



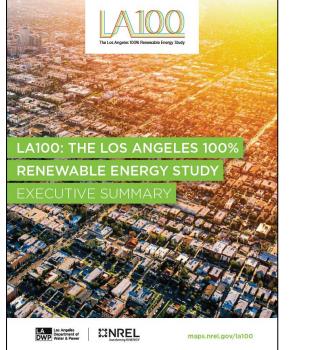
Integrated System Planning A Distributed Energy Resource (DER) Perspective of Process, Capabilities and Data

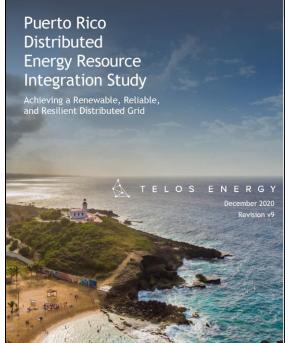
Greg Adams, Executive Technical Consultant Distribution Operations and Planning gadams@epri.com

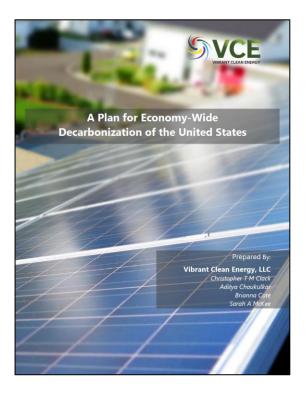
ESIG Spring Technical Workshop March 27, 2024



Summary of Distribution Inclusive Studies





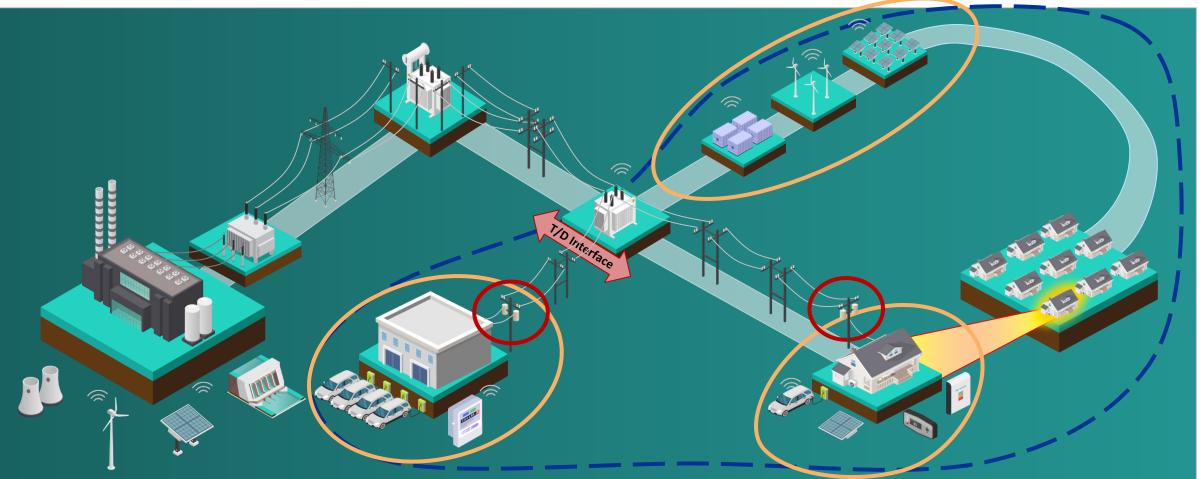


Consensus

There is value in optimizing bulk & distribution resources



The DER Perspective of Integrated Planning



Common to GTD

- Increasing customer engagement
- Increasing complexity
- Increasing peaks and valleys

Unique to Distribution

- Interconnects with the customers
- Quantity of equipment
- Low visibility of the system



Integrated Planning Outcomes



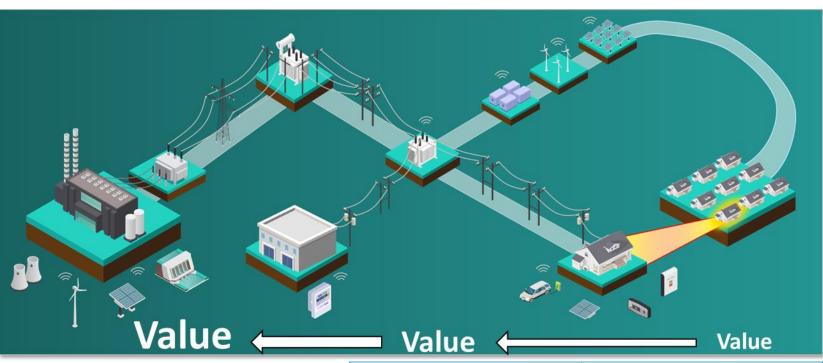
*Grid integrity includes system reliability, resilience, power quality, safety, security (cyber, physical), and agility.



Value of Distribution Located Resources

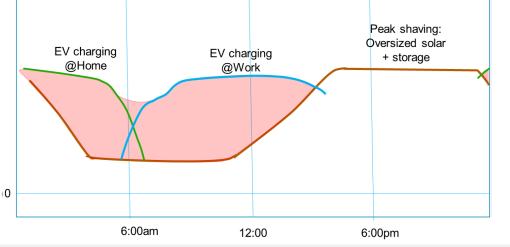
Maximize value of G,T,D infrastructure:

- Peak shaving
- Managed electrification
- Value layers
- Lower rates
- Keeping customer engaged
- Strategic deployment
 - Technology
 - Place
 - Time



Example:

- Strategic solar and storage
- Managed charging



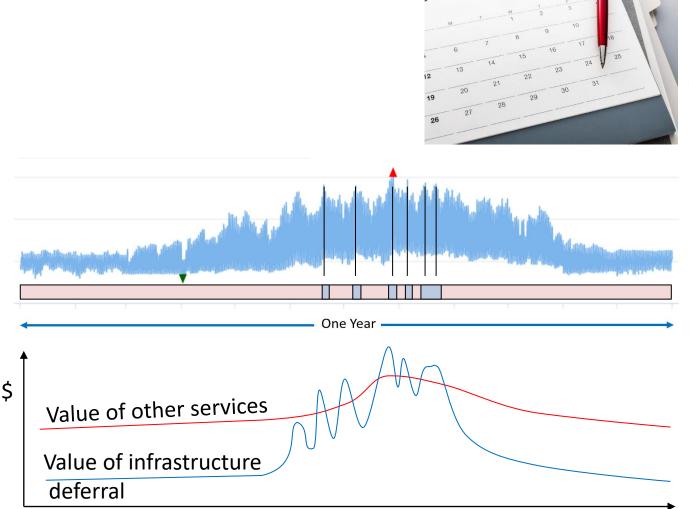
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Temporal value layers of distributed storage

Limited Peak Period

 Infrastructure deferral Remaining Calendar Period

- Ancillary services
- Arbitrage
- Backup

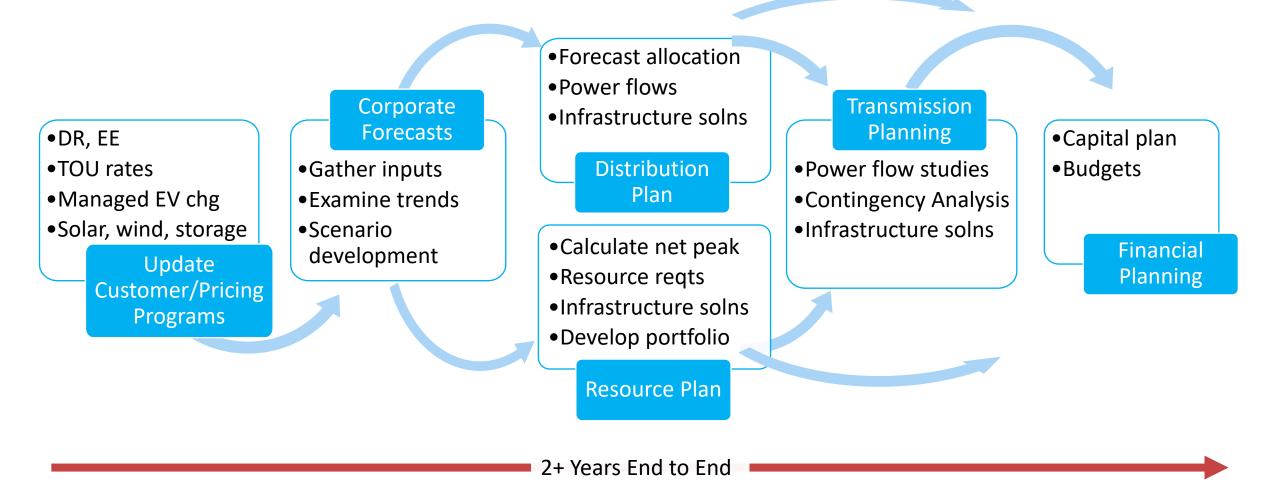


Maximizing the value of solar and storage



Integrated Planning – A Distribution Perspective of Process, Capabilities, and Data

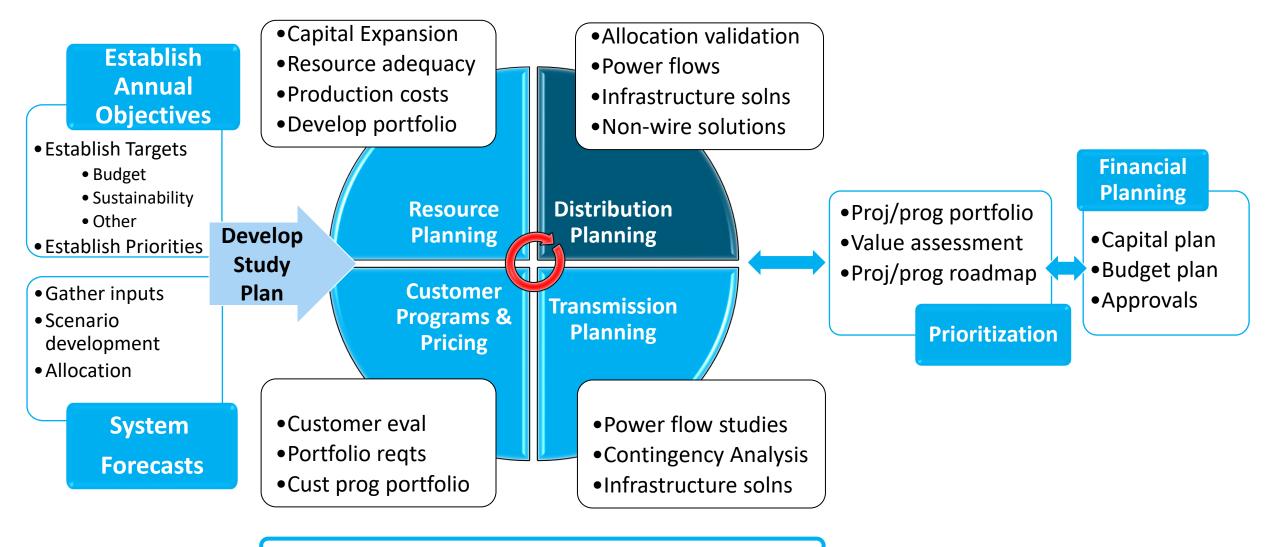
Current Annual Planning Process



Series of Handoffs

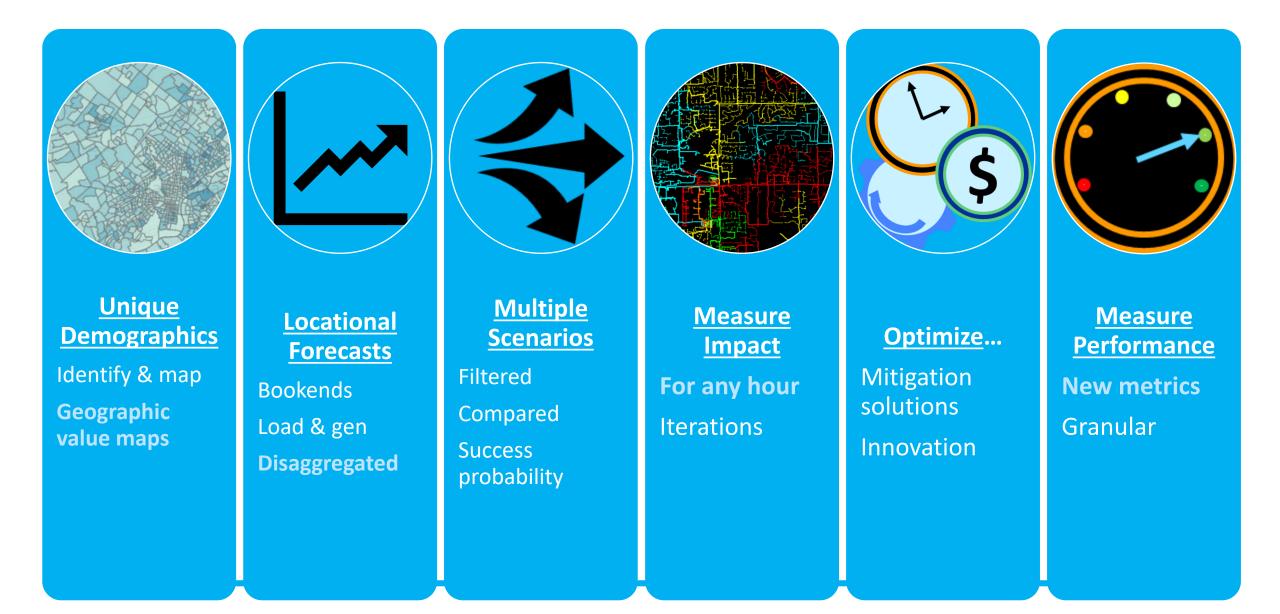


Integrated Annual Planning Process



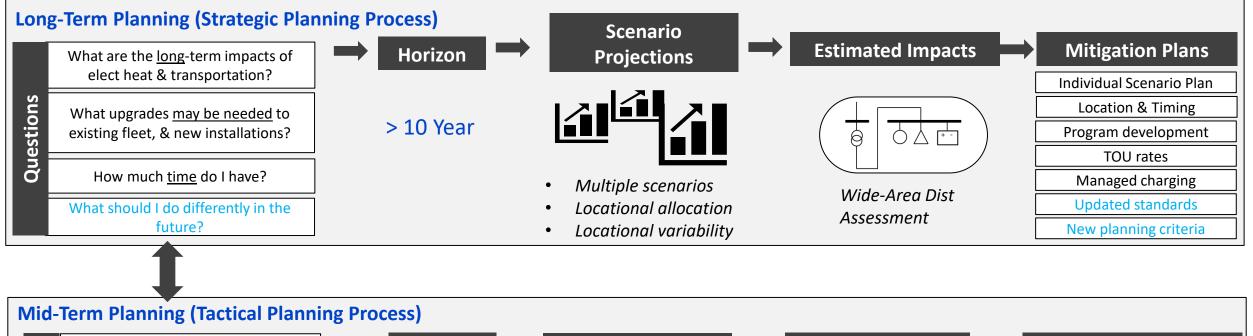
Agile Planning Period

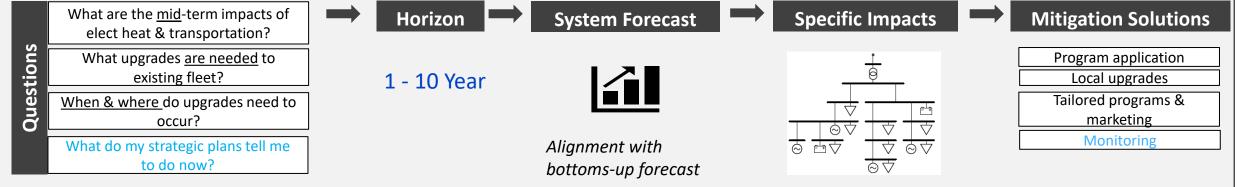
Advanced Distribution Planning Capabilities





The Process of Dx Rightsizing for Electrification (Strategy and Implementation)







Key Insights

- Mid (1-10 years) and Long-term (>10 years) planning requires new forecast and analytic capabilities
- Requires a deeper understanding the customer
 - Modeling behavior and influence
- Improved modeling and intersystem analytics
 - Streamline, automate, and integrate
 - Better efficiency and optimization
- Modern Grid is a key enabler (visibility & control)





TOGETHER...SHAPING THE FUTURE OF ENERGY®

Greg Adams

Executive Technical Consultant Distribution Operations and Planning gadams@epri.com

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