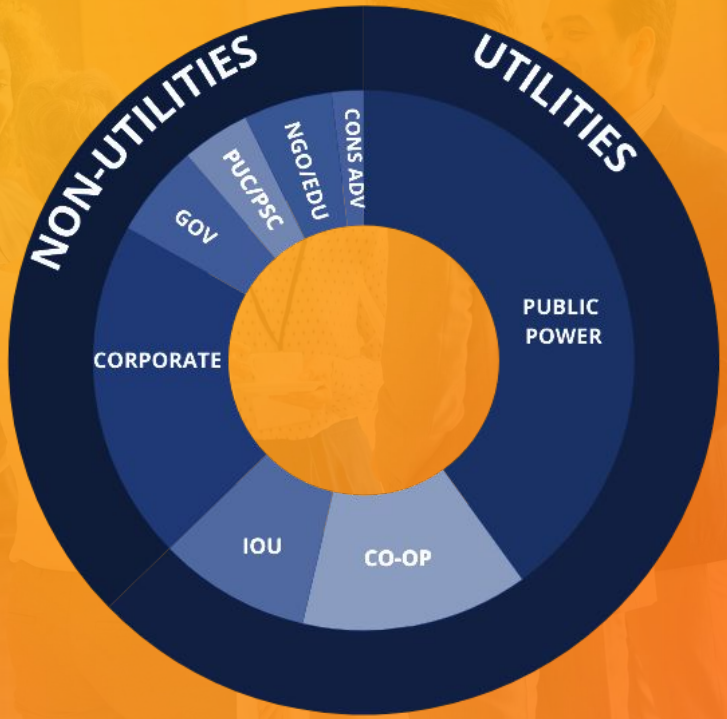
SEPA is a **membership-based organization** comprised of regulators, policymakers, utilities, corporations, nonprofits, consumer advocates, and customers.

1,000+
Total Members



65%+
of US customer accounts served

86%
of Public Utility Commissions & Public Service Commissions

SEPA Strategic Focus Areas

Grid

The grid is the backbone of the clean energy transition. Modernizing it with advanced technologies and customer-centric programs is critical to ensuring resilience and meeting evolving energy needs.

Growth

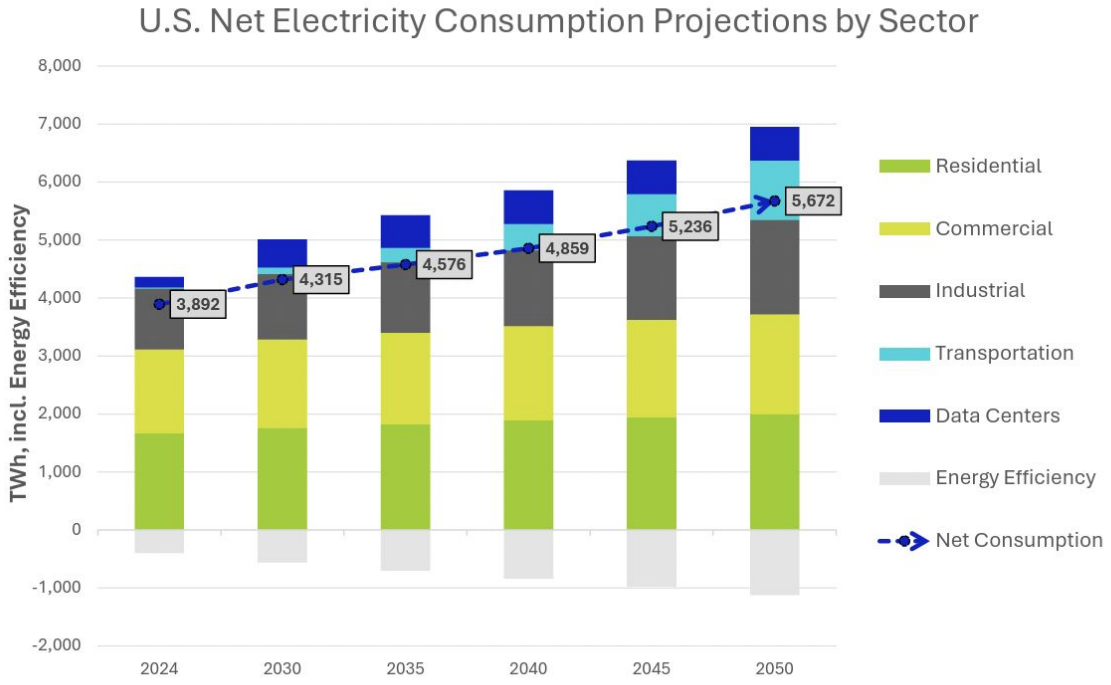
As electricity demand rises with increased electrification, managing this growth is essential. SEPA works with stakeholders to implement strategies that meet new demand reliably, sustainably, and affordably.

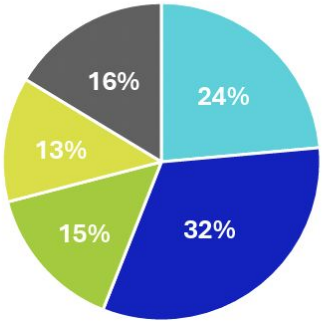
Globe

By leveraging domestic and international innovations, SEPA equips members with scalable solutions to accelerate progress efficiently.

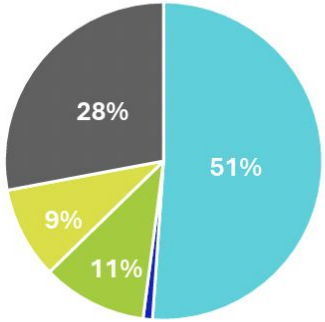
Smart Electric Power Alliance

Data centers drive near-term demand growth, electrification drives long term transformative growth





1,323 TWh of Growth by Sector (2023 to 2037)



1,360 TWh of Growth by Sector (2038 to 2050)

SOURCE: PA Consulting. Grid Flexibility Study. Prepared for NEMA, January 2025. LINK

A single depot can draw more than a small town

Concentrated demand represents a fundamental shift in the timeline and scale for serving new load, challenging traditional planning assumptions

Source: "Electric Highways: Accelerating and Optimizing Fast-Charging Deployment for Carbon-Free Transportation" White Paper, National Grid, CALSTART, and RMI.
https://calstart.org/wp-content/uploads/2022/11/Electric-Highways-Study-November-2022.pdf

Fleet electrification requires proactive planning

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	Level 2 (3.6kw – 20kw)	DCFC (50kw – 350kw)	DCFC (350kw- 2 MW)
Light Duty Personal	Residential		Public
Light Duty Commercial	Duty Cycle Dependent		
Buses	Overnight depot		
Fleet – Short Haul		Depot, on-route	
Trucking – Long Haul	Duty Cycle Dependent		

Industrial or **commercial parks** will see major **asymmetric load increases** as they electrify.

A single industrial park in Portland could see **60 MW** **of new load** in the next 5-10 years

EVs are different from other residential loads

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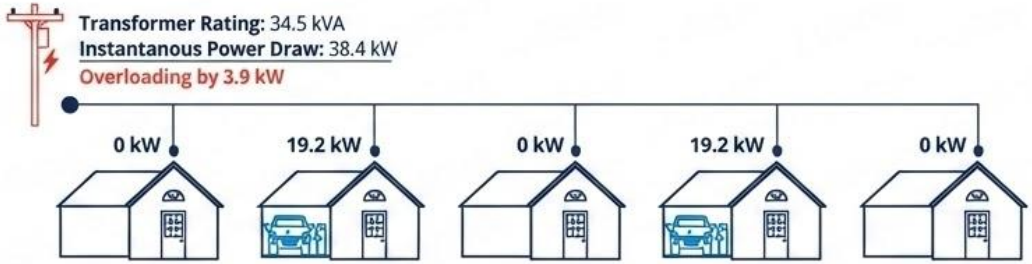
- **NEW:** Doubling every 2-3 years
- **HIGH POWERED:** L2 chargers often >8 kW
- **BI-DIRECTIONAL:** Potential to flow both ways, back to the home or to the grid
- **FLEXIBLE:** Drivers typically charge for 2 hrs during 10 hr plug-in session
- **MOBILE:** Home charging common (~80%) and public charging impacts commercial class
- **HYPERCONNECTED:** ~85+% of EV customers have capable vehicles or chargers

High-level of Adoption of Light-duty Vehicles & 7.2 kW Level 2 EVSE

Low-level of Adoption of Light-duty Trucks & 19.2 kW Level 2 Chargers



Unmanaged charging stresses the Grid

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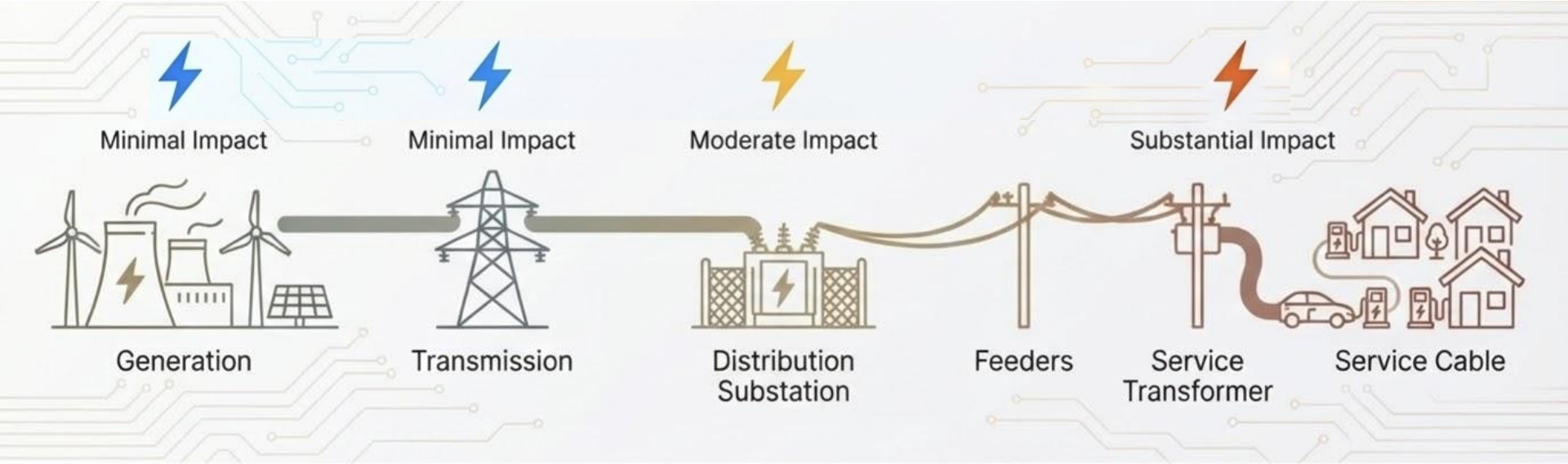

Limited Duration Issue

Usually only an issue for a limited number of hours each year.

Relevant for Large Depots

Relevant for large charging depots (e.g. truck stops, mega depots).

Localized Stress & Solutions

Localized stress on feeders and substations. Need for proactive upgrades and load flexibility.

Data-driven planning tools provide visibility

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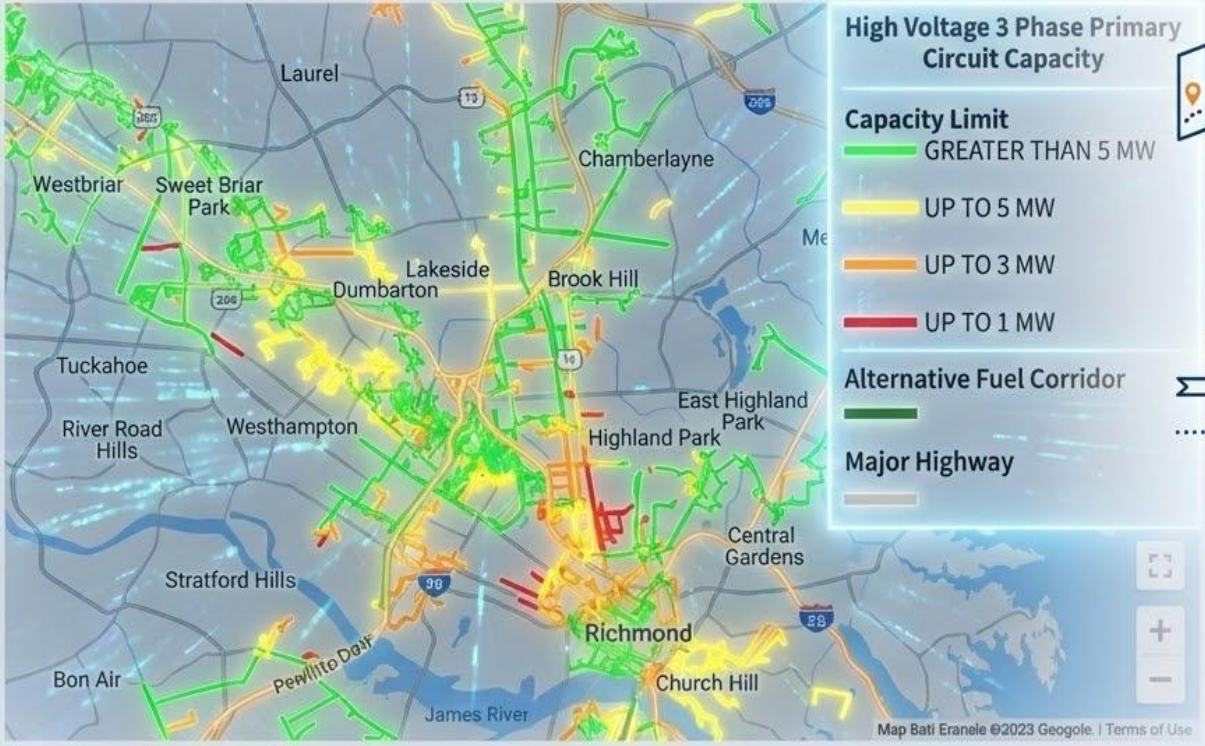

Hosting capacity maps provide developers, fleet operators, and customers with transparent information on available grid capacity.

This can help streamline interconnection timelines and direct developers to unconstrained areas.

Source: Smart Electric Power Alliance, 2024

Data Needed for Effective Dx Planning

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What utilities need to plan reliably

1. Load Forecasting and Growth Drivers

- Electrification forecasts by sector: EVs (residential, fleet, MHD), buildings, industrial loads
- Temporal detail: hourly, seasonal, coincident peak impacts
- Spatial resolution: feeder and substation level, not just systemwide
- Adoption scenarios tied to policy goals and incentives

2. Customer and Asset-Level Data

- Feeder topology, hosting capacity, and constraint locations
- EVSE locations and charging power, including MUDs and depots
- DER adoption and flexibility potential (EVs, storage, managed loads)
- Interconnection queue data and large load requests

3. Flexibility and Program Performance Data

- Managed charging and demand response participation rates
- Verified load shift, peak reduction, and locational value
- Customer enrollment, opt-out behavior, and automation readiness
- Performance during stress events, not just pilots

4. Cost and Investment Data

- Cost of traditional upgrades vs non-wires alternatives
- Timing of capacity constraints and deferral opportunities
- Rate and bill impacts under different planning pathways

Where SEOs can be most helpful

Provide Policy-Aligned Demand Signals

- Translate state electrification goals into **actionable load scenarios**

Improve Data Availability and Consistency

- Support standardized EV and charging data collection
- Fund or convene shared forecasting tools and methodologies

De-Risk Utility Planning and Investment

- Support pilots that generate planning-grade data, not just demos
- Fund analysis of managed charging, flexible interconnection, and VPPs

Convene Stakeholders Around Planning Inputs

- Bring utilities, regulators, OEMs, and charging providers together

SEOs are key to accelerating grid readiness and collaboration

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1. Convene Stakeholders

Bring together utilities, state DOTs, fleet operators, and charging developers to share electrification plans and align on infrastructure needs.

2. Champion Data Transparency

Support policies that require and fund public-facing tools like Hosting Capacity Maps to ensure transparent access to grid data for all stakeholders.

3. Encourage Proactive Investment

Work with Public Utility Commissions to champion regulatory frameworks that allow for prudent, forward-looking grid investments ahead of load growth, preventing costly bottlenecks.

4. Support Customer Education

Fund and promote statewide campaigns on the benefits of managed charging, time-of-use rates, and off-peak energy use to maximize participation and grid benefits.

About SEPA & Our Managed Charging Work

SEPA is a nonprofit, **membership organization** comprised of utilities, industry partners, regulators and other stakeholders.

Reports & Studies

- State of Distribution-Level Managed Charging in 2024
- State of Bidirectional Charging in 2023
- State of Managed Charging in 2021
- Managed Charging Programs: Maximizing Customers Satisfaction & Grid Benefits
- Managed Charging Incentive Design

https://sepapower.org/resource/the-state-of-managed-charging-in-2021/

https://sepapower.org/resource/the-state-of-bidirectional-charging-in-2023/

Resilient by Design: Utility Strategies for Climate-Ready Distribution Systems

SEPA and Rhizome partnered to analyze distribution system resilience plans and summarized the best practices and lessons learned.

Objectives and Key Activities include:

- Reviewed 17 distribution utility resilience planning filings
- Surveyed distribution system plan (DSP) leaders to inform case studies
- Analyzed regulatory dockets and state-level directives
- Tracked state-level resilience planning mandate timeline status
- Identified resilience planning trends and key challenges
- Created list of recommendations based on research for use by utilities, regulators, and stakeholders

Questions

Garrett Fitzgerald
Gfitzgerald@sepapower.org

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