



Development of the Next MTEP Futures

MTEP Futures Workshop

September 26, 2019

Agenda



The MTEP Futures Workshop will begin at 12:30 ET

Due to the RECB meeting ending at 12:00 ET, lunch is now being served in Carmel.

MTEP Futures Workshop #2

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|----------------------------|------------------|
| 1. Lunch | 12:00 – 12:30 ET |
| 2. Welcome & Introductions | 12:30 – 12:45 ET |
| 3. Discussion topics | 12:45 – 3:45 ET |
| 4. Review next steps | 3:45 – 4:00 ET |
| 5. Adjourn | 4:00 ET |

Purpose / Objective

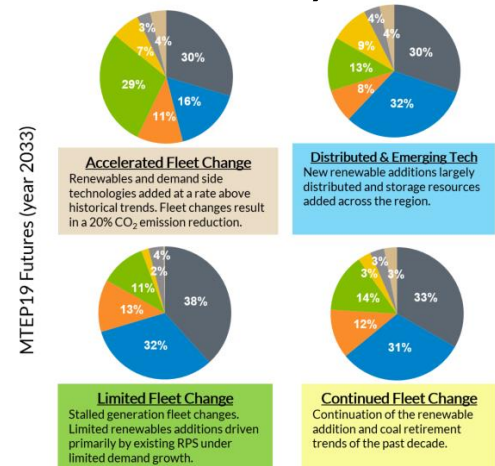
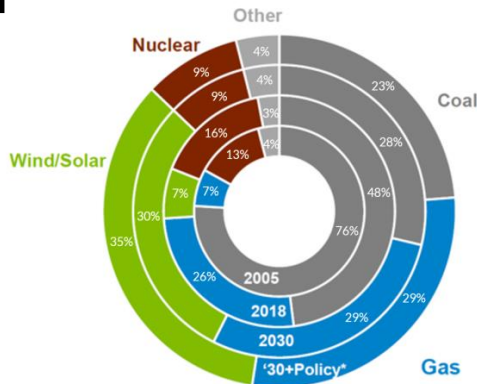
- Listen & gain insights from today's discussions to inform the development of an initial strawman proposal
- Engage everyone in open discussions on futures topics
- Transitioning from Futures education to process improvements / retooling

Recap of August Workshop

- 1st MTEP Futures Workshop held on August 15
 - Focused on futures education and current practices
 - Reviewed data indicating industry projections are already outpacing the MTEP

- Link to materials:

<https://www.misoenergy.org/events/mtep-futures-workshop---august-15-2019/>



Stakeholder Feedback

- Stakeholder feedback was requested during the August MTEP Futures Workshop on desired global changes / improvements with respect to futures development, resource forecasting, and associated siting.
 - Received feedback from 8 entities: 5 sectors & 3 companies
 - Feedback posted with today's meeting materials – [LINK](https://cdn.misoenergy.org/20191016%20PAC%20Stakeholder%20Comments%20on%20MTEP%20Futures%20Workshop385433.zip)
<https://cdn.misoenergy.org/20191016%20PAC%20Stakeholder%20Comments%20on%20MTEP%20Futures%20Workshop385433.zip>
 - Also can be viewed from MISO's online feedback tool – [LINK](https://www.misoenergy.org/stakeholder-engagement/stakeholder-feedback/)
<https://www.misoenergy.org/stakeholder-engagement/stakeholder-feedback/>

Goals of MTEP Process Retooling

- Continue to utilize Futures to bookend uncertainty across multiple planning cycles while building in flexibility and ensuring availability
- Ensure futures/siting processes produce meaningful & representative outcomes
- Incorporate members' IRPs/commitments & state policies/preferences more directly
- Incorporate MISO's need for availability, flexibility, & visibility (3Ds)
- Focus on parts of the process that provide more value
- Align to OMS' principles on Long-Range Transmission Planning

Stakeholder Discussion & Clarifying Questions

Energy & Capacity Planning

- From a capacity perspective, the futures process has ensured the regional planning reserve margin (PRM) is met
 - Should MISO consider a dynamic PRM through the study period?
- As the grid transitions, how should MISO ensure that enough energy is available for any given hour?
 - Should MISO look into a unserved energy constraint?
- What items can be utilized from other MISO initiatives?
 - RIIA
 - RAND
 - MISO Forward – Demarginalization, Decentralization, & Digitalization

Goals/Commitments/Public Policies

- Stakeholders have suggested creating and using a survey to provide information from various resource planning processes, goals, and legislative directives
 - Include company goals/positions/commitments
 - Planned additions, retirements, carbon reduction, etc.
- Who should this survey go to?
 - States?
 - Member companies (i.e. LSEs, TOs, etc.)?
 - Both?
- What other things should MISO consider on this topic?

External Area Representations

- Which, if any, external neighboring areas should MISO analyze as part of the futures, resource forecasting, and siting processes?
 - Currently we study PJM, SPP, 'SERC', TVA, & NYISO
- Should MISO continue applying its futures assumptions to external areas? Or should MISO utilize the external area's own resource expansion/modeling?
- If MISO were to use external neighboring areas generation expansion forecasts, what should be assumed if the provided expansion doesn't go to the end of the MISO study period?
- What should be assumed for external neighboring areas that may not have their own futures/resource forecasting processes or the model is otherwise unavailable?
- What about CEI/NDAs? May be required to use external neighboring areas models.

Granularity of Study

- Should MISO be split into sub-sections for EGEAS runs?
 - e.g. North/South, LRZs, or States
 - How would you reconcile with the regional PRM?
- Should MISO incorporate different input assumptions in the EGEAS model based upon each MISO area?
 - While many assumptions and inputs can be the same across the MISO footprint (inflation rates, etc.), other assumptions could capture and reflect area-specific circumstances. Which ones?

Potential New Utility-Scale Resources

- Should MISO create new resource types in EGEAS for hybrid resources?
 - Which types of hybrid resources?
 - What cost information should be used?
 - How should these be modeled?
- Should multiple storage resources be created?
 - Currently, MISO only models a 4 hr Li battery

Potential New Distributed Resources

- Should MISO add distributed solar as a new EGEAS resource?
 - Currently no distributed solar is offered and 1/3 or 2/3 of the utility-scale solar is assumed to be distributed?
- What other distributed resources should be offered?
 - Storage?
 - Wind?
 - Combined Heat and Power (CHP)?
 - Reciprocating Engines?
 - Waste to Energy?
 - Microturbine?
 - Fuel cells?

Siting of new RRF Units

- Should each future use the same sites for new forecasted resources?
 - Currently, sites are varied across futures to hedge against picking the wrong site location
- Should the futures use the same sites from one MTEP study to the next MTEP study (e.g. MTEP21 & MTEP22)?
- Should greater deference be placed on the GI Queue?
 - How should this be done?
- Should MISO consider developing additional zones (like the RGOS wind zones) in siting new solar and wind?

Interconnection facilities for new RRFs

- Some suggest including interconnection facilities / or the costs associated with them while others disagree
 - If this was done, how would it be done?
 - Does this go beyond including network upgrades for signed GIAs & potentially any DPP generation that is sited? (i.e. new RRFs?)
 - Would this prevent the identification of a better and more valuable project
- Any other things MISO should consider on this topic as we go back and draft the initial strawman

Stakeholder Reviews

- What kinds and how many stakeholder reviews should be baked into the Futures process?
 - Future development workshops
 - Siting workshops
- Any other considerations MISO should consider as we draft the Strawman Proposal?

Next Steps



- Oct 2 – OMS Long Range Transmission Planning Workshop
<https://www.misoenergy.org/events/oms-long-range-transmission-planning-workshop---october-2-2019/>
- Oct 17 – 3rd Futures Workshop
Present initial strawman proposal to help facilitate further discussions on Futures
<https://www.misoenergy.org/events/mtep-futures-workshop---october-17-2019/>
- Nov 14 – 4th Futures Workshop
<https://www.misoenergy.org/events/mtep-futures-workshop---november-14-2019/>



Questions?

Contact Information



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