



**Summary of the California Public Utilities Commission's
Workshop to Begin Evaluating Alternative
Distribution System Operator Models for California**

May 3, 2022 // 10:00am - 3:00pm

Overview:

On May 3, 2022 Gridworks hosted a workshop on behalf of the California Public Utilities Commission kicking off Track 2 of Rulemaking 21-06-017. The Track focuses on two questions:

- How do alternative Distribution System Operator models compare in their ability to plan and operate a high Distributed Energy Resource (DER) grid, unlock economic opportunities for DERs to provide grid services, limit market power, reduce ratepayer costs, increase equity, support grid resiliency, and meet State policy objectives?
- Should California's Investor Owned Utilities be incentivized to cost-effectively prepare for widespread DER deployments? If so, how?

The workshop was seeded by a [white paper](#), "Evaluating Alternative Distribution System Operator Models for California," published by Gridworks.

The following summary provides a high-level introduction to the workshop. Party input received through the workshop is [highlighted throughout](#).

Meeting Materials:

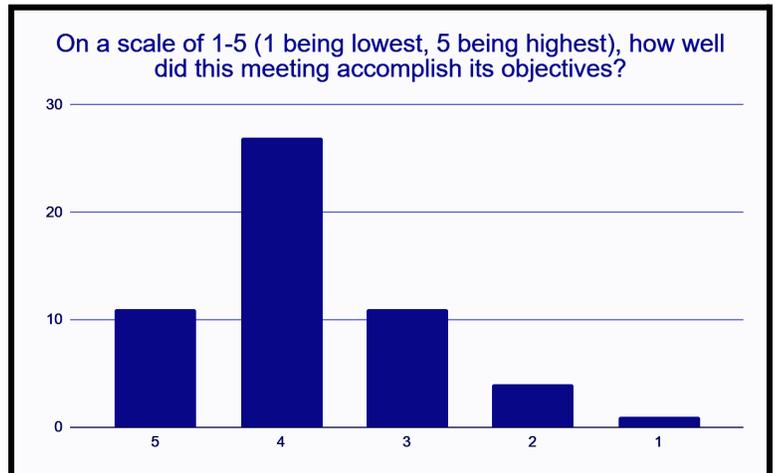
- [Recording](#)
- Zoom Chat [Transcript](#)
- [Agenda](#)
- Presentation materials posted at <https://gridworks.org/initiatives/california-future-grid-study/>
- 156 participants

Workshop Objectives:



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- Engage a diverse group of contributing stakeholders
- Consider how Track 2 relates to other High-DER Rulemaking activities
- Introduce concepts and terminology
- Garner lessons learned from similar processes
- Receive feedback and guidance from stakeholders on how this process should be conducted



Workshop Notes:

- As an introduction, participants were asked to complete the following sentence using a one word adjective: “I hope the process used to complete Track 2 of this Rulemaking is...”include: **collaborative, transformational, effective and inclusive.**
- CPUC staff’s [presentation](#) re-introduced the CPUC’s Order Instituting [Rulemaking](#) (OIR) 21-06-017 and explained how the work of evaluating alternative Distribution System Operator Models fits with other parts of the Rulemaking. Staff emphasized two points:
 - This Rulemaking neither seeks to set policy on the overall number of DER nor does it seek to increase or decrease the desired level of DERs. *This OIR focuses on preparing the grid to accommodate what is expected to be a high DER future and capture as much value as possible from DER as well as mitigate any unintended negative impacts.*
 - This track focuses on high-level policy issues involving distribution system operator roles and responsibilities as well as IOU and aggregator business models. *The process could result in findings that implicate potential action beyond the timeframe of this proceeding.*
- Gridworks [presented](#) an overview of key terminology and concepts, summarizing portions of its [white paper](#), “Evaluating Alternative Distribution System Operator



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Models for California.” (Slides 9-15) Gridworks emphasized the following key points:

- The definition of Distribution System Operator depends on the objectives being served and the corresponding functions expected by its users. An initial challenge stakeholders will face is disparate ideas about what “Distribution System Operator” means.
- As energy systems evolve, so do the roles and responsibilities of distribution grid operators. The work of this proceeding is reconsidering those roles and responsibilities.
- Three questions which differentiate distribution system operator models are:
 - How is the value of DER to the distribution grid exchanged between system operators and DER owners?
 - What is the relationship between wholesale and distribution services a DER provides? How are they coordinated?
 - Are the profit-making opportunities of distribution system ownership separated from distribution service market operations or left consolidated?
- **Participant Feedback on Gridworks’ Presentation:**
 - It is important to develop a shared nomenclature and taxonomy to support effective communications through this multi-stakeholder endeavor
 - An additional distinguishing DSO feature is the degree of centralization of Distributed Energy Resource control.
 - Performance Based Ratemaking, a regulatory system which rewards investor owned utilities for performance toward defined goals (rather than capital expenditures), is a key part of this process.
 - The roles and responsibilities of the Distribution System Operator are a threshold issue for a high-Distributed Energy Resource future; one should not assume a high-DER future without a change to roles and responsibilities
- Mark Paterson (Strategen) presented [DER & DSO Process Lessons from Australia](#). Key takeaways are as follows.



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- What California should avoid in its consideration of Distribution System Operator models:
 - Underappreciating the degree to which a decarbonizing grid involves multiple interdependent systems
 - Applying an inadequate ‘theory of change’
 - Failing to create the trusted and multi-stakeholder context for a robust (but constructive) contest of ideas
 - Applying the wrong or inadequate analytical tools
- Recommendations for California’s Process:
 - Design the entire initiative around ‘the Grid’ as it really is: an ultra complex **techno-economic-societal** ecosystem
 - Own the massive scale of change unfolding and overcome entrenched short-termism by embedding methodologies that require both **present-forward and future-back** thinking
 - Design for optionality and scalability, recognizing that large-scale systems transform in messy, non-linear and ‘emergent’ ways
 - Create the human and societal context where a **constructive but diverse and robust contest of ideas**, supported by detailed quantitative analysis, can take place.
 - Iterative loops of stakeholder co-design must be ‘stress tested’ and further informed by parallel techno-economic modeling
 - Enabling the depth of multi-stakeholder participation required will benefit from a “Balanced Scorecard” of societal, economic and technological outcomes developed early
 - Carefully select and apply **fit-for-purpose** analytical tools and methodologies. Fit-for-purpose allows collective interrogation of elements and actors, linkages and relationships, and ‘emergent behaviors of the system’ as change occurs
- Jason Brogden (Jason Brogden Consulting) presented [UK Experience of Evaluating DSO Models](#). Key takeaways to inform California’s process are as follows:
 - Be clear on your drivers, objectives and desired outcomes
 - Future DSO state vision – a set of five possible outcomes conceived early in the UK process – was important to set direction, but you don’t need to wait for it



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- Identify quick wins early to build momentum for change
 - Mobilizing a project took time, but set a very clear framework for successful delivery – setting a clear scope and mechanism to deliver it
 - Central project resources were key to driving delivery
 - Adaptability is key – market dynamics, opportunities and technologies change and projects need to ensure they are adaptable to make the most of opportunities (*UK started out with T-D coordination, then DSO delivery, then facilitating flexibility markets*)
 - Invest in stakeholder engagement to make the most of opportunities for everyone or the risk is you are left with an academic/technical exercise no-one buys into.
 - Be open and transparent
- Gridworks [presented](#) a draft Process Proposal, suggesting a five-step process to complete the work of Track 2 through stakeholder engagement (Slides 17-27).
 - **Participant Feedback on Gridworks' Process Proposal:**
 - Use functional terms, rather than “utility” as a short-hand
 - Would be helpful to inform this process with modeling of a range of impacts of Distributed Energy Resources on the grid.
 - Gridworks suggests goals and targets should be set for 2030; they should also be set for an additional date beyond 2030 (e.g., 2035). The change may be non-linear; developing parallel paths to give options.
- Eight parties made presentations offering suggestions for improving Gridworks' Process Proposal or Alternative Process proposals. Those parties and their presentations are as follows:
 - Wild Tree Foundation and Partners: [Toward a High-DER Future A Community Stakeholder Engagement Focused Alternate Proposal](#)
 - Climate Center: [Recommendations for the Track 2 Process](#)
 - Center for Biological Diversity: [Proposed Process Amendments to Center Community Engagement and Achieve Environmental and Social Justice Goals](#)
 - [Southern California Edison](#)
 - Coalition of Utility Employees: [DSO Legal Framework](#)
 - Public Advocates Office: [Cal Advocates Comments on Track 2 Workshop](#)



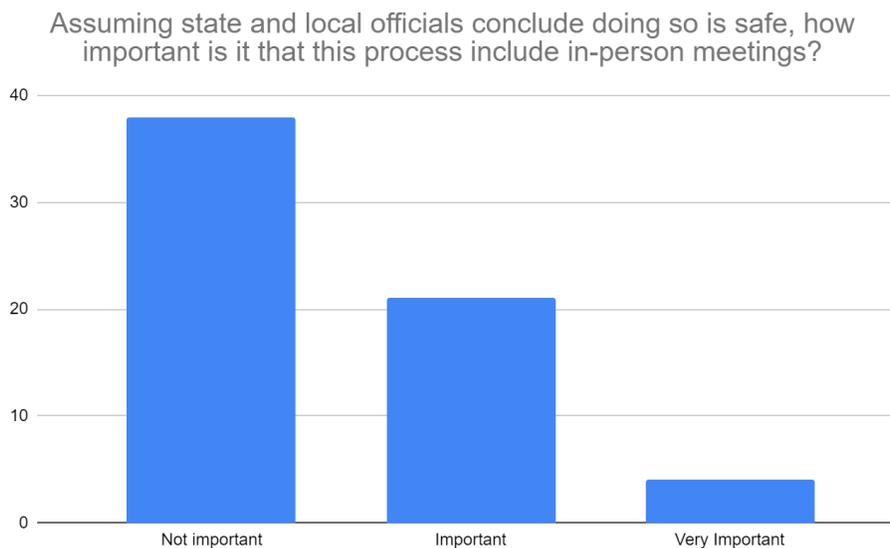
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- Synergistic Solutions: [Process for Evaluating Alternative DSO Models for California](#)
- [TeMix Presentation](#)
- **Key Recommendations made through Party Presentations include:**
 - A new Guiding Document should be created to “convey the urgency and importance of this effort” especially to high stakes communities.
 - New focus should be brought to the objective setting process, including community stakeholder engagement
 - California should innovate in developing a process that will address community and public needs. A community engagement plan with guiding principles should be developed and followed.
 - The process should begin with a Community Engagement Workshop.
 - Following a community engagement workshop, an alternative Four-Step Workshop Process should focus on defining societal objectives for a High DER future grid, barriers, required operations and functions, and roles and responsibilities. After these four workshops, parties should propose DSO models on the record (rather than through a consultant generated report)
 - More direct input to the record should be allowed in place of a consultant generated report.
 - Track 2 needs to hear the voices of people and communities, to recognize the important role of DER to meet local needs and priorities.
 - Facilitate “bottom-up” identification of the needs and benefits of DER to local communities, then evaluate alternative DSO models on their ability to deliver these local needs and benefits
 - Determine how to fund community participation in this process
 - Distribution system functions must be explicitly considered with respect to market functions.
 - The complexity of DSO roles and responsibilities must be appropriately considered, especially considering potential impacts to sustainability/affordability and reliability/resiliency.
 - Clear upfront criteria should be established for evaluating DSO models, including a quantitative benefit-cost analysis.



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- Proposed changes to roles and responsibilities of electrical corporations should be evaluated for consistency with Public Utilities Code Section 399.2. If proposals are inconsistent with the Code, proposed changes to the Code should be included with recommendations.
 - All solutions should be thought of as a journey rather than an endpoint. To enable implementation over what will likely be years, time should be allocated to consider what follows the final workshop.
 - Gridworks' proposed Workshop 1 should be split into two parts. First define objectives and determine requirements. Second, identify functions and consider activities/steps.
 - A "Strategy Table" offers an alternative tool for raising and answering key questions in sequence.
 - The CPUC's UNIDE Vision may offer an alternative to Distribution System Operator Models.
- Parties were asked "Assuming state and local officials conclude doing so is safe, how important is it that this process include in-person meetings." The results of the anonymous survey are as follows:





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- The workshop concluded with facilitated conversation. Much of the conversation reiterated stakeholder feedback summarized above. Incremental perspective provided through that discussion includes:
 - California has already accomplished a great deal in integrating distributed energy resources. Some participants clearly believe the status quo is broken. Others do not draw the same conclusion.
 - In order to achieve a new clean energy future, California needs to architect a new way of making decisions.
 - The path forward must be grounded in advancing equity.
 - Challenges to completing this work include:
 - Shortage of human resources
 - Bridging technical complexity and community engagement

- Next steps following the workshop include:
 - Summarize party input from the workshop as an addendum to the white paper and issue to stakeholders (Gridworks) – Complete through this document.
 - Determine final Track 2 stakeholder engagement process based on party input (Facilitator, Energy Division) – Under consideration
 - Create Supporting Documents and final plan for next workshops (e.g., June 8 and August 17) – Under consideration