



## TEP/UNSE Resource Planning Advisory Council (RPAC) Meeting

**Date:** Thursday Aug 31, 2023

**Time:** 9:00 am – 10:30 am MST

**Location:** 88 E Broadway Blvd,  
Tucson, AZ 85701  
Conf Rm-HQ-257

Microsoft Teams link provided to all RPAC Members & participants.

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- 9:00 Welcome, Introductions, & Logistics
  - 9:10 EPRI Presentation: EVs2Scale 2030 Program
  - 9:50 Q&A
  - 10:20 Next Steps

*This Meeting Summary is intended to document key points of discussion that occurred during the meeting. By providing a high-level written summary of the meeting, RPAC members will have an opportunity to correct, clarify, or amend the discussion points so that TEP has as accurate an understanding as possible of members' ideas and positions. In addition, this summary will allow those that have an interest in the IRP, but are not on the RPAC, to follow the process.*

*The majority of topics discussed at the meeting will have associated "slides", and this Meeting Summary is not intended to summarize the slides. However, the discussions that occur in response to the presentations will be summarized, without attribution.*

<b>Attendees</b>	<b>Organization</b>
<b>Alex Routhier</b>	Western Resource Advocates
<b>Alejandro Palomino</b>	Energy Strategy
<b>Catalina Ross</b>	Sierra Club
<b>Claire Michael</b>	Wildfire
<b>Eric Wilson</b>	Pima County
<b>Gaby Tosado</b>	
<b>Justin Brant</b>	Southwest Energy Efficiency Project
<b>Kathy Knoop</b>	General Motors
<b>Luke Hutchinson</b>	Arizona Corporation Commission
<b>Murphy Banner</b>	WRA
<b>Robert Lamb</b>	Member of the Public at Large
<b>Sandy Bahr</b>	Sierra Club
<b>Stephen Cassidy</b>	CES/CENPE
<b>Tyler Fitch</b>	RMI
<b>Britta Gross</b>	EPRI
<b>Katherine Stainken</b>	EPRI
<b>Brianna Robles</b>	TEP
<b>Ilse Morales Duarte</b>	TEP
<b>Jenny Crusenberry</b>	TEP
<b>Joe Barrios</b>	TEP
<b>Joe Salkowski</b>	TEP
<b>Lee Alter</b>	TEP
<b>Lauren Briggs</b>	TEP
<b>Nonso Emordi</b>	TEP
<b>Victor Aguirre</b>	TEP

### **Britta Gross (EPRI) – EVs to Scale 2030 Program**

- **Question:** RPAC Member: A couple of your prior slides, seem to suggest where the highways were. This graph on the right, looks a little more distributed, is that because it's more electrified, or is it a locational issue?
  - **Response:** The highways on the US map clearly show you the interstates and corridors where trucks operate. You might see only the I-10 going through LA, but for the most part you are seeing airport freight activity, and anybody parked around the Ontario airport. When everything's electric in the future, they're expecting a 233 MW load just from the Freightliner trucks that are diesel that dwell around the airport.
  
- **Question:** RPAC Member: I have a question about the collaboration with entities such as Circle K or other purveyors of gasoline. At the legislature, even this last session, they were promoting a bill to hinder utilities ability to install charging stations. It's just an interesting list of collaborators, so thank you.
  - **Response:** We know that throughout those organizations, from top to bottom, they are not all on the same page, even within a single organization. We are going to address that with data and to show what the need is in 2030 and beyond for charging infrastructure and in fact what the ability of the fueling retailers to address the need for charging infrastructure is.
  
- **Question:** RPAC Member: Tesla is the key because right now they have the most electric vehicles on the road today and have the most advanced charging infrastructure plan and that's great. But what is your approach going to be for the automakers with the light duty automobiles, not the trucking automakers? They're strong, competitive and their desire is to keep the data to themselves and maybe to monetize the data. How are you going to approach getting them to share some of what you need for the planning process across the whole spectrum of automakers?
  - **Response:** I'm viewing Tesla right now as only a window into the charging infrastructure. Not as an automaker, as a charging provider, I believe we're already in discussions with them and have been for several months. It is simply a big load and they do have a very well thought out plan to stay ahead of

- vehicles. If you have a large load coming to the grid and you don't put your information into this secure, anonymized, aggregated system, then we cannot help. We cannot help you communicate that you have another two megawatts coming on to the grid in that location on that feeder system. There is no way of identifying if the vehicle is Tesla, it is simply a big load and they do have a very well thought out plan to stay ahead of (*increase in electric*) vehicles.
- **Question:** RPAC Member: So, when it comes to Southern Arizona and Maricopa County, the amount of EV's in Arizona is growing. But between Tucson and Flagstaff, it's kind of #2 and #3, they also have a huge amount of trucking that goes through their service territory. How can this tool be useful to Tucson Electric Power? Will they have access to some of this information?
    - **Response:** These maps are going to be publicly available. We're going to provide a formula, perhaps all the way through Arizona. Even if you see a spot in the desert and shows a load, you may want to challenge it. We haven't quite finished quality control. That will be at the hex level. But publicly you have a place to start and see what gets you interested and where you think you need to explore things in more detail.
  - **Question:** RPAC Member: I am curious about how the energy numbers are coming to be based on your data. Not sure how much you're wanting to or can share, but I know that you said MWh or MW a lot and hasn't been a lot of distinguishing between MW and MWh. I didn't want to dig into the energy versus power requirements here just because of the technology on charging. Like you said, it matters a lot and especially when it comes to the heavy-duty trucking. Most truckers want to charge fast and then get back on the road. When talking about this specific sector of the market, I have a lot of questions and was wondering if you might be willing to elaborate on that?
    - **Response:** We we've got every possible combination of permutation of data coming in and we must make sure that we're not double counting or undercounting. We have people that give us a sliver of data, some give us

power, and some give us energy. Energy is sort of the place where we've decided it's a common equalizer, if we can get everybody to sort their data we will work with them to bring all the data into a relative term. Power comes in a few more months. We just need more time. We're really under the gun to get energy done and then we'll get to power. We are not getting into charging yet. There are so many opportunities, if we can establish some baseline information and then work with that and build off that. I'm very open to assumptions that you might have or data that's useful.

- **Question:** RPAC Member: One of the big constrictions that you spoke to is the lead time issue with this. Is the issue that we don't see the demand and all of a sudden we need to be able to respond to it very quickly and the implementation of the capacity in specific areas? This is very much related to what we've seen here in Southern Arizona in our ability for economic development. You've heard the term 'shovel ready'. They're looking for something that they can turn very quickly and they're comparing to other areas. Whether or not this is just the primary way of getting that information to the utility to be able to start the planning process. This has a potential to either fix a huge problem that we have, or to make it worse. Tell me more how would it make it worse? If you don't get people to be able to provide the lead time, and if the utility doesn't use that information to accelerate their planning activities, then it would be worse.
  - **Response:** I can't imagine a utility turning a blind eye to information when we say it's, Amazon and Daimler and Volvo and 200 more companies who are providing visibility into their next eight-year plans.
- **Question:** RPAC Member: Have you spoken with any site selectors when they're saying they want to put a logistics center somewhere along this corridor and playing the different municipalities against each other? Who's going to provide the better incentives? Who's going to be able to deliver this quicker, etc.? Who gets that data and where does it get placed in your database?

- **Response:** You're raising a great point and I don't know what to do about speculators. Folks that speculate where to put a good commercial truck depot to charge commercial trucks. I've been talking to them to figure this out. If you're waiting till the last minute to plunk down your money on that site, then you're not helping on lead time, and I I'm not going to be able to help. There's no instrument to give anyone early warning. If we can quantify the other 80% of this problem with established folks that have their depots, we know what a reasonable assumption about home adoption and truck adoption will look like.
  
- **Question:** RPAC Member: Have you taken a look across the different vehicle types and use cases? The local delivery and long haul vehicles probably get charged overnight. Do you have anything coming out of the data that you're seeing that shows how to utilize those different profiles or are they different?
  - **Response:** Yeah, they're going to be all over the place, especially in the trucking sector. Cars are a lot more standard, and we have some nice ways to approximate that because we see what the behaviors have been for the last 13 years. Trucks are all over the place, so when we get to power, we must start really understanding, where are they? Where's the real power going to for these trucks and what's the use of those vehicles? But the answer is yes, you can see every data input. It is helpful and useful, but I know that it's going to get even better over time as more data comes in and more layers are added with much more rigor.
  
- **Question:** TEP Member: The issue of the timing will be the key to the solution. If I'm in the distribution planning department and there's a hot spot that's close to two substations and the load added by electric vehicles is not during our coincident peak. Then maybe a way of addressing it is similar to a battery, right? I'm wondering if you are getting any feedback about how this helps utilities get solutions.
  - **Response:** I have fleets stating that they need to see utilities work on that. They need interim solutions, so we don't have to wait three years. Everybody just wants the grid connection right now. It must be clean; they want it clean. But right now, they just don't want cars and trucks sitting around. Daimler and Volvo don't want people returning trucks or rejecting orders or moving away from EV

orders because they don't have a good answer from the utility. We must be thinking about the interim solutions and what that might look like right now.

- **Question:** *RPAC Member:* We are planning out 15 - 20 years, even 30 years into the future. Is this heat map changing or updating in the next year? How is the resource planning team planning this 10 - 20 years into the future? How are we planning to spend money for the investment side to continue?
  - **EPRI's Response:** We know that we must count how many transformers and the specs are we looking for. We can alarm utilities with how many vehicles we're expecting. But I think arming us all with knowledge about what is happening is a very good start. Utilities want to know how serious or how much confidence they should really have in EV entering the system. Are they 100% confident or 20% confident? The fleets have asked how confident they should be that the utilities can get the job done in 3 months or 18 months. We are trying to capture confidence in these numbers and if we start to see risks with supply chain, maybe that's something we have to start considering here.
  - **TEP's Response:** From resource planning, we have historically looked at things like a system total demand level. We have a steadily increasing load due to EV and that could be faster or slower like you're saying. Fortunately, like you'll see in our resource plan due November 1st that our transition to clean energy includes a steady addition of clean energy. So, you're almost continuously adding more resources.

### **Lee Alter (TEP- Lead Supply Side Planner) – Next Steps**

- **Question:** *RPAC Member:* I saw that TEP is working to make use of capacity expansion modeling. Is that a different approach from before?
  - **Response:** We have decided to delve into the capacity expansion modeling and try to fold those results into the IRP. It's certainly one of those things, as you know, taking time and if it's successful, we'll continue using it. We just have prioritized the more detailed system representative, hourly dispatch modeling. Whether you have a reliable plan or not, it really comes down to that scale of

modeling. We have done test runs in the past of capacity expansion modeling, so we are not starting as from scratch, but it does add to the time delivery.

- **Question:** [RPAC Member](#): Do you plan on providing any content in advance of the RPAC meeting? It will be easier to digest together when we have a chance to look pre-meeting.
  - **Response:** Yes, we do anticipate providing an agenda and slide deck ahead of the next meeting.