

Pathways to Coordination

Proactive, State-Led Transmission Development
to Reduce Costs and Achieve Goals in PJM

PRESENTED BY

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Report Goal: Coordination Framework and Menu of Options

What the Report Does:

Summarizes Benefits from Previous Studies

Provides a Menu of Options for States within PJM and Coordination with Neighbors

Describes State-Led Planning Experience and Evolution in PJM

- New Jersey State Agreement Approach (“SAA”) 1.0
- PJM’s paused Long-Term Regional Transmission Planning process
- PJM Order 1920 timing and implementation

Compares Menu Options at a High-level

- Potential timelines

Additional Next Steps:

State-Specific Analyses to Consider Unique Circumstances

- Achievement of existing policies, future state needs, or specific projects underway
- Political and regulatory climate
- Staff bandwidth
- Ongoing planning developments (including transition queues)

Strategic Recommendation

- Evaluate tradeoffs between various “menu” options
- Discuss potential for coordination with other states, including coordination challenges

Menu of State-Led Planning Options and Framing

Transmission procured by **single states** through the PJM SAA:

1. Focusing on a **single-driver** to facilitate urgent resource interconnection needs
2. Expanding to **multi-driver** procurements that focus on multiple transmission needs (e.g., reliability, congestion relief, public policy, asset renewal)

Multi-state SAAs coordinated between various interested states agreeing to share costs and benefits of mutually beneficial projects:

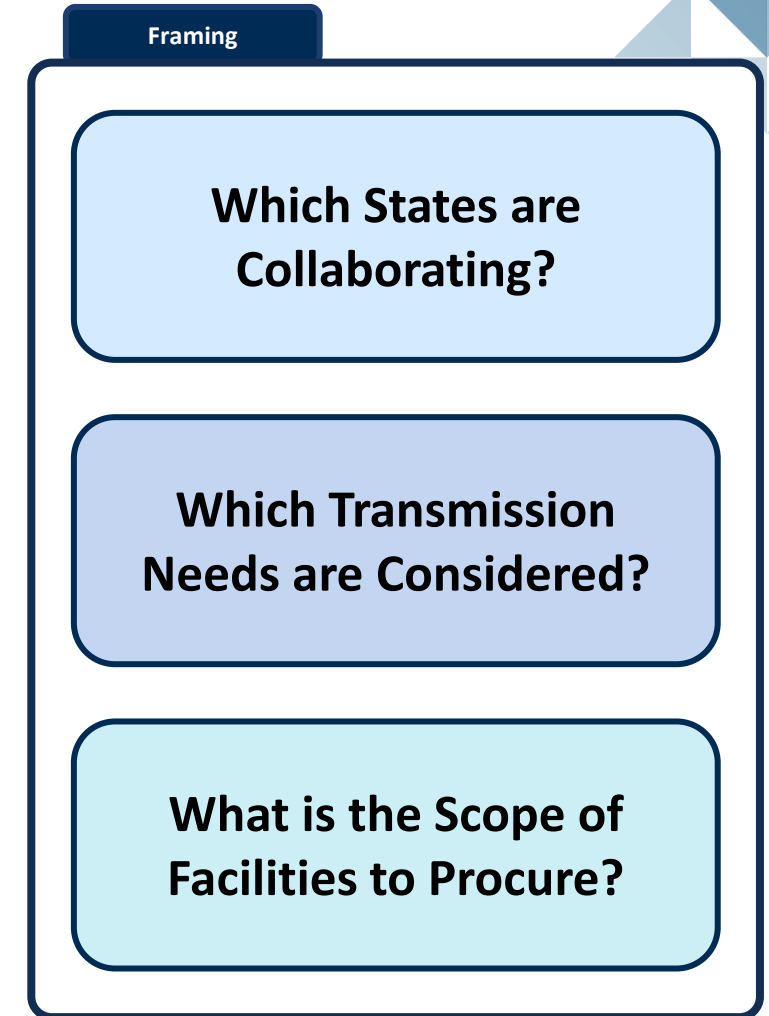
3. Focusing on a **single-driver** to capture available benefits of jointly pursuing interconnection facilities over a wider geographic area as previously found by PJM
4. Expanding to **multi-driver** procurements that expand the focus on multiple transmission needs across participating states

Voluntary procurements of transmission outside the SAA approach:

5. Voluntary procurements **outside** of PJM's SAA, both single state and multi-state within PJM, which could present coordination and feasibility challenges
6. Voluntary **interregional, multi-driver** transmission procurements, that can capture additional customer value through projects overlooked by existing interregional coordination processes

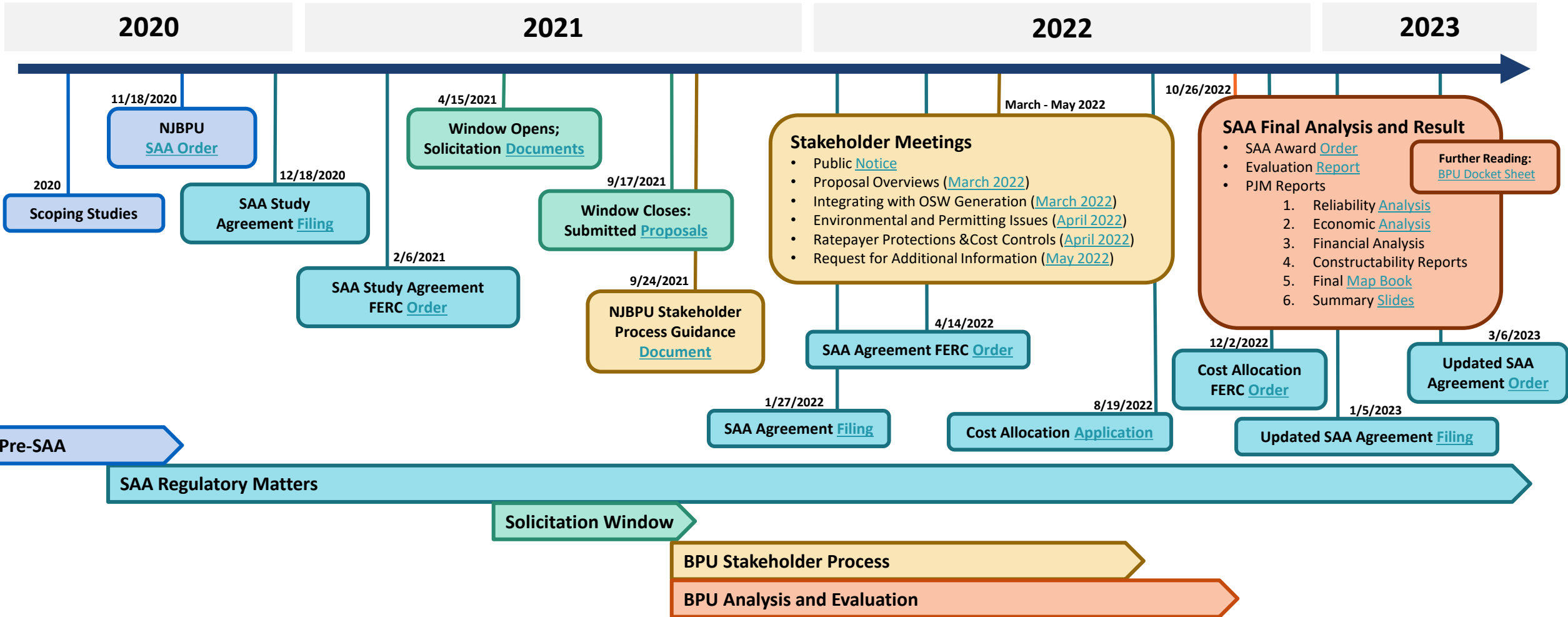
PJM **Order 1920** regional long-term planning:

7. Relying on PJM's implementation of **FERC's Order 1920** long-term regional planning process



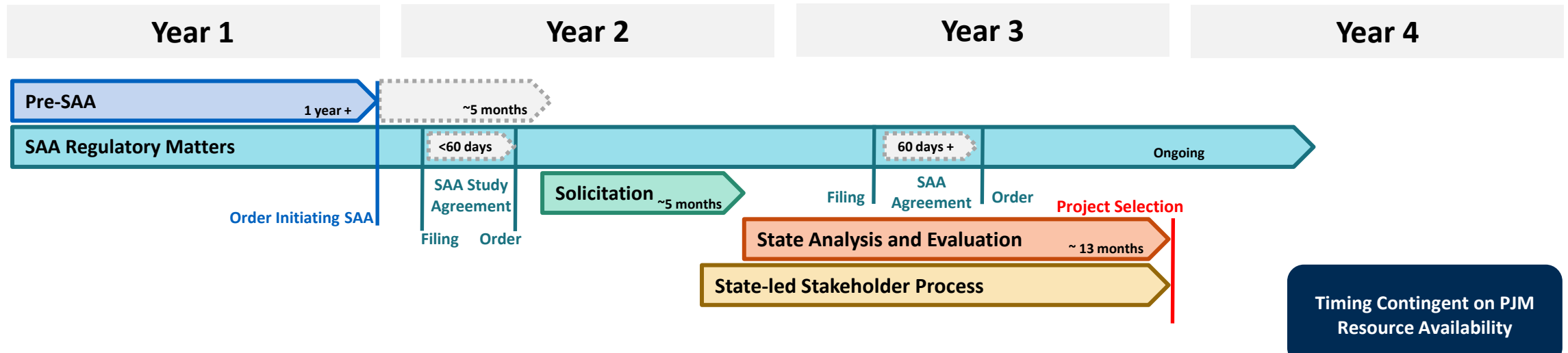
1. Single-State, Single Driver: New Jersey SAA 1.0 Process

The SAA has been a years-long process that is technically complex and resource intensive



2. Single-State, Multi-Driver SAA

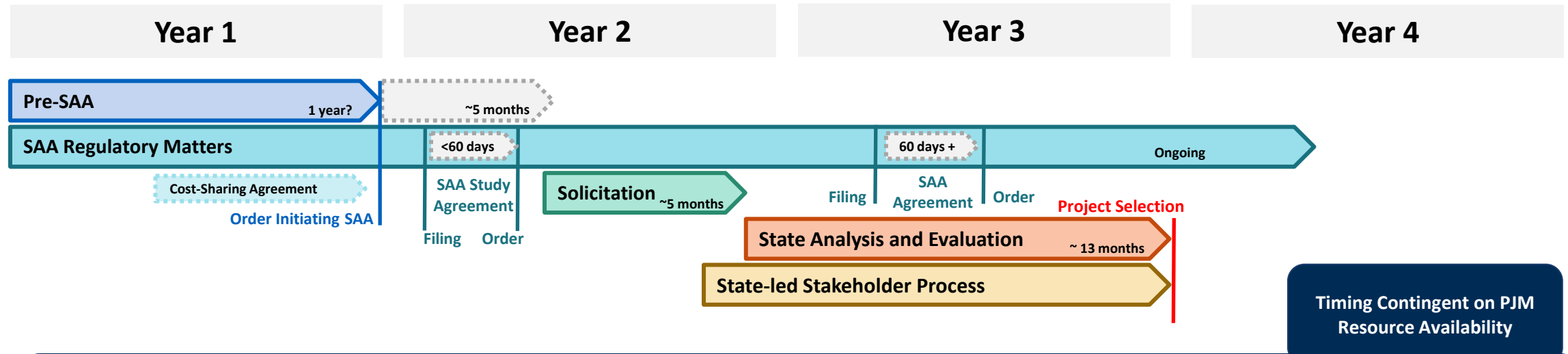
Multiple Drivers will extend the Pre-SAA period and require additional state resources for coordination



- Potentially fewer opportunities for efficiencies as compared to broader geographic options
- Cost-allocation challenges if regional efficiencies are identified or pursued
- Heightened coordination challenges and need for staff resources, particularly during pre-SAA period
- Increased state responsibility for advance scoping of solicitation or specific preferred solutions

3. Multi-State, Single-Driver SAA

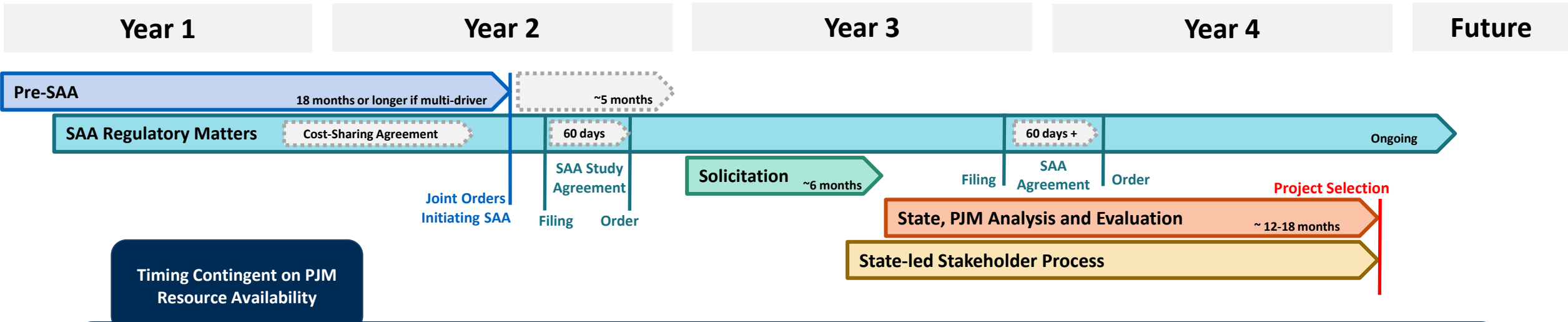
Multiple State coordination could be simplified using existing processes and methods



- Pre-SAA period likely extended but could be accelerated with state leadership or use of existing procurement and allocation frameworks
- Benefits demonstrated in PJM OSW Study Phase 1
- Uncertainty regarding evaluation and project selection should be resolved in advance
- Presents opportunities for various states to access desired benefits, e.g., landfall locations

4. Multi-State, Multi-Driver SAA

Large study scope presents opportunities for efficiencies, but additional sequencing challenges



- Greatest potential for state-led cost savings and other benefits, yet the largest coordination challenges
- Careful coordination of SAA drivers with additional drivers to identify efficient solutions
- Cost allocation approach would require flexibility to recognize multiple drivers
- Uncertainty regarding evaluation and project selection should be resolved in advance

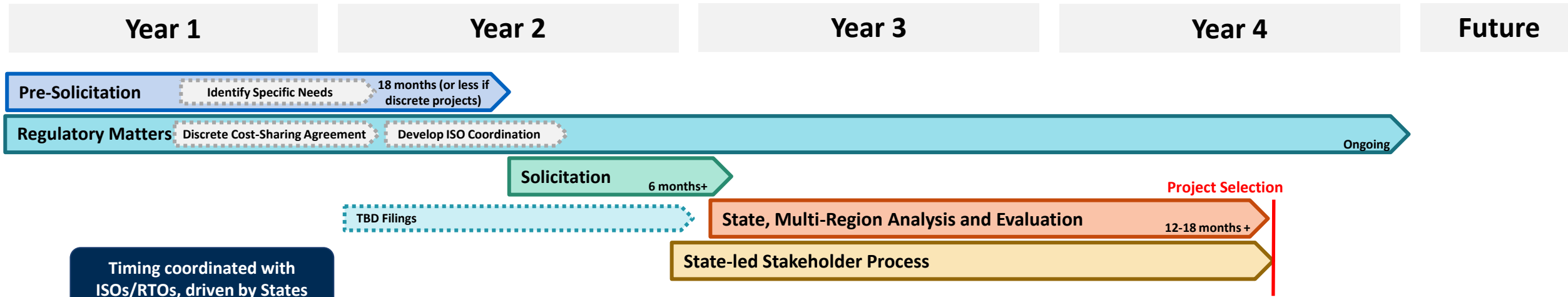
5. Voluntary Procurements Outside the SAA, Single- and Multi-State

SAA flexibility and integrated PJM coordination limits upside of voluntary procurements within PJM

State Voluntary Agreements to Plan and Pay for Transmission, 175 FERC ¶ 61,225 (2021).

6. Voluntary Interregional, Multi-Driver Procurements

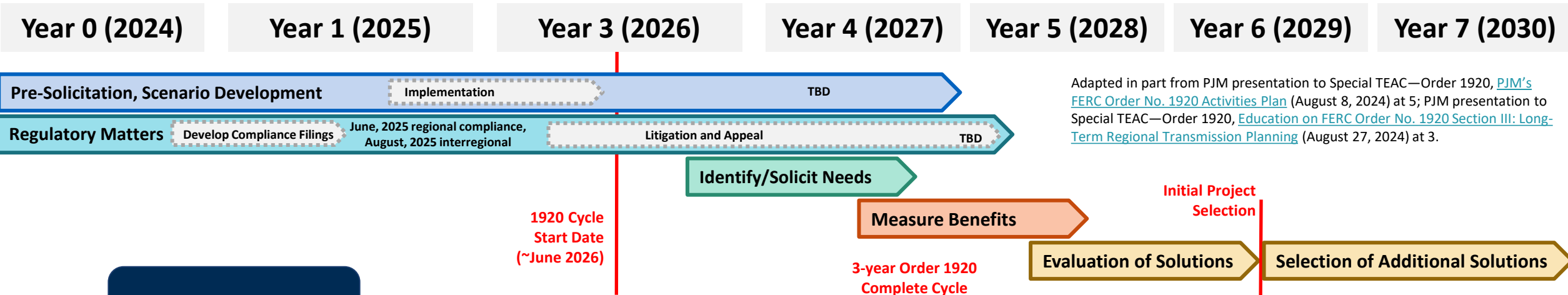
Interregional coordination enables states to identify beneficial projects that would be overlooked



- FERC precedent on Voluntary Transmission Procurements enables broader coordination
- Facilities to be procured can range from short-term “low-hanging fruit” to longer-term goals
- States can identify beneficial interregional projects that would not pass “triple hurdle” of existing process
- Targeted procurements could enable simple and widely-accepted allocations and accelerate selection

7. FERC Order 1920 Implementation

Order 1920 presents opportunities for long-term planning improvements, ill-suited for pressing needs

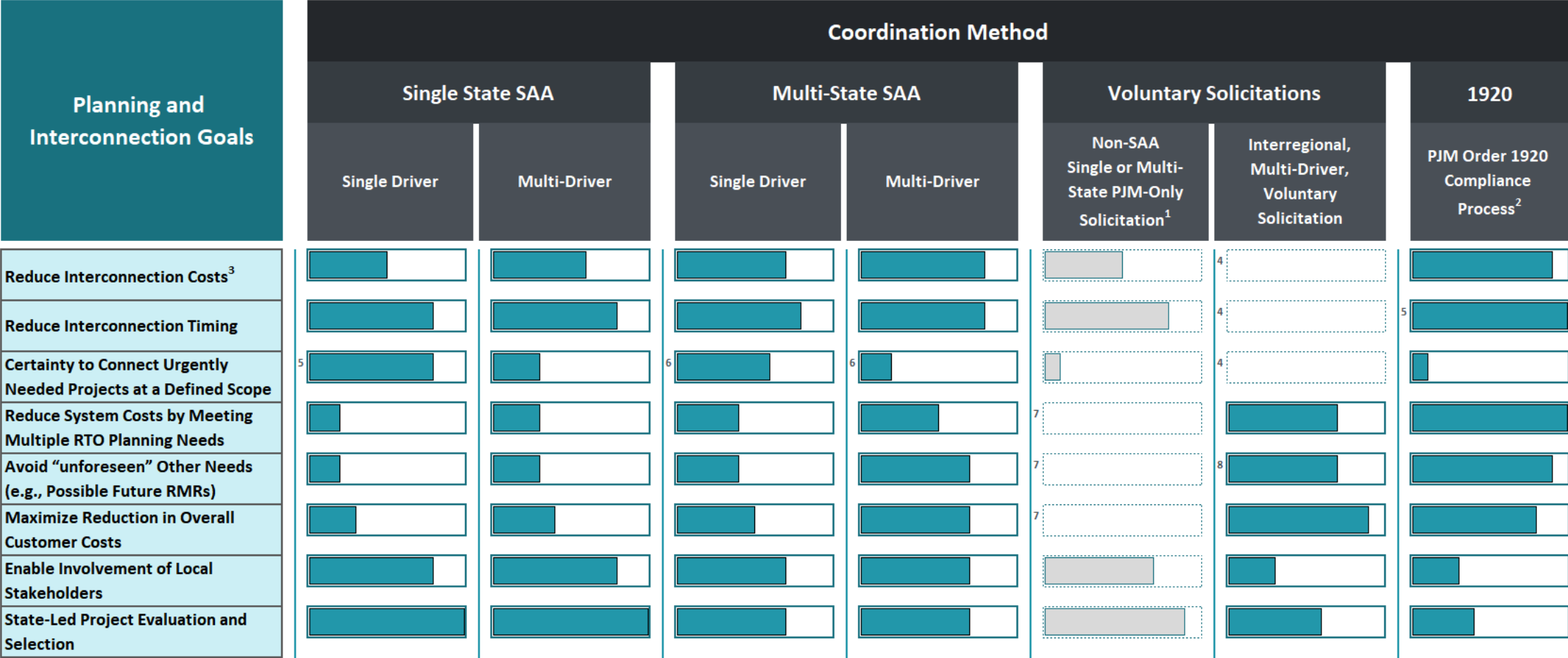


Adapted in part from PJM presentation to Special TEAC—Order 1920, [PJM's FERC Order No. 1920 Activities Plan](#) (August 8, 2024) at 5; PJM presentation to Special TEAC—Order 1920, [Education on FERC Order No. 1920 Section III: Long-Term Regional Transmission Planning](#) (August 27, 2024) at 3.

- Geographic scope (i.e., not dependent on collaboration participants) and multi-driver focus creates ability to identify large efficiencies
- Dependent on implementation choices including project selection criteria
- Implementation timing unlikely to meet any identified pressing policy needs
- PJM-led, not state-led, timing and selection process

Comparing Options for State-Led Planning

Longer bars show a higher likelihood of achieving a given goal, although this may be significantly impacted by, for example, strong state leadership around coordination, timing, and cost sharing



1. Given uncertainty surrounding structure and implementation of this method, ratings are highly approximate. Bars are grey given that this method is not likely to result in a substantial acceleration for finalizing procurements.
 2. Depends on effective implementation of Order 1920 (including appropriate weighting of public policies and ultimate project selection processes)
 3. Depends on the overall size of transmission procurement as related to sizes of anticipated/planned resources seeking interconnection

4. Despite the potential for significant customer benefits (see row 6), this method likely will not directly focus on interconnecting resources, but on improving efficient transfers of power between regions
 5. Would require process (entry-fee or similar) to enable resources access to pre-planned headroom created for their use
 6. Speed is driven by participating states prioritizing speed of process (within state control subject to RTO resource constraints)

7. Depends on scope of voluntary external solicitation and ability to coordinate need and solution identification with PJM's regional plan
 8. Larger procurement scope has the potential to reduce specified locational need by providing additional sources to alleviate contingency conditions



Thank You!

Comments and Questions?



About the Speaker



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Joe DeLosa III is a Manager at The Brattle Group with comprehensive experience at the intersection of state clean energy policy and wholesale electricity markets. He has served as a subject matter expert for clients and senior policymakers across a wide range of power market issues, including cost-effective implementation of state clean energy policy, transmission planning, energy and reserve markets, and resource adequacy. Mr. DeLosa has offered expert guidance on major state policy initiatives, including integrating offshore wind, integrated distribution planning, transmission cost allocation, and retail rate design.

Before joining Brattle, Mr. DeLosa was the Bureau Chief of Federal & Regional Policy at the New Jersey Board of Public Utilities, where he managed all RTO and federal affairs for the State. In his prior role, he also oversaw regulatory affairs for the Delaware Public Service Commission. He has also advised a wide range of PJM states as a long-time member of the Organization of PJM States (OPSI) staff.

Brattle Group Practices and Industries

ENERGY & UTILITIES

Competition & Market
Manipulation
Distributed Energy
Resources
Electric Transmission
Electricity Market Modeling
& Resource Planning
Electrification & Growth
Opportunities
Energy Litigation
Energy Storage
Environmental Policy, Planning
and Compliance
Finance and Ratemaking
Gas/Electric Coordination
Market Design
Natural Gas & Petroleum
Nuclear
Renewable & Alternative
Energy

LITIGATION

Accounting
Analysis of Market
Manipulation
Antitrust/Competition
Bankruptcy & Restructuring
Big Data & Document Analytics
Commercial Damages
Environmental Litigation
& Regulation
Intellectual Property
International Arbitration
International Trade
Labor & Employment
Mergers & Acquisitions
Litigation
Product Liability
Securities & Finance
Tax Controversy
& Transfer Pricing
Valuation
White Collar Investigations
& Litigation

INDUSTRIES

Electric Power
Financial Institutions
Infrastructure
Natural Gas & Petroleum
Pharmaceuticals
& Medical Devices
Telecommunications,
Internet, and Media
Transportation
Water

Our Offices



Appendix

Agreeing on Cost Allocation Will Prove Critical to Project Success

Justifying Single-state and Multi-state cost allocations are important; simple methods reduce litigation

Single-State

- SAA results should be compared against a baseline scenario (without SAA, informed by recent interconnection cost data) to identify customer cost savings from coordinated approach
- A single-state SAA will be attractive even in the presence of SAA-related benefits to other states and the region, if the SAA-related cost savings to the sponsoring state exceed the amount of costs that could reasonably be allocated to other states based on benefits received

Multi-state

- Multi-state SAA options are more attractive (compared to single-state) because a larger share of total benefits will accrue to participating states, making cost allocations to non-participating states less important
- Simple approaches agreed to by the states (e.g., SPP highway-byway agreed to by their Regional State Committee) have proven durable
 - We have suggested a series of simple approaches to multi-state agreement cost allocation (see cost allocation appendix [here](#))
 - For example, projects driven by public policy needs could be allocated based on the need of each participating state
- “Low-hanging fruit” projects could have individual cost allocations informed by (but not formulaically based on) the specific benefits of the projects

Studies: Benefits of Proactively-Planned Offshore Transmission

Cost-Savings, Regional Planning

- PJM's [Offshore Wind Transmission Study](#) for 75 GW of clean energy resources shows a nearly 90% interconnection cost reduction for public policy resources compared with [previous cost analyses](#).
- PJM-New Jersey [State Agreement Approach](#) shows over \$900 million in cost-savings for interconnecting an additional 6,400 MW of OSW, among other benefits.
- MISO-SPP's [Joint Targeted Interconnection Queue Studies](#) reduce interconnection costs by over 50% while reducing other customer costs by approximately \$1 billion.
- National Grid's [study](#) for the UK found that proactive planning OSW Transmission through 2050 reduces costs by 19%, along with other benefits. A delay of only 5 years, cuts these benefits in half.

Cost-Savings, Inter-regional Planning

- LBNL's [recent study](#) found expanding transmission capability between any of the 3 northeastern ISOs by 1,000 MW would have saved \$100-300 million per year in wholesale power purchases, expected to grow with time.
- LBNL [also identified](#) resilience benefits, based on a large amount of interregional transmission value occurring during difficult-to-forecast times of severe system stress.
- MIT's [recent study](#) of the Northeastern U.S. and Canada found that an additional 4 GW of transmission capacity to Quebec could lower costs of zero-emissions power systems by 17-28%.
- A recent [General Electric Study for NRDC](#) showed that expanding interregional transmission capacity by 87 GW between various regions would provide \$83 billion in customer benefits.

Environmental & Community Benefits

- National Grid [found](#) that proactive planning for U.K.'s 2050 OSW goal significantly reduced marine and shoreline impacts, with 70% fewer beach crossings, and 30% lower offshore line-miles. The study similarly found reduced onshore impacts, with proactive planning requiring 60% fewer onshore line miles, and 55% less land.
- Similar benefits have been [demonstrated](#) by Brattle and Anbaric for New England and NY
- The magnitude of these benefits is confirmed by New Jersey's experience with the [State Agreement Approach](#), which allowed the consolidation of onshore grid access into a single transmission corridor, reducing onshore environmental and community impacts by two-thirds.