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Taylor Moot (TechWerx):

Excited to host this informational webinar for the Connected Communities Data opportunity here today. This one is being funded by the Building Technologies Office at DOE, or BTO

Next slide, please.

So just for a very quick intro, my name is Taylor Moot, and I'm part of the TechWerx Hub. TechWerx is a new innovation hub managed by RTI International in support of the Department of Energy. Our goal is to facilitate connections among federal, academic nonprofits, utilities and small businesses across the US. To learn more about any new opportunities that come up or updates on this Connected Communities Data Opportunity. We recommend that you follow our page on LinkedIn, as well as sign up for our newsletter via the link on our website.

Next slide, please.

Really quickly, before we get into the meat of it, I just want to walk through a couple of housekeeping items. As Cameron said, questions will be handled towards the end of the session. We're going to be using the Q&A function of zoom exclusively. So, if you have any questions, please put them there. We will not be tracking the ones that come in via the chat.

And again, we'll be answering the ones that get the most votes. So please go ahead and vote for the questions that you want to make sure that get answered so that we can prioritize those at the top. We may not be able to get through all the questions that we have today. We seem to have quite a few people on the call today

For those that we can't get through, all the questions will be passed over to the Department of Energy, and they'll work to get them answered. All of the answers, both for the questions that are addressed during the Webinar, and the questions that we can't get to today but are addressed later will get posted in the FAQ on the opportunity page on our website, and we'll be continuing to update that periodically.

Lastly, per DOE guidance, we don't allow any AI bots on the webinar, such as otter AI, or any other note taking AI bots. You shouldn't need these, because this is being recorded. The transcript will also be available on the website as well as the slides. But just so, you know, if we see them, we'll kick them out of the session.

Last as a reminder, the webinar is being recorded and will be posted to the website within a couple of days, along with that transcript and slides.

So, to get us kicked off and really get going. Today, we have Nick Ram and David joining us from BTO at the Department of Energy. And with that I'm going to pass it over to the BTO. Team here to cover more of the more interesting part of the webinar. Please take it away.

Ram Narayanamurthy (DOE BTO):

Thank you, Taylor. And yeah, thank you. And just wanted to. Thank everyone from your organization and from DOE, who supported us in getting the getting this opportunity out in the stream.

So, I just want to start off with saying that this is while this opportunity is being run by the Building Technologies. Office. We recognize that the research and the work around the grid edge is not just specific to buildings. But we look at this as integrated work that happens with our industrial office, with our vehicles office with us with our solar office and other offices within the energy efficiency and renewable energy pillar as well as with office of electricity. So, we are looking, and we are welcoming work and research that helps us enhance our understanding of the grid edge, and how the growth of new loads, whether it be from buildings or from electric vehicles, or from data centers, or from industrial loads. How all of that will impact the grid and how we are going to have to prepare the grid to be able to receive these new loads.

So, the BTO itself, the Building Technologies Office. We conduct research, development, demonstration to accelerate technologies and techniques that enable high performing affordable buildings that meet everyone's need for resiliency and health, while also supporting the reliable energy system, which means that the work we do is very congruent and impactful in the way it impacts the grid and the overall energy infrastructure. So that's where we are looking at right now.

If you go to the next slide, Taylor.

So, when we think about the work that we are doing around the grid edge, we look at this as integrated work that cuts across many different technology spectrum. So, what we are looking at is, we are defining the grid edge in this case as that segment of the electric utility system between the distribution feeder and the appliance plugs. Because we believe that what happens at each of these points, whether it's work with low power appliances, whether it's work with smart panels, whether it's work with distribution, planning, all of that comes together for us to be able to right size the future grid to be able to meet these new loads.

So we are looking for, and within this area of research, trying to understand better how planning happens, how distribution planning happens at the distribution utilities, how we can look at load growth and the stochastic nature of load growth, to be able to better plan our distribution systems, and how we can get data from both the what we call front of the meter, which is the utility side and behind the meter, which is the customer side data, how

all of the data can come together to help us understand better the impact of low growth and new loads on the distribution system. So, in this case it includes technologies such as EV charging demand flexible buildings, thermal networks, batteries, rooftop solar and really are trying to understand how all of these can work together to help us shape the future grid and how they can, they can work together to really minimize the overall impact on the utility grid and reduce the amount of investments that we have to make in the utility grid. We call it right sizing our grid. And that's an area where we are looking for more data from the performers as we go through this opportunity.

And in particular areas like low income communities where many of the multifamily buildings have limited electric capacity which limits their capability for new, for acceptance of new technologies, such as electric vehicles. We are looking to see how we can look at the loads. Look at distribution planning in these communities and areas that will help us overcome and reduce, help, reduce the energy, burden and increase affordability of the energy transformation that they're going through.

So, with this, let me hand it off to David and David if you can walk us through the scope of the opportunity, that'd be great.

David Hsu (DOE BTO):

Sure. Taylor, I think Ram covered a lot, skip ahead to slide 6. That'd be great.

Alright if you can all hear me. Okay, I'll recap a few things that were said on the Webinar. But there's a recorded webinar from my colleague Nick Ryan on the TechWerx website. So, it'll go over the that webinar goes over the eligibility review criteria. But here, just to kick off the Q&A I want to recap the overview of why we're doing this this data opportunity.

So, the Connected Communities data opportunity will support the collection and analysis of existing pilot program data focused on validating grid edge technical measures and innovative planning strategies as viable strategies for efficient infrastructure investment.

So, as Ram said, I think Ram gave a really good perspective on what we're trying to accomplish, both on the utility side and the customer side, we're very focused on getting distribution level data that we think would help shape the industry or at least help the industry, understand what the potential are for these great edge technical measures, innovative planning strategies. The overall purpose of this partnership intermediary agreement is to help surface that data help frankly socialize that data in the sector so people can understand what the potential is.

So, to go to the project details the ideal candidates that we're looking for in this data, opportunity will have both proven capacity to deliver quality, insightful analysis, and have existing access to the data of interest selected awardees are anticipated to each. Receive up to a million dollar award with no required cost. Share next slide, please.

The objective. Again, I'm going to recap some of the things that Ram said. We're trying to develop analysis on the increased customer and grid resilience, using grid edge tactical measures both in front of and behind the meter. Strong interest in resilience

We were trying to evaluate the potential of distributed energy resources, including, but not limited to solar wind hydro batteries, other energy storage, charging electric vehicles, building demand, flexibility and so on. Battery energy storage to provide resilience and reliability to the expanding grid, especially spark charge management for electric vehicles

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Oh, and so we have in the partnership announcement a few other kinds of proposed areas of research. But those are all areas that fit into the overall background and overview view I just gave.

Actually, if it's okay, Taylor, I think you guys want to go over the timeline.

Taylor Moot (TechWerx):

Yeah, just as a reminder, and where we are. There we are in December 18th, imminently before the holidays. The application is due January 9th at 5 pm eastern, and we do recommend that folks is always the best practice is to try to submit a little bit before then, just in case you run into any technical issues, we can help you if we have a little bit of time.

We will have one more Q&A session that second office hours on January 7th at 2pm. Just in case you do have any last minute questions, as you all are finalizing your applications and believe we'll drop the link for that office hours registration in the chat later, so that you all can register if it's helpful.

After that applications will reviewed, and selections will be made as well as negotiations. And so, finally, the activities are expected to start sometime around April 2025.

With that, I think if we move to the next slide we will switch to the Q&A session. So, you all have been dropping questions in the chat, which has been great, and much appreciated. Please feel free to keep getting those in here. I'll be running through them as much as we can.

Alright. So, I'm going to turn us over to the Q&A Session. So BTO team, are you all ready?

Okay, great.

So, the 1st question is, can you explain more about the criteria that set that states the ability to share data within the DOE ecosystem? And that letter from legal counsel?

Nicholas Ryan (DOE BTO):

So, the critical part of this that we want to make sure we can utilize the data that is coming from these applications. To inform a lot of work that we are doing at BTO and DOE, right? So, making sure that the legal counsel for your organization has signed off approving or saying there is a plan in place to protect PII. The data has been anonymized and things like that. Right, we want to make sure that we are covering on all fronts, and that you are sharing data that we are able to give to our ecosystem primarily at the national labs and things like that. So, they again, can inform network. So those are really 2 important requirements for us to be able to actually utilize what you are bringing to bear with your application.

Ram Narayanamurthy (DOE BTO):

Yeah, Nick, just to add, right, I think one of the things that we are looking to is we are looking to make sure we don't have PII coming in as part of this work. So, we are looking to entities who can work with anonymized and maybe anonymized aggregated data. So that we avoid PII data being shared with the DOE and other entities like the national labs.

Nicholas Ryan (DOE BTO):

Yep. Absolutely critical part of this. Thanks, Ram.

David Hsu (DOE BTO):

I'll add just one more thing about the DOE ecosystem, you know, I think that probably helps if explain a little bit of background and context. Which is, you know, we know that there is a lot of data from existing pilots in many cases existing pilots that we funded. But we also know that data is really idiosyncratic and local. And so, as Ram and Nick mentioned, we don't want to handle PII data. But, on the other hand, we also know that given existing data analyses or products, that we have an ability to kind of publicize, convene it, communicate that to the larger sector through DOE's efforts. A lot of the reasons why you may have ended up this webinar and for the national lab. So, I guess I'd say that we're looking for data, analyses and products that are aggregated, anonymized that don't include PII. But that's also probably going to require the products be communicable within this ecosystem usable by other people, and the letter from legal counsel will probably have to kind of certify that it is sufficiently anonymized and aggregated do it doesn't include PII.

Nicholas Ryan (DOE BTO):

Thanks, David.

Ram Narayanamurthy (DOE BTO):

And, ultimately, I mean, the goal of what we are looking at is how the data can help distribution utilities with distribution, planning for new loads and load growth. How it can help us avoid or reduce essentially right size, infrastructure, build out for distribution and

how we can better manage the loads that are coming on at the distribution side so that we can, yeah, reduce impact on infrastructure. Reduce the burden to ratepayers.

Taylor Moot (TechWerx):

Great. All right. Next question is, are applicants allowed to submit more than one application?

Ram Narayanamurthy (DOE BTO):

Yes, I don't think there is a restriction submitting more than one application.

Nicholas Ryan (DOE BTO):

I would encourage them to be distinct, though right? I think that's going to be the biggest thing having multiple ones at all, kind of the same, probably not going to be a favorable thing.

Ram Narayanamurthy (DOE BTO):

Yeah. And Nick, to add to that, I think it's going to also depend on what we are going to do with the data just getting the data from 2 different places trying to do the same work. It's probably not 2 distinct applications. But if you're looking at different implementations, for example, thermal energy networks in one area and EV smart charging in another area, then they can be distant applications.

Nicholas Ryan (DOE BTO):

Thanks for all this good clarification.

Taylor Moot (TechWerx):

Okay, next question is, can national labs apply for this opportunity?

Nicholas Ryan (DOE BTO):

So, if selected, the mechanism for the National Lab providers will be different than the private sector applicants. Most notably the labs will receive funding for work directly from DOE via their M&O contracts, not TechWerx right? So national labs are allowed to apply but the way that they will be supported, there are existing mechanisms for that, and we will use those mechanisms. We will not use this particular mechanism for it.

Taylor Moot (TechWerx):

Next question is, is this only considered for existing and operating project data collection?

David Hsu (DOE BTO):

We could accept data, or we'd be interested in data collection from existing operating projects. But in the announcement specifically, we also say that we are actually willing to accept data from closed projects or prior recent projects as long as they haven't been published before.

Nicholas Ryan (DOE BTO):

And the important distinction here is we do not want to fund work. That is the actual highlighting itself right, that is, that is the that is the key difference here. It's just the analysis of that data that already exists.

Ram Narayanamurthy (DOE BTO):

For example, right? If there's a rate payer funded pilot, then the data from that pilot could be brought into the proposal. But we'd be expecting additional scope of work, such as analysis or distribution system analysis, for example, to be done. We are not just adding money to an existing pilot that's already funded.

Nicholas Ryan (DOE BTO):

Exactly.

David Hsu (DOE BTO):

It would not fund, also, necessarily just regurgitating the data as much as helping us with the analysis and data products that we think will achieve our goals.

Taylor Moot (TechWerx):

Next question is, is this opportunity only for projects that are already awarded under the Connected Communities 2.0 grant?

Ram Narayanamurthy (DOE BTO):

No, it's open. It's open to everyone. I mean, if people want a better understanding of definitions, I would refer back to the opportunity document, where we have defined some of the terms and some of the goals. But this is this opportunity is open to everyone. There's no restriction on prior work with DOE.

Taylor Moot (TechWerx):

Great.

The next question is, are you interested in gathering data from secondary sources that can replicate a lack of measured data on the infrastructure itself?

Ram Narayanamurthy (DOE BTO):

At this point, probably not. Again, we don't want to say no but what we really want to get to is the goal of better distribution planning. And so, data that can support that is the type of data that we would want to look into. So, getting an understanding of what is actually happening on the distribution circuits, I think, is going to be a criteria.

Taylor Moot (TechWerx):

I will apologize in advance to everyone for my poor reading of acronyms. But this next question is, what will be the effect of buildings using HVDC. And only sharing AC after their own uses are fulfilled, so that the reduction of load direct to the national grid versus nanogrid.

I can read that again if that doesn't make sense.

David Hsu (DOE BTO):

I would say that that's kind of the question that we to some extent are trying to answer with this Opportunity or other questions similar to that. But I don't think we can really answer that question now, without this is kind of the question that requires the data requires the understanding requires the analysis. So, this particular technology, this in particular impacts the national grid versus nanogrid. I don't think we can really answer now.

Taylor Moot (TechWerx):

Okay. The next question is, does the existing field demonstration requirement specifically refer to the projects from the previous Connected Communities proposals or can include any ongoing or completed projects related to GETs?

David Hsu (DOE BTO):

I think I'll take that one again, if that's all right. And Ram and Nick chime in after I've given my best shot. But again, to just reiterate Ram's previous answer. It does not actually depend on existing field demonstrations or depend on existing previous Connected Communities projects. It's an open call for similar intent, but does not depend on previous projects, or does not depend on even a current or existing field demonstration.

It could be a recent or previous project. One point I want to add that we haven't covered yet so far is that actually us one requirement or one limitation on us working with utilities is that the performers of this project cannot in any circumstances control, manage, or adjust the indoor environment in which people are living. That's kind of an add on to the PII requirement before.

So that actually may affect some of the utility applicants. I just want to clarify that we cannot include certain actions. But also, it's not limited to these actions like resetting thermostats or controlling lighting that affect indoor environments. So again, this question about field demonstration, previous Connect Communities projects and any ongoing completed projects, we would say, it's open. And the 2 main restrictions on that are PII and control of indoor environments.

Ram Narayanamurthy (DOE BTO):

And David, just to add to that, right, I think that's a difference with the FOA itself, because the FOA is actually about implementing the controls implementing some of the

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technologies and it, it will impact the indoor environment. Whereas in this case we are looking to not impact indoor environment. But get the data, I also want to emphasize that the data that we are looking for should include data from new loads on the consumer side, right. It should either include load growth, load growth on the distribution side or solutions to load growth, such as data aggregation or data management. So, we are looking for data that will help us better understand both the scale and scope of low growth as well as potential solutions to load growth.

Taylor Moot (TechWerx):

Next question is the RFP request geolocation data but also says that no PII data also says no PII data, however, geolocation data with publicly available property records means that that data can be identifiable to the homeowner. Isn't this a conflict that you want both geolocation data but no PII, when the PII is indirectly determinable through the geolocation?

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Nicholas Ryan (DOE BTO):

David, I'm curious about how what level of granularity we wanted that geographic data. So maybe you can answer this one as far as what you think would be useful, and how granular folks need to be with that kind of information for that lens.

David Hsu (DOE BTO):

That's a very good question. I would say that our primary interest is topological data. We put in geolocated data because to some extent utilities may use geolocation to kind of anchor their topology. But we actually really want the topology data more than the geolocated data.

In terms of indirectly determinable PII, we're specifically doing this to avoid getting PII. so, we're not going to be trying to indeterminately determine anyone's PII from geolocated data. If somebody gave us a diagram of their feeder lines and the locations of meters along the feeder lines. We would not do anything more of that, so I hope that describes the level of PII we are trying to avoid, but also how that will still get us. The kind of distribution level data front and back of the meter that we want.

Nicholas Ryan (DOE BTO):

Taylor. This might be one for the FAQ. So, we can take this one back and give more detail to that. But, Ram, do you have anything to add?

Ram Narayanamurthy (DOE BTO):

No, that was a really good answer, David. Yeah, we'll take it back. We'll refine the answer.

Taylor Moot (TechWerx):

Yeah, please for all of these, and just in general, please keep an eye on our FAQ, we'll update those after webinars. But if questions come in via email that are unique, and we haven't heard before we do up those on the FAQ page as well. So, any new information we get always goes there. So yes, it's a general practice. Please keep an eye on that.

The next question is some utilities are registering aggregators that are able to collect data from the advanced metering infrastructure and we do not think we need a reco letter from the utility. Would we be able to waive that requirement?

David Hsu (DOE BTO):

Don't know what our reco letter is.

Ram Narayanamurthy (DOE BTO):

I'm not sure, either.

David Hsu (DOE BTO):

I think we may have to come back with an answer and FAQs to that question.

Nicholas Ryan (DOE BTO):

Recommendation, maybe.

Ram Narayanamurthy (DOE BTO):

Yeah, I'm still not totally sure of what part of it is. I think there is some. There is some data that usually is with utilities like the distribution system data. But if there are other 3rd parties like consulting companies or aggregators who are able to provide the data, yes, that is a viable way to get the data as long as we can have analysis done on the distribution system.

David Hsu (DOE BTO):

I'll describe what that data might look like, you know, if you were a partner or consultant or organization that works with utility, and you have access to utility data. In all likelihood you probably signed an NDA to get that data. In the first place, to work with that data. We are looking for data products analysis where we don't handle PII data.

But in order for you to share that data or those data products, even if they're anonymized and aggregated, it's probably going to require a letter from legal counsel from the organization you originally signed an NDA with, that makes sense. We want to make sure we're not getting caught up with individual utilities, having problems with us. Use utilizing this data because that preventing was not done through your application process. Right? So that's one of the requirements we need to make sure that whatever you're giving us, you, you say, is coming from XY and Z utility that you know and a few months from now they're not coming back and saying, hey, you had no permission to have this right? So

that's the big thing we are wanting is that recommendation letter allows us to kind of make sure we're good on all that right?

Ram Narayanamurthy (DOE BTO):

For example, if you're working with PII data, the PII data has privacy requirements and protection requirements that come with it. So as long as those requirements are met, and the requirements vary by state in terms of how the data is handled. That's going to be critical for being able to use the data for the purposes they're looking for.

David Hsu (DOE BTO):

I think it's also worth saying that you know, in the negotiation process we understand, different people might come forward with different restrictions on the data and the negotiation process, after the selection, if we find an application is of interest, and we select it to enter into negotiations we could help that organization understand and perhaps even negotiate with the original provider of the data what fair and appropriate use of that data might be.

Taylor Moot (TechWerx):

Okay, if we totally missed the mark and I misrepresented your question please email us at info@techwerx.org and we can work on clarifying anything. This is true for all questions as well.

The next question is, is there a list of projects that are currently funded so we can understand the organizations that we would need to have an existing relationship with?

Nicholas Ryan (DOE BTO):

Yeah, the entities that we that we would like to pull from right are those that are already funding field validation and piloting programs for this for this technology type. Right? So, I would say, Connected Communities has been mentioned a few times so far. Right? I think that's a great proxy for the types of projects. But utilities have a range of opportunities they have out in the street that, again, is really about the field validation and the piloting of these of these technologies, and how they're performing right? So, I think I think those kinds of, those sets of projects are what I would recommend. I don't think we have an aggregated list of examples, right? But so, Connect Communities and then, I think, reaching out to your local utility and exploring what they have as far as those kinds of programs. I think those are the places to start.

Ram Narayanamurthy (DOE BTO):

I'll maybe add a couple of examples. Right? So, let's say you're working with zero energy home communities looking at what it means for transformer sizing. For example, looking at data from those homes that have a combination of EV charging and rooftop, solar and heat pumps, etc., and looking at how all of those might actually add up to the distribution system. And there's work going on in some utilities right now to look at the analysis of how

those things come together. Right? So those, the kind, those are the kinds of data analysis I think that'd be useful.

David Hsu (DOE BTO):

And I'll just add that, you know, I think at some extent we're issuing this announcement because we are looking for those projects that has been funded that we don't know about. Like we know about some projects, and we'd be happy to gather data from those projects. But to some extent we're looking for projects we don't know about, and we would like to publicize because we think that will help the overall sector.

Taylor Moot (TechWerx):

The next question is, what is the definition of a pilot project? How formalized does this need to be? Can these be company pilot projects?

Nicholas Ryan (DOE BTO):

So as far as the size of the well, the formality, right cause so I think it's important to understand what we are wanting to utilize the data for right? So, I would say that the project has to be very formal right? I think it has to be an official one. We are ensuring that the products that we are receiving through this opportunity is based off of data that is, you know, been vetted by an organization that is, that is reputable right? As far as the secondary question, Taylor. I'm not sure, David, Ram I'm not sure, if you understand the company pilot. But please jump in here.

David Hsu (DOE BTO):

I don't think we. I don't think we need to define pilot projects as much as the definition is probably less important than the purpose. You know the purpose is to deal with new loads and resilience and change in the district system. We know that hasn't happened across the whole sector. So, to some extent, you know, we know a lot of companies are dealing with it. It can be a company pilot project. It can be a project that was tried, and either succeeded or failed before it gets scaled up to a larger pilot. But I don't think it's a particularly important as a pilot as much as the purpose of the overall opportunity, which is to understand effects on the distribution system.

Ram, please go ahead.

Ram Narayanamurthy (DOE BTO):

I'm good you explained it. Pilots are pretty broad.

David Hsu (DOE BTO):

Yeah, there's no cut off.

Taylor Moot (TechWerx):

Great. The next question is, what is this effort's position on SCADA or grid telemetry data?

Ram Narayanamurthy (DOE BTO):

Yeah, I don't think SCADA or grid telemetry data is considered PII, but we'll probably have to go back and check on it. So as long as we are not using PII, I don't think we have any restrictions on the utilities data.

Taylor Moot (TechWerx):

The next question is, is this only support to projects that have been awarded? Can we apply if we're waiting for DOE decisions regarding applications for Connected Communities 2.0?

Ram Narayanamurthy (DOE BTO):

This is, there is no relationship on who can apply to this and the Connected Communities FOA.

Taylor Moot (TechWerx):

Next question is, is there a form letter for the legal counsel letter?

Nicholas Ryan (DOE BTO):

We have not developed one, no. But I think off of David's comments the presence of an NDA legal counsel should be able to develop language that addresses the presence of that NDA and the sharing of the information, right? So, if there are specific questions that come from that we can kind of have a follow on. But no, not right now. No.

Taylor Moot (TechWerx):

The next question is, you are asking for data as well as analysis. Often the analysis aggregates data together to a conclusion for the underlying data. What type of data granularity are you looking for? To look at distribution level impacts? You would need data down to the feeder level, is that correct?

Ram Narayanamurthy (DOE BTO):

I mean, I think the analysis is the end goal. The data as a means to get to the analysis. So, we are we will consider whatever data is proposed and evaluated in terms of its capability to provide the analysis that we're looking for.

So, and I'm sorry. The last part, Taylor. You said something about distribution feeders.

Taylor Moot (TechWerx):

Yeah, it says to look at the distribution level impacts. You need data down to a feeder level. Is that correct?

Ram Narayanamurthy (DOE BTO):

That is probably correct, and maybe even down to the transformer level.

David Hsu (DOE BTO):

I think in the announcement, we say we're looking for at least one of the following, and we think probably a combination of these three or four things, probably substation feeder, transformer and building level. I can't imagine you wouldn't have one of those four things, if not all four of those things to get after the questions we're after.

Nicholas Ryan (DOE BTO):

Data product is the most important part. The analysis is the important part. Not just the raw data. The raw data is the means to, as Ram said, so, emphasizing, that is important here.

Taylor Moot (TechWerx):

Alright. Next question, sort of in line with this, is what granularity, temporal, spatial, are you ideally seeking?

Nicholas Ryan (DOE BTO):

I think we laid that out in the opportunity. But, David, if you want to add additional comment to what we put in, how's the time, but I think we covered it there.

David Hsu (DOE BTO):

Well, I feel like this is my chance to give Ram a Christmas gift, because I think this is the kind of thing he's interested in data analysis. But you know, in terms of spatial, I think we've talked about the topological data on the distribution system. So again, substation, feeder, transformer, building. We want to understand the impacts. Those can have front and back of the meter temporal. Actually, I think I'm guessing we would need temporal data to address both grid operations and grid planning. I think those two sides of the house don't always have the data they need to talk in common that operations can inform planning, and vice versa. But again, Ram you, I think you probably have a strong idea what you're looking for in this.

Ram Narayanamurthy (DOE BTO):

I wouldn't say a strong idea, but I think part of what we are looking for is data that can help inform new planning methodologies, such as stochastic planning. We realize that as these new loads come on, there's going to be more variability in the loads on a temporal basis. So being able to get the kind of temporal data that can help advanced new distribution planning methodologies that can extend the life or the capability of existing grid infrastructure, such as transformers and feeders, to be able to absorb a lot more load. That's the kind of data that I think would be helpful. And the analysis that would be helpful.

David Hsu (DOE BTO):

Think that repeatability aspect is really important.

Ram Narayanamurthy (DOE BTO):

Yeah, ultimately, we need to give confidence to the planners that all this data can help them with. A more advanced planning methodology.

Taylor Moot (TechWerx):

Great. All right, we are. We've got a little. We've got quite a bit of time left. So, we're going to keep on tracking through these, but again feel free to upvote. Add more questions. And we'll make sure to get them answered, either during this or afterwards.

The next question is, does this project allow subawards? If so, how do we submit the application with collaborators as a subaward recipient?

I'll take this one and Carrie jump in just from a general perspective on the mechanisms for leads. What will happen is, TechWerx will contract with the awardees, and they are then allowed to go on and work with subrecipients themselves. But TechWerx will not do that for them. It's up to you all to do that engagement. That's from the logistics perspective. That's how that would work. But I'll turn it over to BTO to say if subawards are like some collaborators are allowed, and then to Carrie to any details that I'm missing.

Nicholas Ryan (DOE BTO):

Okay, why don't you go? And then we can clean up on our preference here.

Carrie McIntosh (DOE OTT):

Yeah. Taylor, I think that you that you covered it pretty well. The everything is milestone based. So, if your collaborators help you reach those milestones then, as long as BTO is fine with that, then that's fine through this mechanism. But there are no official like sub-recipients or sub-awardees through this opportunity.

Nicholas Ryan (DOE BTO):

Yeah, I think some are fine. Obviously, sometimes it takes a village to these things. So however, you organize. That internally is on is on the applicant.

Taylor Moot (TechWerx):

Perfect. Okay. The next question is the in terms of distribution impacts. Are you hoping to hear more about residential or commercial areas?

Ram Narayanamurthy (DOE BTO):

I'd say both residential, commercial, and industrial. The more we can get blended systems and blended feeders, for example, that'd be more interesting.

The key is we want to get data where there are actual new loads coming in from different sources.

Taylor Moot (TechWerx):

Perfect. The next question is, follow up on the question regarding sharing data, which I'm not sure if we've read, do we need a legal letter for every from each and every participating organization, if there are multiple partners on this proposal?

Nicholas Ryan (DOE BTO):

The most critical part right is who originally owned the data that you are using to perform your analysis. And so, the example I think we would most commonly use is if it's a utility driven pilot that is their data from them from their exercise. You would need a letter from them saying, yes, we can utilize your data to develop this product. And we are then sharing this product with the Department of Energy. So that is the that is the most important one. Whoever owns the original data that is informing the product you are then giving off as your, as your deliverable.

Taylor Moot (TechWerx):

The next question is, I'm going to answer this one, and you all can jump in as well. But the next one is, can you please provide a link to the FOA on this specific opportunity. All the materials on the EERE exchange refers to the connected community 2.0 FOA.

So, I want to be clear here, technically, this is not a FOA in the traditional sense. This is an opportunity that is run exclusively through TechWerx. And so, you will apply directly via the TechWerx website. We've shared that link in the chat, but we'll share it again. So, when you get into the application page, you'll see all the details of what the opportunity is about, and at the top you'll see a link that says, Submit, or apply. If you click into that you'll see the application.

This program is run through the PIA program. And if there's more questions about that, you can check out the FAQ that's currently on the website, or feel free to drop some questions in the chat.

But totally valid question. This comes up a lot.

Ram Narayanamurthy (DOE BTO):

And Taylor. One thing I'll add, is that I think this FOA and Opportunity have a common goal which is to better understand load growth and the impact of load growth on the on the on the grid but they're very different mechanisms, and they're very different. They have very different end goals in each by themselves. The FOA was looking for actual implementation and a controlled experiment. This Opportunity is looking for data and analysis.

Taylor Moot (TechWerx):

Perfect. The next question is, can we share the combination of actual and synthetic data? And with the caveat that synthetic data is derived from actual data but that utilities are

typically not sharing raw data. There are some more details I can share if that's helpful. But I think that's the crux of it.

David Hsu (DOE BTO):

I think, actually, is a good question as to saying we should answer this question. So, I'll just read the whole question out loud. If that's okay.

Taylor Moot (TechWerx):

Perfect.

David Hsu (DOE BTO):

Question was, can we share a combination of actual synthetic data? Note that the synthetic data derived from actual smart meter data at the customer level utilities typically cannot share the raw data, however, aggregated data at the feeder level can be shared and may remain authentic rather than synthetic. This means that to get a more comprehensive and well aligned data of the distribution system, it might be necessary to contain synthetic data. We want to know if this is an allowed approach.

I would say the most important point here. I understand and appreciate this question, because I think it raises a lot of issues around how do we anonymize, aggregate the data?

The most important thing to me as an analyst and Nick and Ram can comment on this also, is that you share the assumptions by which it was aggregated and anonymized. You know, we know we've people make synthetic data from statistical distributions or from existing data, and they'll make a fake distribution and make some kind of representative synthetic data of an actual data set problem is that between a lot of models and a lot of synthetic data sets. We don't always know the assumptions. And therefore, that's why utility operators don't always trust that data.

So, if we're going to try to use some combination of actual synthetic data. I think it's an allowed approach. You should definitely make the case for why you think this data is the right data to get after these kind of distribution system impacts. But be aware that we're going to kind of judge how that synthetic data was generated, and whether or not we really believe that it actually reflects the actual data or what operators actually see. That's my take on it. Nick and Ram might have different takes on it.

Nicholas Ryan (DOE BTO):

Well said David. One of the reasons why we had this this separate mechanism as a separate Opportunity is to in part be informed by this particular question. Right? There's a there's a lot of synthetic data that's used to do modeling and it is very challenging to get real data that we can back with saying, this is how you know, for the real world, so to speak, right. And that is an impactful difference to the stakeholders that we are trying to inform and influence right? So, you know, feel free to submit. But given the selection, you

know, selection, timeline and things like that. Right? I have to agree with David that we are, you know very likely going to preference real data over synthetic data. And we're going to be very scrutinizing on whatever synthetic data is put forward.

David Hsu (DOE BTO):

That's one more distinction, you know, it can be actual or real data, and it can be anonymized, aggregated. And that's different than when we talk about synthetic data, right? There's different ways to aggregate it and anonymize it. But we don't want synthetic data that's purely generated from, let's say, a statistical distribution from a different region or statistical distribution. Nationally right, like, sometimes people make these synthetic assumptions based on assumptions that don't conform necessarily to what grid operators and planners are seeing. We want that data to be as close to reality as possible. So again, actual and real data can be anonymized and aggregated if it's going to be synthesized in some sense, you have to tell us how it's going to be synthesized.

Taylor Moot (TechWerx):

Next question is, can the proposed analysis product come from open access data sources? Or must it come from new data generated either at a pilot study or utility data?

Ram Narayanamurthy (DOE BTO):

Yeah, it can come from open access sources as long as there is a direct line to how it gets implemented in planning. So, I think the connection with the utility is going to be important. Even if you use open access data, it has to be piloting data, too. Right? Some, you know.

Nicholas Ryan (DOE BTO):

I'm not sure of any open source that has the piloting stuff. But you know, if you have access.

Taylor Moot (TechWerx):

Okay. The next question is the grant is for one year. Does this mean that all the analysis needs to be done and completed after that one year?

David Hsu (DOE BTO):

The announcement says that it's actually for 2 years, I think. And the no go decision point, is it the one year mark. So yeah, I think that hopefully answers this question answers the question.

Taylor Moot (TechWerx):

The next question is, could you potentially add partners post-award as long as you have secured you have some secured as part of an application?

I will answer from like the TechWerx operational side. Carrie, jump in, and then, BTO, you can clarify what you're all looking for as well. From our side, and, Carrie, correct me if I'm wrong. I believe we need all partners to be determined before we give the final award. And so those all need to be identified during the application process.

Carrie McIntosh (DOE OTT):

Yes, that's correct. I don't have anything else to add.

Nicholas Ryan (DOE BTO):

There's the rules.

Taylor Moot (TechWerx):

Alright. The next question is, are large businesses, for example, with experience, significant experience of executing DOE funded projects allowed to propose under this opportunity, as either the prime or the sub?

Nicholas Ryan (DOE BTO):

I believe so. Carrie, if you have any opposition to that, please let me know. But I think that should be fine.

Taylor Moot (TechWerx):

Okay, I think we have time for one or 2 more questions. I'll read this one next one out, and if we'll see how much time we have.

This one is saying, our company supports rural American co-ops that leverage their local outage data for AI and forecasting DERs and future build out. Several of the cooperatives are just now incorporating, EV charging and solar. And the question is, is there a specific amount of new load that we need to determine prior to applying?

Nicholas Ryan (DOE BTO):

I don't think so. I don't think there's a quantified amount. Again, going back to what I think David and Ram have reiterated right? It's about informing future planning. Right? So, if you are in an area, that is, you know, thinking forward. That may be, that may be a good alignment there, but I don't think there's a quantified, you know, amount of new load.

Ram Narayanamurthy (DOE BTO):

And it also depends right, every utility, every location has a different distribution system in architecture. So, what actually makes an impact is going to be different.

David Hsu (DOE BTO):

And to answer that question also, I'd say there is an emphasis on resilience in this announcement. And so, the kind of use case, the question asks about incorporating sorry local outage data would actually be quite useful.

Taylor Moot (TechWerx):

Okay, this is my last question, and then we'll wrap up. How does DOE expect that this opportunity will supplement or interact with typical EM&V activities on a program?

Ram Narayanamurthy (DOE BTO):

It might be just partial knowledge on my part. But usually EM&V activities are not working with the distribution system. They're looking at a very aggregate level, not at the very local level.

David Hsu (DOE BTO):

And there also might be more of a focus on energy and EM&V activities rather than capacity and planning, if that's I don't know, a possibly.

Taylor Moot (TechWerx):

Alright. We have 2 min left. I don't think we have time to go through more questions. I know there's quite a few lefts in the chat. What we'll do is we'll get these downloaded and aggregated and we will provide answers to them, and we will send out an email once those are up and ready on the FAQ part of the website.

We do want to say, thank you for attending, and if you do have additional questions. Please email us at info@techwerx.org. that is the best way to get a hold of us. We do our best to be as responsive as possible. Note that with the holidays coming up we will be closed for some period of time. But again, knowing how tight this is, we're going to do our best to get you all the answers you need.

All the information that you all about this will be posted on the website, either. It's currently there will be updated in the FAQ so that is again, the best places to look for any of the latest information.

Finally, we'd appreciate if you took a quick post-webinar survey to share any feedback you all have about this webinar, and we just want to say, thank you so much for attending, and we're excited you all came.

Nicholas Ryan (DOE BTO):

Thanks, everyone taking the time.

David Hsu (DOE BTO):

Thank you.