



Futures Redesign Project Status & Schedule

Sensitivities Discussion

Futures 1-4 Preliminary LRZ-Level Siting

October 29, 2025

Updated on October 27, 2025

Slide 2, workshop dates

Purpose & Key Takeaways



Purpose

Provide an update on Series 2 Futures Redesign process; discuss potential sensitivities

Key Takeaways

- MISO appreciates the feedback received to date and will be incorporating several changes into upcoming runs as well as updating key graphics for better clarity
- MISO is looking for your input on the long-term load forecast by November 7
- Today we will review the initial stakeholder suggested sensitivities and open the floor for discussion and additional suggestions.
 - MISO's goal will be to use a subset of these suggestions to validate and adjust the Futures bookends as needed for use in resource and transmission planning
- Futures 1-4 preliminary siting was defined considering previous informal feedback, system characteristics, member plans, and state goals; formal feedback will be requested.
- Stakeholder workshops continue: November 18, December 17, January 29, and February 26

MISO has reviewed the Futures Redesign assumptions, framework, and an initial capacity expansion sensitivity at previous workshops, while also sharing timeline pivots due to policy changes

- Reviewed & Incorporated member planned units into the base generator model (February & March)
- Reviewed generation cost, lead-time, energy efficiency, and DER/DSM assumptions (March)
- Reviewed Energy and Resource Adequacy Assumptions (March)
- Reviewed Future 4, Supply Constraint Scenario Assumptions and Model Inputs (April)
- Reviewed siting assumptions and incorporated planned member sites (May)
- Reviewed now-rescinded IRA tax credit capacity expansion sensitivity (July)
- Reviewed preliminary expansions and legislative impacts to buildout (September)

Series 2 limits all-in costs to members while meeting member goals and serving system needs



Series 2 Key Takeaways

- Load has increased significantly over the previous Series 1A, continuing to drive robust generation requirements
- Member utility and member state goals continue to be primary drivers (i.e., decarbonization and RPS)
- Members have made significant investments in gas and renewables since Series 1A
- Gas represents a much higher percentage of the overall buildout in Series 2 compared with Series 1A, inclusive of member-planned resources
- Planned resources have been sited in alignment with member plans and build upon Series 1A

MISO will improve results documentation and adjust upcoming analyses based on stakeholder input

- Detailed results will be captured in siting workbooks to assist with resource and transmission planning at the conclusion of the Futures process (Q1 2026)
- MISO will incorporate the following updates in upcoming analysis and presentation materials:
 - Removal of Louisiana Decarb and Renewable goals
 - Inclusion of nuclear power in goal attainment in NOLA, Indiana and Michigan
 - Graphing updates
 - Retirement data by resource type
 - 'Other' category broken out by generation and DER/DSM
- MISO is exploring adding ramp rates, minimum run times, and shutdown costs for thermal resources into the model, likely as a sensitivity, to understand any impacts to storage selection

The deadline submission for the Long-Term Load Forecast has been extended to November 7

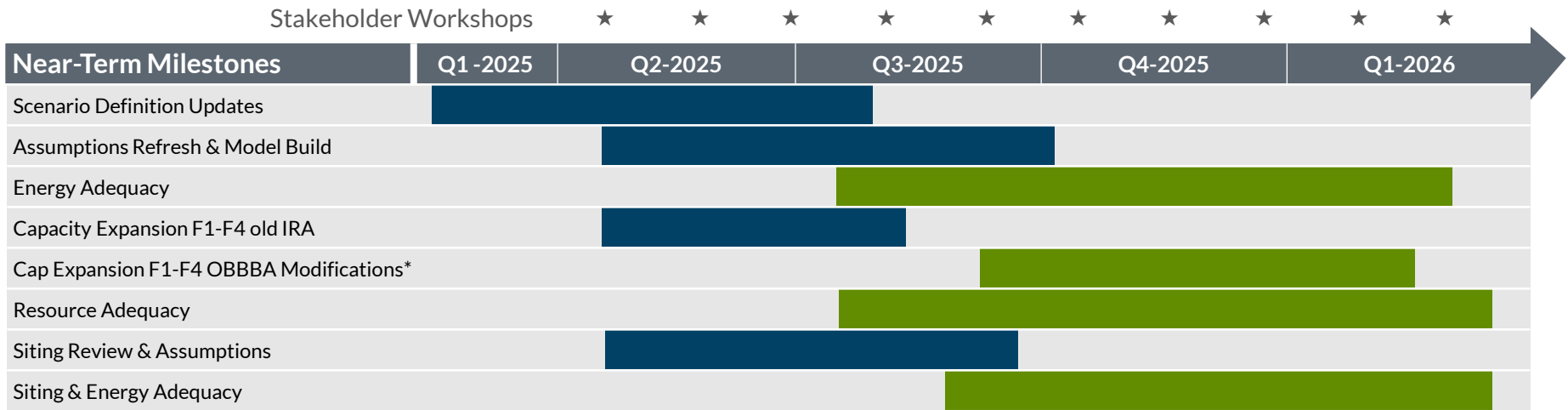
Stakeholder input is essential, as survey responses directly inform the load-siting process for LRTP models as well as the load forecast update

To date MISO has received 4 submissions—thank you to those who have participated!

For questions, contact
StrategicInsights@misoenergy.org



With the finalized scenario definition updates, and assumptions review complete MISO is focusing on model build modifications and adequacy reviews



■ Complete ■ In Process ■ Not Started

*Status as of October 2025. A full list of project milestones is included in the appendix.

MISO will post multiple references and resources for the Futures redesign process and continue to update each as needed

[Long Term Load Forecast
Whitepaper, Data, and
Feedback](#)
(Posted 05/16/2025)

[Series 1A Futures Materials](#)
(Posted 2023)

[Series 2 Futures
Redesign FAQ](#)
(Posted 05/16/2025)



[Futures Redesign Workshop Materials \(misoenergy.org\)](https://misoenergy.org)

These are living documents; updated versions may be expected in the future.

Sensitivity Discussion

MISO will conduct sensitivities to validate the Futures bookends are sufficiently broad and to determine if any adjustments are needed



- The goal of Futures is not to define a single future, but to capture a broad range of possibilities
 - Sensitivities can validate scenarios chosen for studies and capture key risks
- MISO is considering potential sensitivities for study after completing Futures 1-4
 - These sensitivities should change key model assumptions that determine capacity expansion results
- A subset of sensitivities for further analysis will be identified and shared at an upcoming workshop

Sensitivity Discussion

*MISO wants to hear
from you!*



PREVIOUSLY SUGGESTED SENSITIVITIES

- We'll take 3-5 minutes to discuss each
- Please share your reasoning for the sensitivity to be included

NEW SENSITIVITY IDEAS

- MISO is also looking for other sensitivities that will provide useful insights on the bookends
- If you have a new sensitivity to add to the list, please be prepared to share how it will be helpful

Stakeholder-Requested Potential Sensitivities

- Federal Tariff impacts on energy components and pricing
- Hyperscaler load (increasing Dec. 2024 load forecast)
- Varied load adjustments
- Decreased relative price of small modular reactors
- Reduction in member decarbonization goals
- Supply frictions applied to all Future scenarios
- ✓ Renewable tax credit implementation without constrained build rates
- Renewable tax credit implementation with constrained build rates
- Higher natural gas prices
- Storage impacts from thermal ramp rates and start-up/shutdown costs
- Decreased price of long-duration storage
- **Other ideas from today's discussion**

Questions?

Appendix

The Series 2 Futures redesign will use the Stakeholder Feedback Tool and team email for stakeholder communications



The Series 2 Futures Purpose

Future Scenario Definitions

	Lower Load Growth	Stated Policy	Higher Load Growth	Supply Shift
	FUTURE 1	FUTURE 2	FUTURE 3	FUTURE 4
	<i>Series 2 (New) Purpose</i>	<i>Series 2 (New) Purpose</i>	<i>Series 2 (New) Purpose</i>	<i>Series 2 (New) Purpose</i>
Footprint Development	<p>Low-end demand growth bookend. Change in key macroeconomic drivers reduces the trajectory of load growth from anticipated values, leading to a decreased requirement for new supply.</p>	<p>Current projections of load growth are applied to define the forward-looking system needs, reflecting reindustrialization, data center growth, electrification and other key factors. Generation investment, based on current member policy plans and goals, increases to match based on economics and incentives.</p>	<p>High-end demand growth bookend. Changes in key macroeconomic drivers increase the trajectory of load growth from anticipated values, leading to an increased need for new supply.</p>	<p>Supply frictions limit the pace of generation additions and load growth must be managed with existing generation and demand-side resources. These frictions are due to a range of potential drivers including supply chain constraints, construction delays, labor shortages, interconnection delays, the policy environment, and changes in economics. Input will be sought on the appropriate generation and demand-side levers to ensure sufficient supply is available to meet capacity and energy needs.</p>
Emissions				
Load Growth				
Generation Retirements				

Series 2 Futures 1-3 are proposed to largely follow Series 1/1A assumptions; new Future 4 largely mirrors Future 2 assumptions while testing impacts of generation supply changes

Future Scenario Definitions

	Lower Load Growth		Stated Policy		Higher Load Growth		Supply Shift
	FUTURE 1		FUTURE 2		FUTURE 3		FUTURE 4
	Series 1 & 1A	Series 2 (New)	Series 1 & 1A	Series 2 (New)	Series 1 & 1A	Series 2 (New)	Series 2 (New)
Footprint Development	In line with 100% of utility IRPs and state legislation; and 85% of utility/state announcements	No Change	Companies/states meet their goals, policies and announcements	No Change	Companies/states meet their goals, policies and announcements	No Change	In line with supply frictions: limits build rate and causes tension with timelines of member plans and goals
Emissions	Minimum 40% reduction from 2005 levels	No Change	Minimum 60% reduction from 2005 levels	No Change	Minimum 80% reduction from 2005 levels	No Change	Minimum 60% reduction from 2005 levels, unless supply friction build rate violated
Load Growth	Consistent with current trends (0.35% CAGR)	Consistent with low-end projections (1.1% CAGR)	30% energy increase (0.8% CAGR)	Consistent with anticipated values (1.6% CAGR)	50% energy increase (1.1% CAGR)	Consistent with high-end projections (2.1% CAGR)	Consistent with anticipated values (1.6% CAGR) – additional Demand Response if needed
Generation Retirements	Age-based and member planned generation retirements	No Change	Accelerated age-based and member planned generation retirements	No Change	Advanced age-based and member planned generation retirements	No Change	No age-based generation retirements – delayed retirements if needed

MISO creates each Future scenario based on the definition and further refines the scenarios with the data assumptions; updates with OBBBA now included

Future Scenario Definitions

Footprint Development <ul style="list-style-type: none">• Integrated Resource Plans• Discounted Announcements	Emissions <ul style="list-style-type: none">• Footprint-wide Decarbonization Floor
Load Growth <ul style="list-style-type: none">• Demand and Energy growth by Future	Generation Retirements <ul style="list-style-type: none">• Planned Retirements• Age-Based Generation Retirements (if no date provided)

Future Data Assumptions

Planning Reserve Margin	OBBBA modified Inflation Reduction Act* and CEJA Incentives
Resource Type & Cost Modeling	Resource Accreditation
Existing and Planned Resources	DERs/DSM Application
Resource Siting	



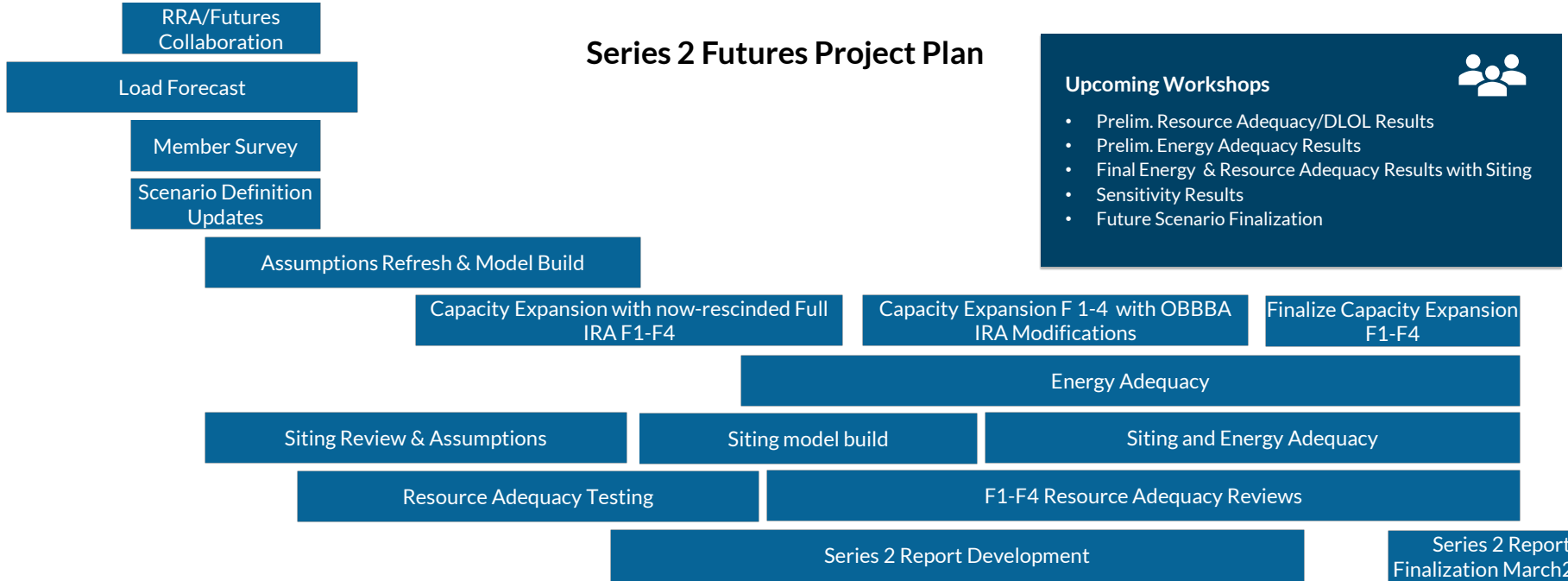
Series 2 Futures Project Plan and Workshop Schedule

Tentative Workshops:

★ 2/28 ★ 3/19 ★ 4/14 ★ 5/15 ★ 6/26 ★ 7/25 ★ 8/29 ★ 9/24 ★ 10/29 ★ 11/18 ★ 12/17 ★ 1/29 ★ 2/26

DEC '24	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN '26	FEB
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Series 2 Futures Project Plan



Upcoming Workshops

- Prelim. Resource Adequacy/DLOL Results
- Prelim. Energy Adequacy Results
- Final Energy & Resource Adequacy Results with Siting
- Sensitivity Results
- Future Scenario Finalization