



2018 OMS MISO Survey Results

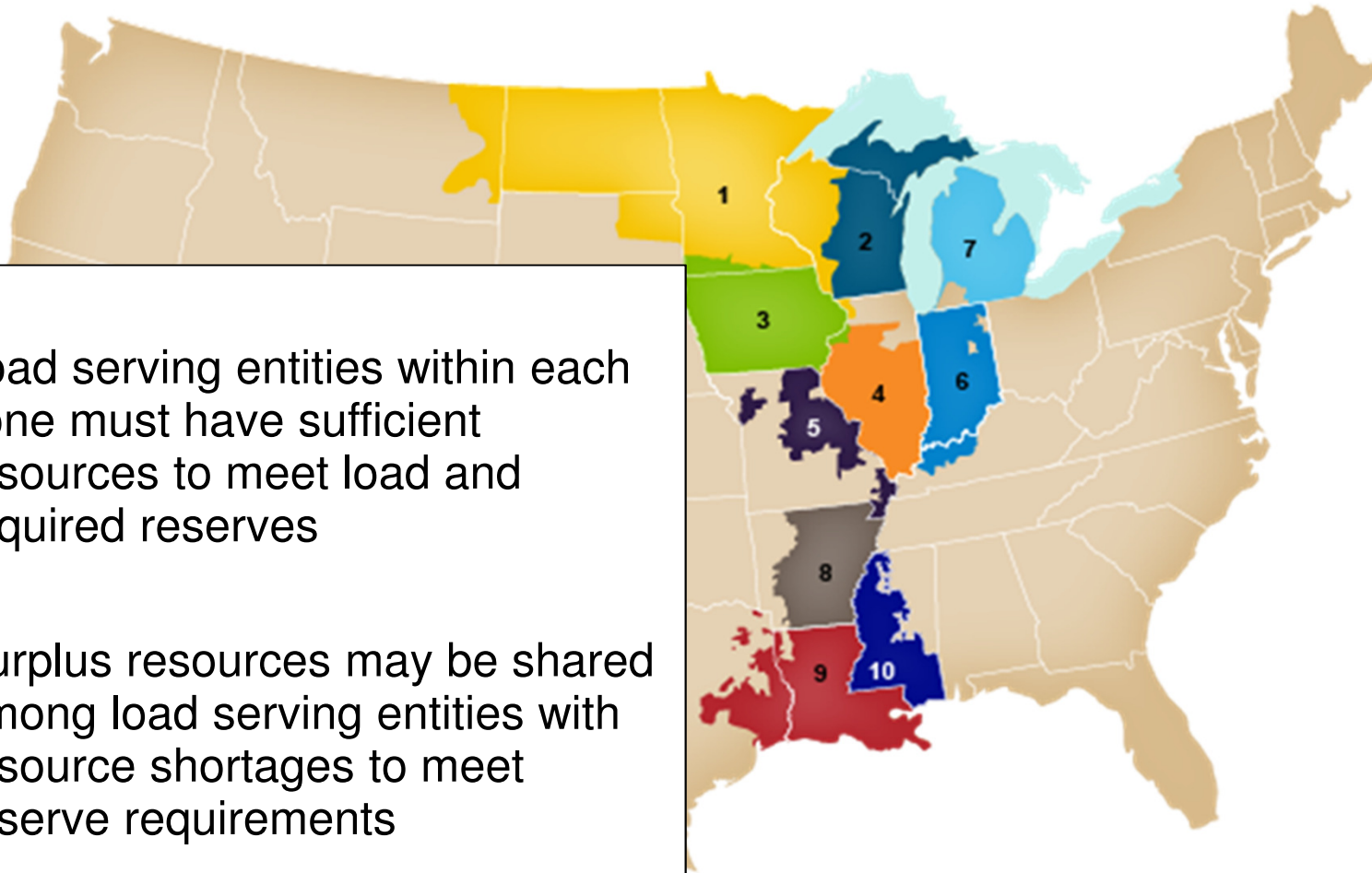
Furthering our joint commitment to regional resource assessment and transparency in the MISO region, OMS and MISO are pleased to announce the results of the 2018 OMS MISO Survey

June 2018

MISO Region is projected to have adequate resources to meet its Planning Reserve Requirement for 2019; continued action will be needed to ensure sufficient resources are available going forward

- The region is projected to have 0.6 GW to 6.6 GW resources in excess of the regional requirement, based on responses from over 97% of MISO load
- Beyond 2019, decrease in resource commitments could lead to more risk to resource adequacy than previously projected
 - Lower resource commitments are mainly focused in Zones 4 and 7
 - Fewer resource commitments lead to higher likelihood of using emergency resources
- Demand forecast continues to decrease similar to previous projections
 - 2019 summer peak forecasts decreased 1.5 GWs from 2017 projections
 - Regional 5 year growth rate is 0.3%, down from 0.5% last year

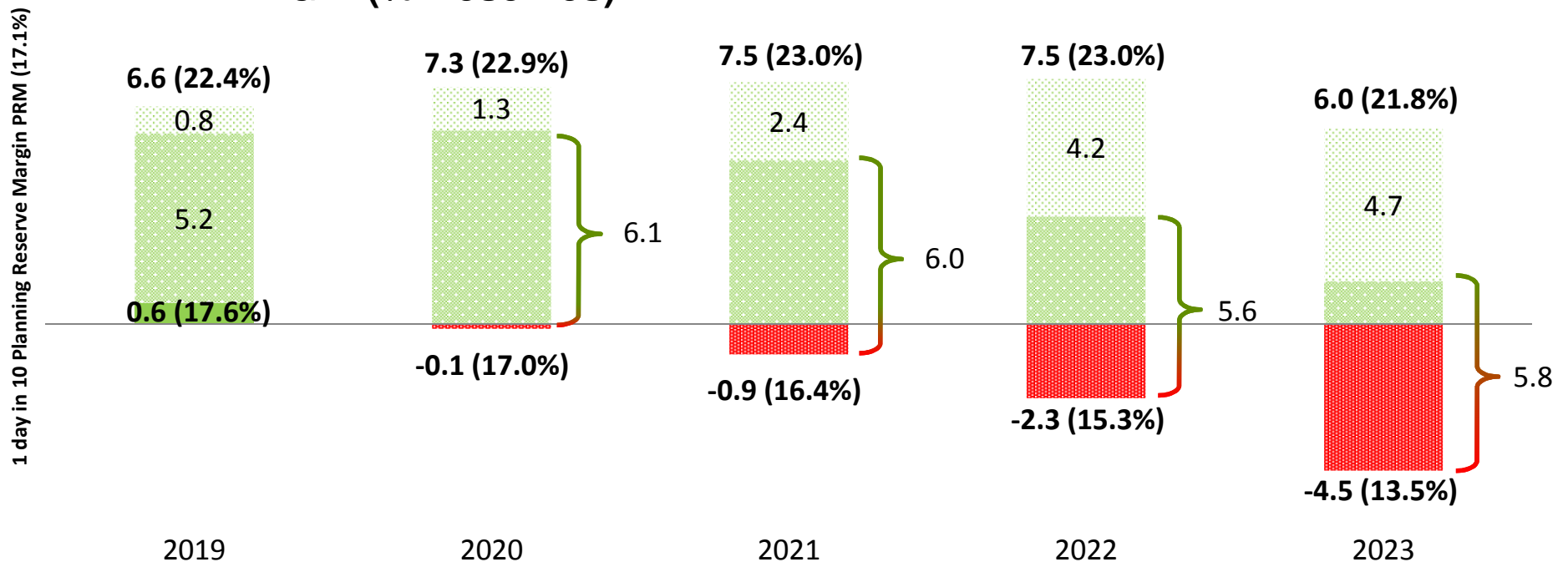
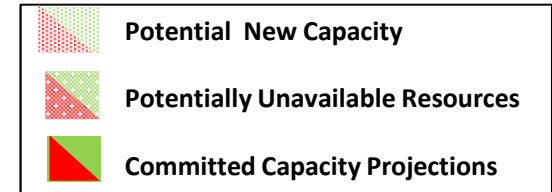
Understanding Resource Adequacy Requirements



- Load serving entities within each zone must have sufficient resources to meet load and required reserves
- Surplus resources may be shared among load serving entities with resource shortages to meet reserve requirements

Existing resources, potential retirements, and new resources create a range of resource balances

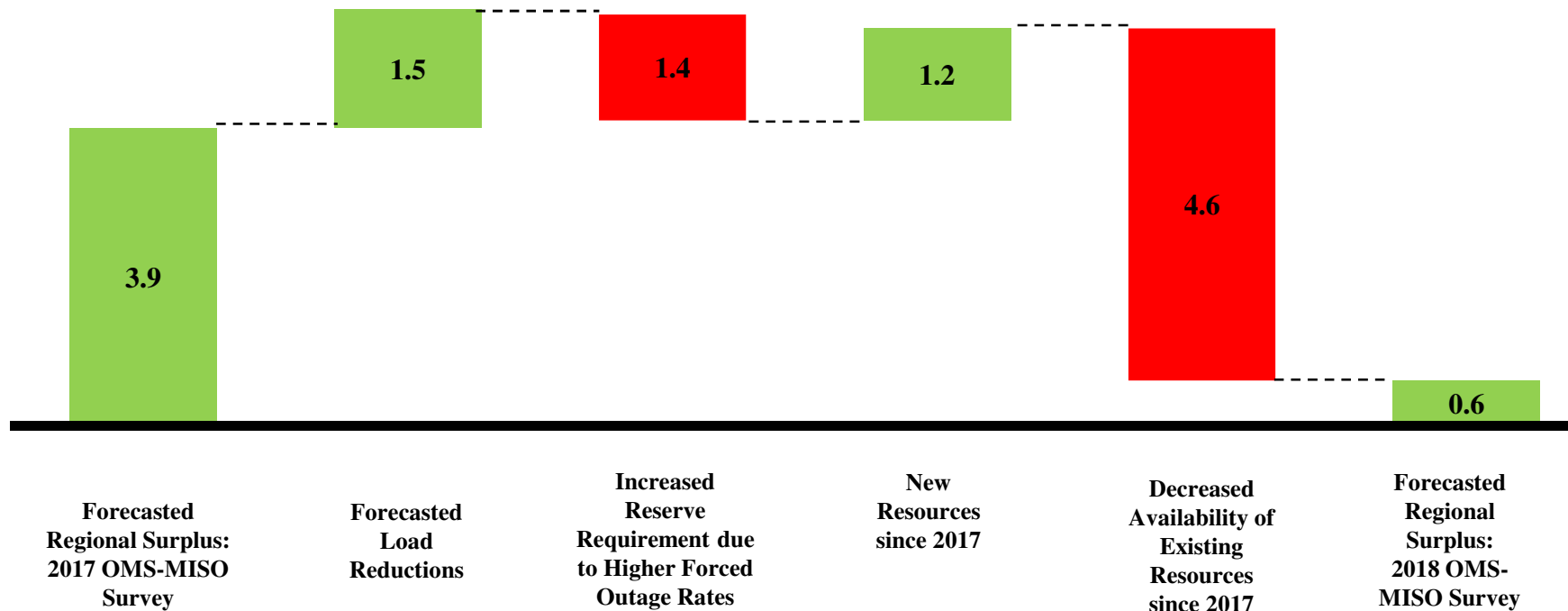
Projected Regional Capacity Position in Installed Capacity (ICAP) GW (% Reserves)



- Regional outlook includes projected constraints on capacity, including the Sub-regional Power Balance Constraint
- These figures will change as future capacity plans are solidified by load serving entities, state commissions, and local regulators
- **Potential New Capacity** represents the capacity in the DPP study of the MISO Generator Interconnection Queue at their expected capacity credit and projected queue certainty factors (see slide 12), as of May 1, 2018
- **Potentially Unavailable Resources** includes potential retirements and capacity which may be constrained by future firm sales across the Sub-regional Power Balance Constraint

Regional capacity balances decreased largely due to decreased availability of resources

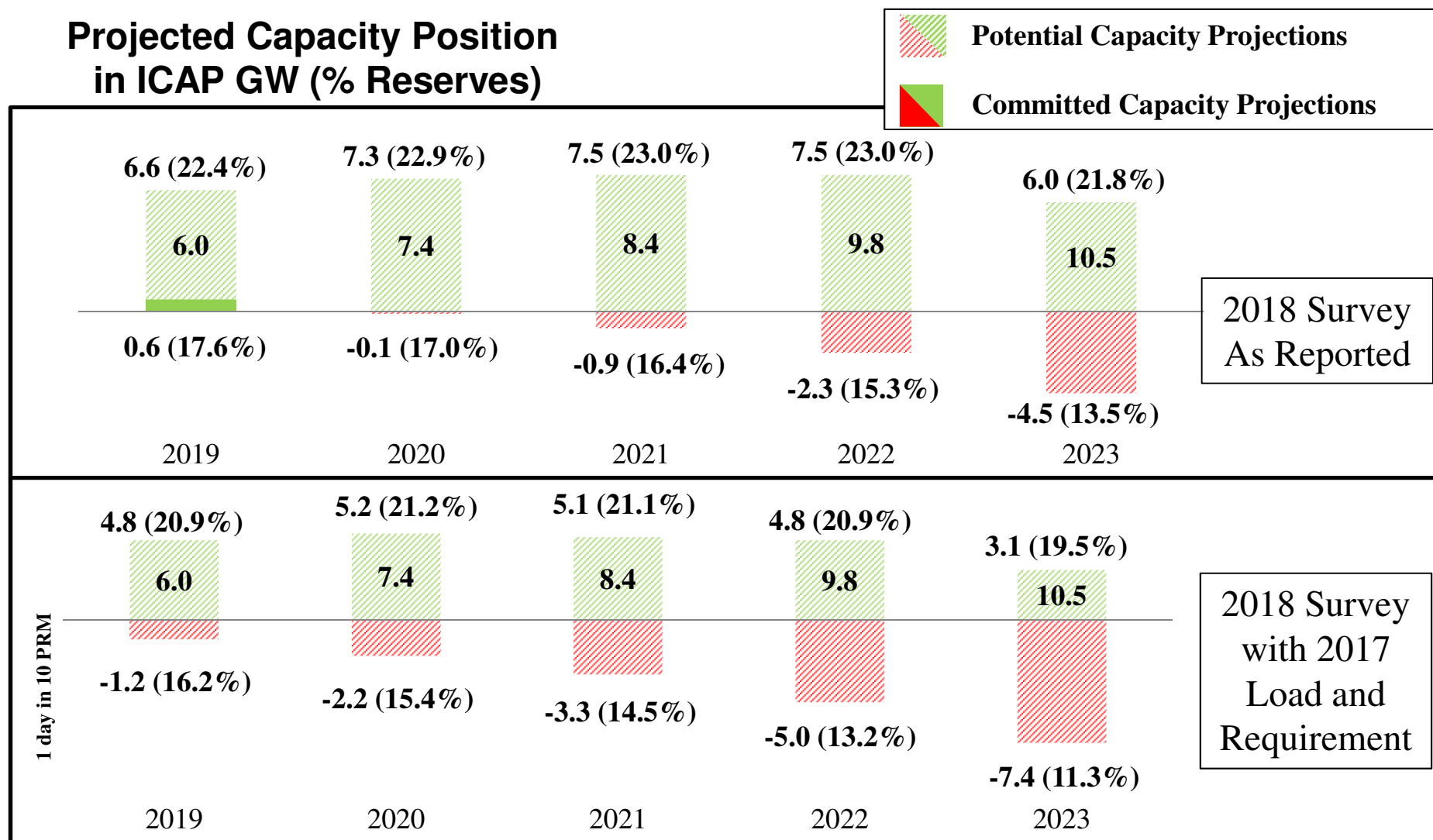
Regional 2019 Outlook Committed Capacity Projection Variations since 2017 OMS MISO Survey In GW (ICAP)



5 New resources include resources with newly signed Interconnection Agreements and new Load Modifying Resources
Decreased availability results from new retirements and potential retirements

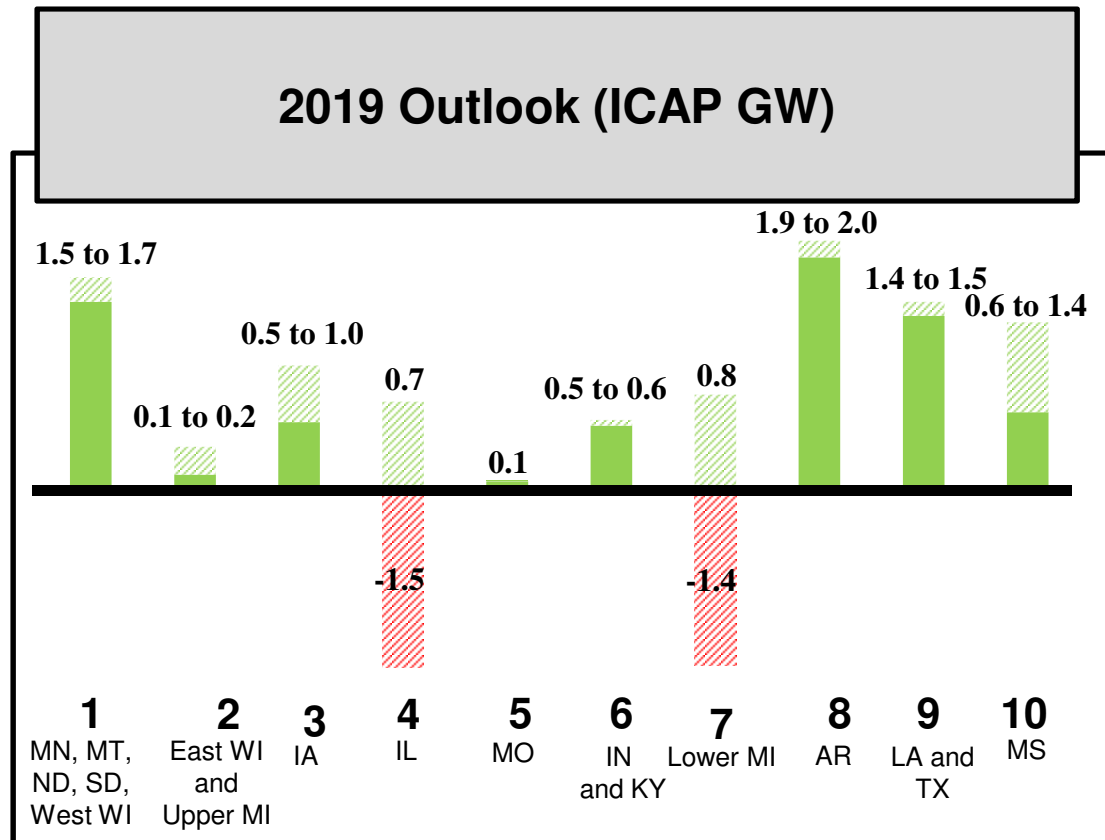
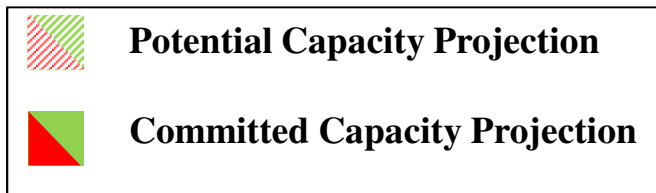
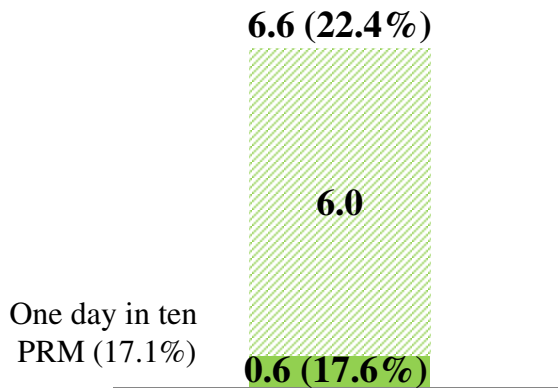


Demand forecast variation creates risk for forward-looking resource adequacy projections



In 2019, regional surpluses are sufficient to cover areas with potential resource deficits

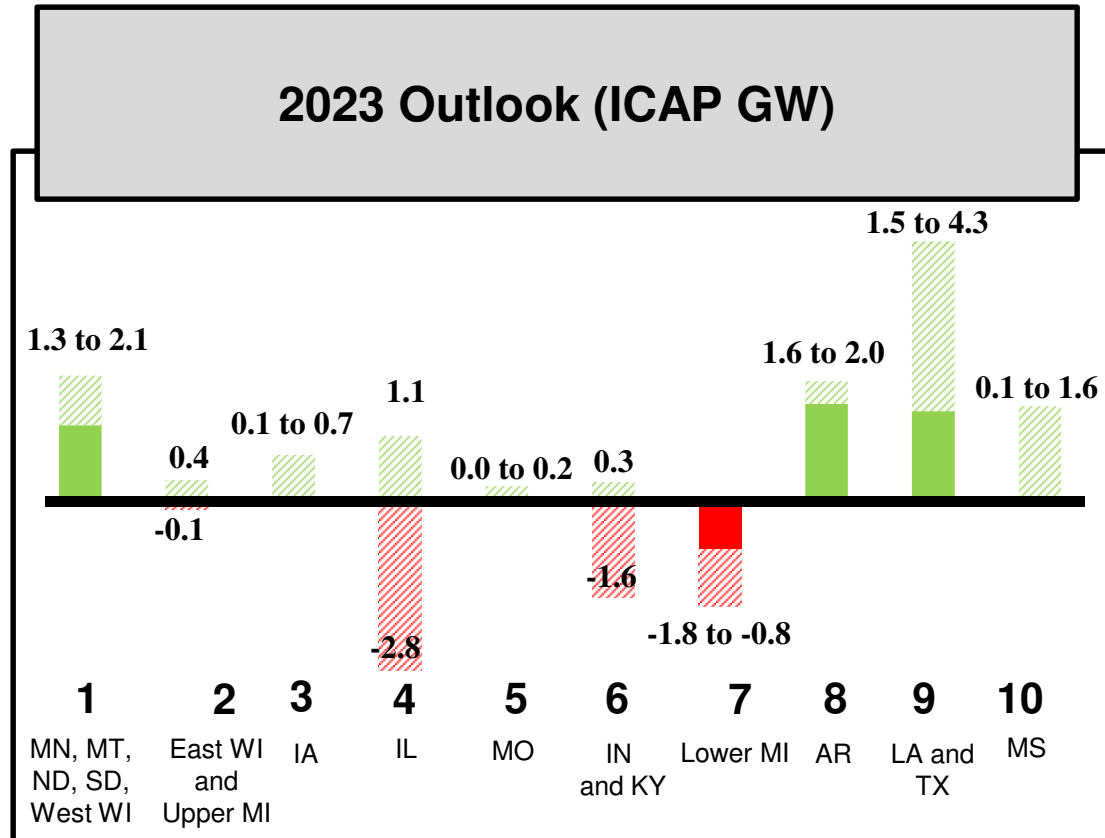
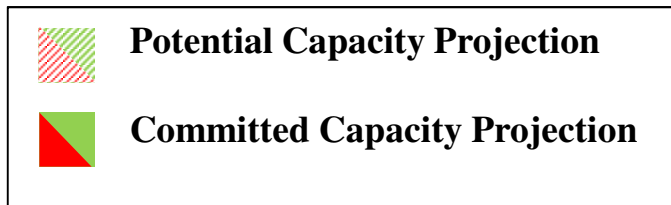
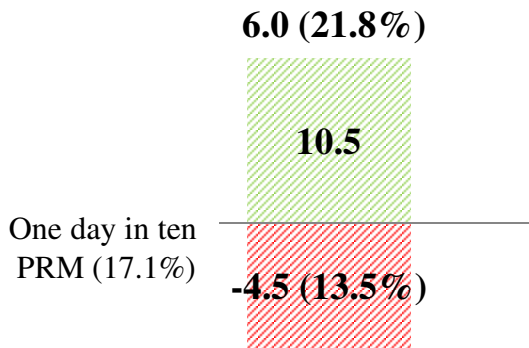
2019 Outlook, ICAP GW (% Reserves)



- The MPSC recently made a determination that the Michigan LSE's have adequate resources (owned or contracted) to meet projected resource adequacy through 2021, this aligns with the upper range of the OMS MISO survey projections for zone 7
- Regional surpluses and potential resources are sufficient for all zones to serve their deficits while meeting local requirements
- Positions include reported inter-zonal transfers, but do not reflect other possible transfers between zones
- Exports from Zones 8, 9, and 10 were limited by the Sub-regional Power Balance Constraint

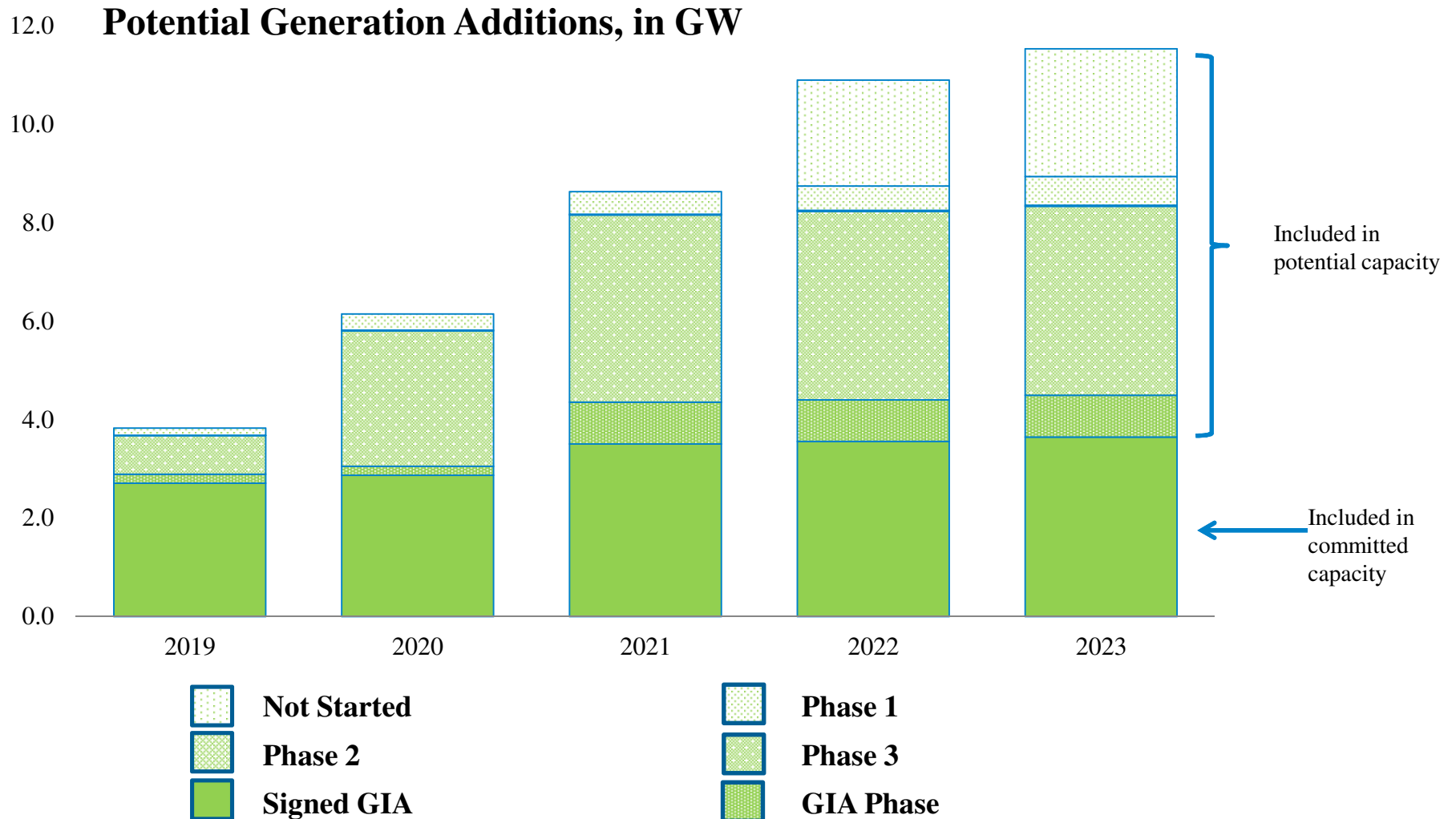
Continued focus on load growth variations and generation retirements will reduce uncertainty around future resource adequacy assessments

2023 Outlook, ICAP GW (% Reserves)



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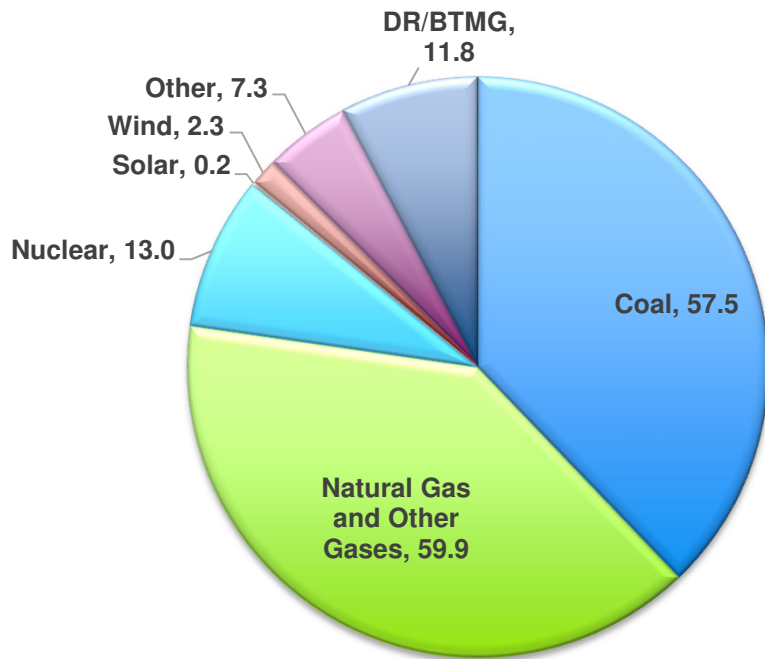
Future resource ranges will shift as planned generation interconnections are firmed up



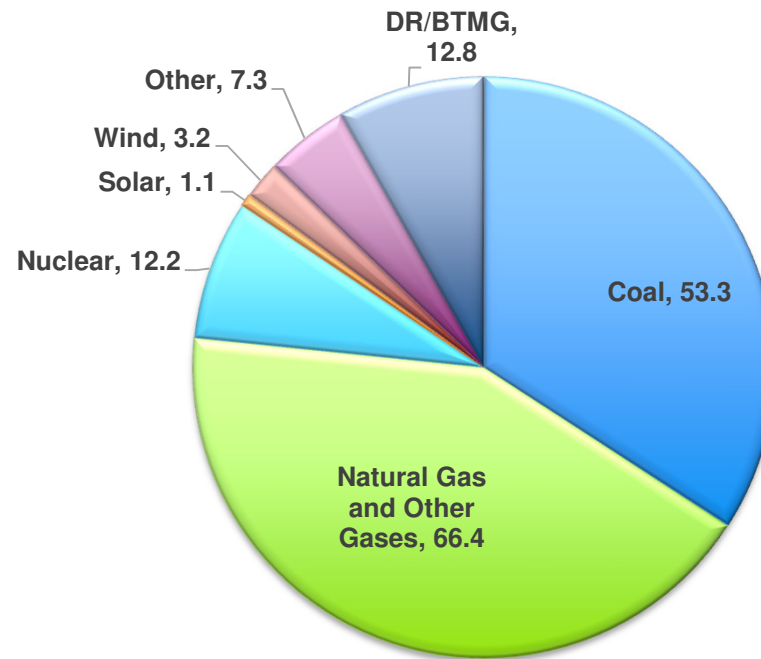
9 • Potential new resources are represented at their expected capacity credit and projected queue certainty factors from slide 12

Forecasted resource mix changes continue to underpin a number of initiatives currently in the stakeholder process

2019 Existing Resource Mix in GW



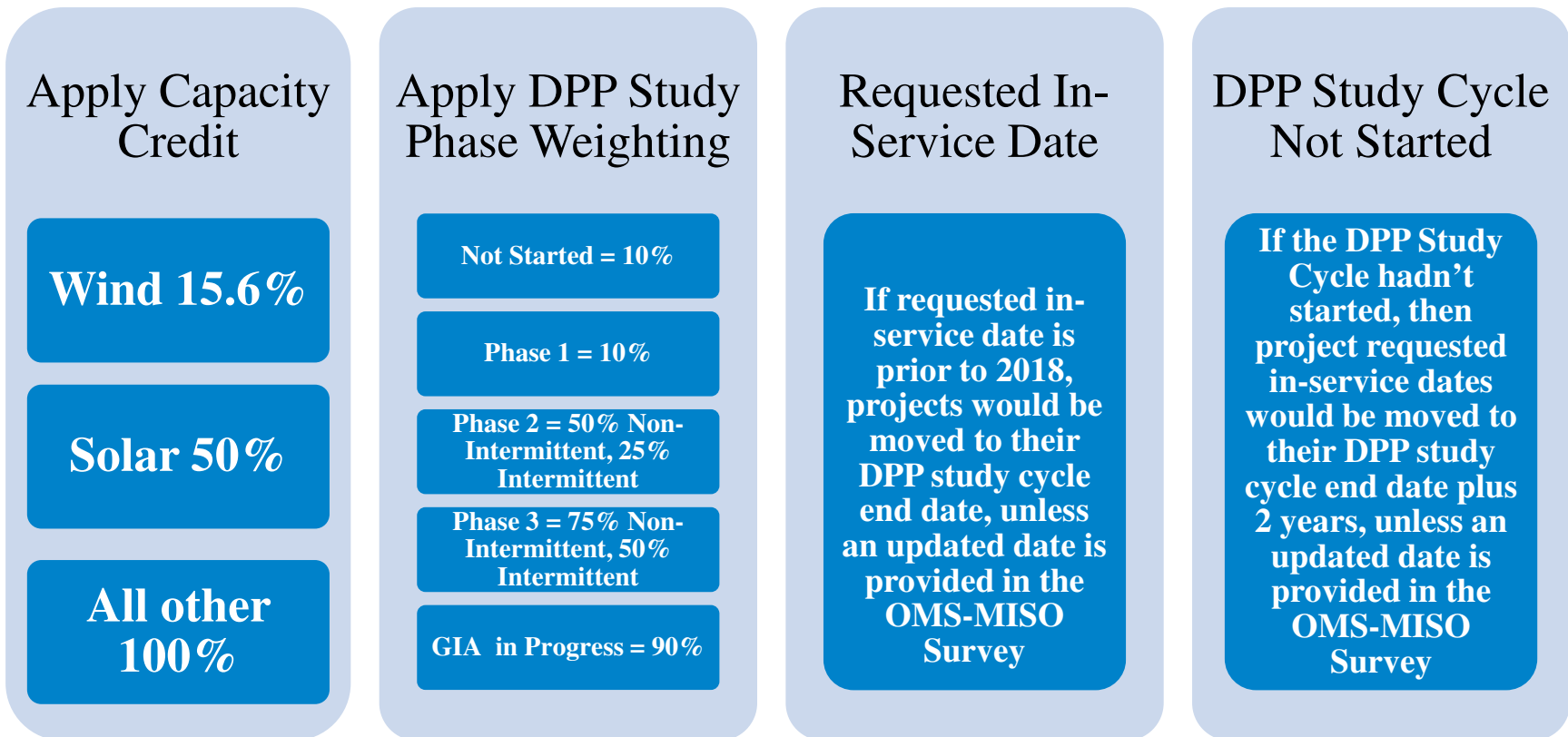
2023 Resource Mix (Existing, Certain and Potential New Resources) in GW



- Existing wind and solar resources are at their expected capacity credit
- Potential new resources are represented at their expected capacity credit and projected queue certainty factors from slide 12

Appendix

2018 OMS MISO survey results consider new generator interconnections as potential capacity



- DPP = Definitive Planning Phase in the MISO generator interconnection queue
- DPP Study Phase Weighting is applied to recognize that as projects move through the queue process they generally become more certain
- In-service adjusted if the DPP Study Cycle Not Started to recognize that a project likely can't get capacity credit until at least the end of the DPP study cycle and additional 2 years to reflect expected GIA dates and possible construction timelines