra to talk about enrollment. Good afternoon. My name is Chandra Shaw and I'm with nrel has well, I've been supporting the department of Energy's Federal Energy Management program since I started at nrel in 1998 and I help federal agencies with distributed energy projects as well as off-site renewable purchases. And so what I want to talk briefly about here is if you are in a utility service territory where they have an attractive program and you decide you want to sign up the best way to do so is using the general service Administration or gsa's area-wide contract and GSA has area why contracts in many utility service territories across the country. They have many contracts. They do not have contracts with every utility.

1:00:12

So the first step to determine whether you could do a sign up for green tariff using the area wide, Tract is first of all to determine whether you actually whether there's actually a area-wide contract with the serving utility with your serving utility. And so GSA has a website that lists all the utilities that have area-wide contracts and that website is shown here. So that's a good place to start and you can also ask your utility. They should have a copy of the contract. The next question to ask is whether your agency actually utilizes that area why contract for utility services if they do then they have some experience with the contract and will be familiar with the contract that will make it easier and then finally make sure that GSA and the utility will allow you to use the area why contract we've talked to GSA headquarters and they think that the area white contract is a great vehicle for these types of programs, but every program is Jenny mentioned is unique, so it's best to check with GSA before you go forward and then also it's very important to check with utility.

1:01:21

To make sure that they concur with the use of the area wide contract to sign up and typically what happens is there's an exhibit that you sign under the area-wide contract and then the utilities green tear of contract would be an attachment. So there is additional information about area-wide contracts on the website one other benefit key benefit of the area. Why contract is you should be able to do a longer term contract. If you do it under the area-wide contract since GSA has a long term utility Service Authority for 10 years.

1:01:58

Fine great. So that is all we have to present listed my contact information here. If you have general questions about green pterosaur questions about specific tariff set of

questions about and then Chandra is a great person to talk to you about help signing up for green tariffs.

1:02:21

So that's all we have for our presentation. I think we're ready to open it up for any questions that have been submitted. Yes. Thank You. Jennie and Chandra that was a fantastic presentation great overview and plenty of food for thought there. We are now ready to turn it over to the Q&A portion of our webinar Chris Newman. Do we have any questions that we'd like to ask of our panelists? Yes. We do have two questions so far, please put any additional questions into the question section of the gotowebinar doc. The first question is for Chris Kent, why only green tariffs that are voluntary blue that refers to what's available in the green power partnership.

1:03:08

The green power partnership only tracks the voluntary purchases of green power. We don't track what organizations are doing in their utilities that are the power that's coming through their plug where there might be Renewables included in there mixed and so it's just what they're doing above and beyond what would normally be happening Green Turf almost by definition are above and beyond what would normally be happening, since you have to actively engage in a contract with the utility to get the green power or the Rex and the power so hopefully that answered the question.

1:03:49

All right. Thank you. And then the next question is is a green tariff like a blanket purchasing agreement.

1:03:59

That's not a term. I'm familiar with Chandra a familiar with that app. Like a this is Chris Kenton a blanket purchase agreement is sort of a large long-term contract that GSA sort of develops in that people can buy into I would equate a green tariff is sort of a power purchase agreement, but it's working directly with utility and regulated market whereas power purchase agreements tend to be in the competitive markets. Maybe maybe that might be a way to explain it.

1:04:28

Yes. Oh, so wouldn't be a blank blanket purchase agreement rather, you know, I mentioned you could use the gsa's area-wide contract. So that would be one mechanism for sign up. I don't think a blanket purchase agreement could be used for sign up.

1:04:47

Okay, if anyone has any additional questions, please put them into the question box. I will give you another moment or two to submit those.

1:05:00

Chris while we're waiting for questions to come in. If you don't mind giving me back presenter control sure thing.

1:05:26

Okay, Amanda. It seems we don't have any additional questions at this point.

1:05:32

Aunt okay great. Well, then, I just have one more side. I just wanted to give a big thanks to our speakers Christopher Kent Jenny heater and Chandra Shaw. We really appreciate all three of you taking the time to share your expertise with us today. And thanks also to Chris Newman for moderating and hosting us if you haven't already signed up. Please do consider joining epa's Federal grand challenge regardless of your participation, though. We do hope that you'll join us for upcoming webinars. You can view upcoming as well as past webinar content content on our FTC Web Academy page, which I've included the link to here on the slide our sincere. Thanks to you our webinar audience for your participation today. We're going to go ahead and adjourn the webinar now. Thanks so much again, and goodbye.

1:06:21

Bye-bye.