Electric Grid Capacity Study

June 23, 2026

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Redmond
WASHINGTON

Purpose and Agenda

Presentation Purpose

- Establish high level understanding of the local electric grid's ability to support Redmond's future growth and electrification while informing long-term planning and next steps.

Agenda

- Study Background and Goals
- Scope and Approach
- Key Findings
- Next Steps

Study Background

Drivers

- Redmond 2050
  - +29,800 housing units
  - +31,600 jobs by 2050
- Electrification and grid modernization
- Policy and regulatory landscape
- Existing grid constraints

Goals

- Evaluate local capacity
- Identify potential constraints
- Inform coordinated planning and investment
- Support housing, economic development, and climate goals.
- Deepen strategic coordination

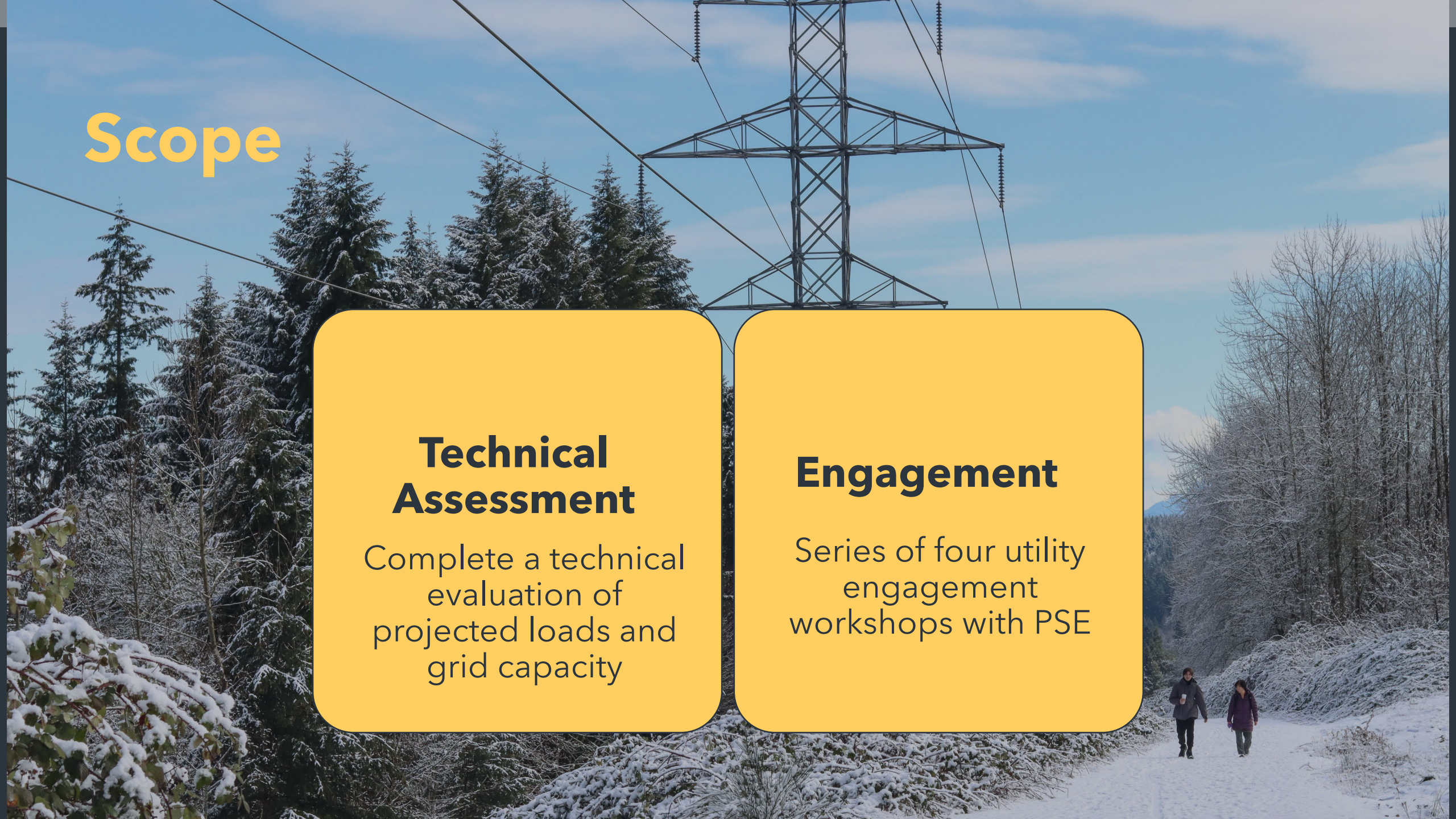
Scope

Technical Assessment

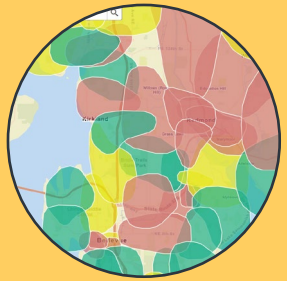
Complete a technical evaluation of projected loads and grid capacity

Engagement

Series of four utility engagement workshops with PSE

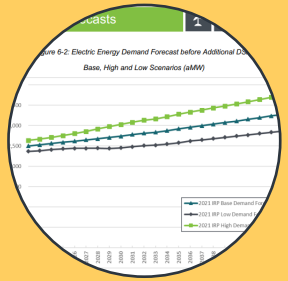


Approach



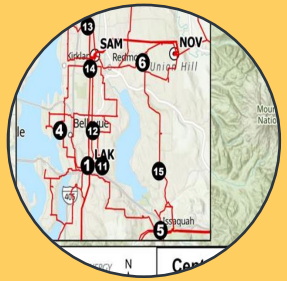
1. Existing Conditions Review

2. Cities' Growth Plans

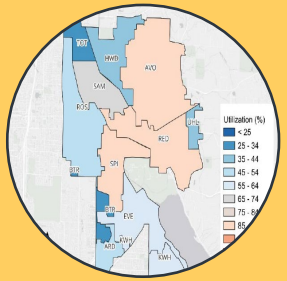


3. PSE's Demand Forecasts

4. Develop a Partner Cities Demand Forecast



5. Incorporate PSE's Planned Substation Upgrades



6. Final Study, Findings and Recommen-dations

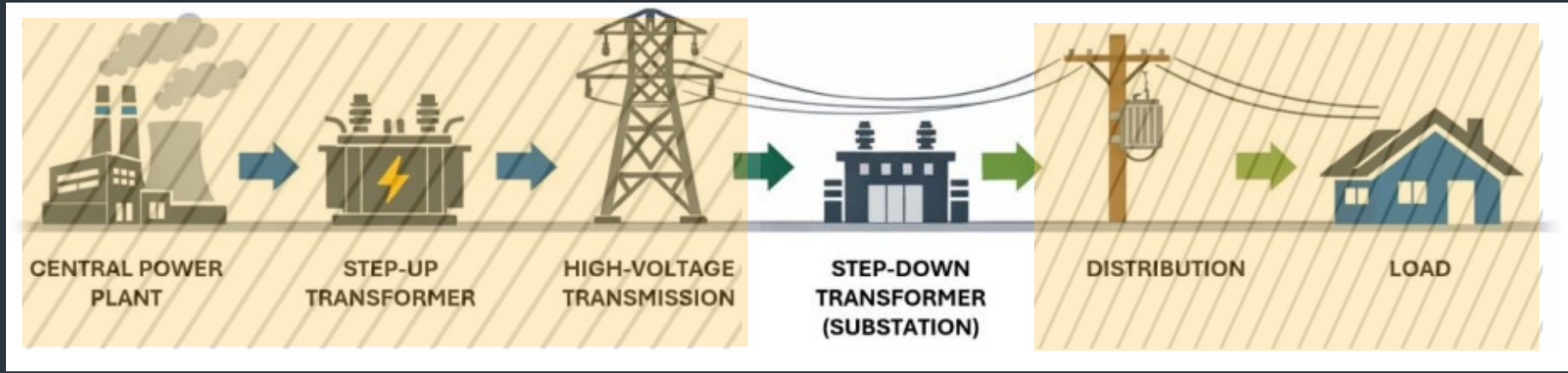
Scope and Context

Scope

- Substation-level analysis starting at 2030
- Assumes currently planned load transfers and substation upgrades complete.

Context

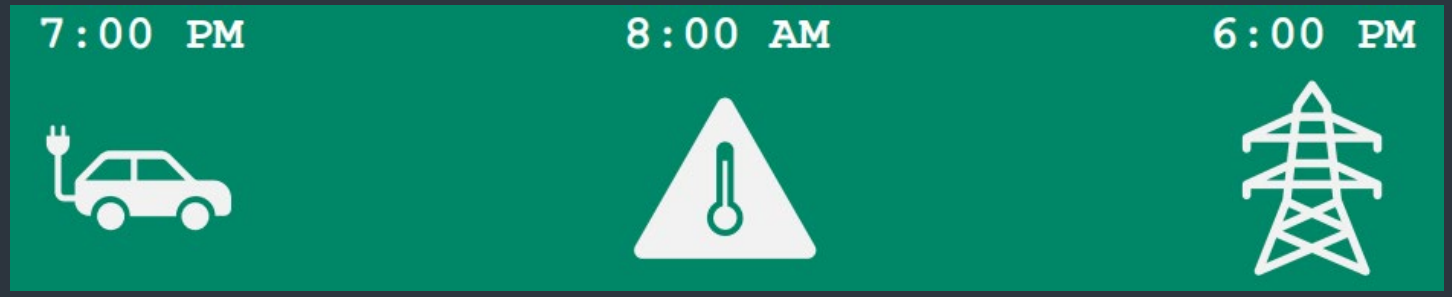
- PSE substation load forecasting extends 10 years.
- The Partner Cities do not forecast electrical load directly, but plan for growth in 20+ year timeframes.



Technical Assessment

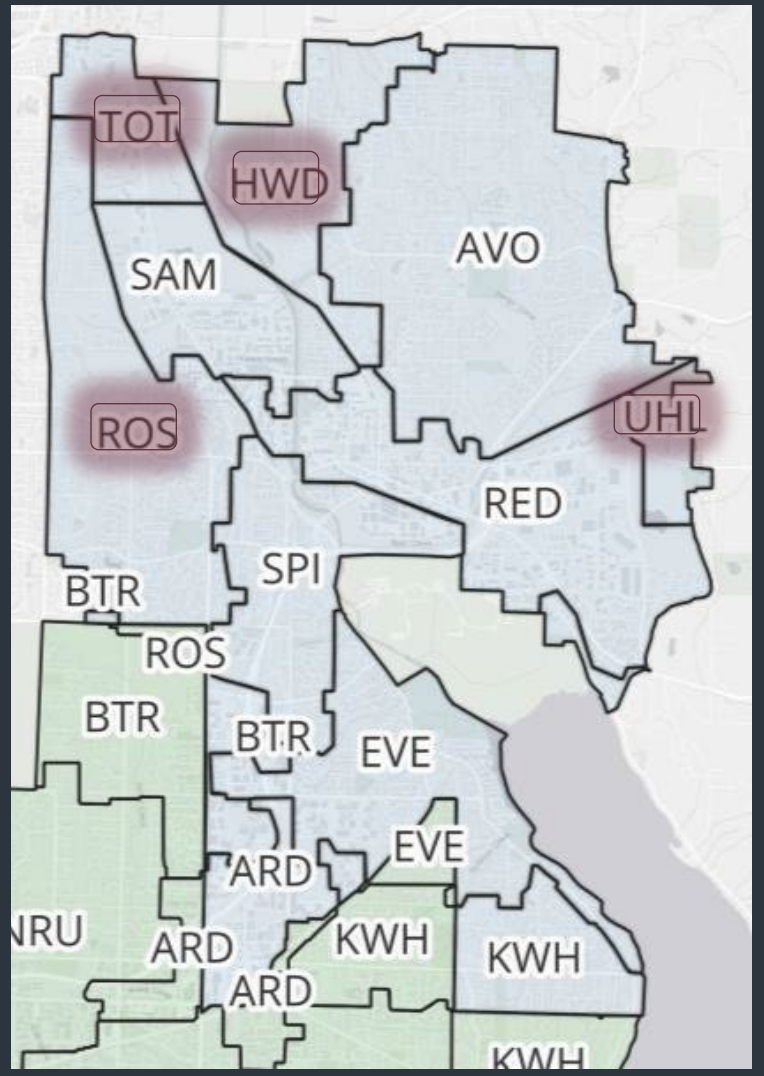
Redmond Electricity Demand Forecast Findings

- Estimated 70% increase in total electricity demand by 2050
- 75% of building load growth driven by new construction, 25% from existing building electrification
- 10% annual growth from EV adoption
- 20% of local substations at risk of exceeding their capacity by 2050
- Magnitude and timing of load is changing



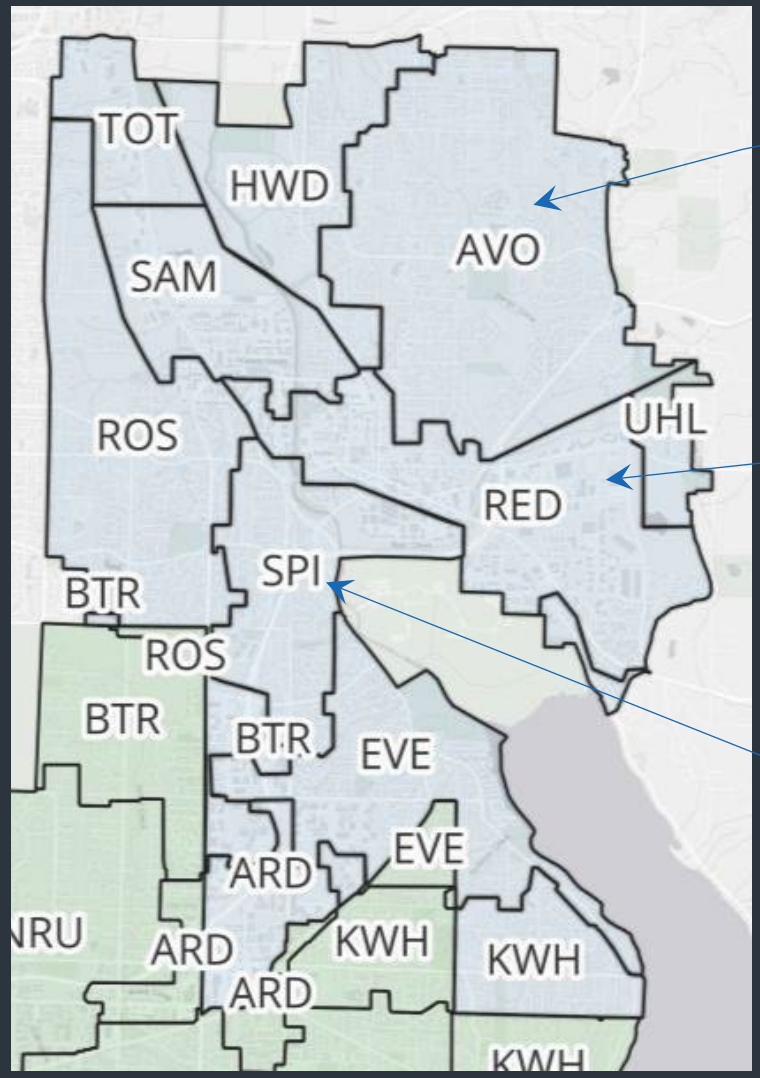
Planned PSE Infrastructure Projects (2026-2030)

- Analysis assumes currently planned PSE upgrades are completed on schedule.
- Timely implementation is critical to avoiding future development constraints.



Assessment Findings

- Substation capacity sufficient over the next 10 years.
  - Dependent on timely completion of planned upgrades.
- Three substations forecasted to see constrained capacity by 2035.



Avondale
Driven by growth in North Redmond, Bear Creek, & Downtown

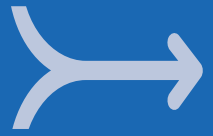
Redmond
Driven by growth Downtown & Marymoor Village

Spiritbrook
Driven by growth Downtown and Overlake

Key Findings

- PSE and Redmond forecast growth with **different planning horizons and methodologies.**
- PSE substations are anticipated to have enough capacity with **planned infrastructure improvements** to serve projected needs over the next 10 years.
- **Population growth primary driver** of increased electricity needs.
- Coordination to expand use of **demand-side resources (solar and batteries) and demand management (behavior change)** will be important.

Recommendations



Harmonize Forecasting and Joint Planning

Streamline Regulatory Processes and Implementation

Strengthen Grid Flexibility and Resilience

Thank You

Any Questions?

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