

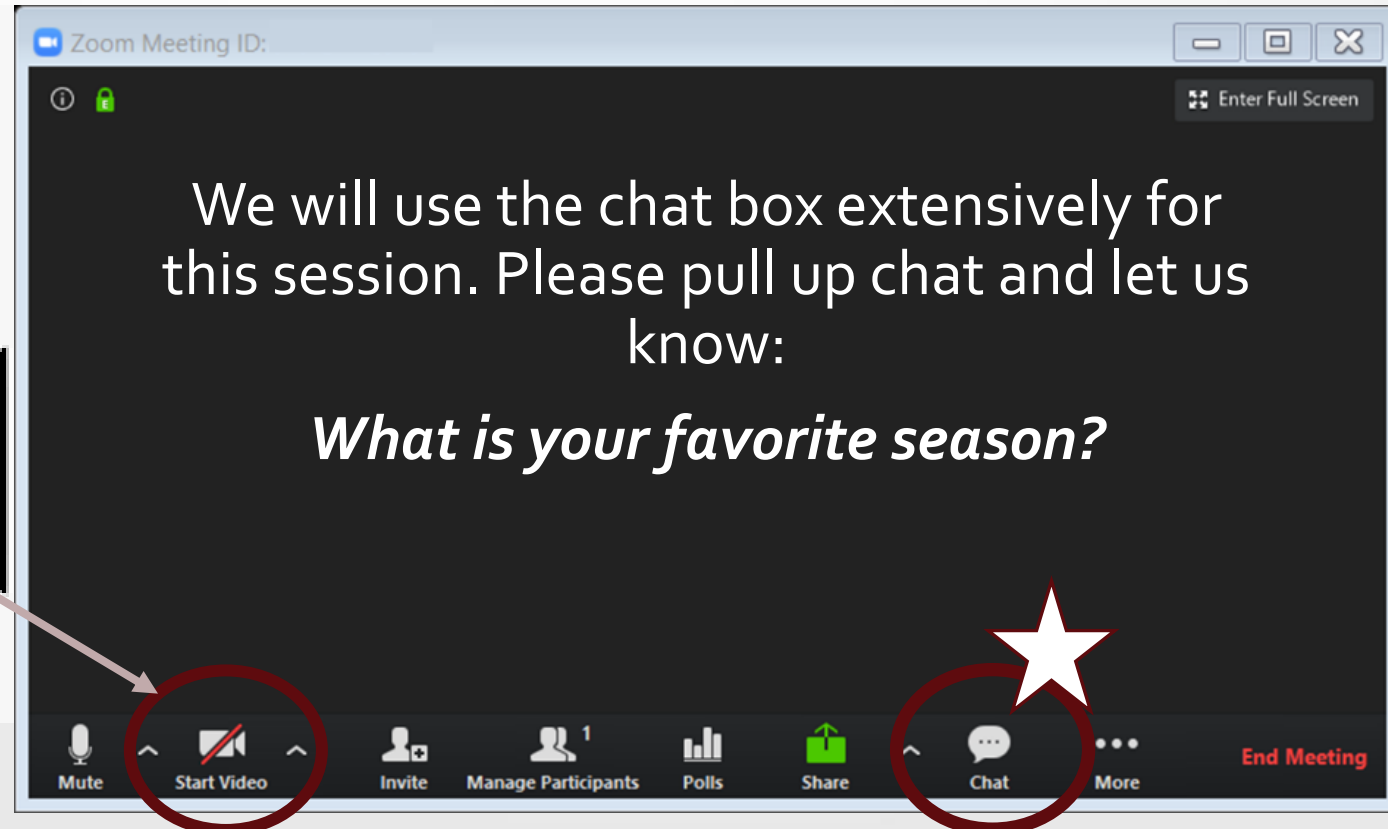
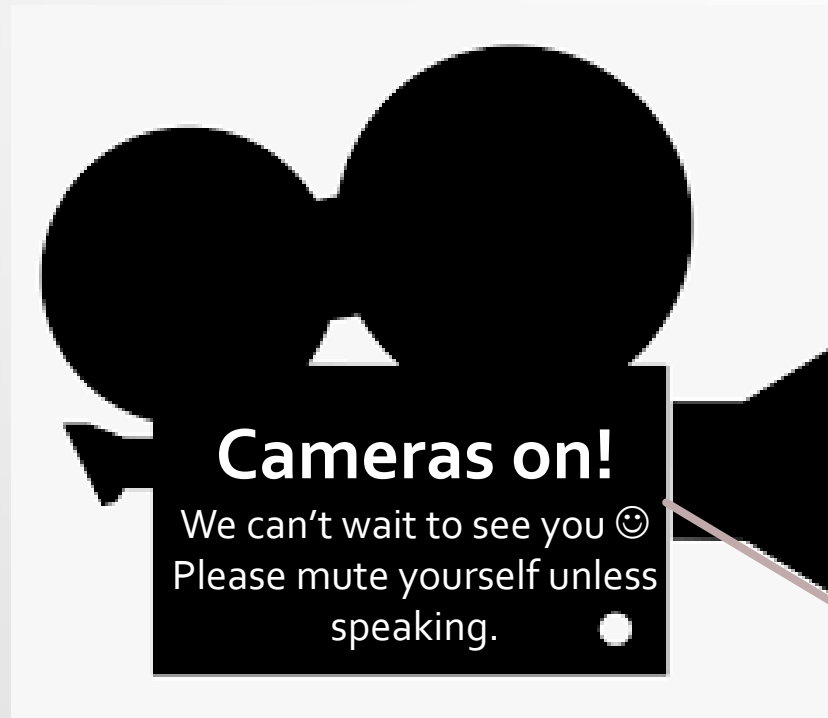


NATIONAL COUNCIL
ON ELECTRICITY POLICY

Annual Meeting 2021

Discussion

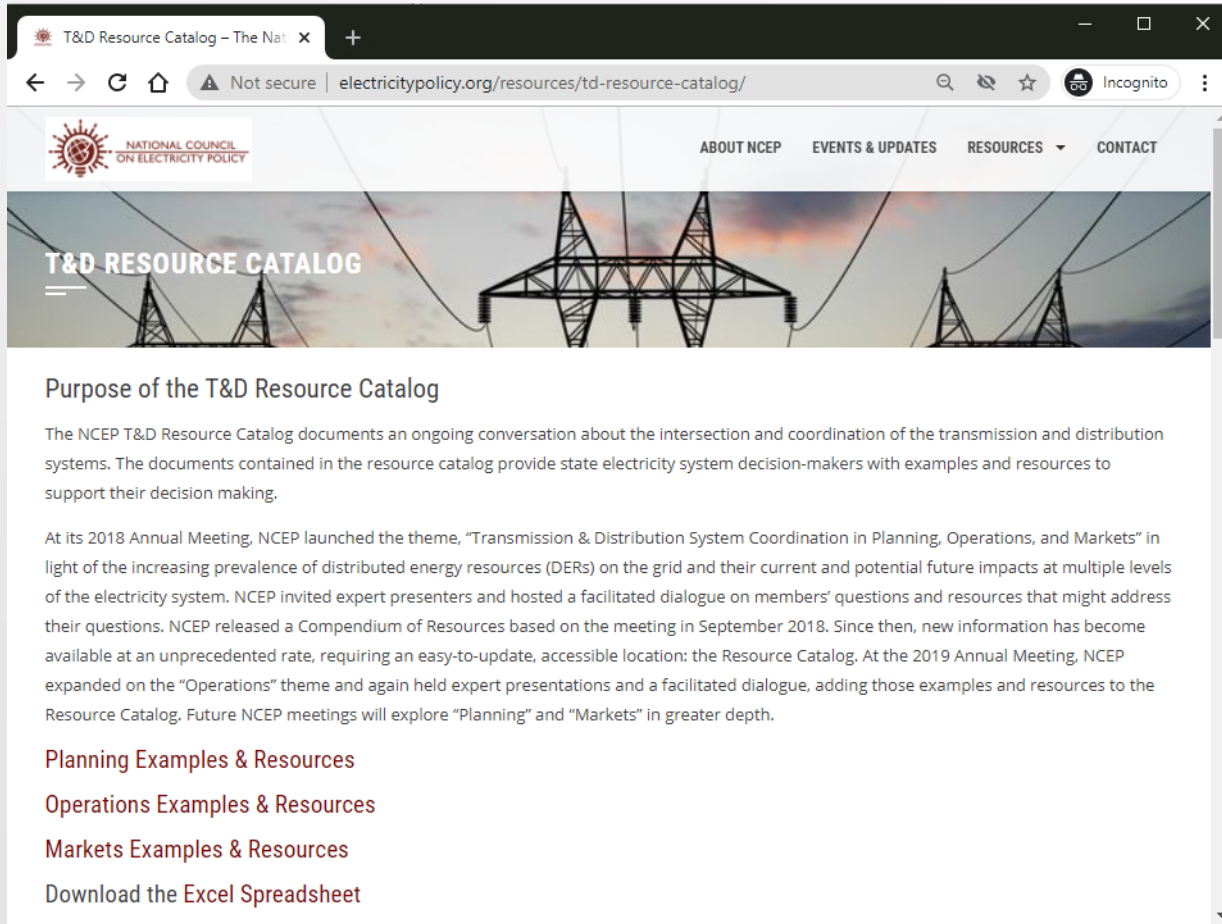
All Attendee Discussion / Contributions



End of Day Discussions: (Modified) Chatham House Rules

- Resources, examples, and questions will be integrated into the T&D Resource Catalog.
 - Cleaned notes will also be available in the Annual Meeting materials, posted online next week.
-
- This will be an active, participatory discussion. Please speak up, use chat, and engage with the panelists.
 - Please adhere to modified Chatham House rules for this session:
 - It is OK to share who was there and what was said, but not who said what.
 - **Virtual world:** Do not take screen shots of participants without their permission.

T&D Resource Catalog ➔ Discussion Questions



T&D
Planning,
Operations,
and
Markets
Resource
Catalog

Questions
For NCEP
Community

- **Resources**
Where can attendees find useful information to inform their decision making?
- **Examples**
What other projects, policies, or examples offer insights into these topics?

- What lingering questions do you have about this topic?
- What research is needed? “known unknowns”

Resources	Examples
<p>NARUC Public Utility Commission Stakeholder Engagement: A Decision-Making Framework, https://pubs.naruc.org/pub/7A519871-155D-0A36-3117-96A8DoECB5DA</p>	<p>Rhode Island Road to 100% Renewable Electricity: complete project materials available www.energy.ri.gov/100percent/</p>
<p>Interstate Renewable Energy Council model interconnection resources & guidelines: https://irecusa.org/our-work/connecting-to-the-grid/</p>	<p>RI System Data Portal – Heat Maps: https://ngrid.apps.nationalgrid.com/NGSysDataPortal/RI/index.html</p>
<p>SEPA - Beyond the Meter - https://sepapower.org/resource/beyond-meter-recommended-reading-modern-grid/ And DER Capabilities Guide - https://sepapower.org/resource/distributed-energy-resources-capabilities-guide/ Beyond the Meter series – volume I, volume II, and locational valuation challenge</p>	<p>North Carolina’s DEP/Energy Office led stakeholder process to develop the Clean Energy Plan, https://deq.nc.gov/energy-climate/climate-change/nc-climate-change-interagency-council/climate-change-clean-energy-16</p>
<p>Joint Utilities of NY – regulatory resources - https://jointutilitiesofny.org/regulatory-resources</p>	<p>MI Power Grid advanced planning workgroup filed “Integration of Resource, Distribution, and Transmission Planning Final Report” in May 2021; awaiting Commission action and next steps - https://www.michigan.gov/documents/mpsc/MI_Power_Grid_Advanced_Planning_Final_Report_726567_7.pdf</p>
<p>Local Governments, Sustainability, and Energy Efficiency policy goals - https://iclei.org/en/Home.html</p>	<p>Duke Energy ISOP - https://www.duke-energy.com/our-company/isop</p>
<p>DOE transmission symposium provided 5 documents, one on planning. here is the link: https://www.energy.gov/oe/transmission-innovation-symposium</p>	<p>Duke Energy (Carolinas) IRP and stakeholder process - https://www.duke-energy.com/our-company/about-us/irp-carolinas</p>
<p>New England Energy Vision Work - https://newenglandenergyvision.com/transmission-planning/</p>	
<p>NARUC-NASEO Task Force on Comprehensive Electricity Planning library: https://www.naruc.org/taskforce/comprehensive-electricity-planning-library/</p>	

Resources	Examples
Publication 2	Case study / project 2
https://acore.org/how-transmission-planning-and-cost-allocation-processes-are-inhibiting-wind-and-solar-development/ (MISO and SPP)	Puerto Rico stakeholder engagement effort with subject matter experts to plan for distributed resources and microgrids [need website] Integrated grid planning [need website]
NESP: National Standard Practice Manual (NSPM) for Benefit-cost Analysis of Distributed Energy Resources (DERs)	Minnesota investigatory proceeding about Xcel self scheduling coal: good example of non-adjudicated, Commission led process: https://www.utilitydive.com/news/xcel-minnesota-running-coal-seasonally-will-save-customers-millions-reduc/569971/
ENTSO-E in Europe. (it is the ENTSO Ten Year Development Plan) https://www.entsoe.eu/	GMLC (march 2021) All source procurement practices https://escholarship.org/content/qt6vs7k6w1/qt6vs7k6w1_noSplash_2db31a88fc3b6403ba585d08acc2caaa.pdf?t=qgffuj
Joule - The Value of Inter-Regional Coordination (Patrick R. Brown and Audun Botterud)	MISO Cost Allocation Task Force: https://www.misostates.org/index.php/meetings/other-meetings/83-meetings/other-meetings/358-cost-allocation-principles-committee-meeting-materials https://www.misostates.org/images/PositionStatements/OMS_Position_Statement_of_Principles_Cost_Allocation_for_LRTPs.pdf
DOE Releases Solar Futures Study Providing the Blueprint for a Zero-Carbon Grid: https://www.energy.gov/articles/doe-releases-solar-futures-study-providing-blueprint-zero-carbon-grid	Hawaiian Electric Company's integrated grid planning efforts: https://www.hawaiianelectric.com/clean-energy-hawaii/integrated-grid-planning
DOE Releases New Reports Highlighting Record Growth, Declining Costs of Wind Power: https://www.energy.gov/articles/doe-releases-new-reports-highlighting-record-growth-declining-costs-wind-power	Duke Energy's Integrated System & Operations Planning (ISOP) efforts and external engagement: https://www.duke-energy.com/our-company/isop
DOE Energy Storage Grand Challenge: https://www.energy.gov/energy-storage-grand-challenge/energy-storage-grand-challenge	Colorado is Poised to Boost DERs Through Distribution System Planning

Resources	Examples
Publication 3	Case study / project 3
DOE DSPx Modern Distribution Grid resources; volume IV issued June 2020: https://gridarchitecture.pnnl.gov/modern-grid-distribution-project.aspx	Offshore wind- influence on transmission planning process? PJM and NJ joint planning: https://www.nj.gov/bpu/newsroom/2021/approved/20210415.html ; Hawaii offshore wind potential study (cost of deployment): https://energy.hawaii.gov/nrel-study
De Martini & Taft on Resilience (microgrids leveraging) [forthcoming]	Pacific Energy Institute white papers and presentations. Some of the material goes into stakeholders, comprehensive planning, etc. https://pacificenergyinstitute.org/work/
RAND compendium on decision making under deep uncertainty from theory to practice (Steven Popper, RAND lead editor)	New York Climate Action Council, seeking to perform cross-cutting planning functions: https://climate.ny.gov/Climate-Action-Council
Center for New Energy Economy – building deliberate regional process	Resources from OMS: DER Overview and Work Plan Joint DER Priorities with MISO OMS DER Survey Results Protest of Voltus Complaint
Hawaiian Electric Company IGP chapter on sequencing decision making related to resilience	SPP Order 2222 Task Force:
Forthcoming resource: NARUC intervenor compensation state of the states report	FERC – office of public participation States: CO case study
Forthcoming Center for New Energy Economy: designing accounting systems for ghg	
RMI has series of PUC modernization briefs coming out on Purpose, People, and Process- https://rmi.org/insight/puc-modernization-issue-briefs/	

Resources	Examples
Publication 3	Case study / project 3
In addition to RMI series: IMT report on clean energy objectives on regulatory process; RAP building toolkit on regulatory innovation incl state legislator perspective	
EIA and international community have lots of experience on ghg accounting. Maybe start with the Carbon Funds at the World Bank, which has been working on GHG accounting for 20 years.	

Questions (Day 1)

What do we still need to know? Why aren't things done differently? How could X, Y, Z be accomplished?

How do we address 'comprehensive' planning across multiple utilities in a state?

What is 'comprehensive' planning in the context of municipalities/coops relative to states/IOUs?

I wonder whether the speakers or those involved in the Task Force on Comprehensive Electricity Planning cohorts included SIPs (state implementation plans for air quality) in the areas being considered in resource planning / comprehensive planning?

To what extent have speakers/cohorts considered tools like EJ SCREEN in comprehensive planning efforts?

Since we have to integrate many considerations (e.g., moving power from remote renewable resources to load centers, electrification, resilience, & utilization of DERs across T&D), would it make sense to consider regional planning (across states) coupled with distribution system planning? (IRP planning and trans planning are still too fragmented and do not consider factors holistically.)

Is there a source of consultants by subject matter that a commission could reference before sending out before an IRP?

What opportunities are there to get more precise in valuing 'value of lost load'?

How are cost allocation policies evolving across states and what are some of the guiding principles associated with that evolution?

How do we grow stakeholder competence (and technical resource access) in standard distribution planning and operation practices so that they can play a more meaningful role, moving beyond "engagement" to participation in risk assessment, prioritization, and mitigation (spending) decision-making?

Questions (Day 2)

What do we still need to know? Why aren't things done differently? How could X, Y, Z be accomplished?

Where can additional iterative communications options between distribution utilities and RTOs be incorporated into planning processes?

Could / how can state guidelines on benefit-cost analyses benefit improving the alignment of planning processes?

What human communication channels and data-information flows do / should RTOs have in place to understand the policy objectives and DER forecasts of the states & utilities where they're operating?

How can we collectively and specifically work to break down / manage / bridge regulatory silos. These encompass utility regulation and also environmental, transportation, energy justice, land use).

How do we factor future changes to land use (e.g., where people will be living due to sea level rise and migration) into long-term planning?

How will we incorporate weather event and climate uncertainty and bridge data gaps in long-term planning? What are best practices for incorporating and planning for uncertainty overall?

How can coordination between State and Federal levels on planning develop ways to increase efficient resource use and strike an optimal mix of bulk and distributed resources?

How can we incorporate Michael Milligan's "energy first" approach to planning without making planning discussions intractable?

What type of utility incentives around shared savings have worked or seem to be on the right track?

How can IGP benefit from state efforts to standardize benefit-cost methodologies, consistent with state policies, to support the quantification/monetization of DER and help evaluate the cost-effectiveness of alternative scenarios examined in planning processes?

Questions (Day 3)

What do we still need to know? Why aren't things done differently? How could X, Y, Z be accomplished?

How can we ensure (support?) Commissions (and Consumer Advocates and State Energy Offices) are sufficiently resourced to address comprehensive electricity planning? (whether its to lead, participate in, or respond)

As state commissions add more to their plates, what could commissions do less of? How might rate cases be reimagined to make room for comprehensive planning and other important activities?

Key Qs from Paul DiMartini:

What are the DER services anticipated over the next 10+ years at each tier of the power system?

What operating mechanisms are appropriate given the operational requirements (e.g., timing) for each service?

What operational coordination conflicts arise when "stacking" services from the same resource or aggregated resources (e.g., pricing vs direct control vs autonomous vs independent)?

What level of regulatory coordination & oversight is needed to ensure safe, effective operation across edge to bulk power system?

How do we advance grid codes for the distribution system (akin to market participation agreements with RTOs)?

What are the barriers to using new, more granular and holistic modelling tools in planning by utilities and regulators?

What questions should utility commissions ask utilities about their modeling assumptions, inputs, planning tools, etc.?

Should it be considered why a particular factor may be "qualitative," as for example, lack of existing data; complexity in quantifying, etc. -- reasons that may change overtime so need to also determine how we can evolve from "qualitative treatment" to greater quantification overtime?

Questions (Day 3)

What do we still need to know? Why aren't things done differently? How could X, Y, Z be accomplished?

Need to address the difference between existing reporting requirements regarding the inventorying and reporting of GHG Emissions and the need for new reporting requirements to capture B/C analyses relating to utility programs that are influencing and shaping reductions by customers/third parties participating in the programs. Such data could be important in planning.

Research need: A more rigorous approach to translating service interruptions of various extents and durations into community and geography-wide economic costs. The DOE's Interruption Cost Estimator tool is the best we have, but it seems (to some of us) to have shortcomings sufficient to make it inappropriate for use in making billion-dollar grid investment decisions. When there are so many priorities (DER, EV, RPS, etc.), we don't want to spend more than warranted in pursuit of any one goal. (The law of diminishing returns applies to reliability & resilience, as Commissioner Ackerman mentioned.)

What are the elements of the decision tree Paul mentioned? What will it take to flesh out such trees?

I'd be interested in a resource cataloging the different decision-making frameworks commissions have used recently - related to Jeff's framework shared.