Los Angeles Department of Water & Power

Distribution System Assessment

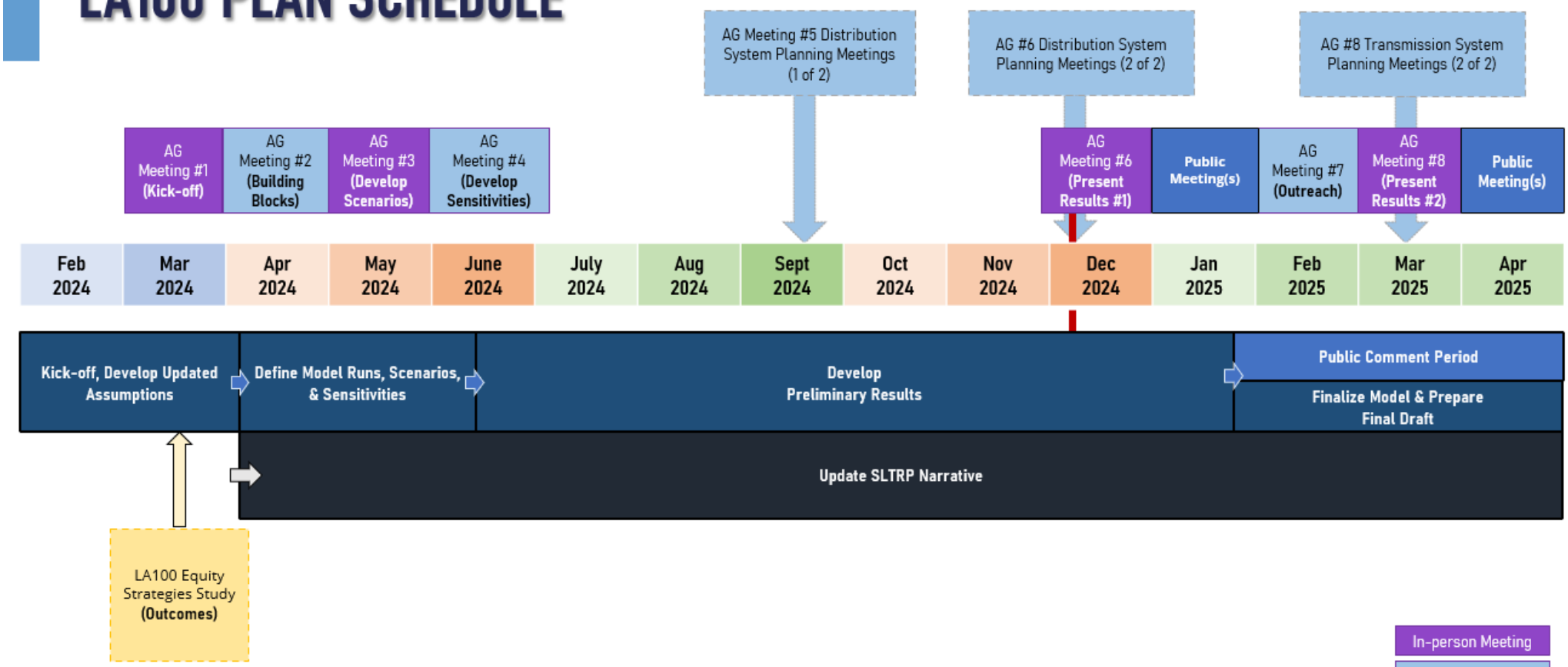
Haik Movsesian, P.E. – Manager of Distribution System Planning

Arash Saidi, P.E. – Director of Power System Planning and Innovation

DWP-NC MOU Oversight and Advocacy Committee Meetings

August 1, 2026.

LA100 PLAN SCHEDULE



Note: Specific dates and meetings are subject to change.

LA100 PLAN (FORMERLY SLTRP)

What is LA100 Plan?

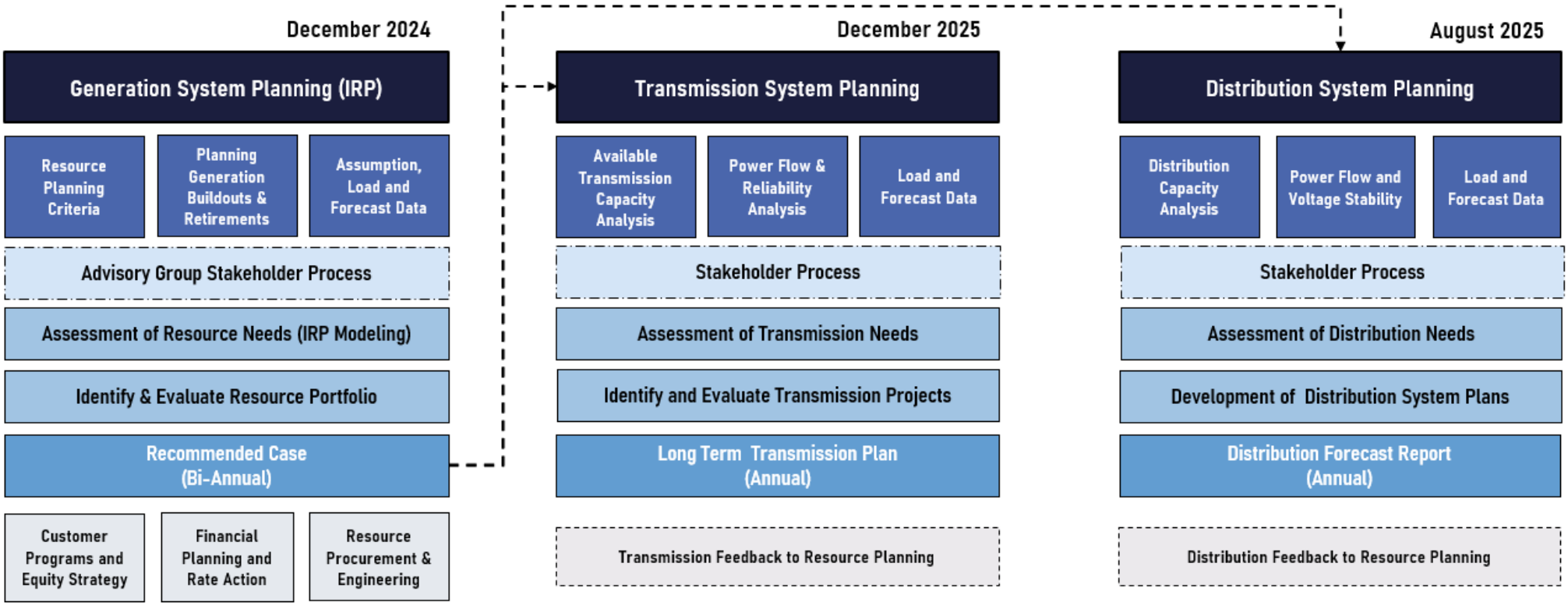
- Emphasizes LADWP's position to **fully decarbonize** the electric **power sector by 2035**
- Focus on **100% carbon free by 2035** goal as the main roadmap compared to the State's mandate as a reference, and assess numerous risk factors as sensitivities
  - Updates LADWP's Power System Roadmap to achieve 100% carbon free by 2035 while tracking progress
  - Updated input assumptions (load, pricing, buildout schedules) and output metrics (cost, emissions, reliability, energy burden, rates)
  - Incorporates new technologies as they develop
- Expands Planning from traditionally Generation Resources to integrate Transmission System and Distribution System needs

What is different between LA100 Plan and SLTRP?

- LA100 Plan will focus on **100% by 2035 as the only pathway** (scenario) for LADWP, whereas SLTRP traditionally has considered various scenarios to decarbonize
- LA100 Plan will incorporate outcomes from **LA100 Equity Strategies Implementation** to the greatest extent possible
- Provides an iterative loop between planning for Generation, Transmission, and Distribution System needs (e.g. Integrated System Planning)

POWER INTEGRATED SYSTEM PLANNING

Regulatory Requirements & Public Policy Goals



2026 LA100 Plan & Assumptions Package

LA100 PLAN
LADWP Recent Accomplishments

RECENT ACCOMPLISHMENTS & UPDATES

Transmission & Distribution System Upgrades

Investing $1.8 billion in transmission system upgrades to improve ability to **import renewables**; over $1.3 billion in distribution system upgrades to improve **system resilience** during heat storms and other stressed-grid conditions, while preparing for system **load growth and electrification**

Local Solar

Achieved approximately **750 MW** of local solar, with a target of over 2,200+ MW by 2035.

Clean Energy Progress

Near 60% carbon-free energy with 43% renewables (In 2023)

- Eland 1 now in operation/commissioning (200 MW solar + 600 MW-hr battery)
- Eland 2 expected online in Q1 2025 (200 MW solar + 600 MW-hr battery)

Forecasting nearly 66% carbon-free energy with 49% renewables for 2024

Distributed Energy Resources

Upcoming Request For Proposal (RFP) will result in $1+ billion in investments toward distributed energy resources to **maximize local sustainability and resilience**

Demand Response

Currently evaluating vendor proposals for deploying **300 MW** of demand response to **reduce strain on the electric grid** during peak-load conditions

RECENT ACCOMPLISHMENTS & UPDATES

Electric Vehicle Infrastructure

Targeting **45,000 charging stations** by 2025 and 120,000 by 2030, with plans to build EV Hubs, **accelerating the transition** to electric vehicles, especially for low-income and disadvantaged communities **greatly improving air quality and health**

Energy Efficiency

Achieved **15% energy reduction** through various customer programs and plans to achieve an **additional 15% energy reduction** over the coming decade. Programs will provide **cost-savings to customers**, particularly the most vulnerable

Building Electrification

LADWP has introduced new building electrification Business Offerings for Sustainable Solutions (BOSS) Programs lowering the overall cost of electrifying, which will **accelerate building electrification and improve air quality and health**

Intermountain Power Plant (IPP) Renewed Project

First-of-a-kind green hydrogen ready power generation project slated for commercial operation by mid-2025, **eliminating millions of tons of CO_2** and freeing **1,000 MW+ of transmission capacity** for renewable imports to LA

Grant Funding

LADWP applied for more than **$4 billion** in federal, state, and local grants and was selected for ~$150 million, which are currently awarded or in negotiations and will reduce the **cost impacts of the clean-energy transition for ratepayers**

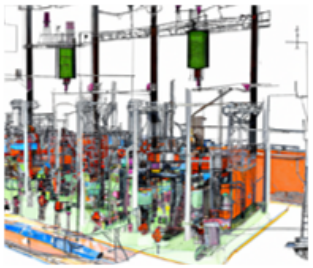
DISTRIBUTION SYSTEM ASSESSMENT RESULTS MEETING (2 OF 2)

DISTRIBUTION SYSTEM INITIATIVES

Power System Reliability Program

- Replacement of distribution assets to ensure long term system longevity and reliability.

Distribution System Capacity



- Grid's capacity to accommodate existing load and load growth from electrification

Customer Interconnections

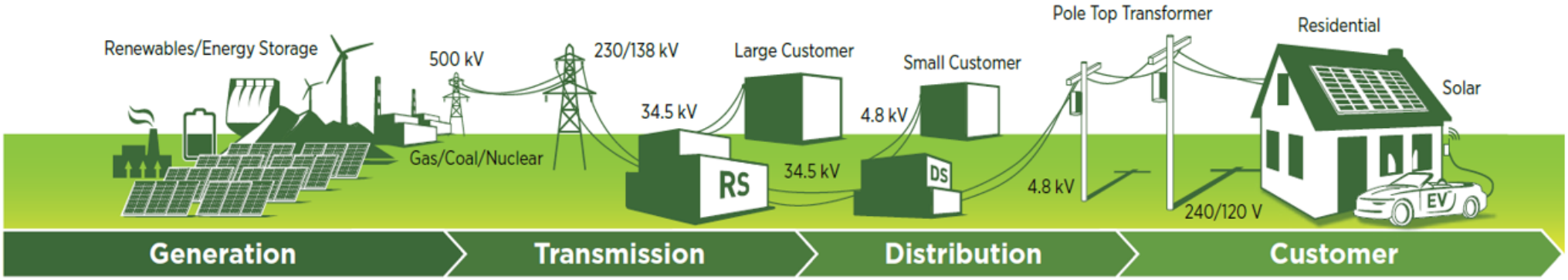
- Onboarding of new customers, load, and distributed energy resources.

Programs

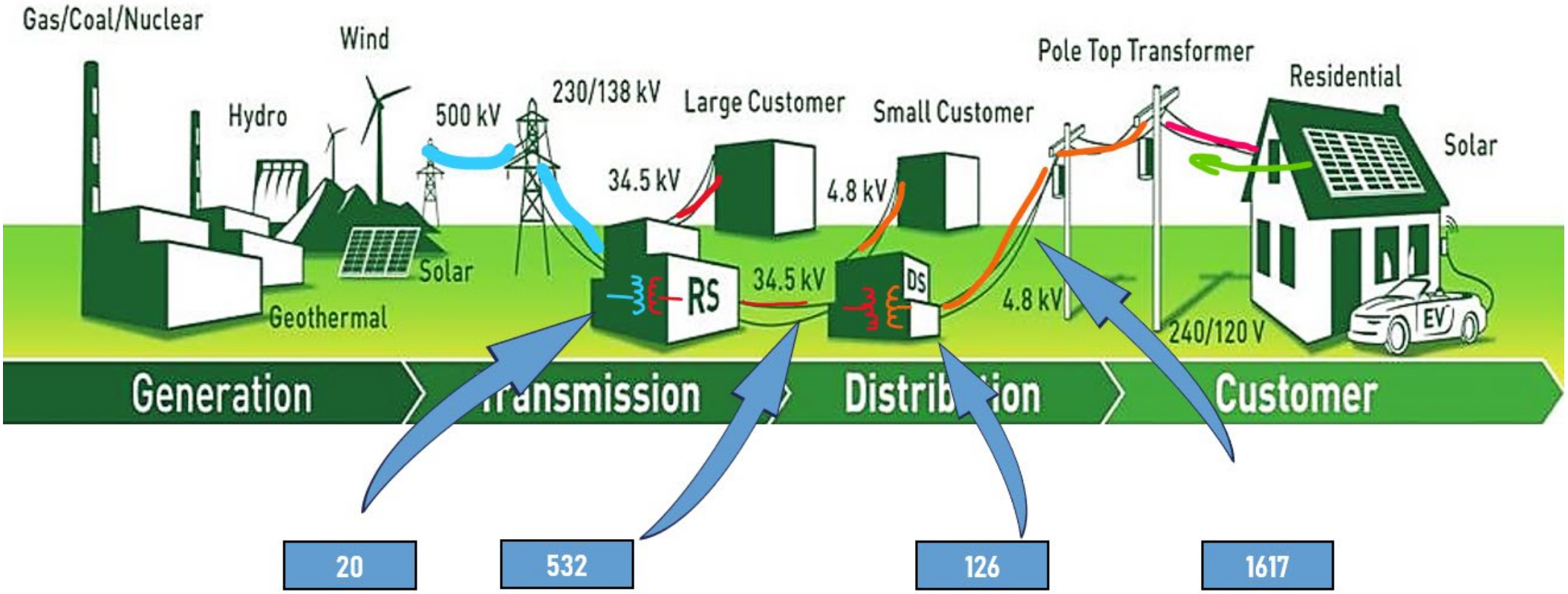
- Multitude of distributed customer programs offerings such as Solar, Electrical Vehicle Charging, Demand Response, Energy Efficiency, V2G and more.

Modernization

- Transitioning to a more data-centric, self -healing, resilient, carbon-free power distribution systems



HOW POWER GETS TO YOU



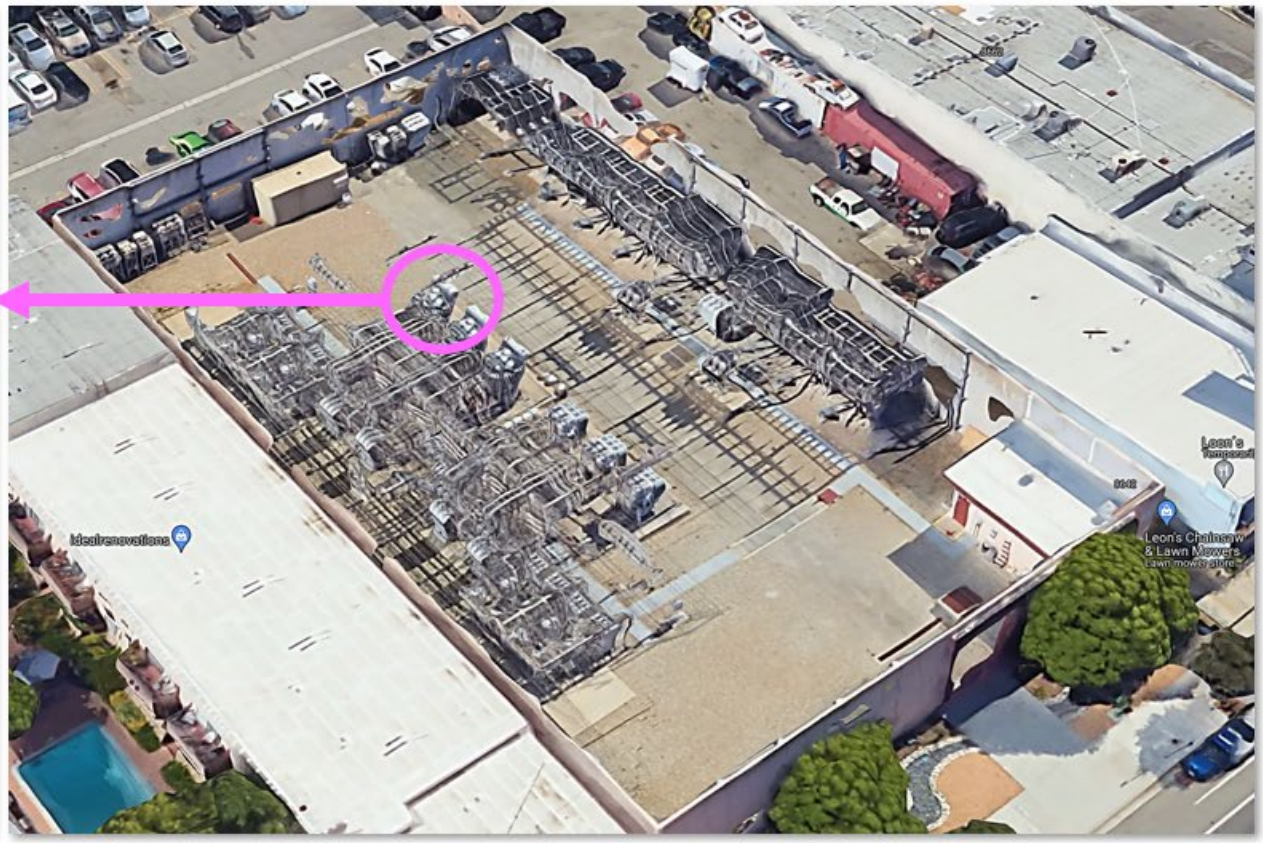
20

532

126

1617

SUBSTATIONS



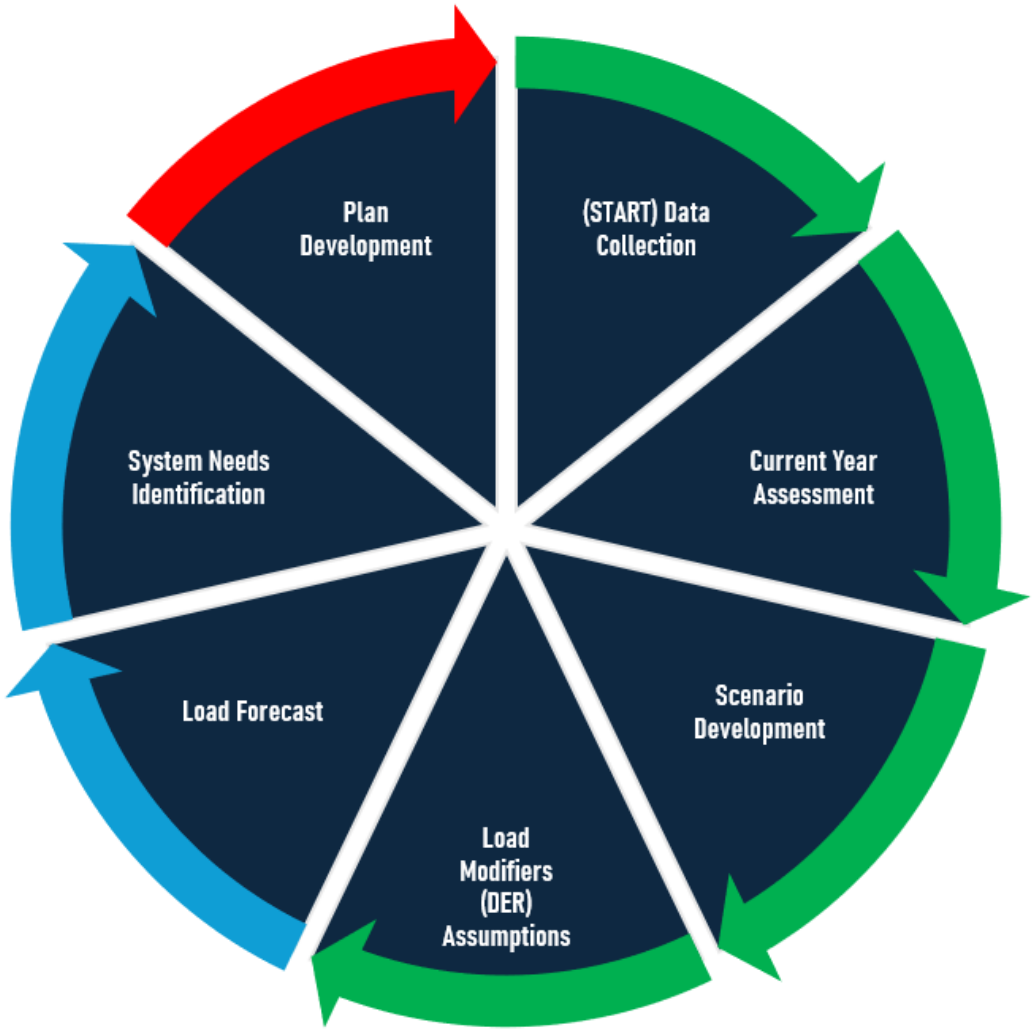
DISTRIBUTION LINES

35,000 Volts. Equivalent of 4,000 AC Units

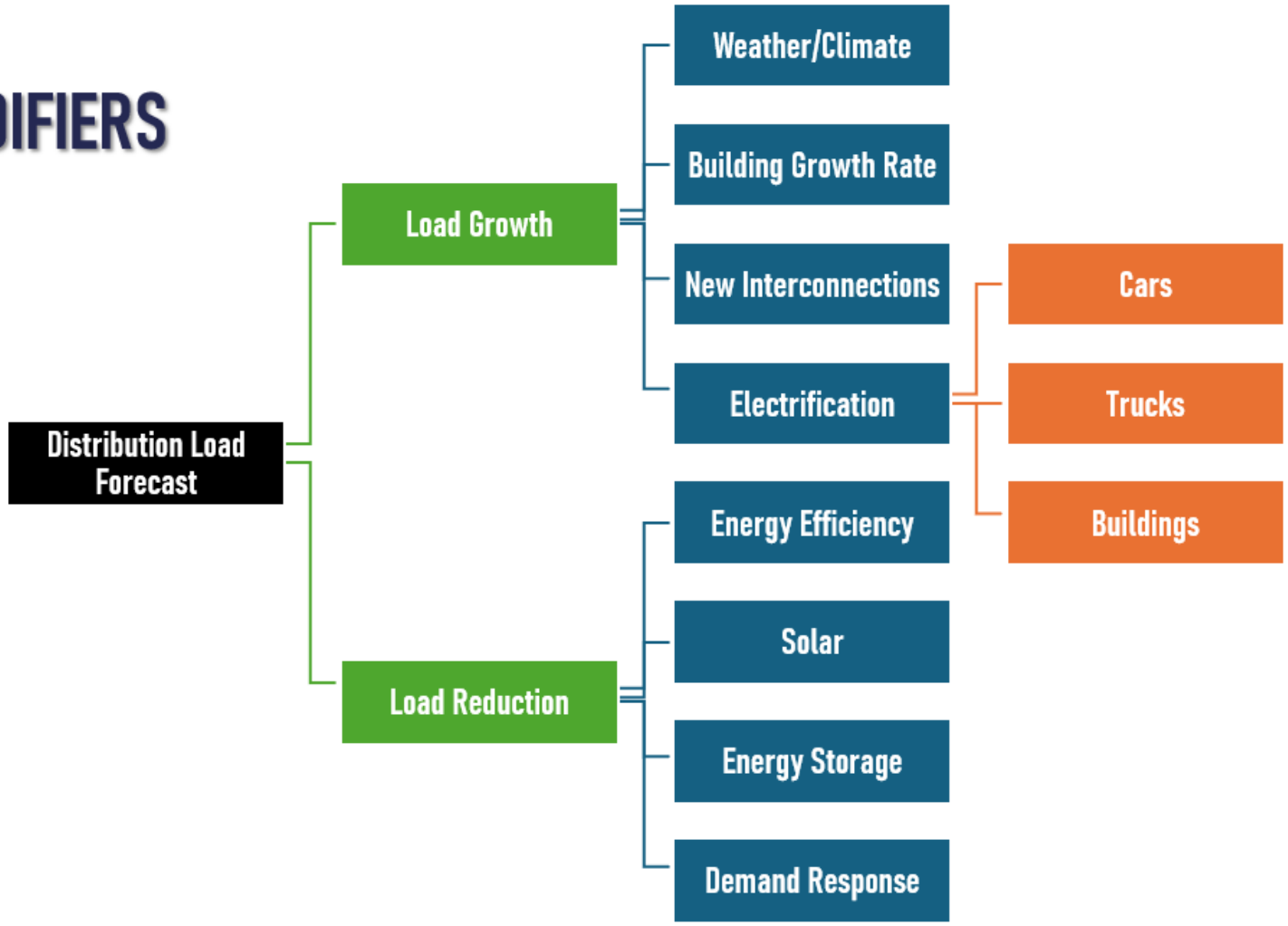
4,800 Volts. Equivalent of 600 AC Units

120 Volts. Equivalent of 5 AC Units

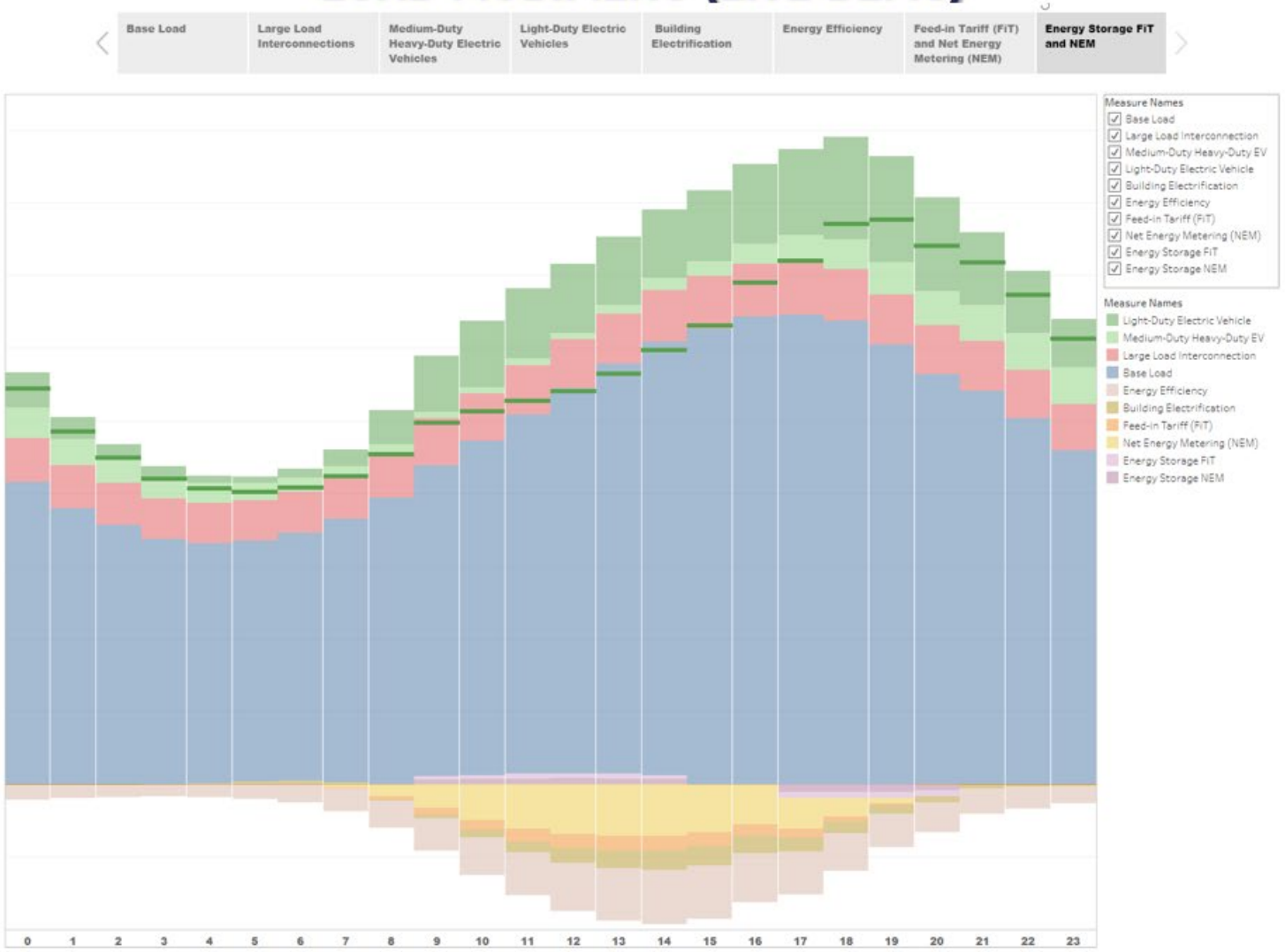
FOCUS OF DISCUSSION – INPUTS AND ASSUMPTIONS



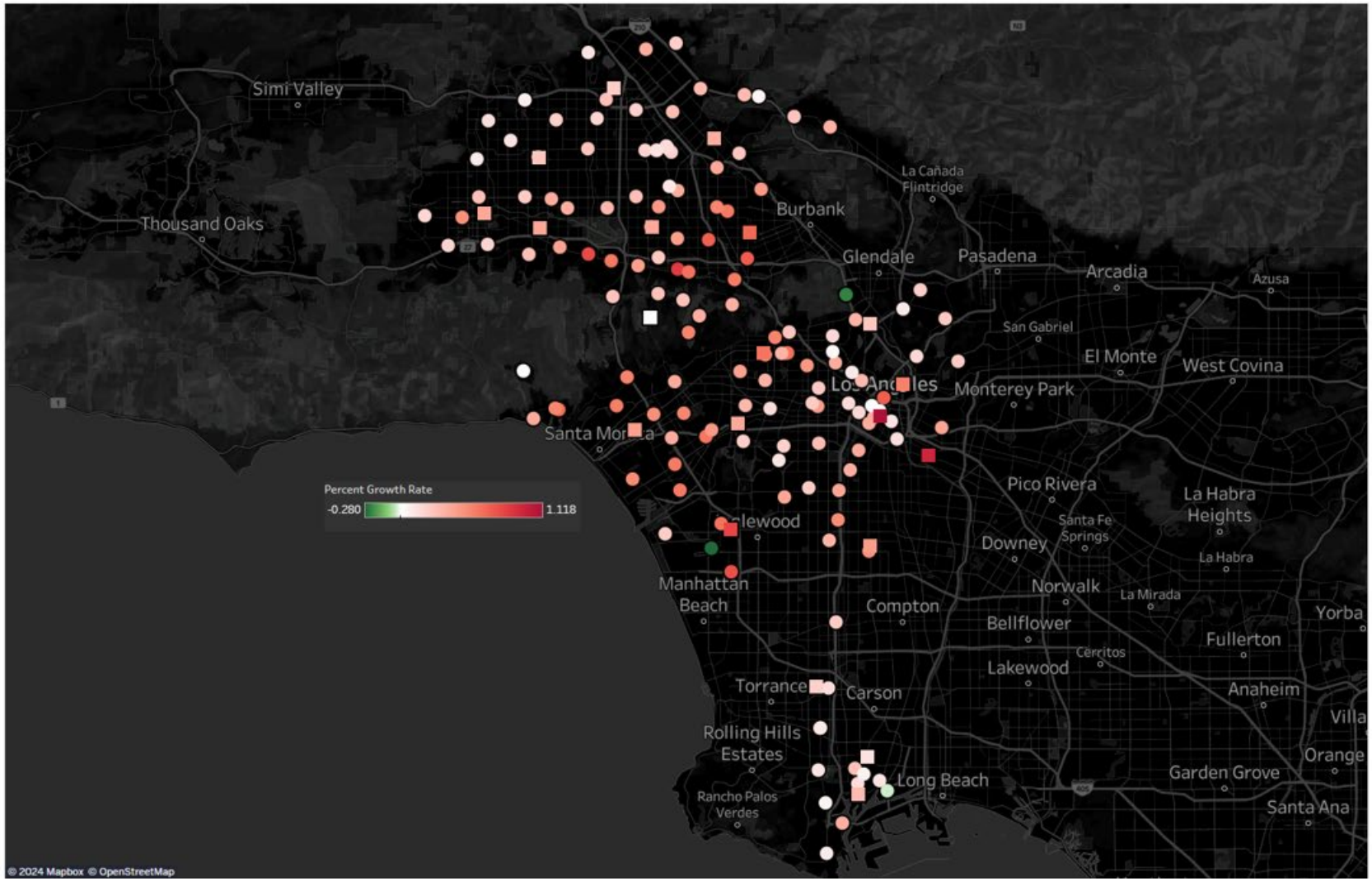
LOAD MODIFIERS



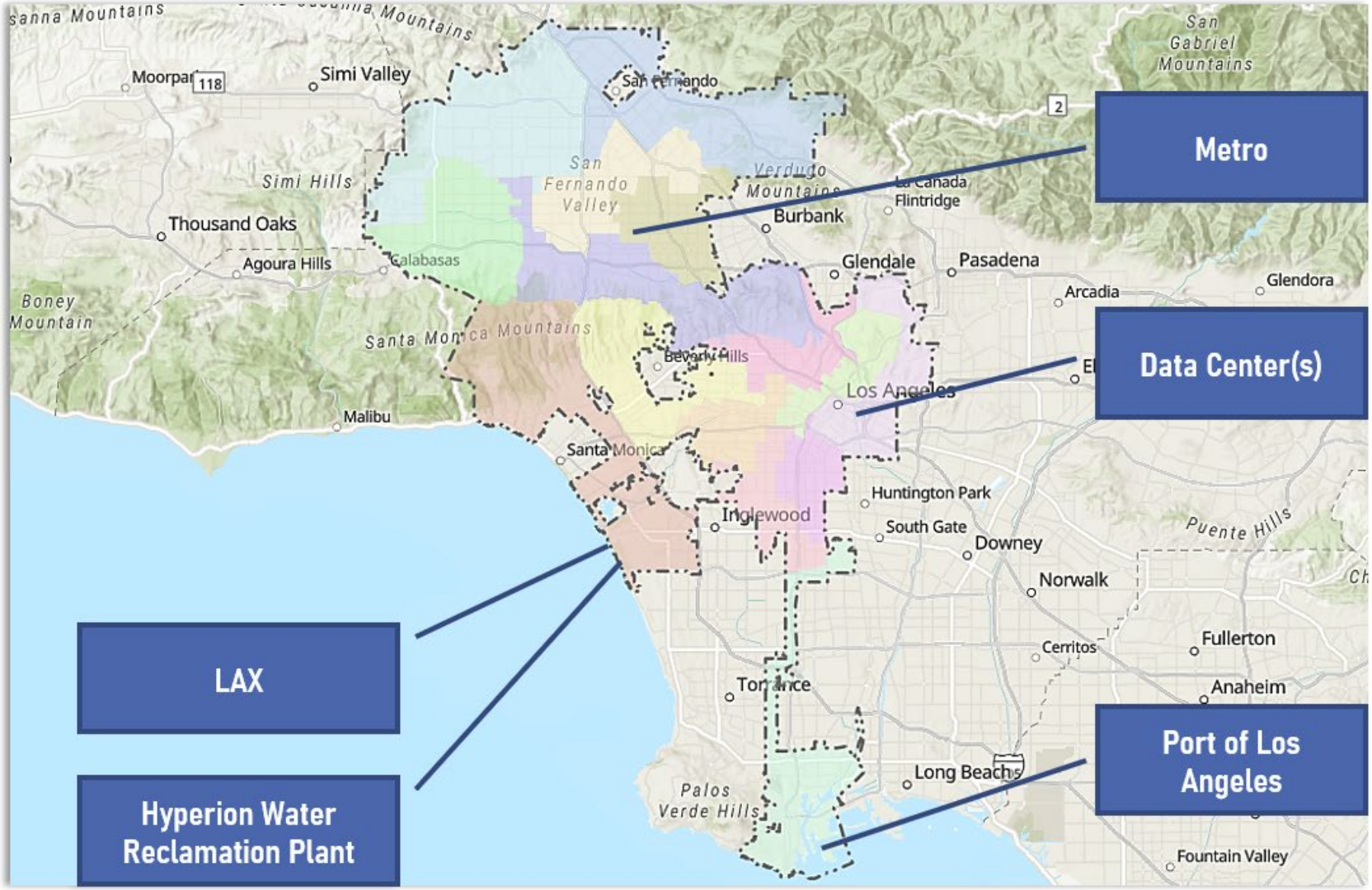
LOAD MODIFIERS (LIVE DEMO)



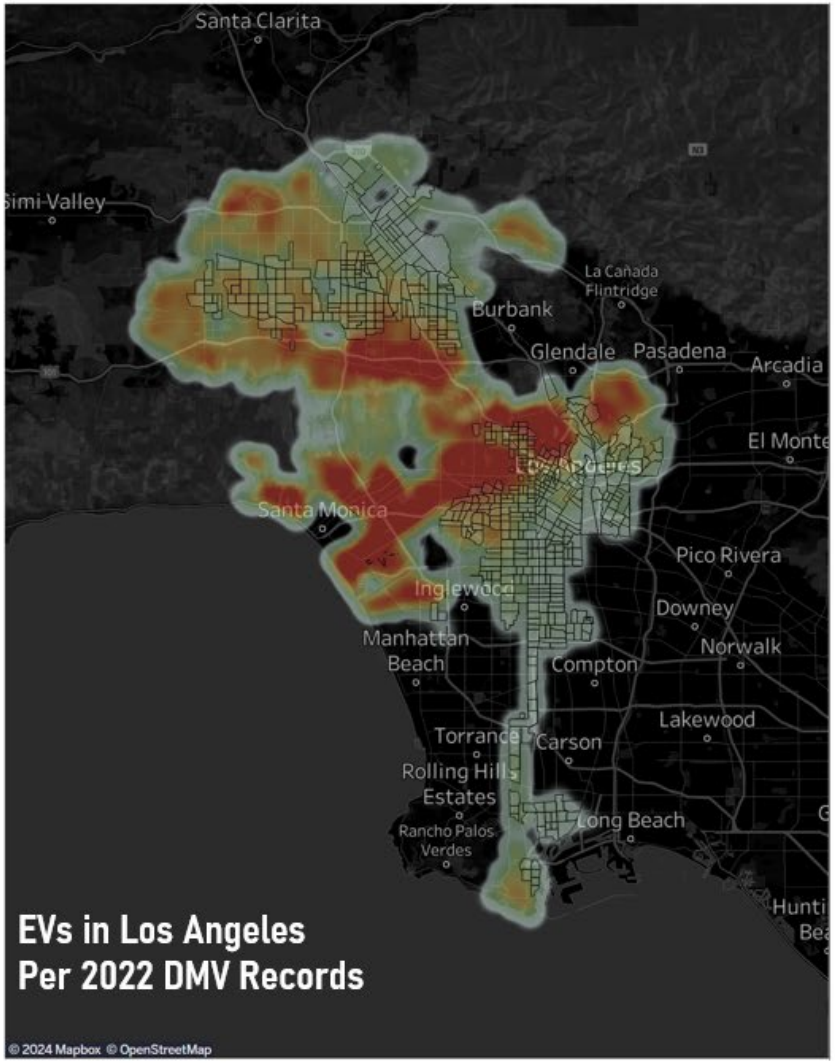
BUILDING GROWTH RATE

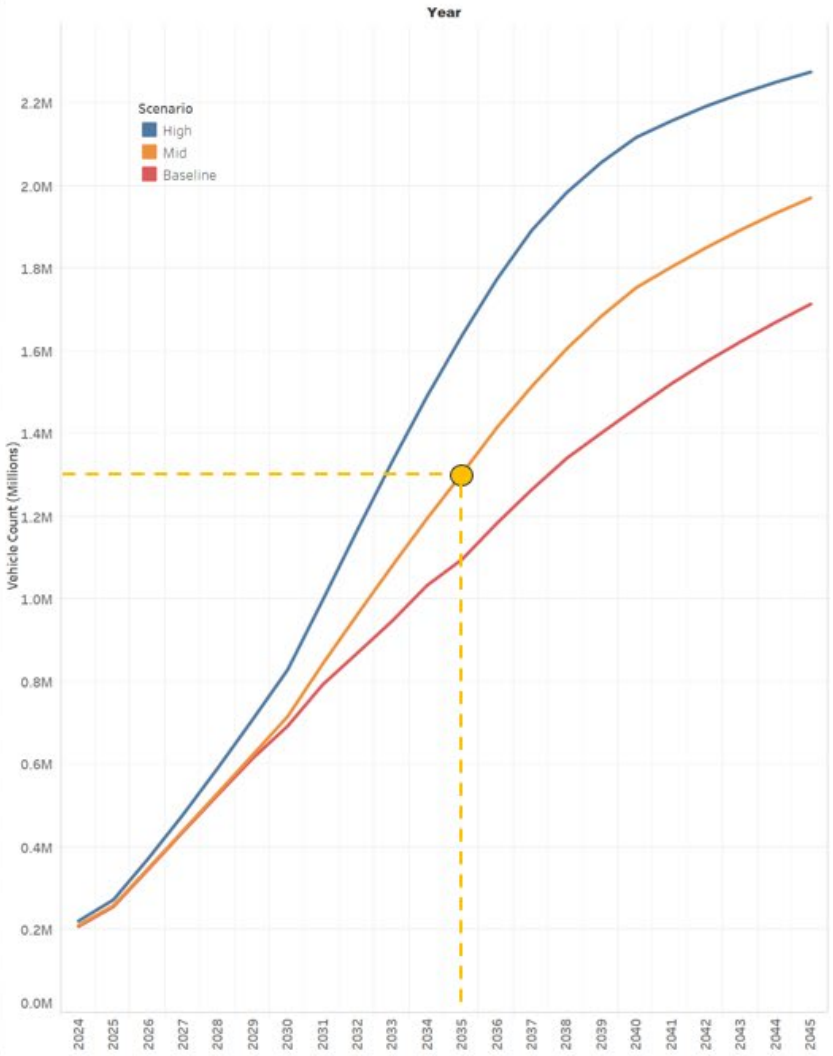


MAJOR ELECTRIFICATION LOADS

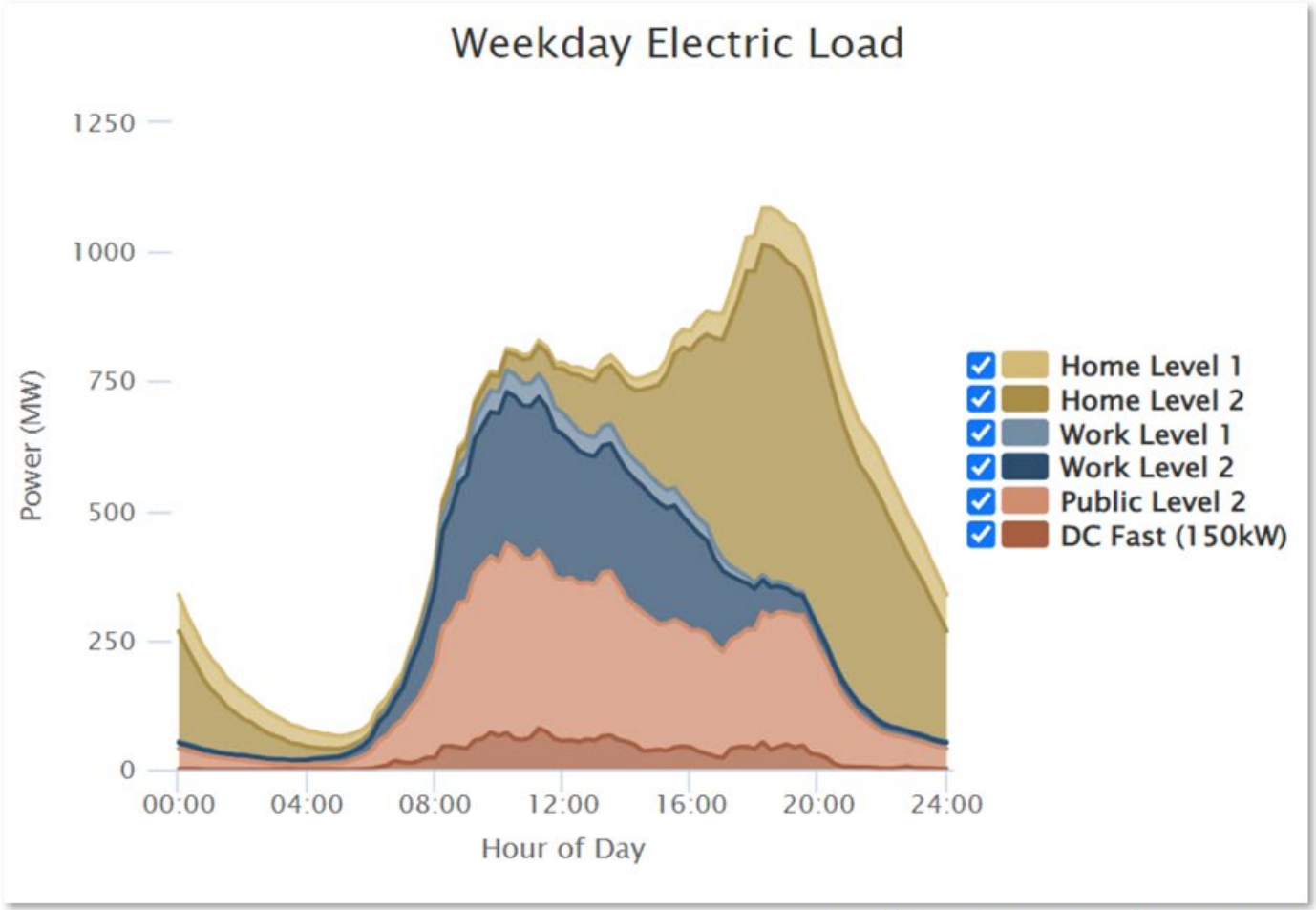


ELECTRIC VEHICLE FORECAST - CARS

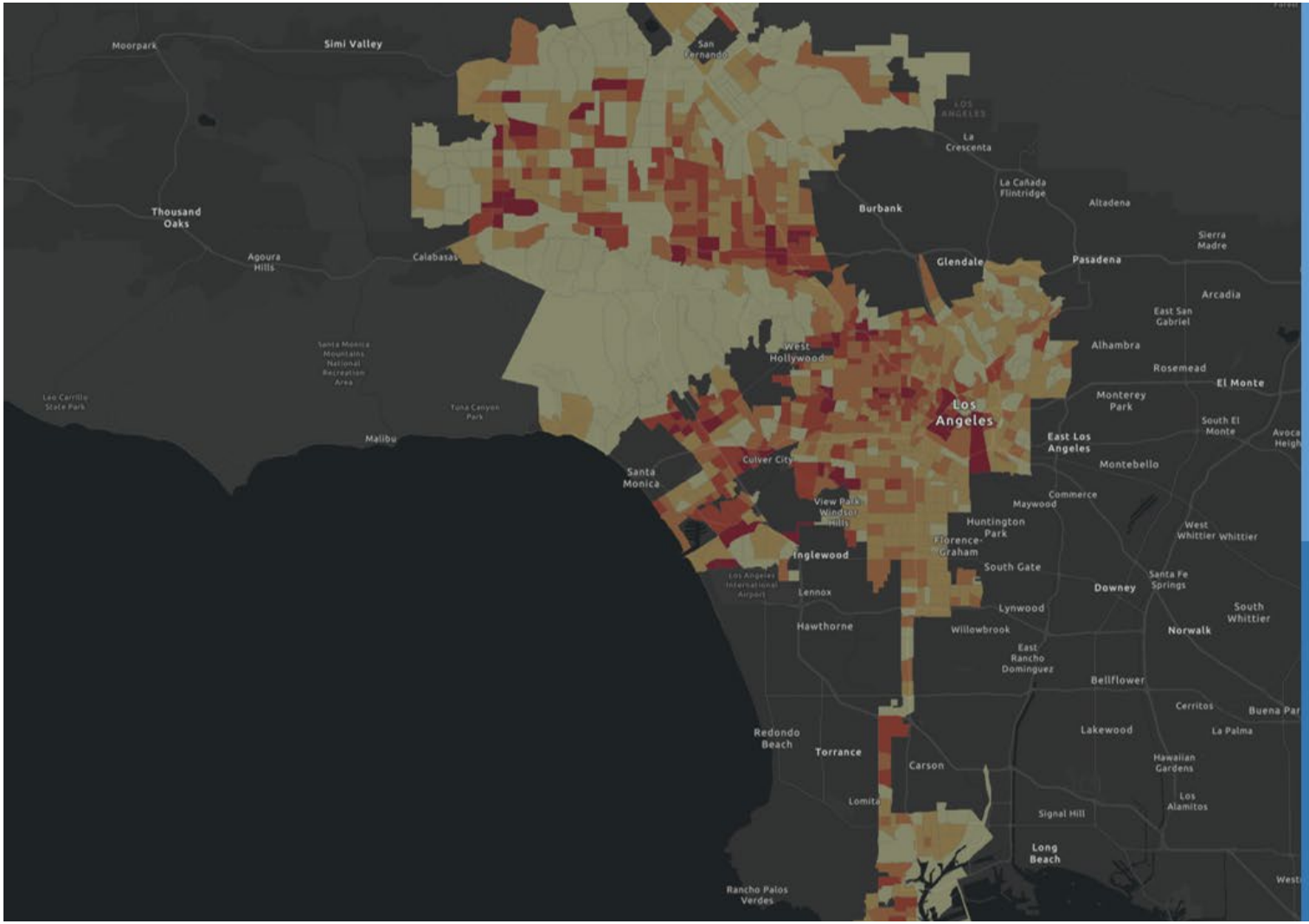




ELECTRIC VEHICLE FORECAST – Live Demo



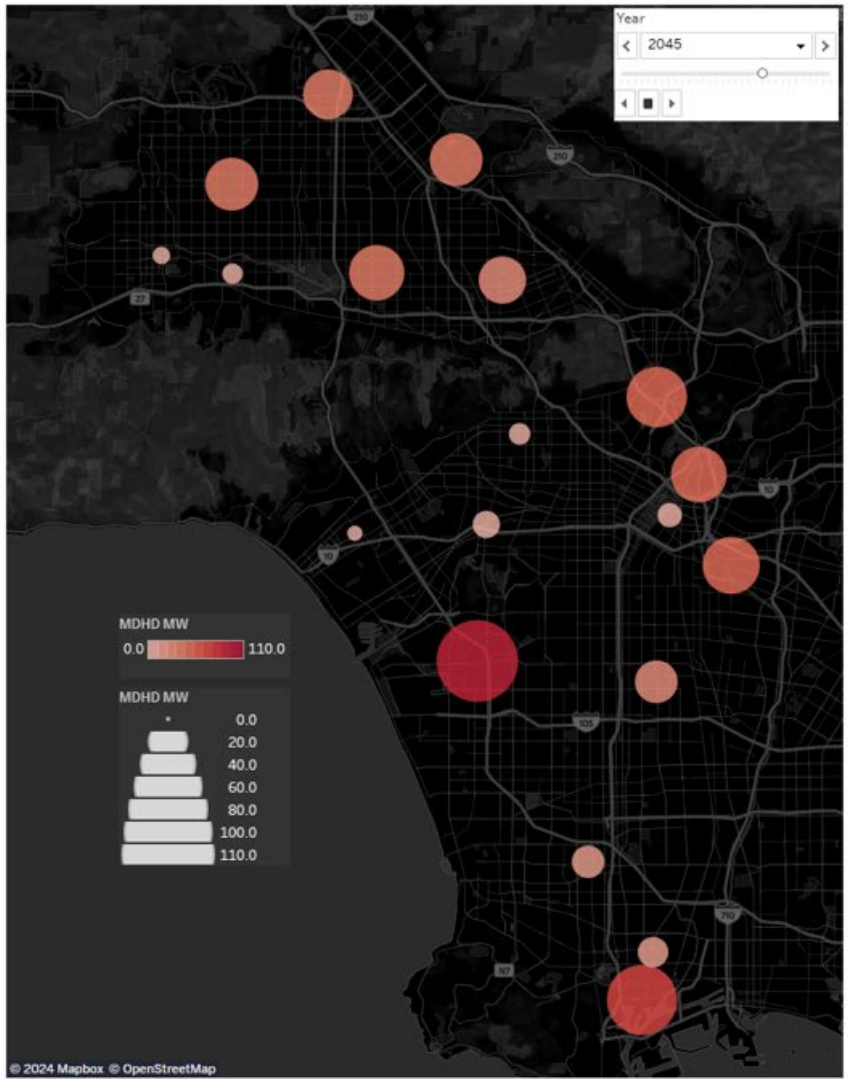
https://afdc.energy.gov/evi-x-toolbox#/evi-pro-ports

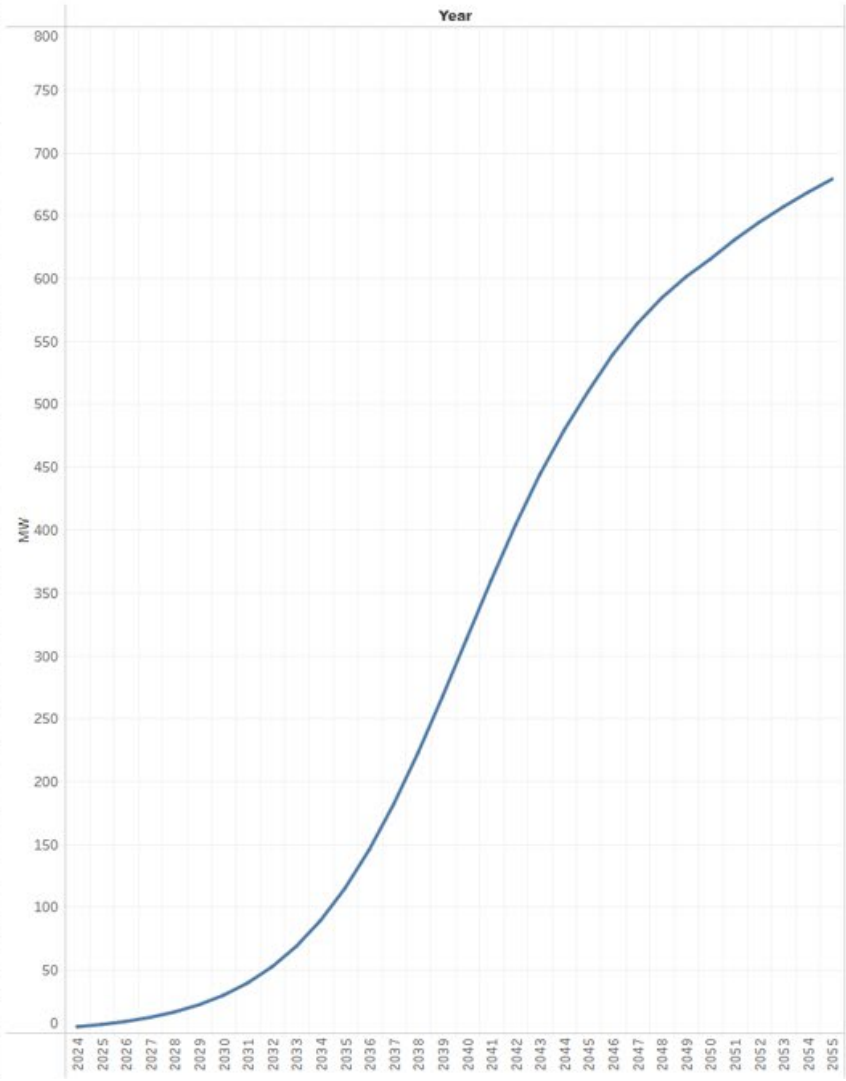


NEED FOR PUBLIC CHARGING INFRASTRUCTURE

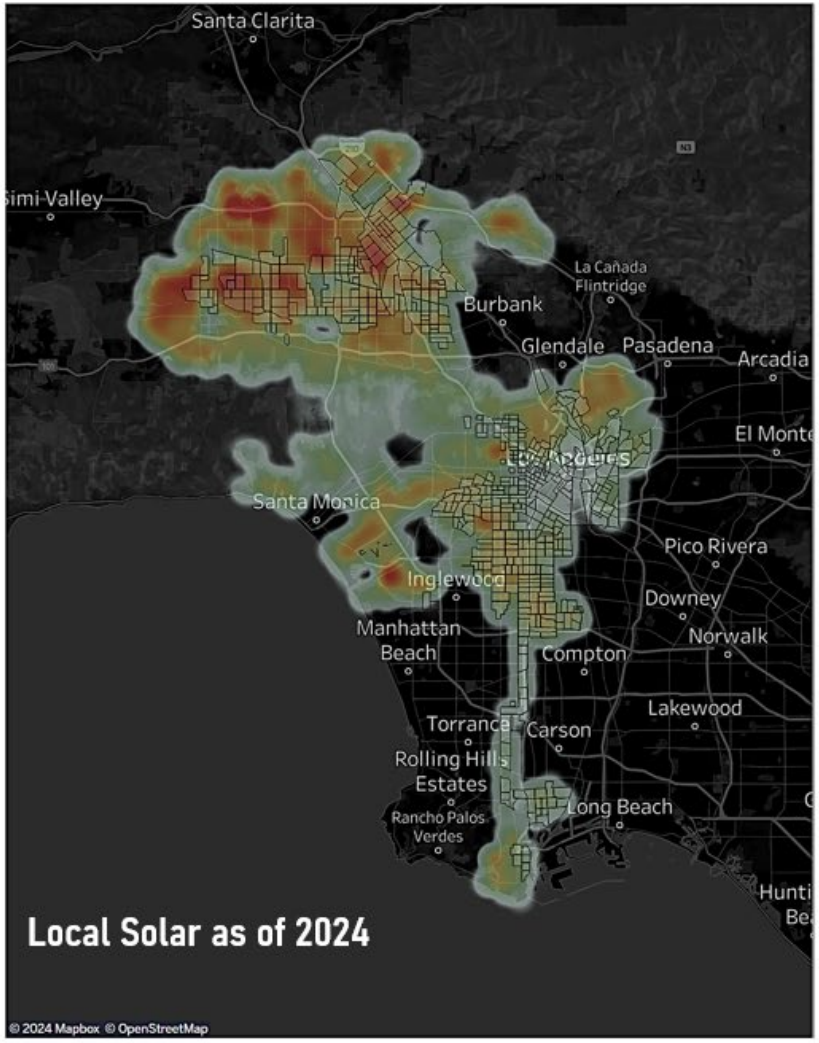
Source: Equity Strategies Study "Charging Orphans"

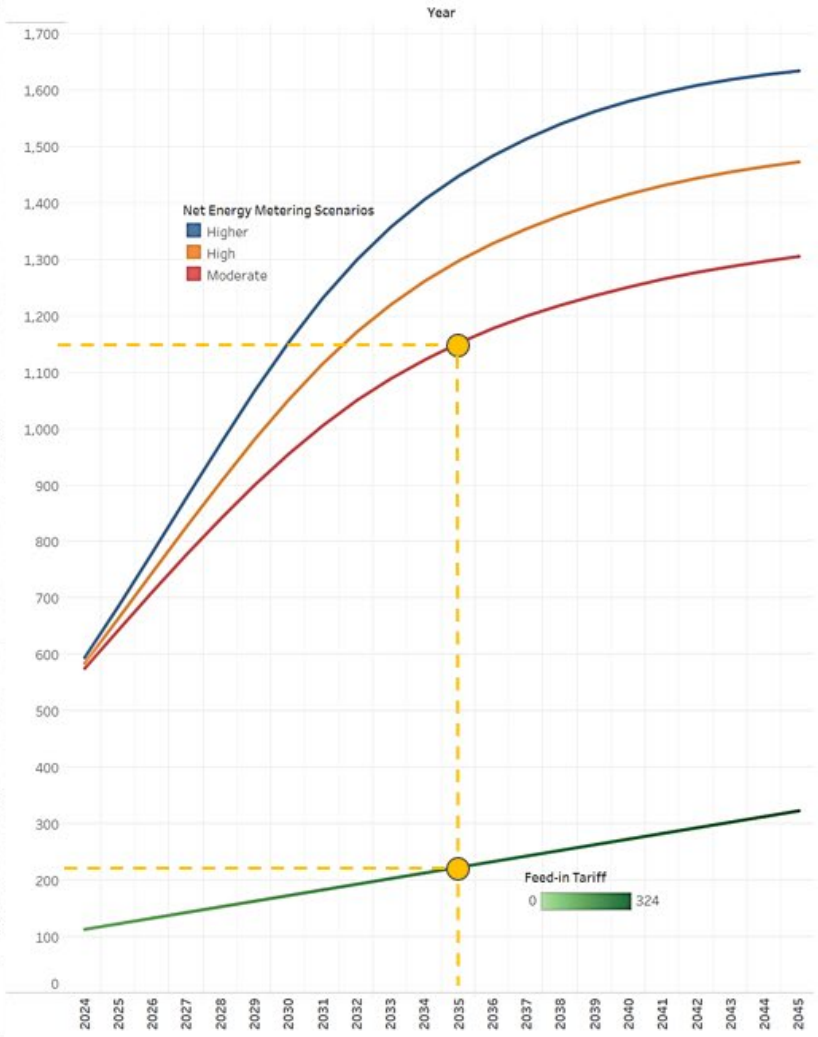
ELECTRIC VEHICLE FORECAST – TRUCKS (LIVE DEMO)





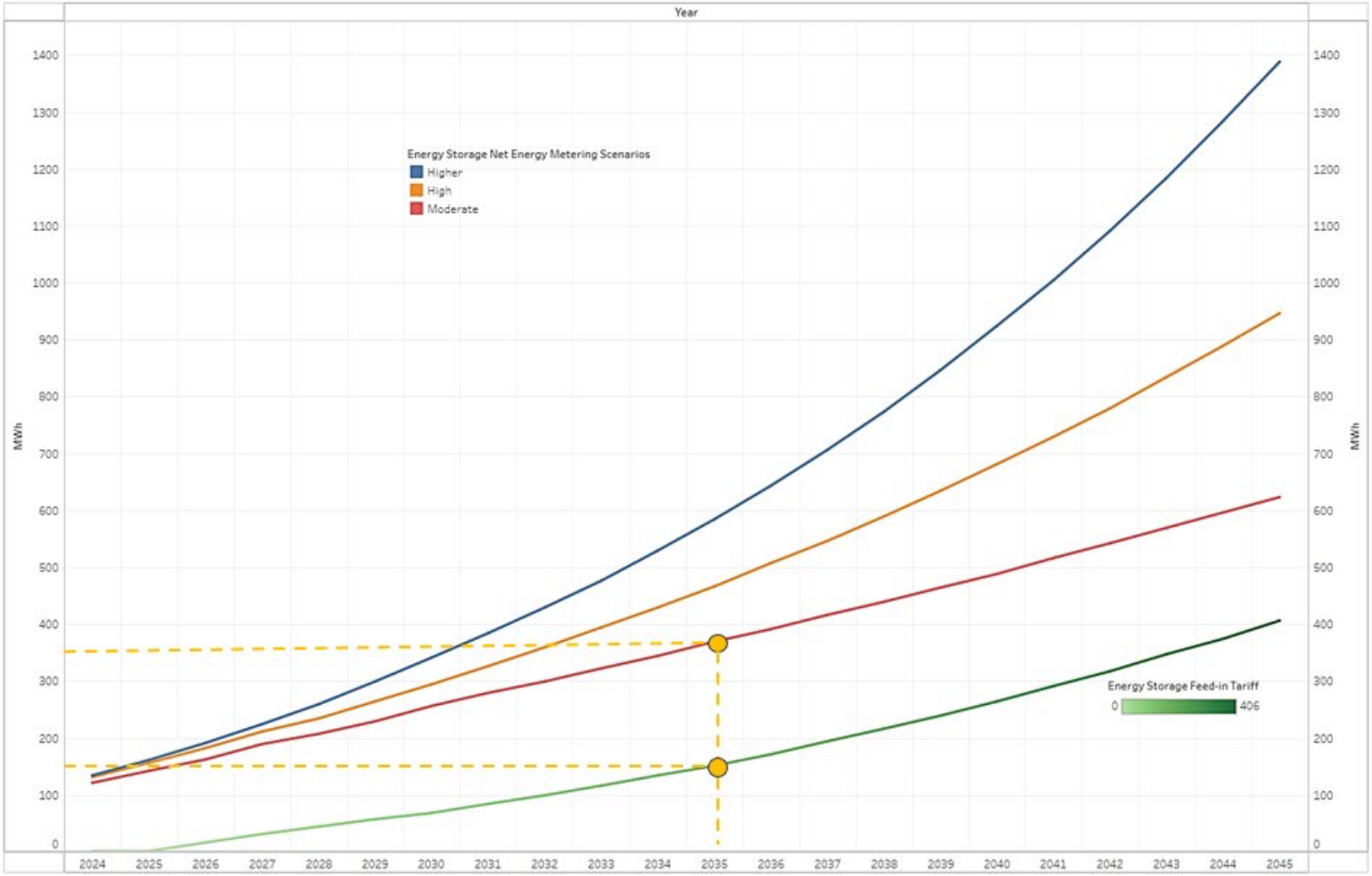
SOLAR PV – IN CITY





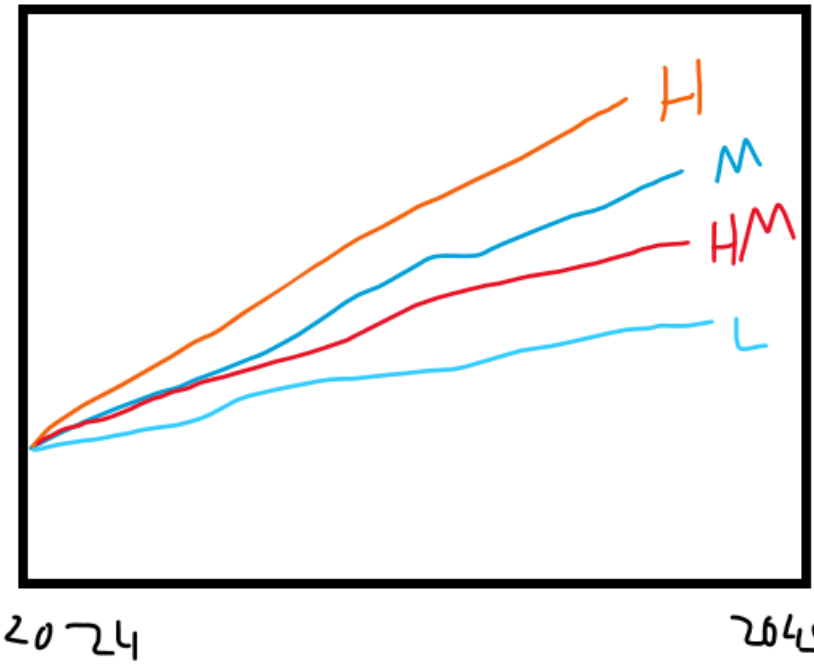

ENERGY
STORAGE
BATTERY

ENERGY STORAGE– IN CITY



SCENARIOS FOR DISTRIBUTION LOAD MODELING

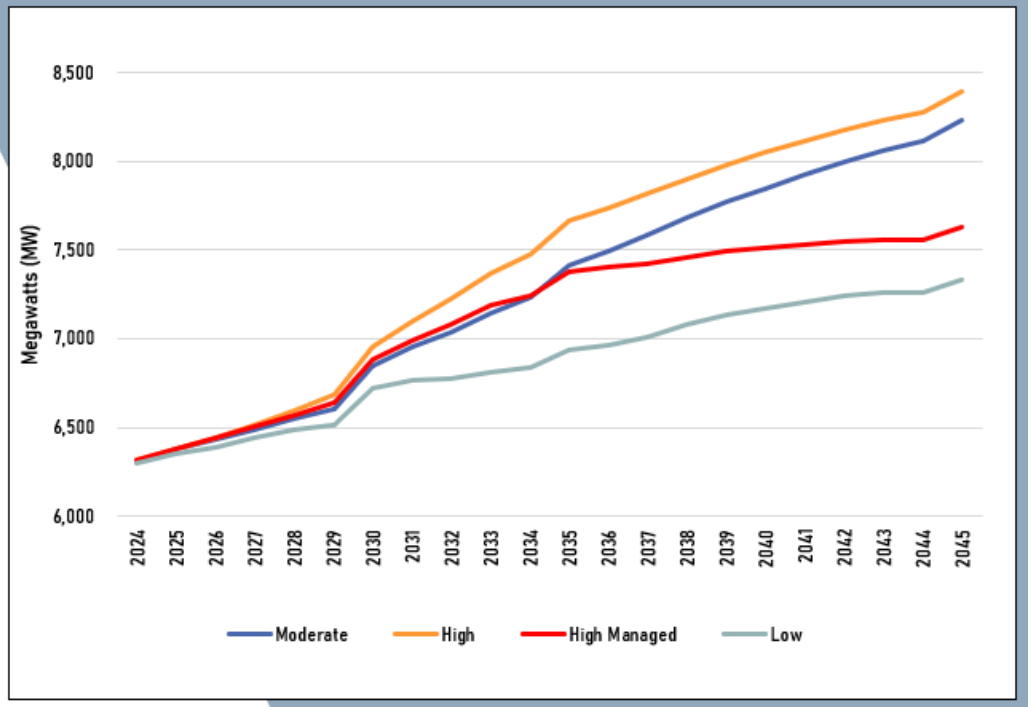
Moderate Moderate DERs	High High EV	High Managed High EV Managed	Low Low EV with High PV
LDEV CEC Mid Case	LDEV CEC High Case	LDEV CEC High Case (M)	LDEV CEC Baseline Case (M)
PV NEM Moderate Case (M)	PV NEM Moderate Case (M)	PV NEM Moderate Case (M)	PV NEM Higher Case (M)
ES NEM Moderate Case (M)	ES NEM Moderate Case (M)	ES NEM Moderate Case (M)	ES NEM Higher Case (M)
PV FiT (M)	PV FiT (M)	PV FiT (M)	PV FiT (M)
ES FiT Moderate Case (M)	ES FiT Moderate Case (M)	ES FiT Moderate Case (M)	ES FiT Moderate Case (M)
MDHD EV EPRI	MDHD EV EPRI	MDHD EV EPRI	MDHD EV EPRI
EE & BE Base Case	EE & BE Base Case	EE & BE Base Case	EE & BE Base Case



Key Findings

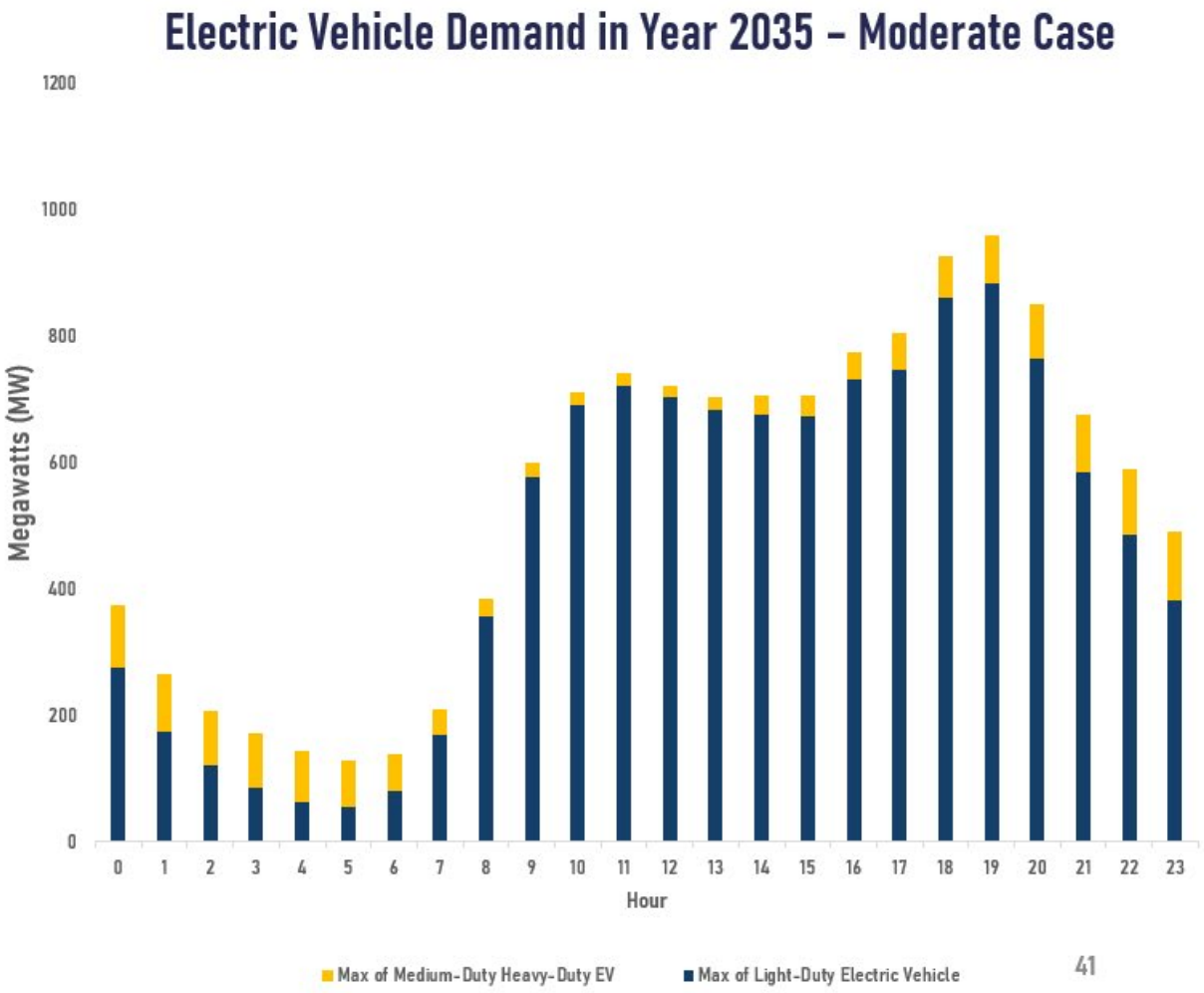
SCENARIOS FOR DISTRIBUTION LOAD MODELING

Moderate Moderate DERs	High High EV	High Managed High EV Managed	Low Low EV with High PV
LDEV CEC Mid Case	LDEV CEC High Case	LDEV CEC High Case (M)	LDEV CEC Baseline Case (M)
PV NEM Moderate Case (M)	PV NEM Moderate Case (M)	PV NEM Moderate Case (M)	PV NEM Higher Case (M)
ES NEM Moderate Case (M)	ES NEM Moderate Case (M)	ES NEM Moderate Case (M)	ES NEM Higher Case (M)
PV FiT (M)	PV FiT (M)	PV FiT (M)	PV FiT (M)
ES FiT Moderate Case (M)	ES FiT Moderate Case (M)	ES FiT Moderate Case (M)	ES FiT Moderate Case (M)
MDHD EV EPRI	MDHD EV EPRI	MDHD EV EPRI	MDHD EV EPRI
EE & BE Base Case	EE & BE Base Case	EE & BE Base Case	EE & BE Base Case



KEY FINDING (1/4)

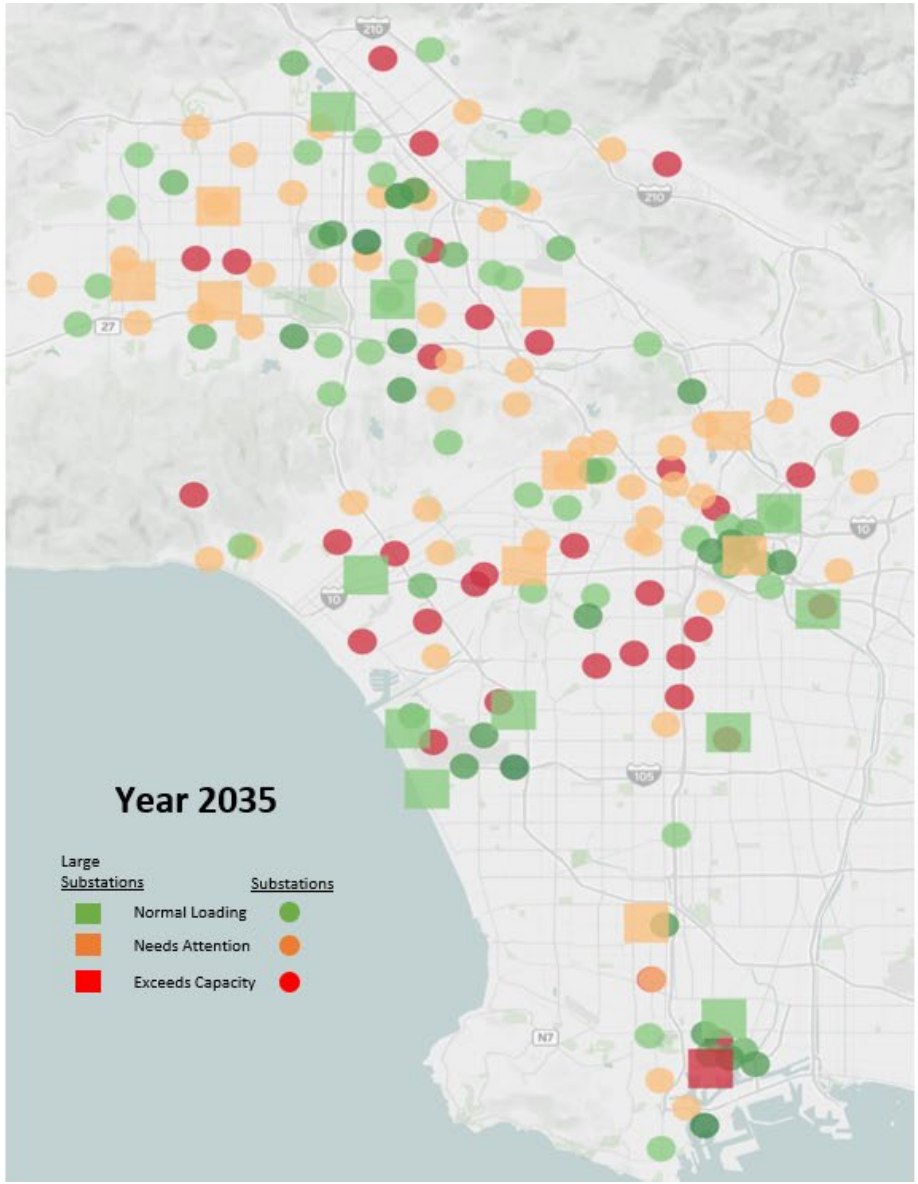
Electric Transportation is the single largest driver of load growth, expected to increase the distribution system demand by up to 900 MW by 2035.



SUBSTATIONS

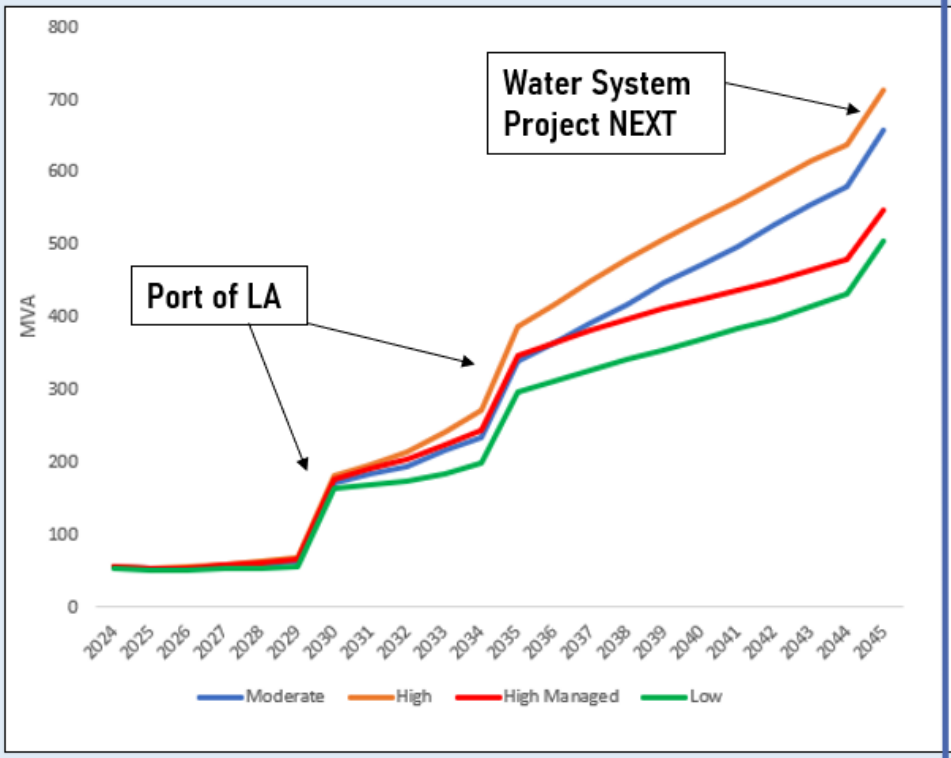
KEY FINDING (2/4)

Tens of substations and hundreds of distribution circuits will need additional capacity to support electrification.

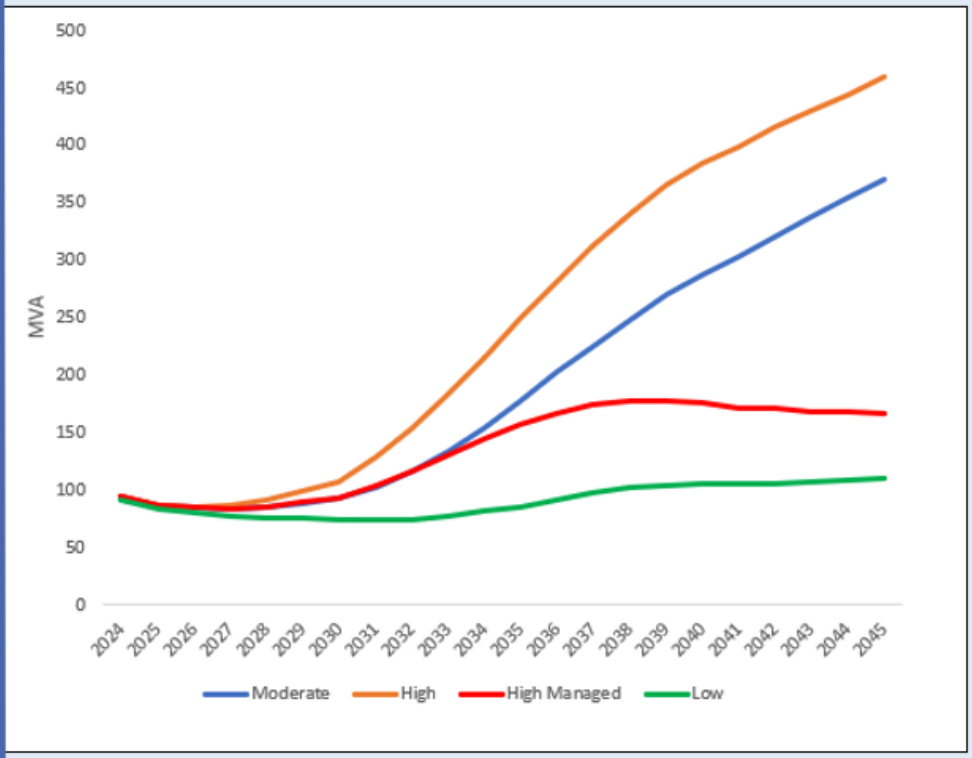


SYSTEM NEEDS – SUBSTATIONS

RECEIVING STATION - LARGE SUBSTATIONS



DISTRIBUTING STATION - SUBSTATIONS



DISTRIBUTION LINES

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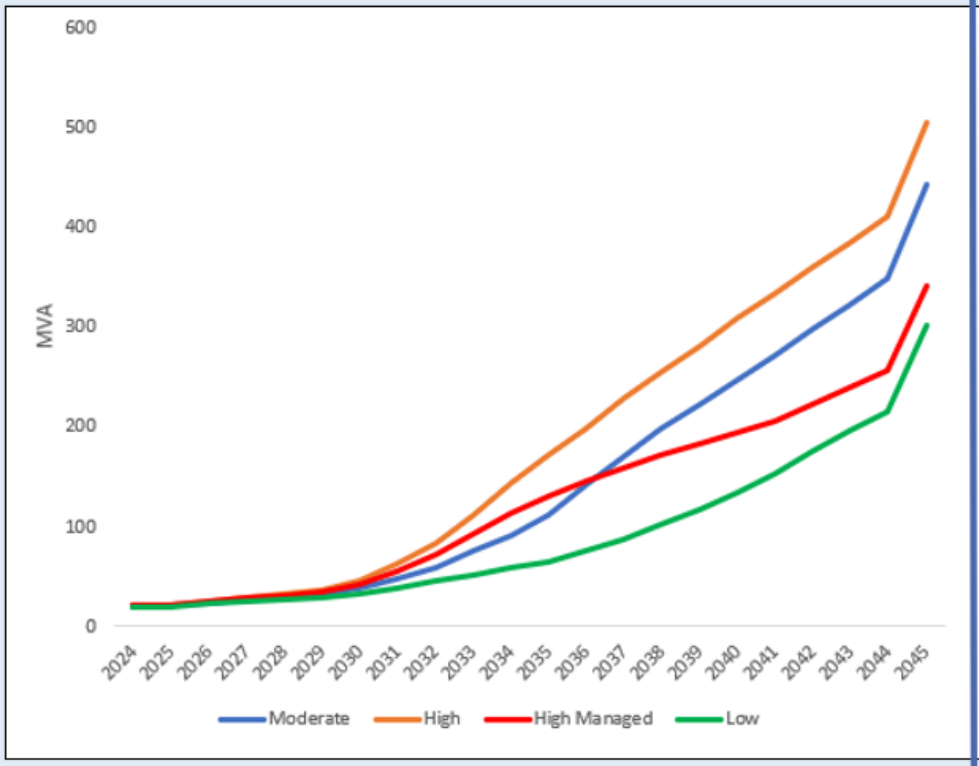
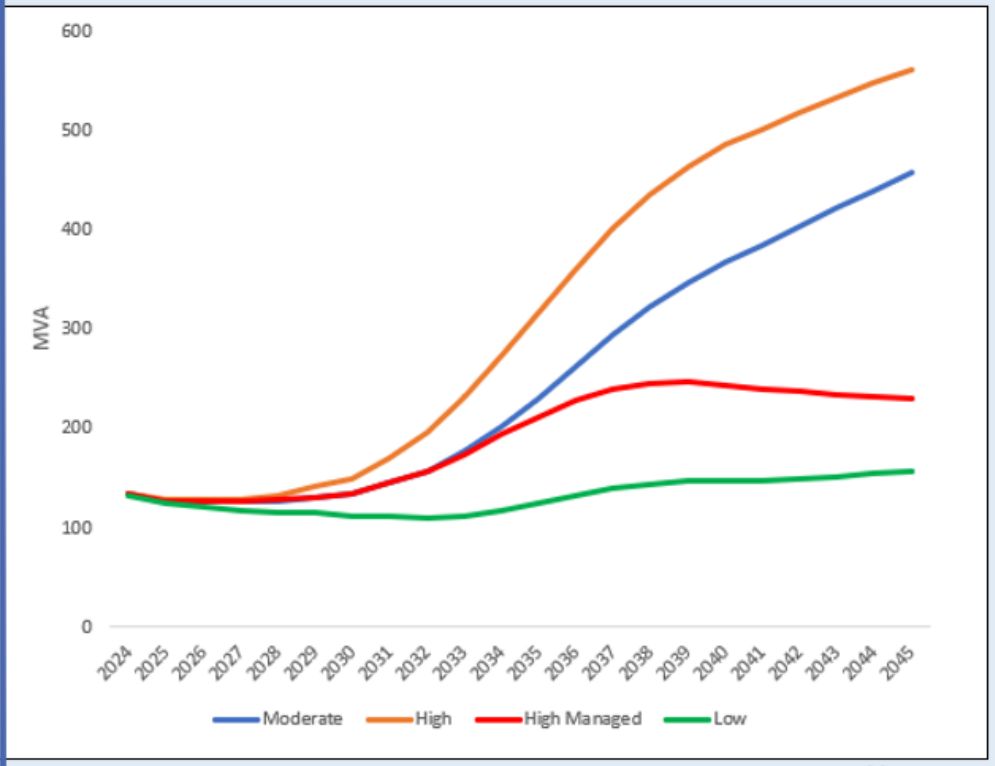
120 Volts. Equivalent of 5 AC Units

SYSTEM NEEDS – CIRCUITS

34.5 KV CIRCUIT NEEDS

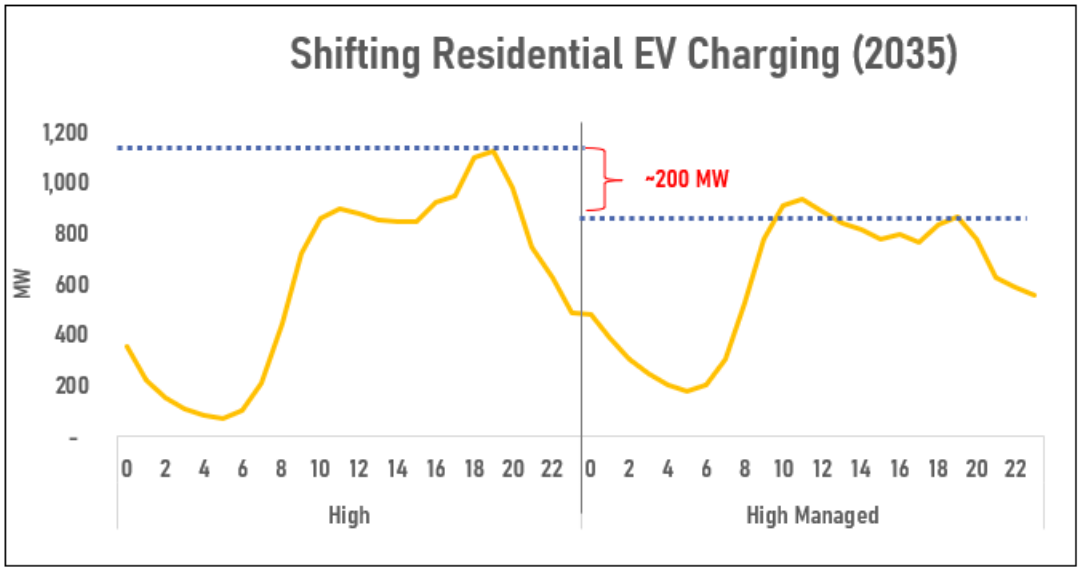


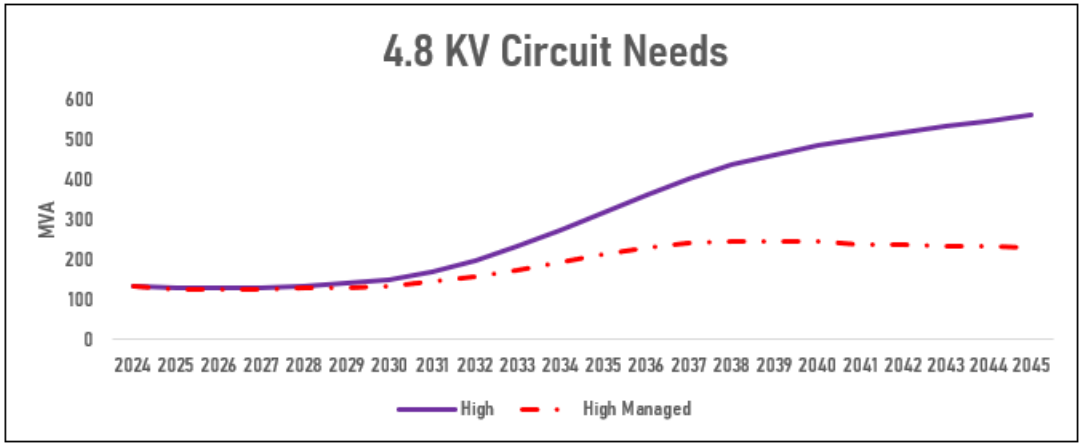
4.8 KV CIRCUIT NEEDS



KEY FINDING (3/4)

- Managing residential EV charging has a significant effect on reducing the demand on the 4.8 kV distribution system.
- Shifting residential charging times away from peak hours reduces the capacity shortfall of Distribution Stations and 4.8 kV Feeders by 31% and 48%, respectively by 2035.

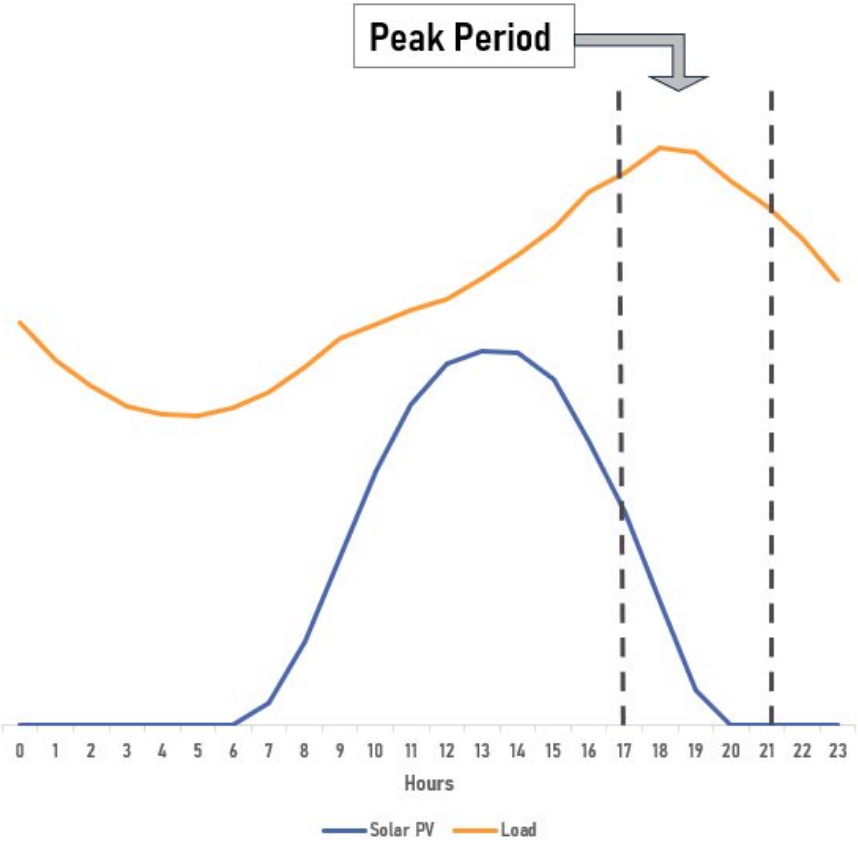




KEY FINDING (4/4)

Local Solar is misaligned with peak demand.

- Peak demand will shift from 5 PM to 7 PM, mainly due to residential EV charging.
- Solar + Storage can align peak demand with local solar.

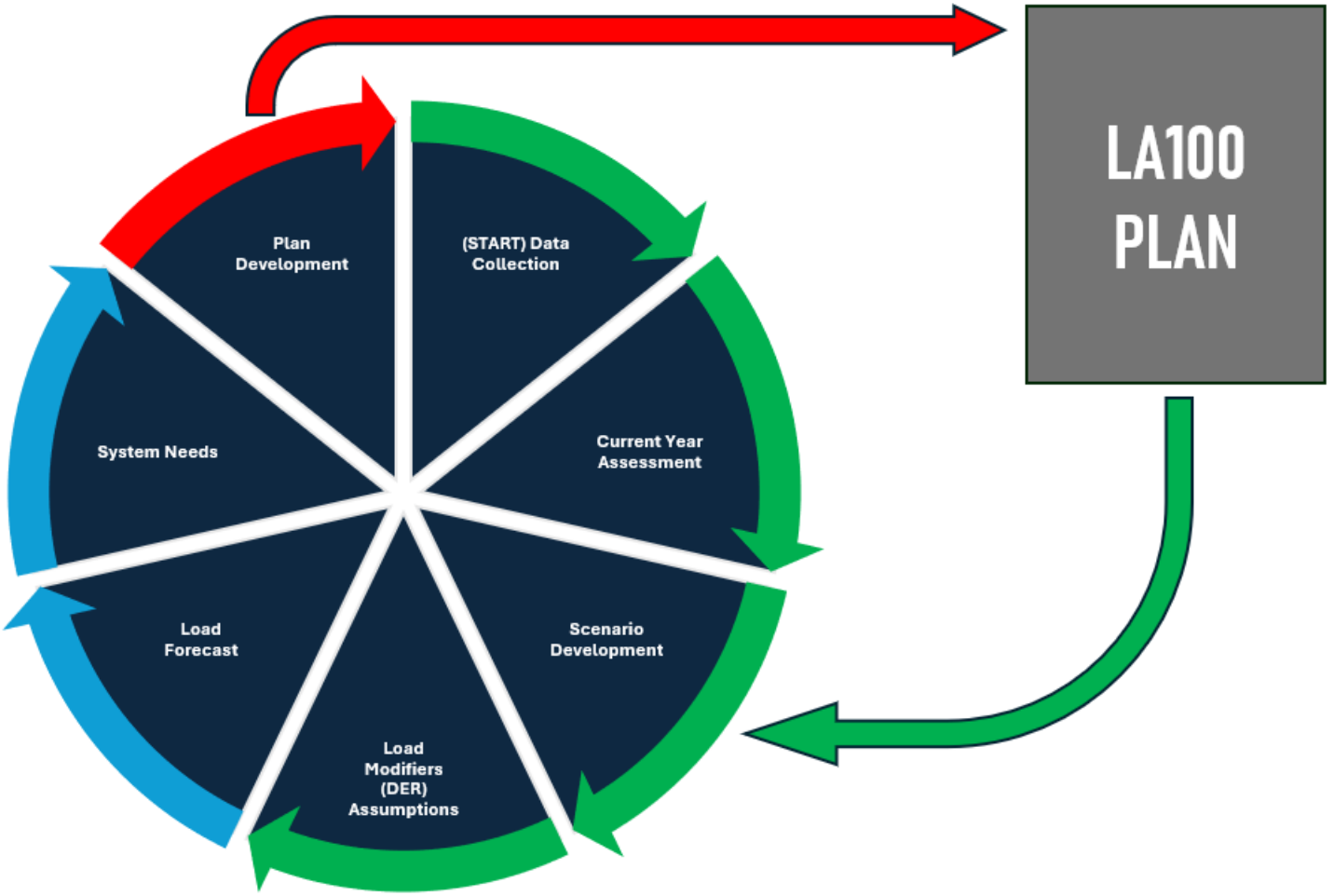


RECOMMENDATIONS

RECOMMENDATIONS

1. Equitably prioritize and address distribution system needs to maintain reliability while supporting future electrification demands.
2. Optimize residential EV charging through strategic rate design and tailored charging programs.
3. Modernize and automate the grid to accommodate higher penetration of Distributed Energy Resources.
4. Pair solar and storage to better align with the shifting distribution system peak.
5. Expand customer programs to address location-specific distribution system challenges effectively.

INTEGRATED PLANNING



Q&A