

# Voltage Conversion Evaluation Initiative

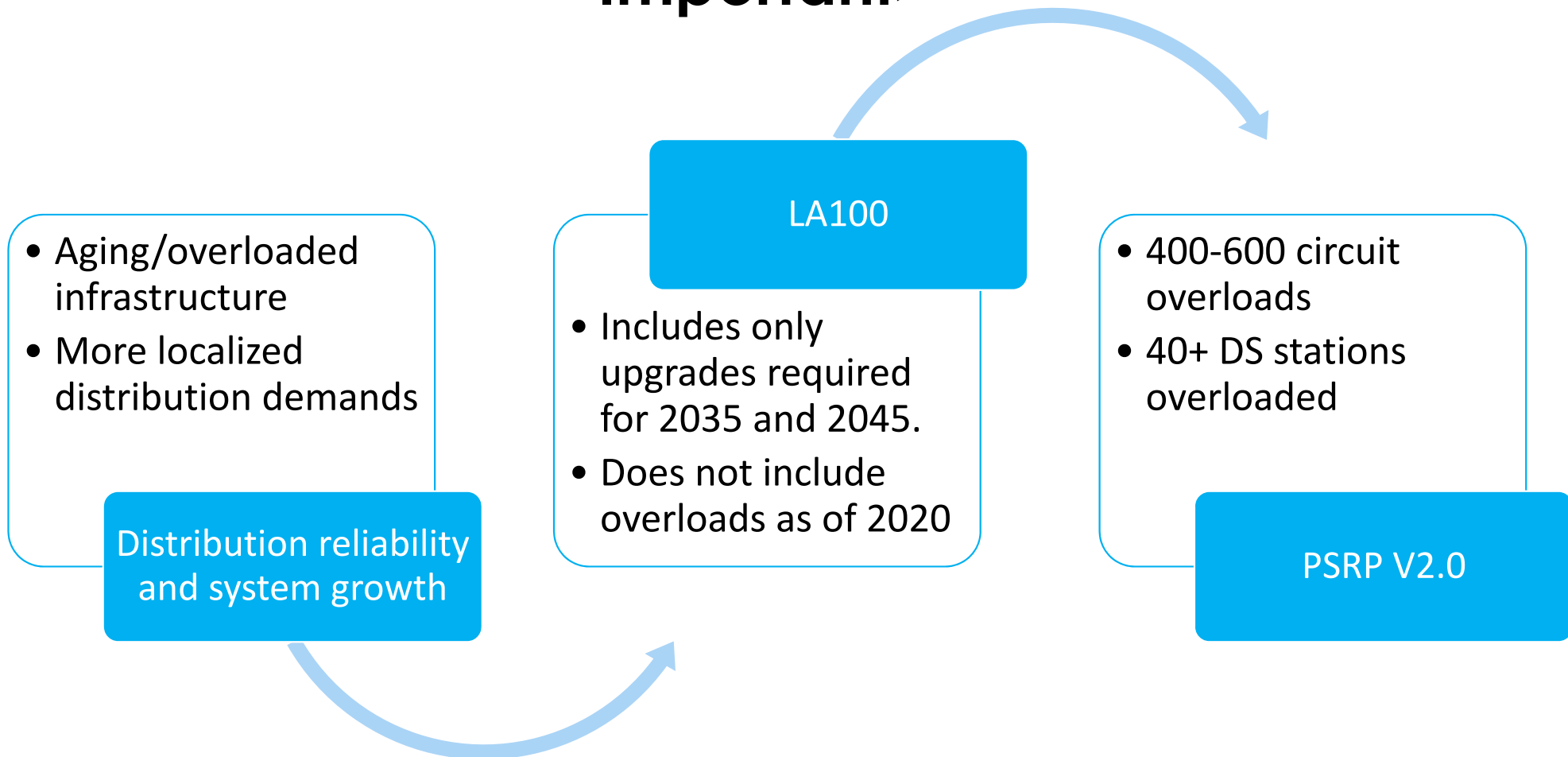
## LADWP Voltage Conversion Study

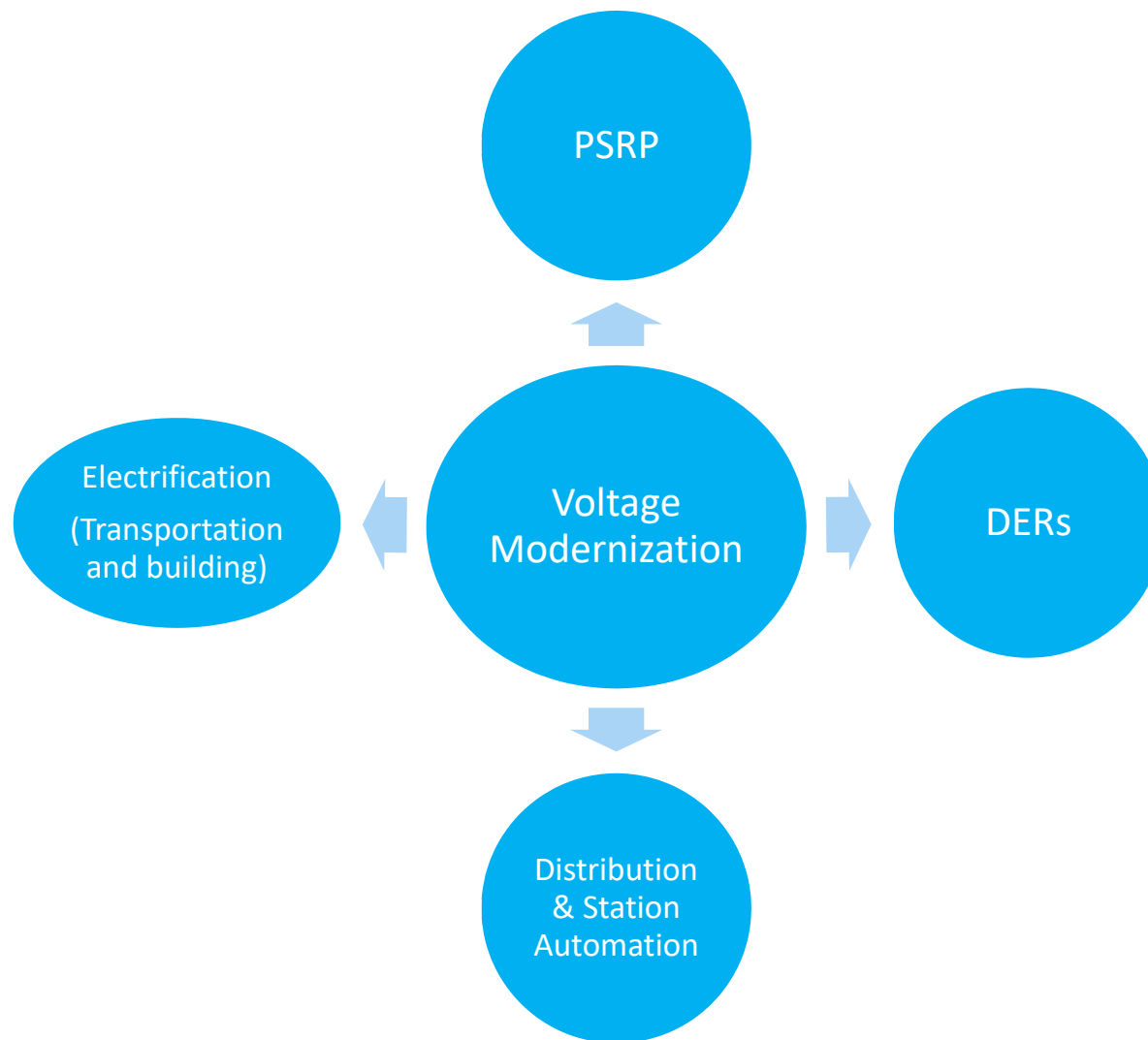
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# Why is Voltage Modernization Important>







# Study Objectives & Overview

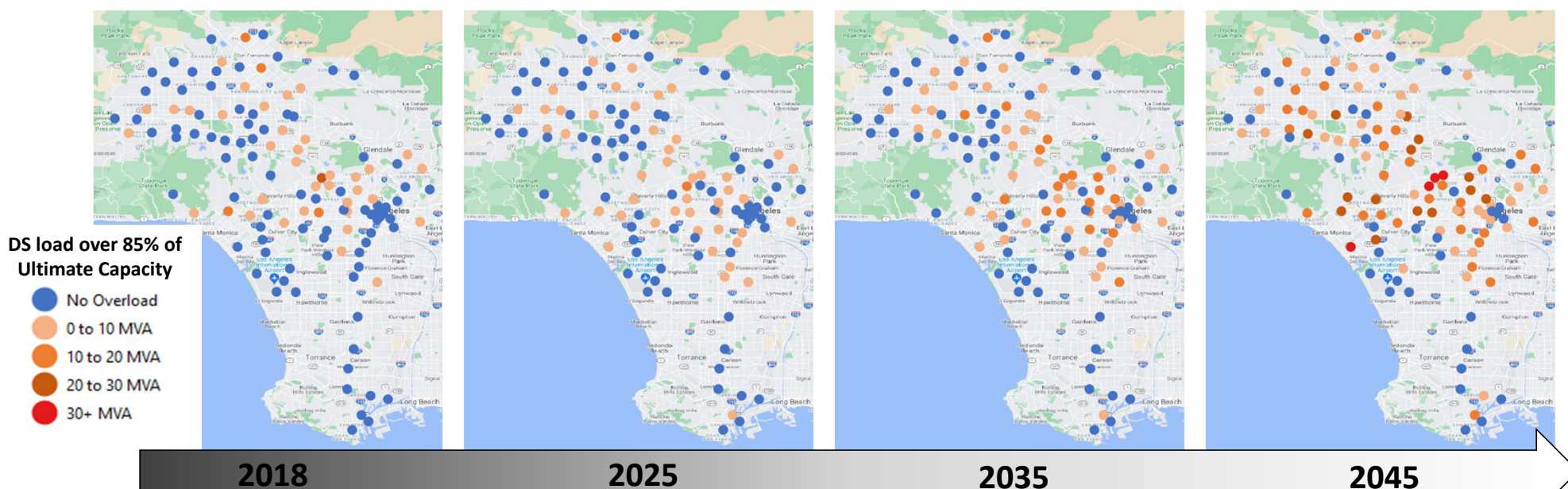
# Assumed System Demand Projections

## LA100 High-Load Prediction

- 35% peak load growth by 2045
- Informed detailed DS assessments

## LADWP Distribution Planning

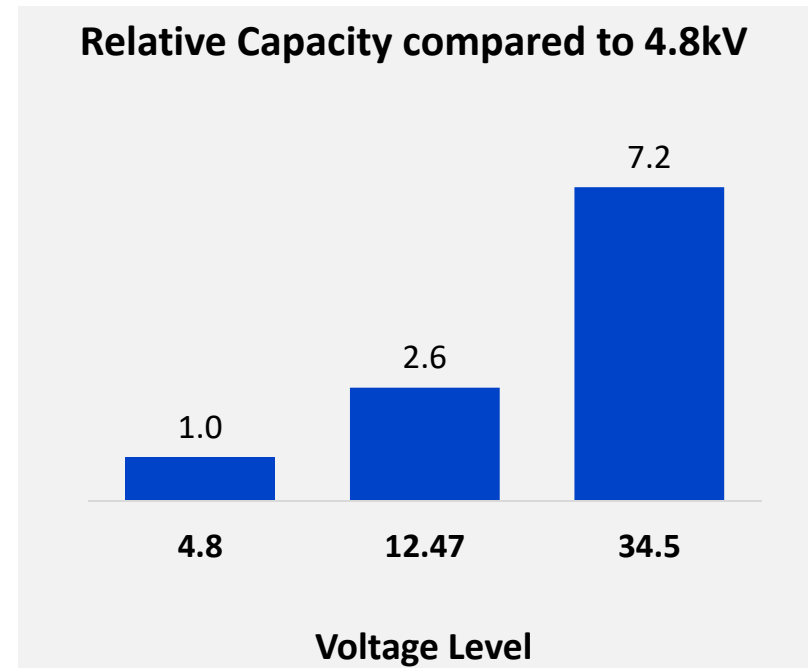
- Individual DS forecasts
- Basis of systemwide cost estimates



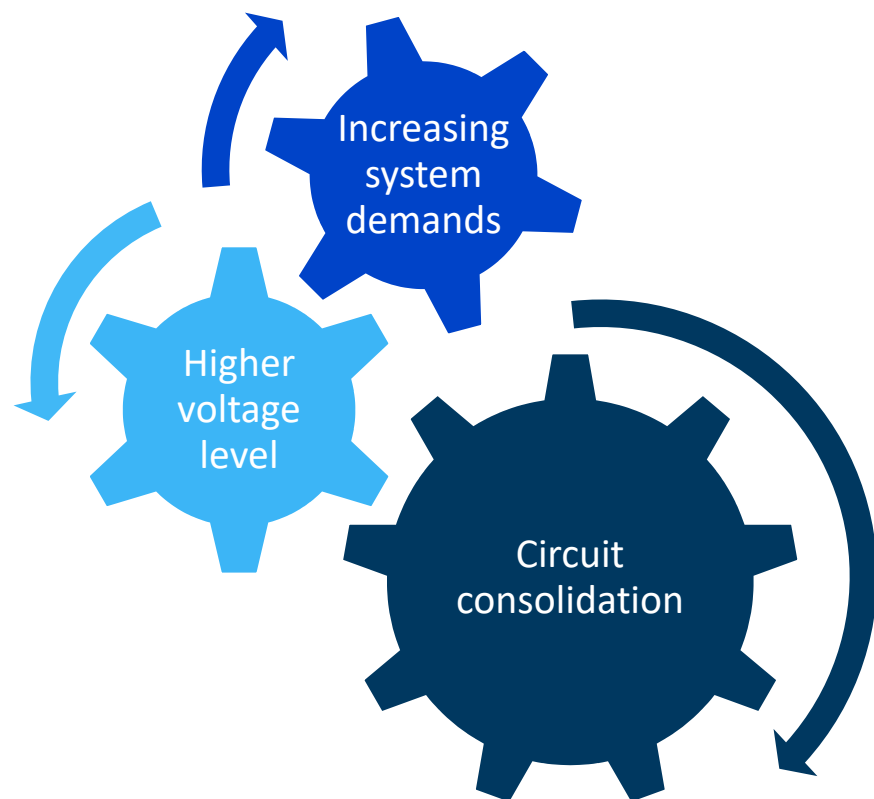
# Study Objectives

Evaluate options for increasing the voltage level of the existing 4.8kV system to address:

- Increasing load growth
- Physical limitations
- DER adoption



# Circuit Changes at Higher Voltages



## Considerations

Overall Costs	Capacity for load growth	Hosting capacity
Reliability	Automation needs	Safety & workability
New distributing stations	Land/ROW needs	Roll-out difficulty
Risk with uncertain growth	Losses	Voltage regulation



# Technical & Economic Findings



# Voltage Conversion Configuration Options

**4.8kV Baseline**

**12.47kV Full**

**34.5kV Full**

**34.5kV & 12.47kV  
Partial**

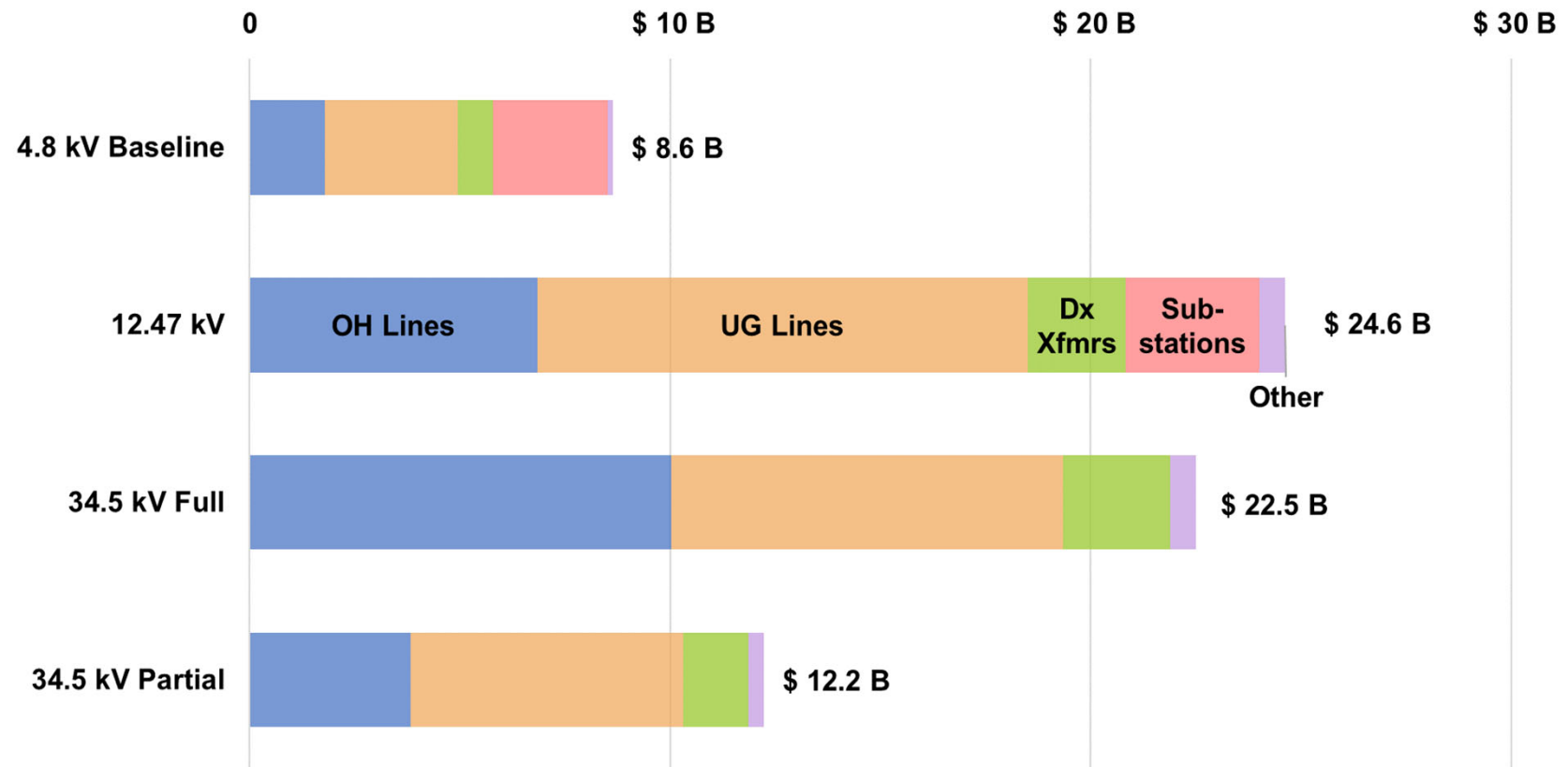
## Key Risks to overcome

**Staffing**

**Budget**

**Materials  
&  
Technology**

# Projected Systemwide Capital Costs





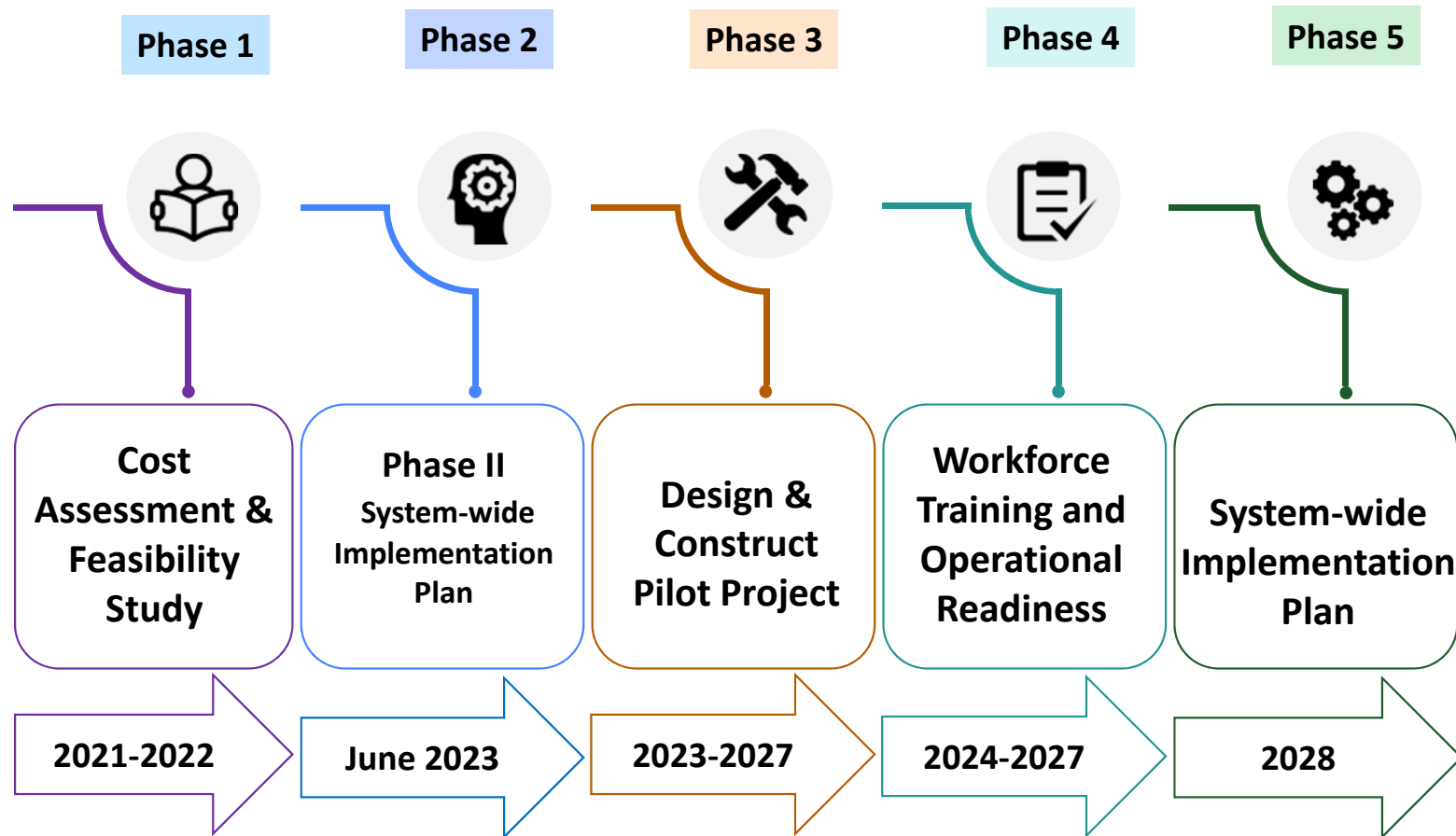
# Recommendations

## Current Status

**Conducting Phase II of Study to develop a strategic approaches for expanding the 34.5kV system and converting portions of the 4.8 kV system.**

**Phase II will inform system design and planning practices to meet evolving load growth, while optimizing costs and maintaining reliability.**

# Voltage Conversion Program Roadmap



A blue-tinted photograph of four people, two men and two women, standing side-by-side. They are all wearing white lab coats with the EPRI logo on the left chest. The woman on the far right is also wearing a white hard hat. They are all smiling and looking towards the camera. The background is a solid blue color.

# Together...Shaping the Future of Electricity