



Distributed Energy Resources Roadmap

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MIWG

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Krey Corporate Center - Rensselaer, NY

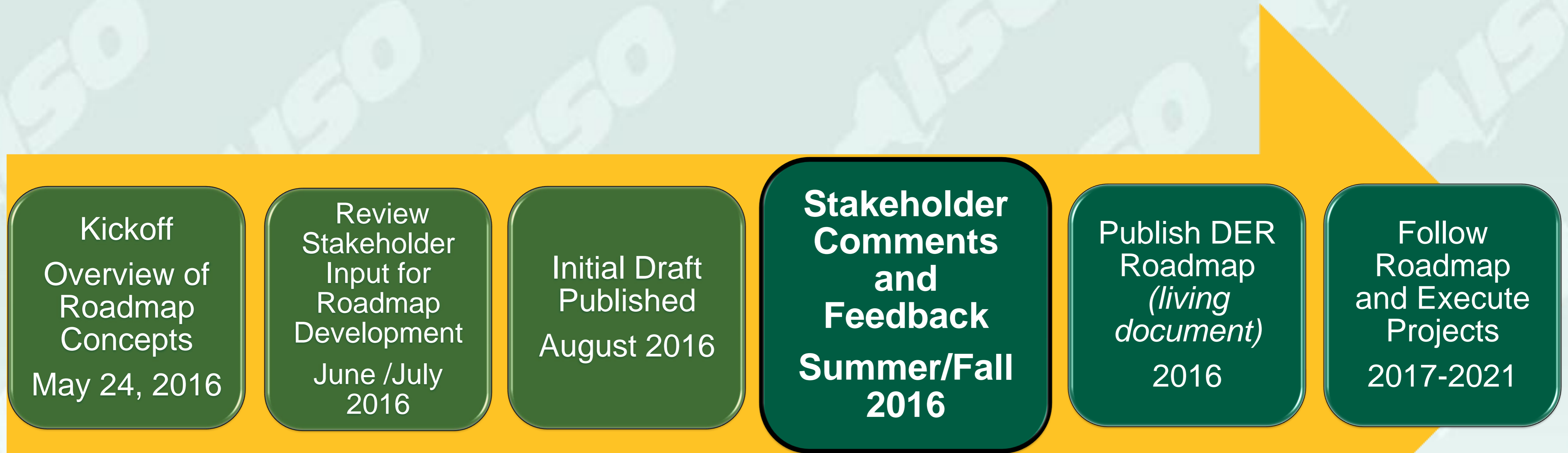
Initiative's Scope

- **Roadmap for next 3-5 years for integration of DER and evolutionary changes in current Demand Response programs**
- **DER is a resource or set of resources -- *typically located on an end-use customer's premises and operated for the purpose of supplying customer electric load -- that seeks to provide NYISO wholesale market services***
 - ***Curtailable load, generation, storage or various combinations***
 - ***Individual resources or aggregations***
 - ***Net load or net generation***

Key Objectives

- **Integrate DER into energy markets**
 - *Ability for real-time scheduling*
 - *Minimize out-of-market actions*
- **Align with goals of NYS REV**
- **Measurement and Verification**
- **Align payments with performance**
- **Focus on wholesale market**

DER Roadmap Development Process



DER Roadmap

Development & Input

- **MIWG 8/29**
 - *Initial Comments and Questions*
- **DER Workshop**
 - *September 22 – Radisson Wolf Road*
- **Summarize DER Workshop results and feedback at October Shared Governance meeting**
- **Written comments to mdarcangelo@nyiso.com and/or deckels@nyiso.com**
- http://www.nyiso.com/public/webdocs/markets_operations/market_data/demand_response/Distributed_Energy_Resources/DRAFT%20Distributed%20Energy%20Resources%20Roadmap%20-NYISO%208-17.pdf

Future Wholesale DER Participation

Capacity

Energy

Ancillary Services

Reliability

Non - Dispatchable

Special Case Resource (SCR) Program

- *Manual Activation*
- *Flexible Performance & Payment Options*

Emergency Demand Response Program (EDRP)

- *Manual Activation*
- *Voluntary Load Reduction*

Load Modifier

- *Self-managed Load Reductions to Reduce Capacity Obligation*

Price Capped Load Bid

- *Economic Day Ahead Load Procurement*

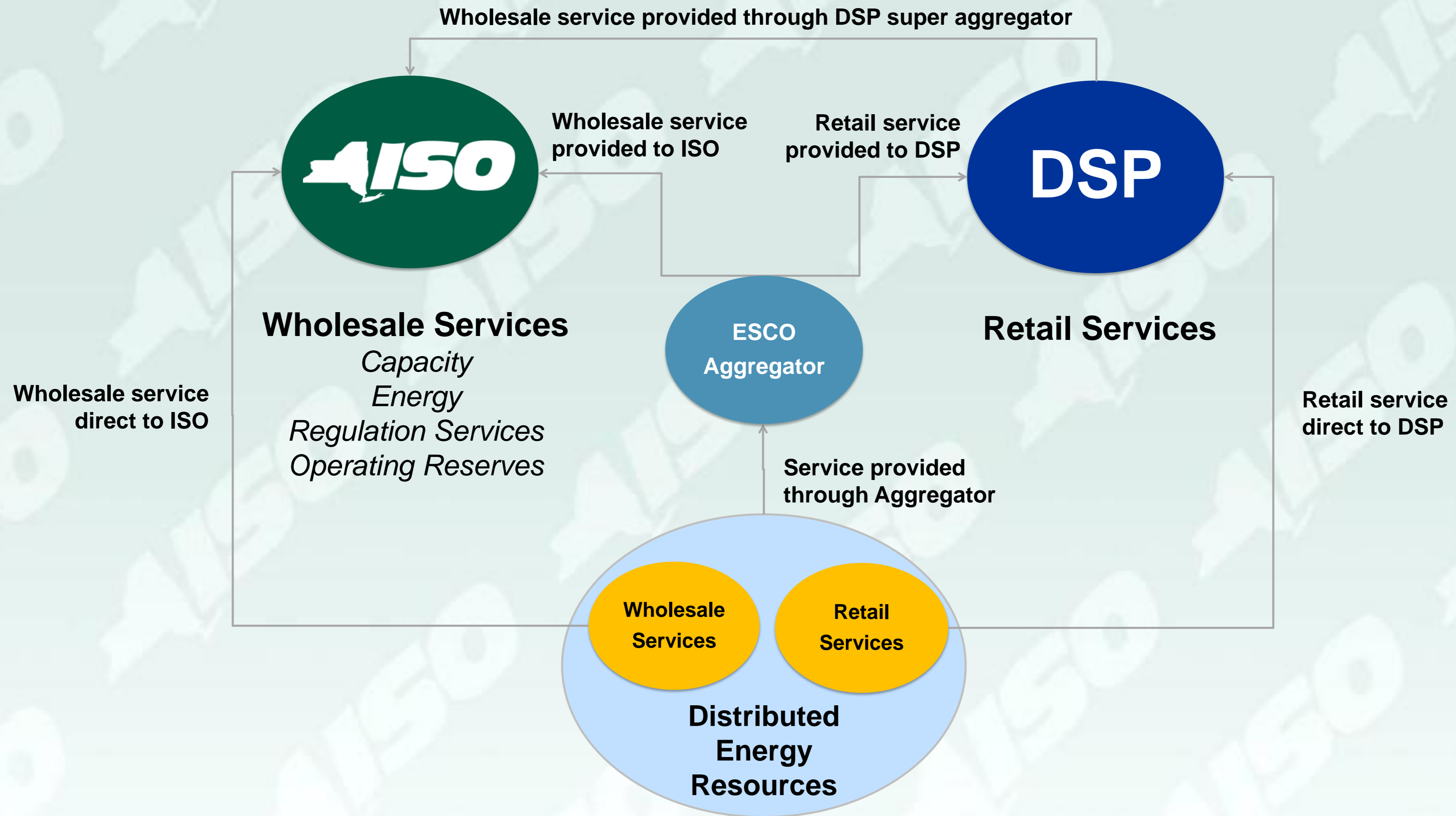
Economic

Real -Time Dispatchable

Dispatchable Distributed Energy Resources

- *Comparable to a Generator*
- *Supports Aggregations of DER*
- *Fully integrated in both Capacity and Energy Markets*
 - *Capacity with Daily Energy Must-Offer Obligation*
- *Flexible performance & payment options*

Integrating DER in Wholesale Electricity Markets



- **The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefit to consumers by:**
 - *Maintaining and enhancing regional reliability*
 - *Operating open, fair and competitive wholesale electricity markets*
 - *Planning the power system for the future*
 - *Providing factual information to policy makers, stakeholders and investors in the power system*

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