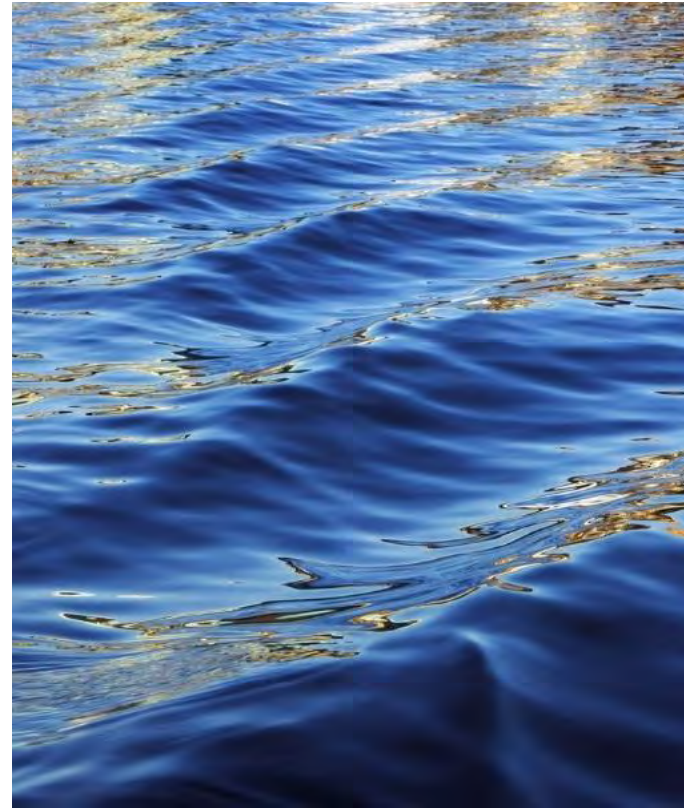




Defining Delivery System
Planning challenges of
meeting load increases,
affordability, & renewable
energy mandates

NWESS 2026





Context: A time of unprecedented change

Energy systems are seeing unprecedented change.

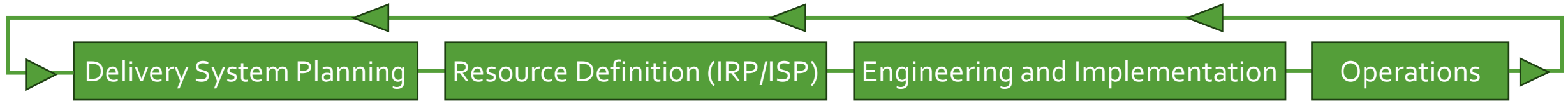
- ❑ Demand is surging from Large Load Interconnections (e.g., data centers, industrial loads, and mining installations)
- ❑ New load growth is coming from electric vehicles and building electrification
- ❑ Renewables (Tx and Dx interconnected), utility grid-scale storage, microgrids, and Virtual Power Plants continue to grow at breakneck speed.
- ❑ Other technologies like solar + storage, hydrogen, small modular reactors, and vehicle-to-grid, are reshaping the energy landscape
- ❑ Policy mandates are tightening, equity concerns are rising, and the stakes have never been higher.

All of these are also impacting core areas such as affordability for the average customer.





What does this mean for today's utility?



It all starts with the Delivery Systems Planning

- Analyze needs – combine for solutioning
- Plan for growth – Forecast load and renewables (solar, wind, EVs, DR)
- Standardize data / models – Everyone works from same version of truth
- Assess – Partner with customers to create innovative solutions
- Optimize – for cost
- Align – with operations
- Backcast – for validation
- Innovate – with new technologies



We need a transformed planning process

- Delivers locationally specific resource mixes
- Engages stakeholders meaningfully
- Integrates gas / electric planning to capture trade-offs and synergies
- Enables real-time modeling and iterative refinement to keep pace with market shifts
- Ensures decisions are timely and actionable
- Delivers reliability and integrity of both resources and the system
- Includes full transmission and distribution costs alongside system reliability metrics
- Aligns regulatory outcomes with stakeholder intent
- Measures equity benefits and burdens based on geography and resource type
- Provides transparency in assumptions, criteria, and enablement costs

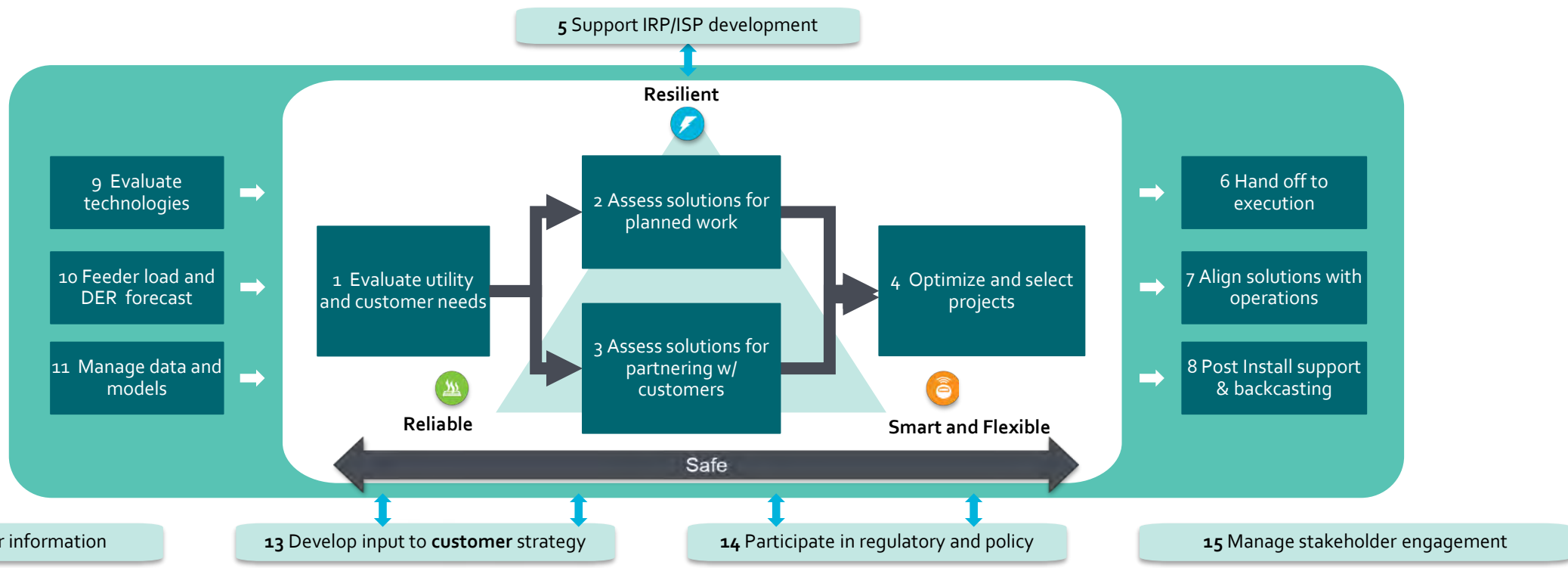
It also provides opportunities to share data across utility boundaries and to consider cross-utility collaborative acquisitions to scale benefits and reduce costs.



Presenting a Delivery System Planning operating model



Key Partner Stakeholders Internal to utility



Delivery System Planning

Example Stakeholders External to utility



A couple of items for consideration

- Move from IRP to ISP
 - Fluctuating resource costs.
 - Need to secure resources swiftly or be out-competed.
 - Finally – deliverability
- Redefining Forecasting





What's next ... a Journey Map

A Journey Map provides a common vision over time across multiple dimensions and is used to align grid **investments and pace**. These dimensions include:

- The utility's vision, corporate goals, resource / supply plans, and competitive pressures
- Regulatory, legislative, and market activity across all jurisdictions
- Technology viability, maturity and investments
- Societal, customer, and external stakeholder adoption and shifts

These dimensions span four horizons and is used to **identify Grid Modernization Initiatives** and **set scope direction** into the future:

- Near-Term
- Mid-Term
- Long-Term
- Future



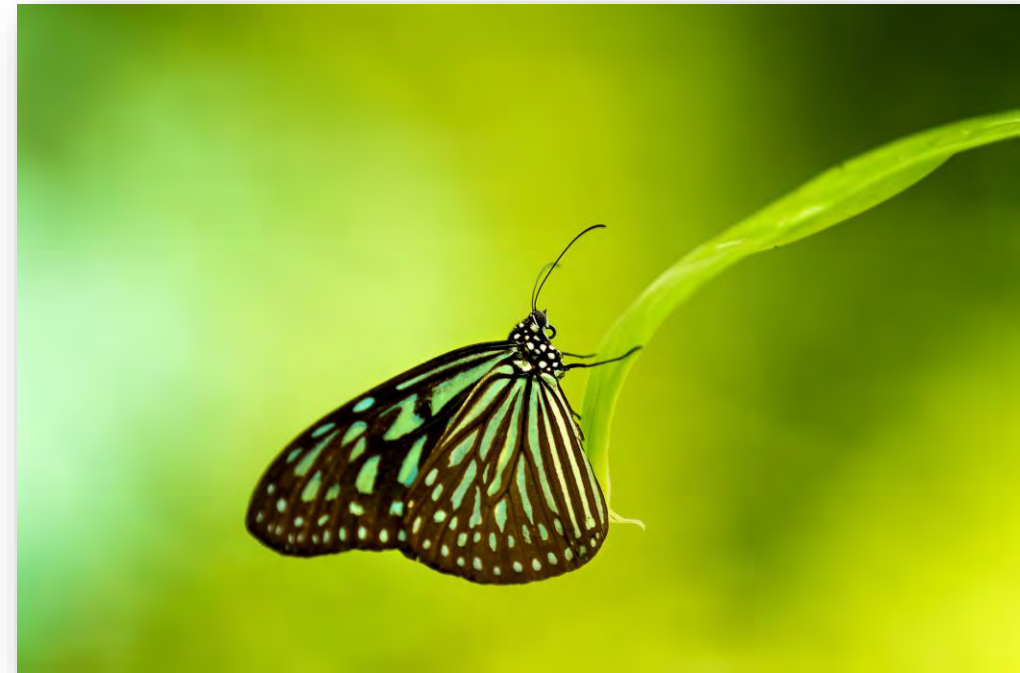
The journey map keeps short-term needs and long-term priorities in balance, with clear signposts that guide timely pivots.



Some key takeaways

- Utilities are facing unprecedented change
- Pressure from large load interconnection requests
- Tremendous competition for supply resources
- Legislative / regulatory pressures for clean energy
- Appropriate resources far away – need transmission
- Data centers looking for combination energy needs – electric, gas, nuclear
- Customer affordability and rate pressure
- Grid reliability and extreme weather
- Cybersecurity threats
- And the list goes on ...

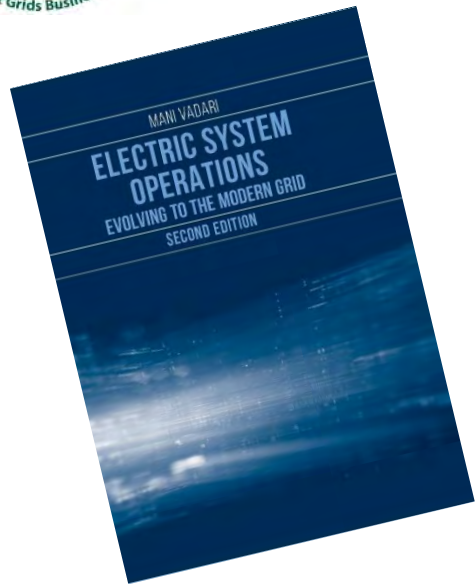
Change is hard, but worth the effort!





Key References to Consider

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THANK YOU



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