



SOUTHWEST POWER POOL: OVERVIEW AND OPERATIONS UPDATE

PRESENTATION TO NEBRASKA POWER ASSOCIATION

LANNY NICKELL
EVP & COO
AUGUST 30, 2022

*Working together to responsibly and economically
keep the lights on today and in the future.*



SouthwestPowerPool



SPPorg



southwest-power-pool

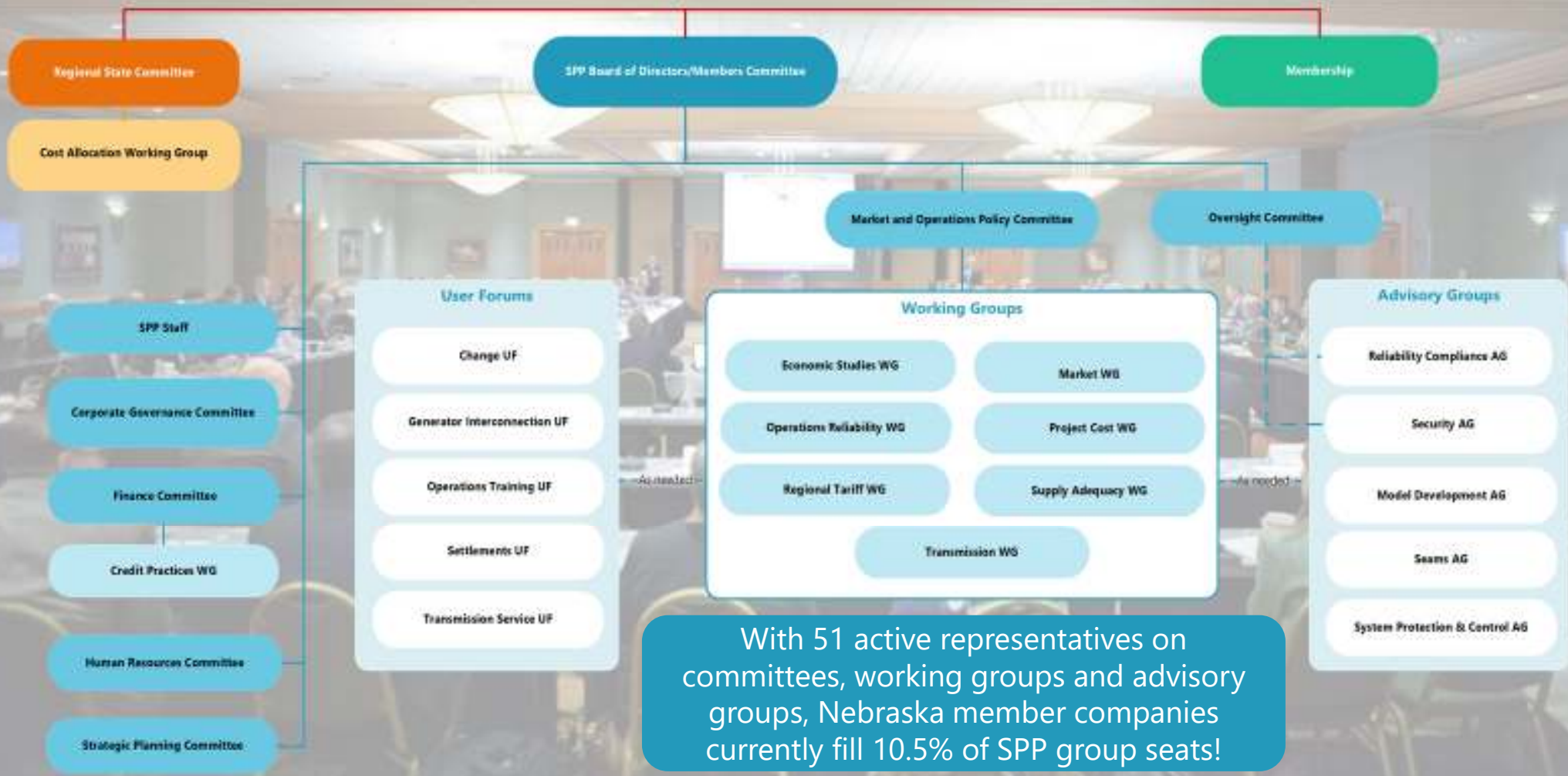


OUR MISSION: Working together to responsibly and economically keep the lights on today and in the future.

OUR VISION: Leading our industry to a brighter future while delivering the best energy value.



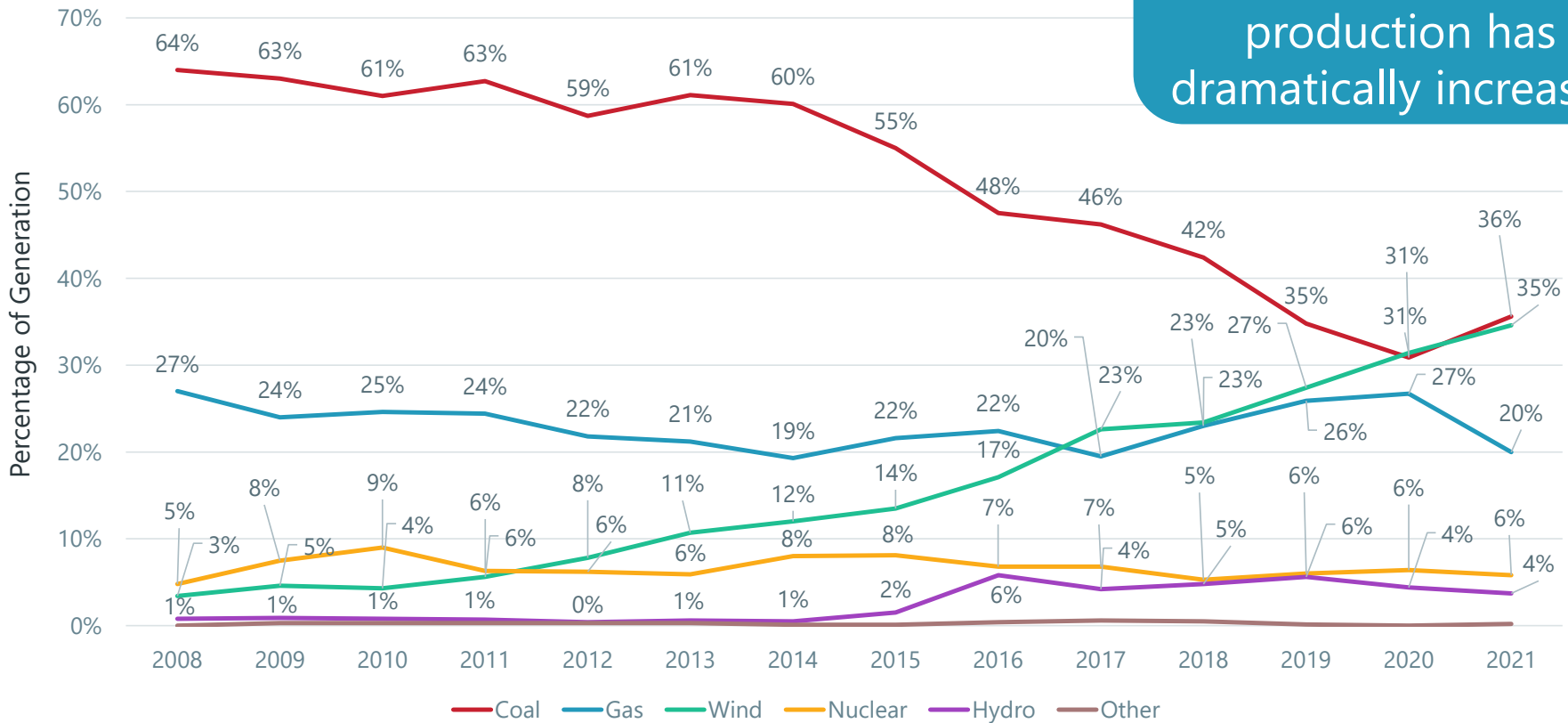
SPP'S GOVERNANCE: ACHIEVE COLLABORATIVELY AND ENGAGE PASSIONATELY



RESOURCE ADEQUACY

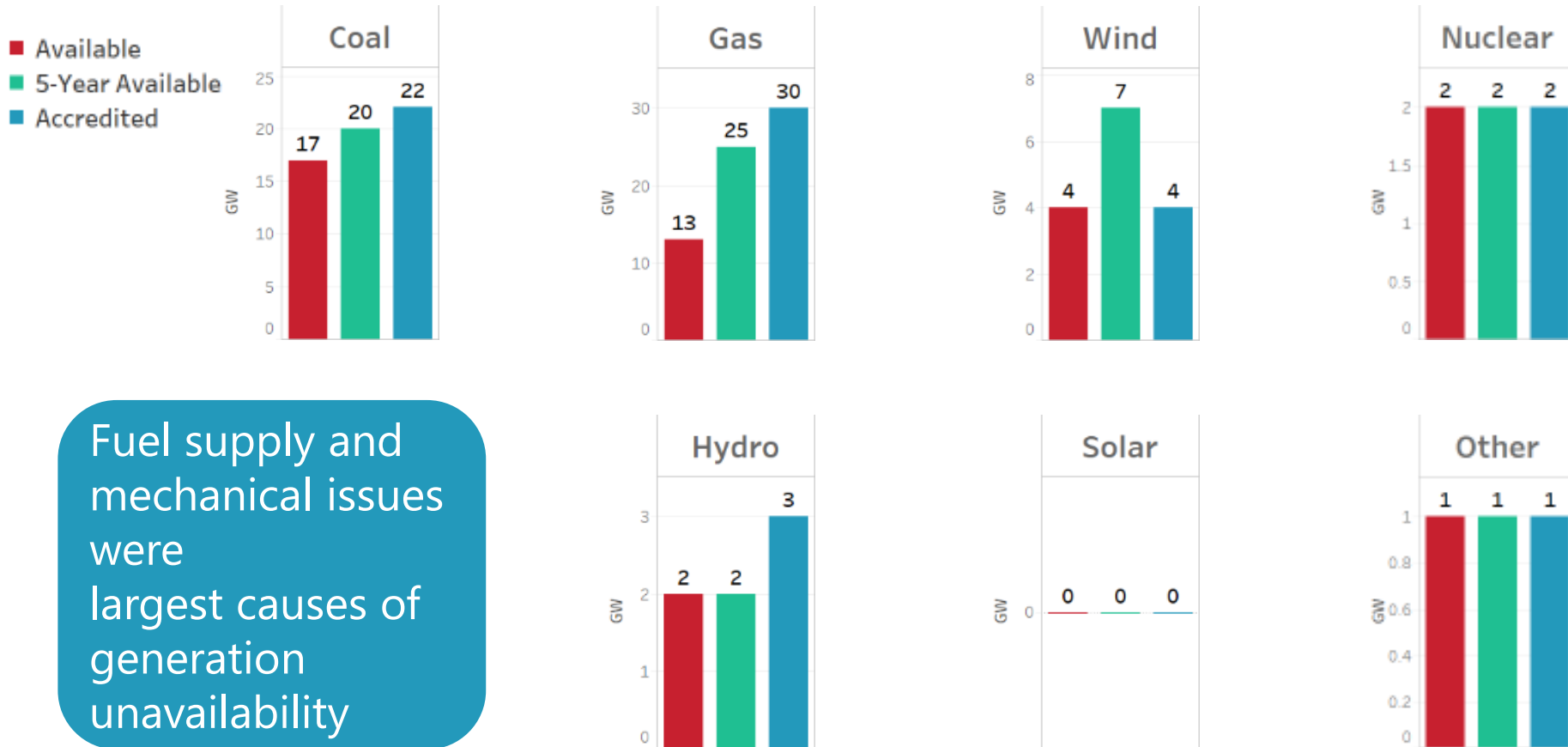
OUR EVOLVING ENERGY MIX

Coal production has dramatically decreased, while wind production has dramatically increased



WINTER STORM URI CAPACITY PERFORMANCE

02/16/2021 07:00

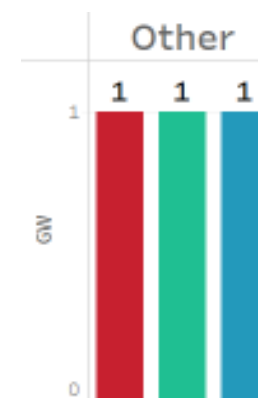
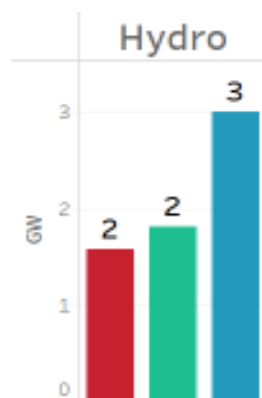
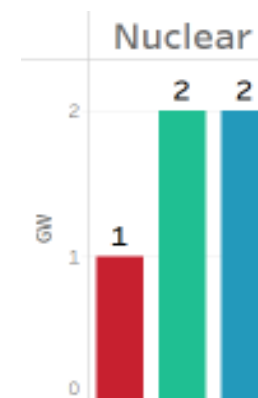
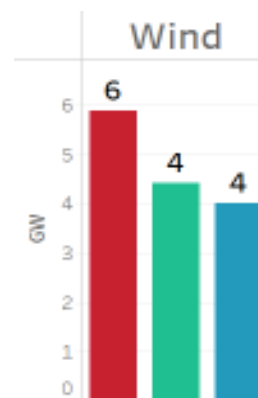
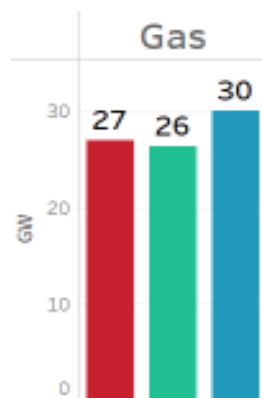
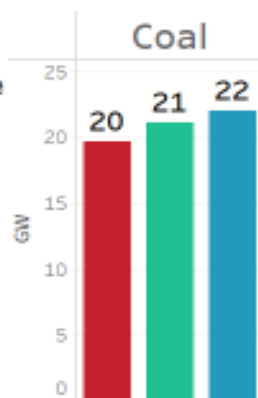


Fuel supply and mechanical issues were largest causes of generation unavailability

2022 SUMMER CAPACITY PERFORMANCE

07/19/2022 PEAK HOUR

- Available
- 5-Year Available
- Accredited



Forced outages and de-rates were largest causes of generation unavailability

RESOURCE ADEQUACY CHALLENGES

Influx of intermittent renewable generation

Conventional generation retirements

Increased resource & fuel unavailability

Increasing load & volatility

Persistent operational issues

PLANNING RESERVE MARGIN (PRM) TODAY



SPP tariff has enforceable summer requirement (load + PRM)



SPP tariff has winter season obligation without financial enforcement mechanism



Conventional resource accreditation policies do not reflect historical performance and/or availability

GOALS

Ensure SPP's resource fleet can continue to maintain reliability under normal & extreme conditions

Improve SPP's accreditation methodology:

Assessing a generators' ability to reliably deliver capacity to system

Improve SPP's resource adequacy requirements

PLANNED VERSUS ACTUAL RESERVE MARGINS



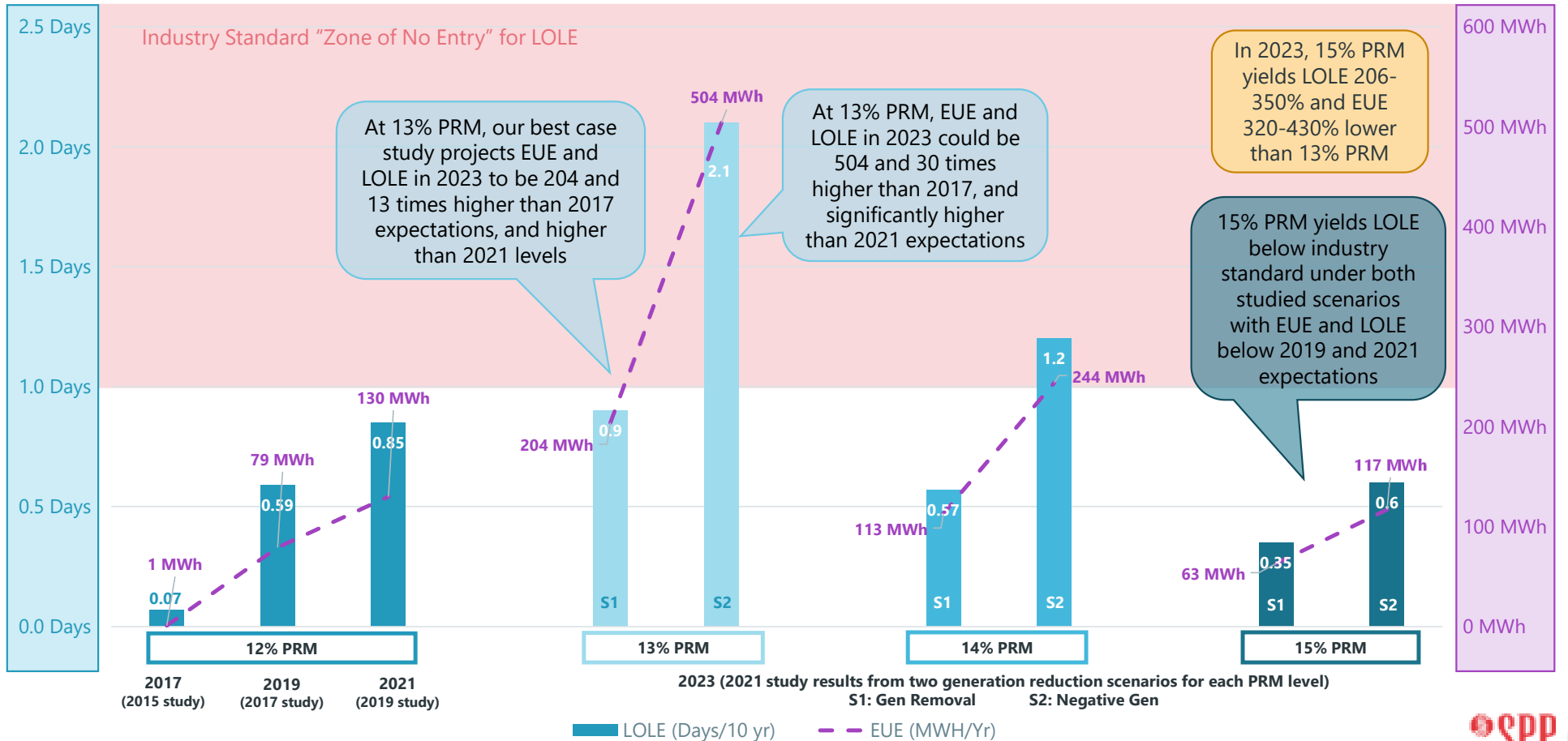
RESERVE MARGIN RISK ASSESSMENTS

LOSS OF LOAD EXPECTATION (LOLE)

EXPECTED UNSERVED ENERGY (EUE)

LOLE (Days Per 10 Years)

EUE (Annual MWh)



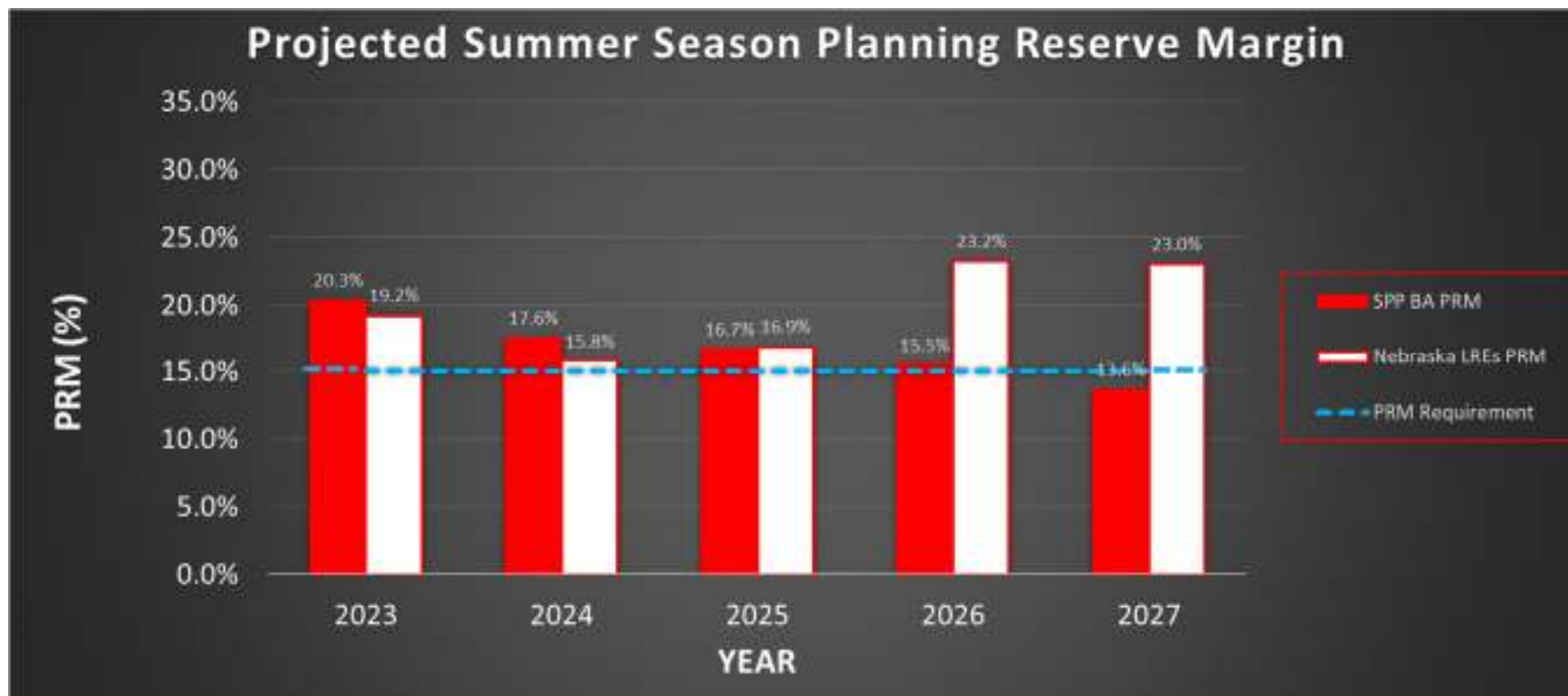
JULY SPP BOARD AND RSC ACTIONS

Approved implementation of performance-based accreditation for conventional resources

Approved increasing Planning Reserve Margin requirement from 12% to 15% effective in 2023























Directed development of mitigation plan for entities with insufficient time to resolve deficiencies

PLANNING RESERVE MARGIN PROJECTIONS



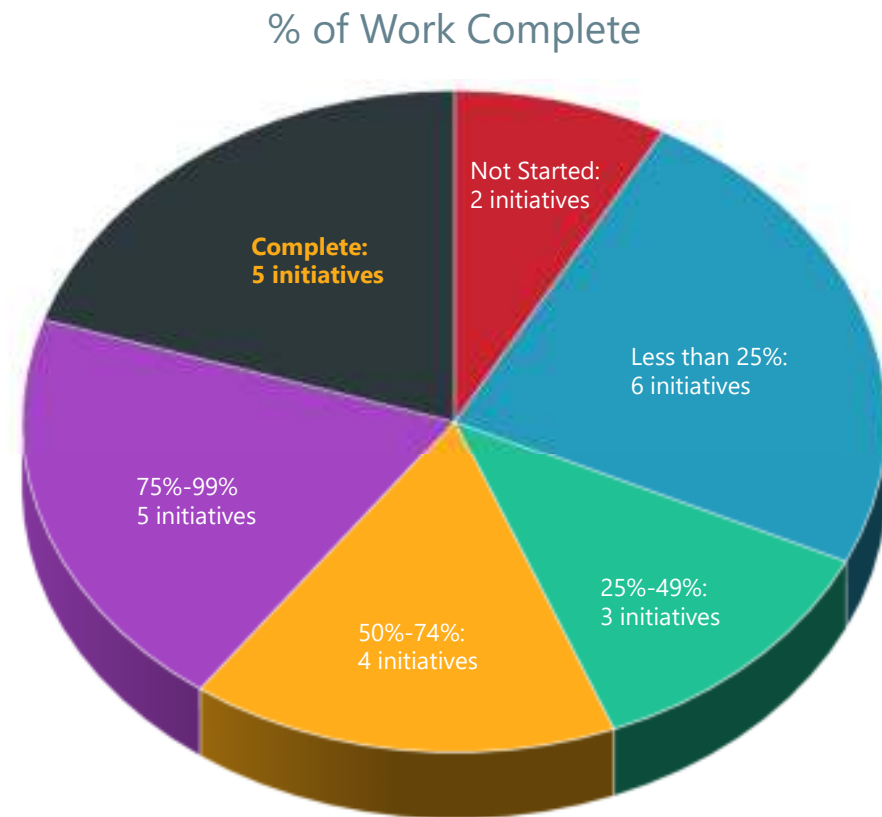
WINTER STORM URI IMPROVEMENTS AND OTHER NEAR-TERM PRIORITIES

RECOMMENDED IMPROVEMENTS FROM URI EXPERIENCE

	Tier 1	Tier 2	Tier 3
Fuel Assurance (FA)	 		
Resource Planning & Availability (RPA)	 		
Emergency Response Process & Planning (ERP)		  	
Operator Tools, Communication and Processes (OTCP)			
Seams Agreements (SEAMS)			
Market Design (MKT)		  	
Transmission Planning (TXP)			
Credit (CR)			 
Communications (COMM)		 	 
22 TOTAL	4	13	5

PROGRESS OF TIER 1 EFFORTS

- Formed Improved Resource Availability Task Force
- 25 initiatives identified, scoped, and scheduled
- IRATF expects to complete assigned work by end of 2023

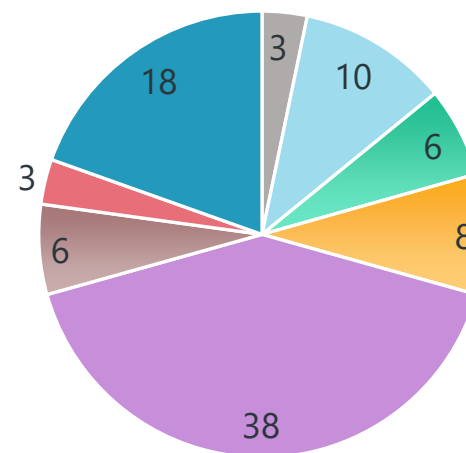


PROGRESS OF TIER 2 & 3 EFFORTS

- 92 initiatives identified
- All initiatives are prioritized and scheduled
- 16 complete, 29 in progress, with 14 scheduled to be complete by end of 2022

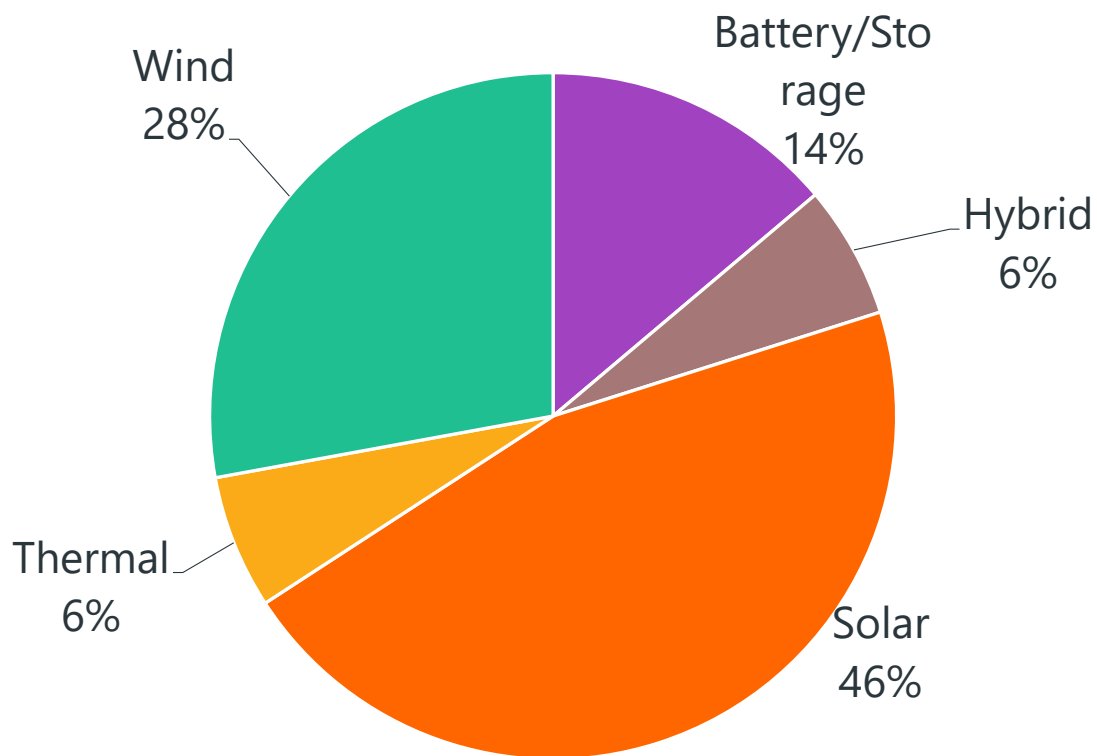
Tier 2 and 3 Initiatives

- Fuel Assurance
- Communications
- Credit
- Emergency Response Process and Planning
- Market Design Initiatives
- Seams
- Transmission Planning
- Operator Tools, Communications and Processes



PENDING GI REQUESTS*

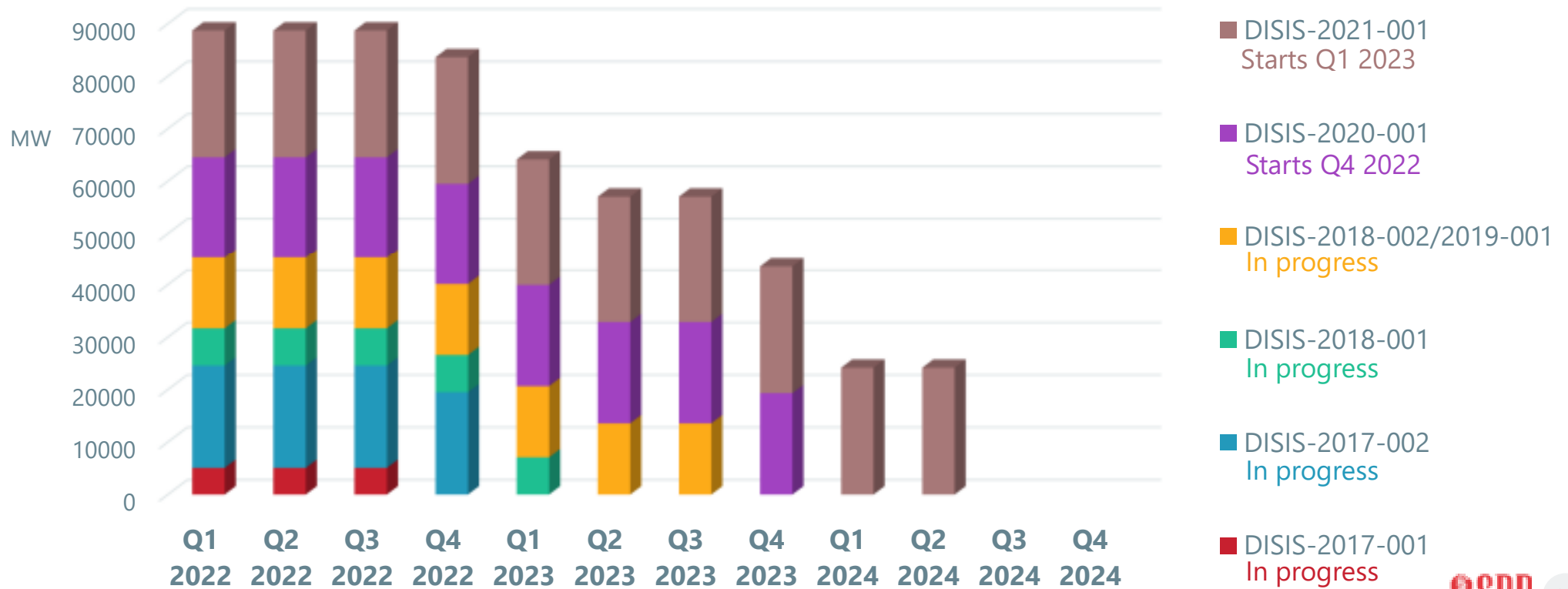
GEN TYPE	Requests	GW Capacity
Battery / Storage	112	13.74 GW
Hybrid	29	6.22 GW
Solar	211	45.42 GW
Thermal	37	6.25 GW
Wind	121	27.68 GW
TOTAL	510	99.30 GW



*As of August 16, 2022

GI BACKLOG CLEARING STUDIES

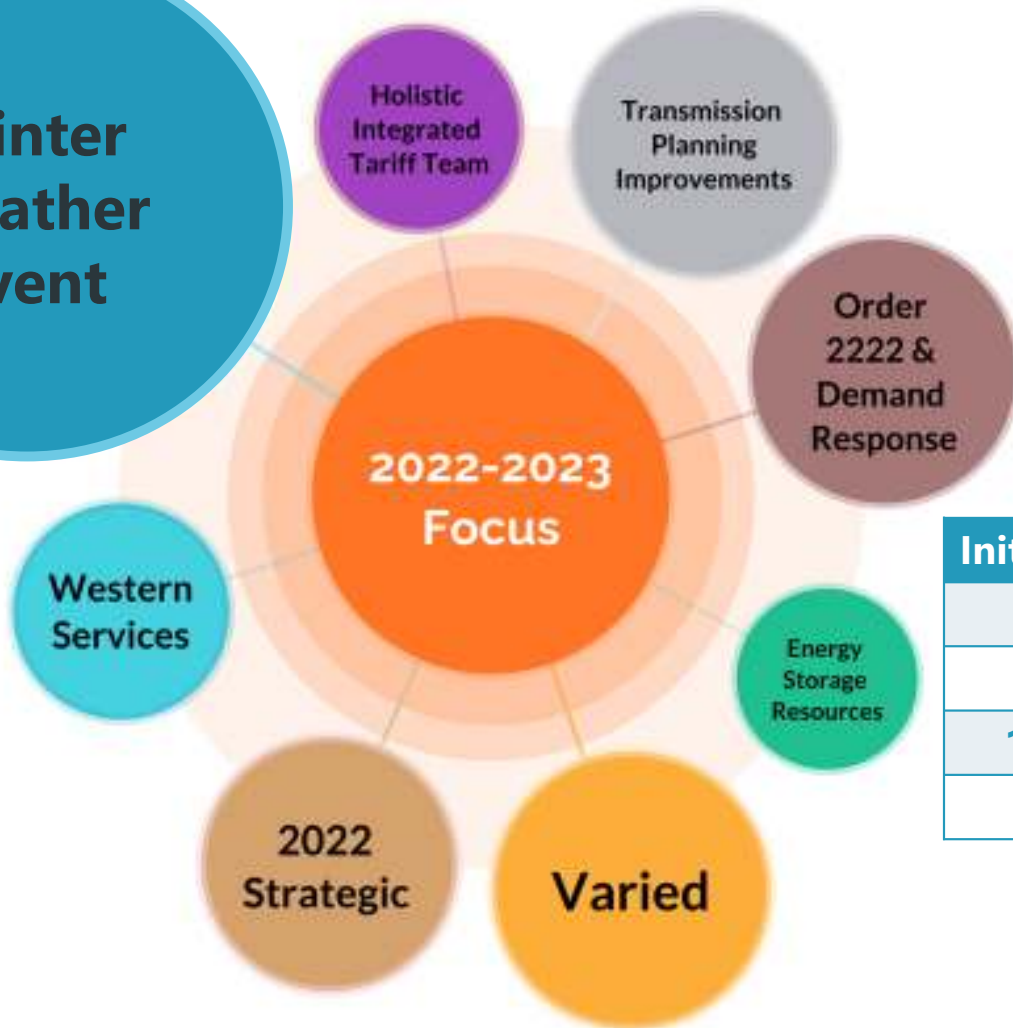
GI backlog studies projected to be completed & agreements signed by end of 2024



Does not consider potential restudies that may be required

2022-2023 Initiatives

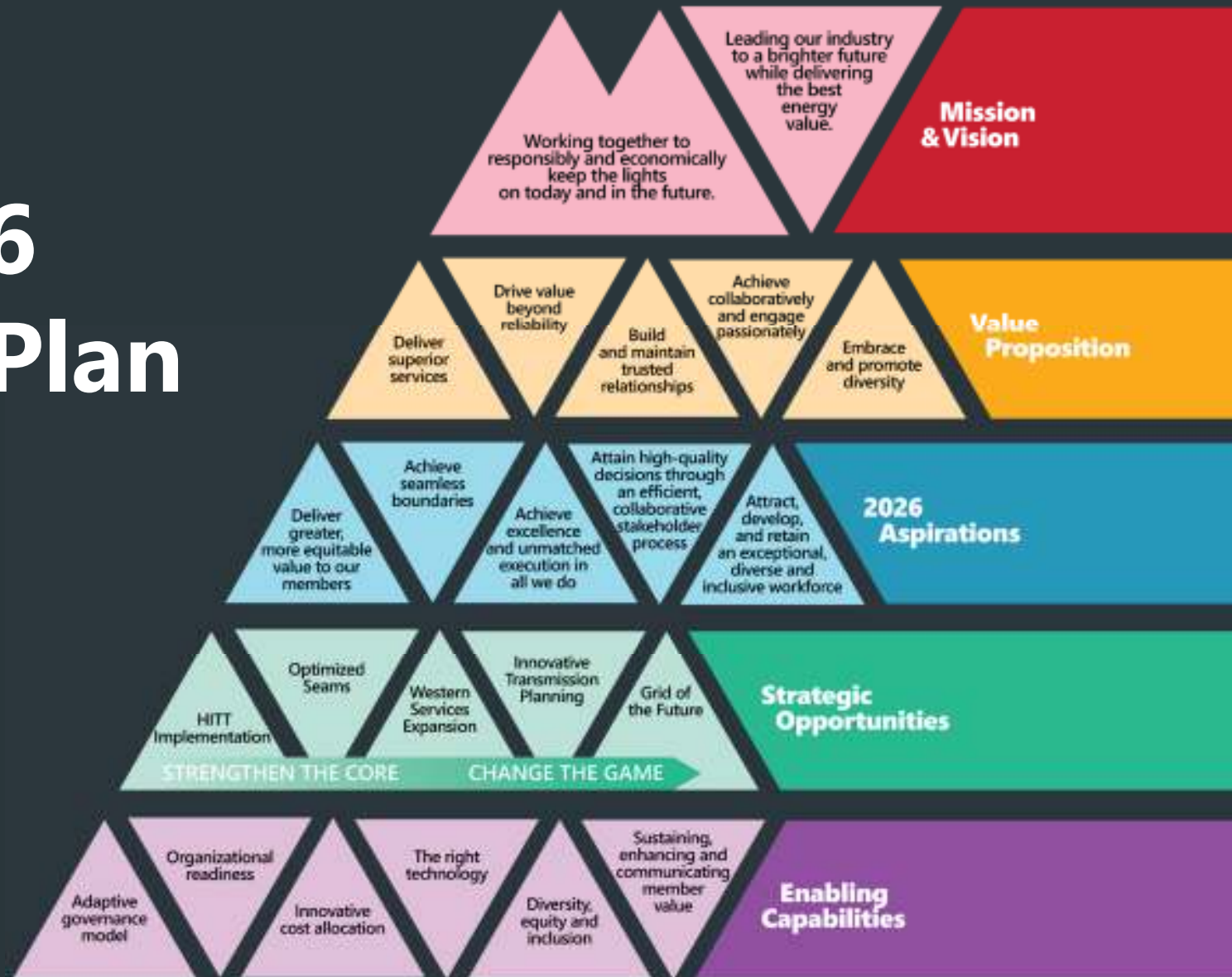
Winter Weather Event



Initiatives	Priority	Directed By
10	Mandated	FERC, NERC, NAESB
51	Directed	Board & Strategic
126	High	Stakeholders
68	Medium	Stakeholders

STRATEGIC PRIORITIES

2021-2026 Strategic Plan



HITT
Implementation

Optimized
Seams

Western
Services
Expansion

Innovative
Transmission
Planning

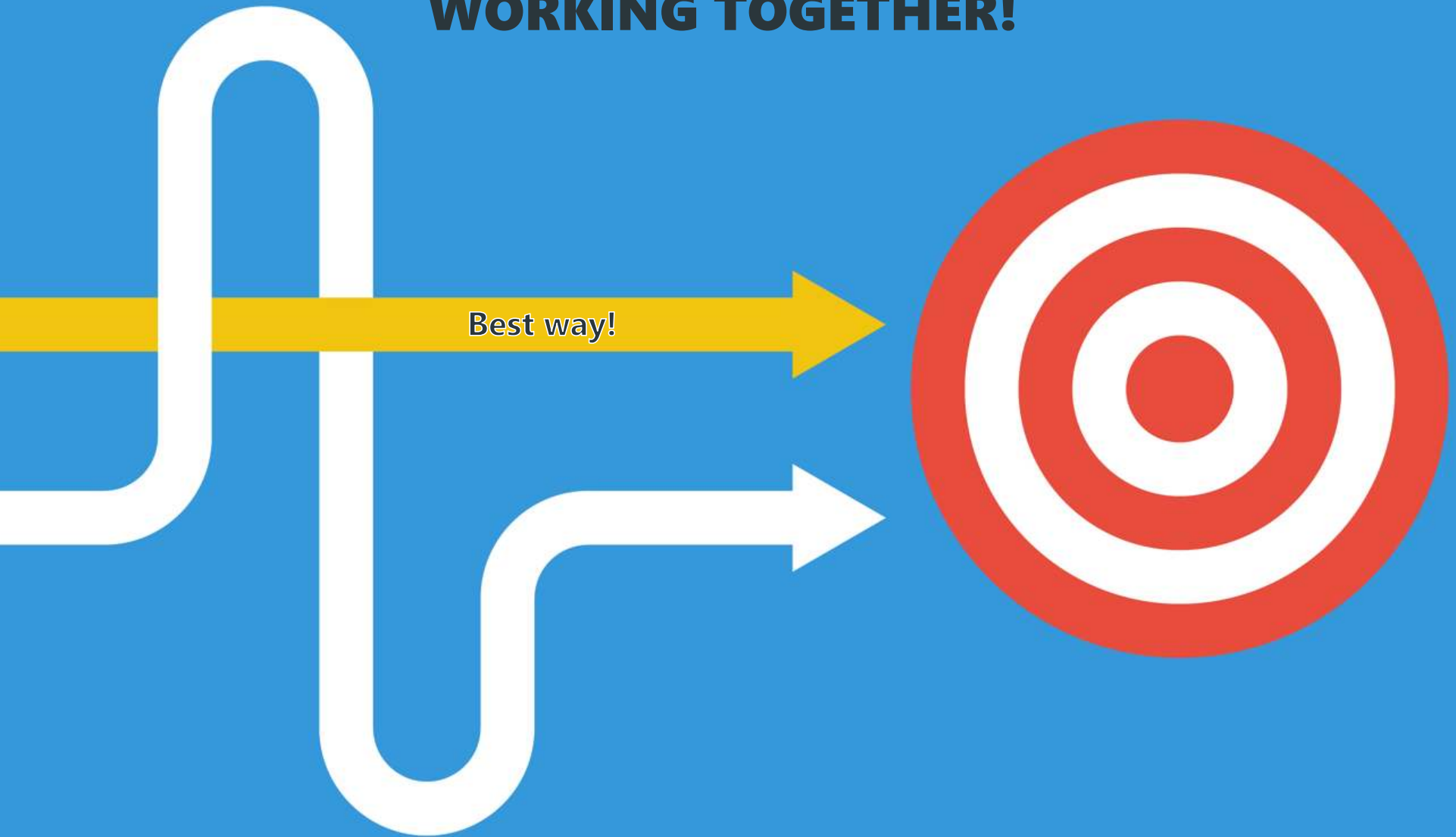
Grid of
the Future

**Strategic
Opportunities**

STRENGTHEN THE CORE

CHANGE THE GAME

WORKING TOGETHER!



Best way!



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