



KCP&L Clean Charge Network

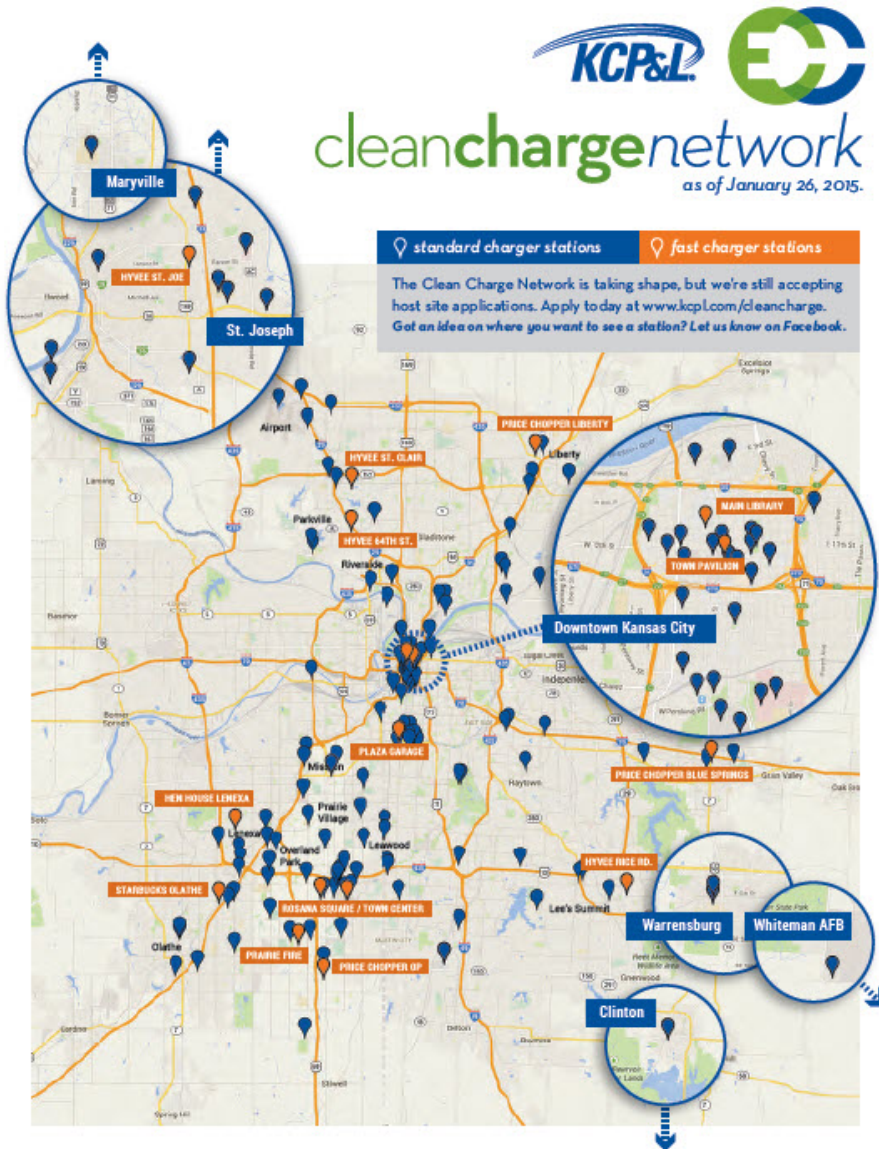


Clean Charge Network (CCN)



- Launched in 2015
- Planned 2,000+ L2 charger ports plus 16 DC Fast Chargers
- Focus on publicly accessible, high population density / long dwell time areas, workplaces and geographic dispersion
- Establish one standard communications and payment platform
- Currently the largest installed and operating utility-owned EV network in the US

Clean Charge Network (CCN) Benefits



Smart Electrification

Improved Environment

Economic Development

Customer Programs

Utility Cost and Infrastructure Advantages

Proactive Policymaking



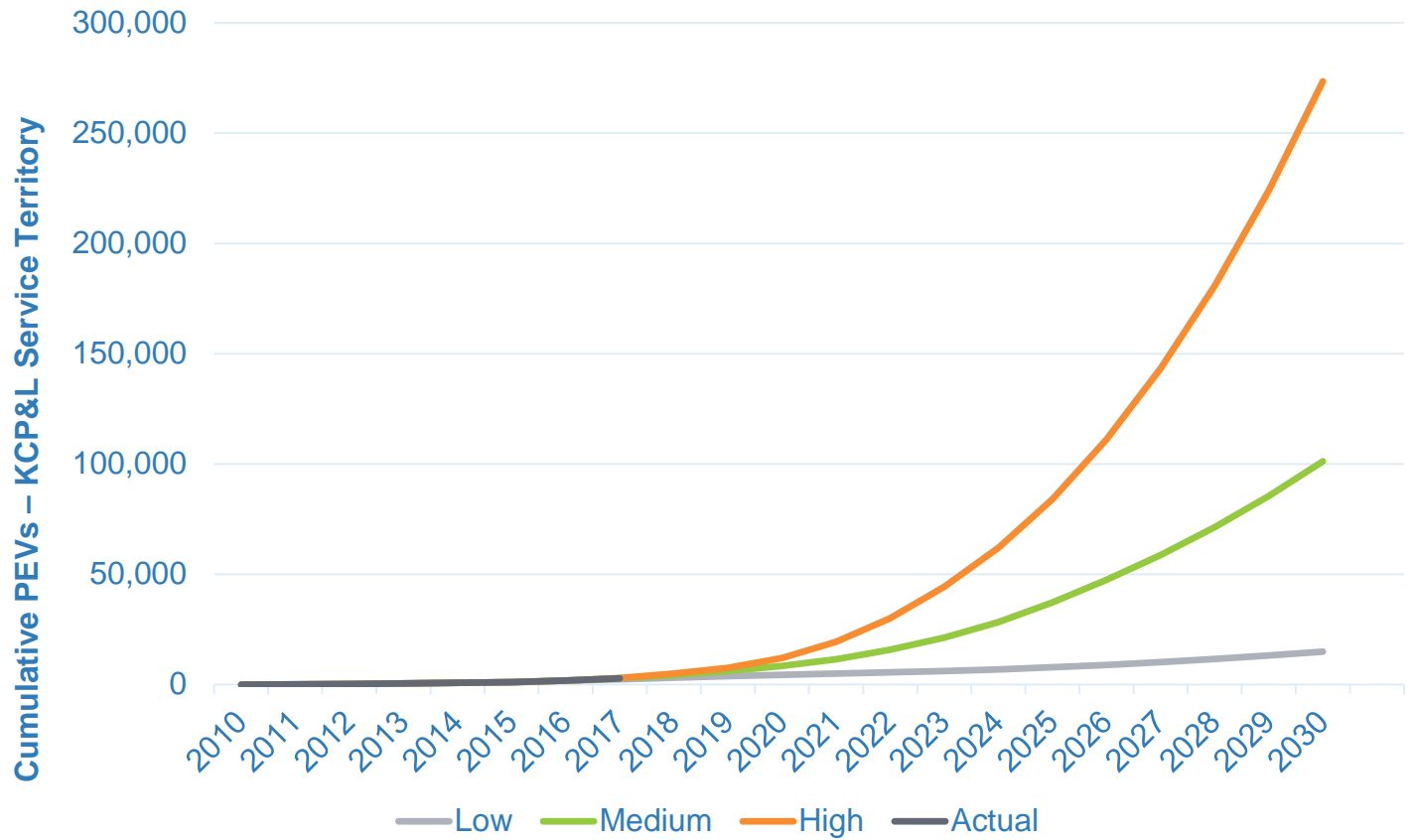
CCN Goals

- Eliminate range anxiety
 - Increase EV adoption rate
 - Support drivers without dedicated home charging
 - Enable long-distance travel
- Grow EV adoption
 - Educate customers
 - Drives economic and environmental benefits
 - Provides for stabilized rates for all customers
- Understand and influence grid impacts
 - Integrate with the utility grid
 - Analyze charging models/load shapes
 - Explore managed charging opportunities



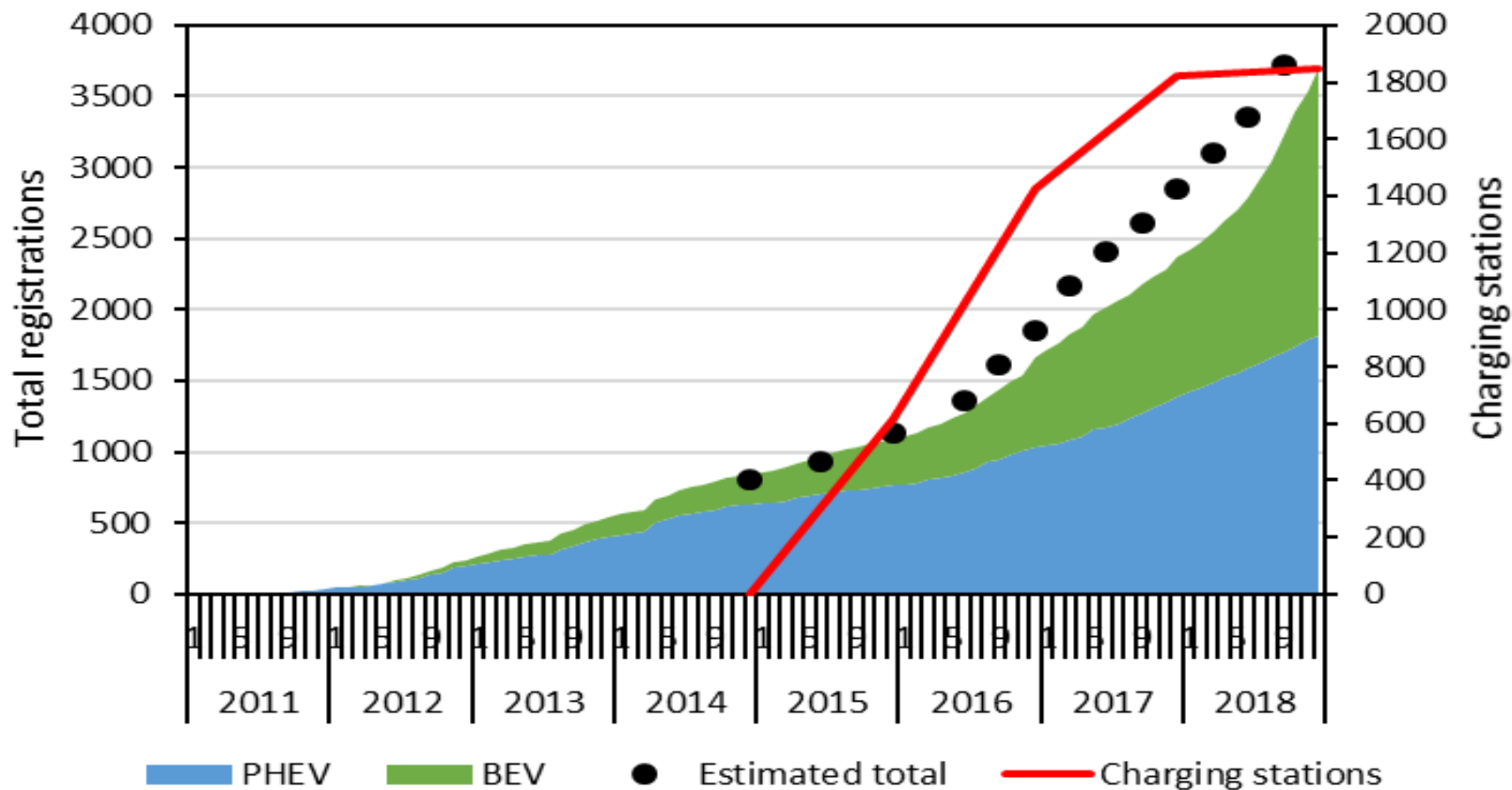
KCP&L PEV Adoption Forecast

PEVs in KCP&L service territory projected to increase 5x-10x by 2025. Unmanaged: potential 10-40MW peak load.

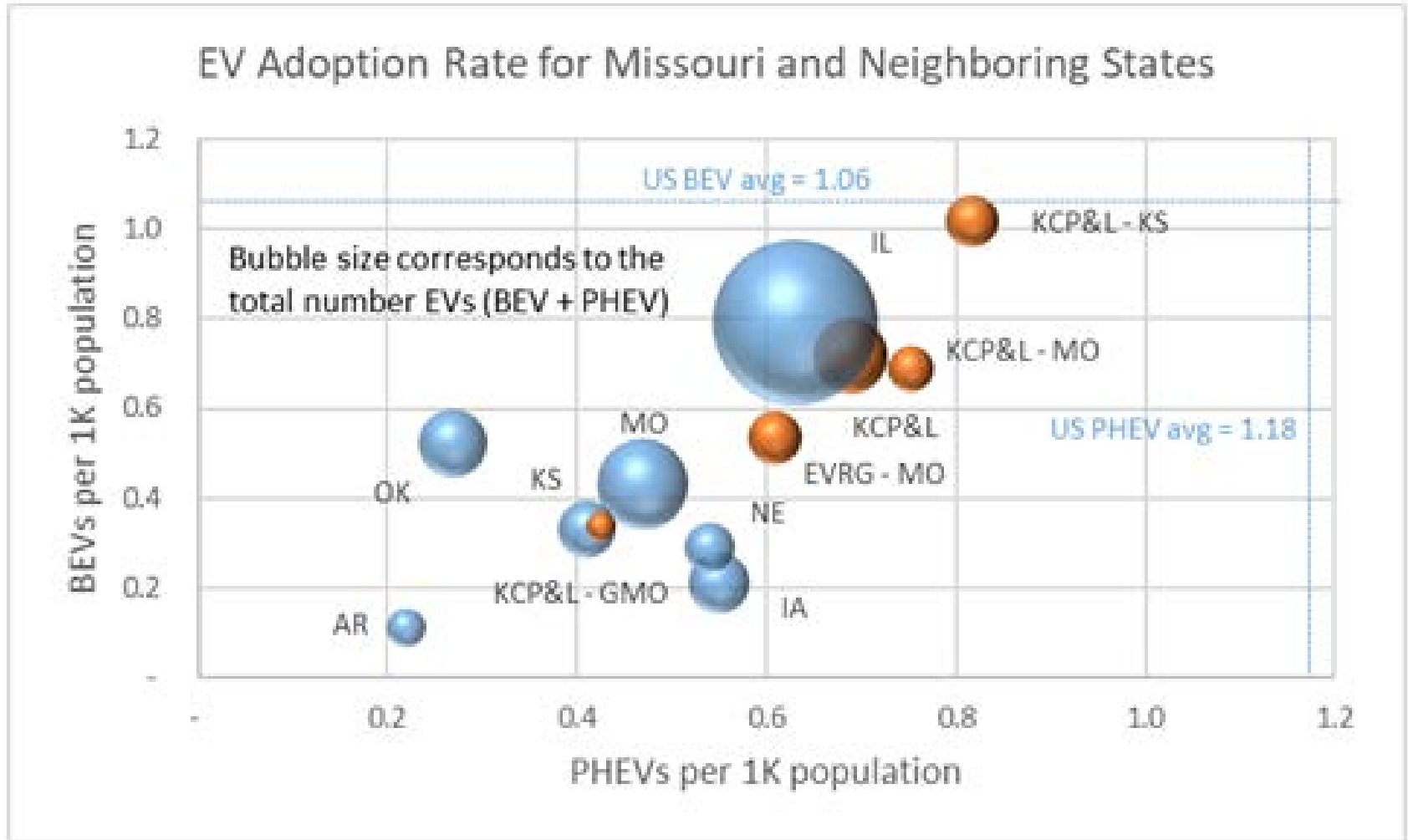


KCP&L EV Adoption

Cumulative registrations by type



Surrounding States EV Adoption





Impact of CCN Environmental Benefits

Here's how EV charging has helped:



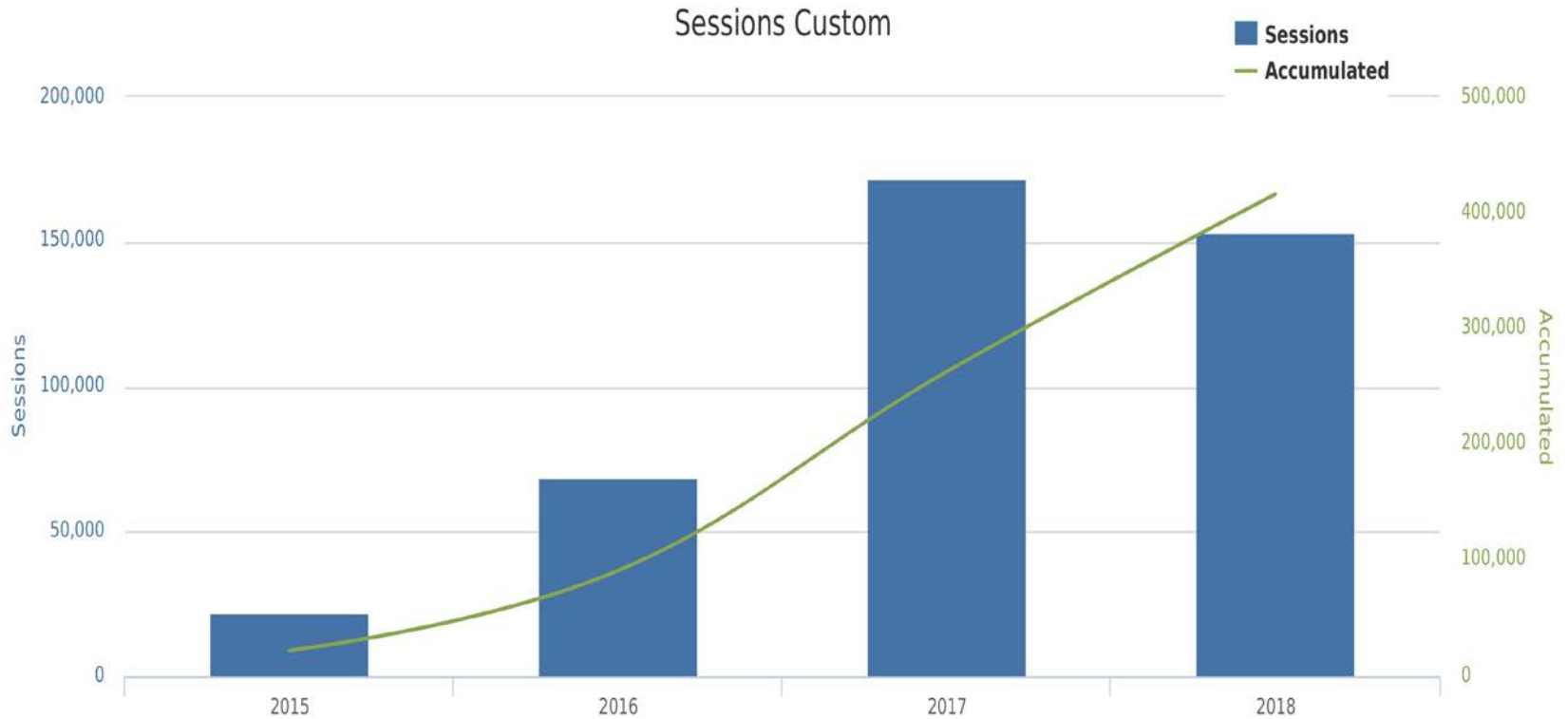
You've avoided
1,340,495 kg
greenhouse gas
emissions



that's like
planting
34,372
trees
and letting them
grow for 10 years

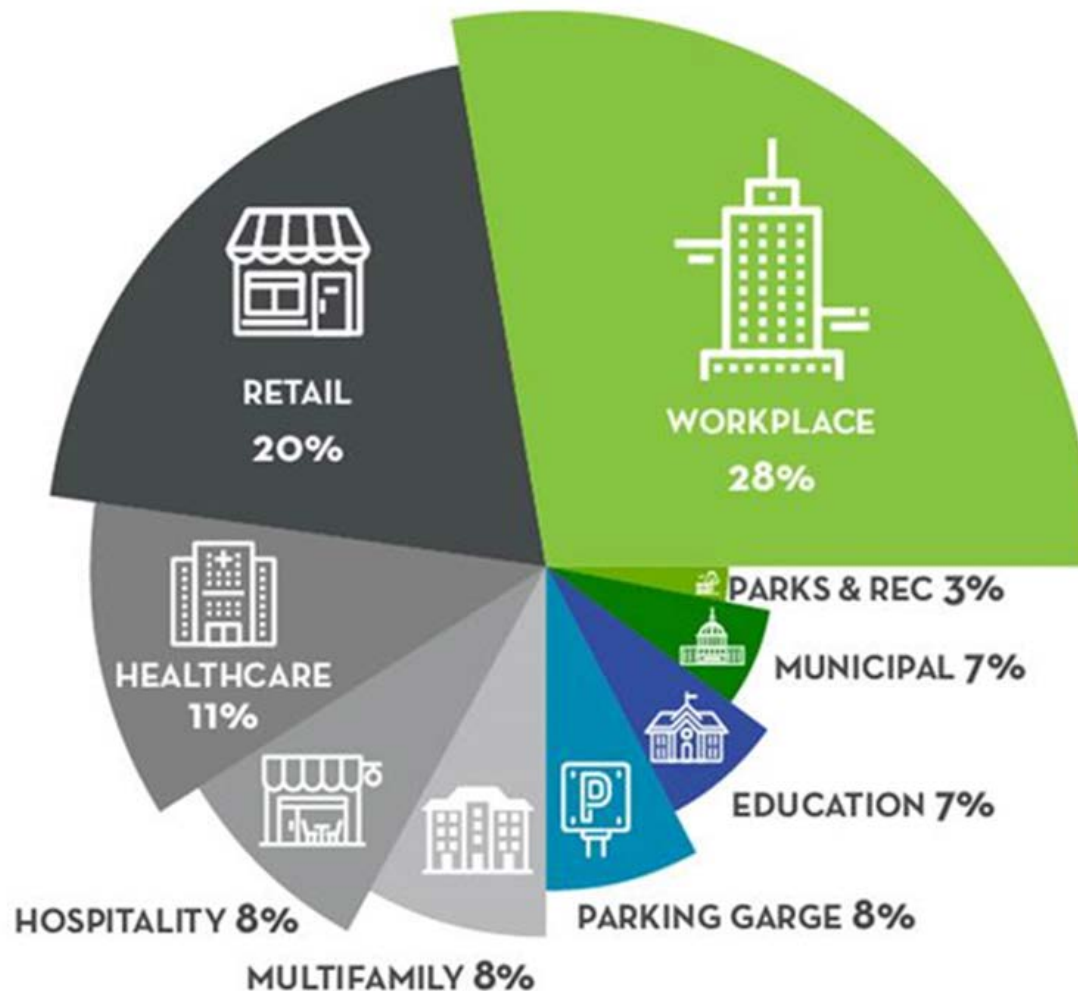


CCN Charging Sessions





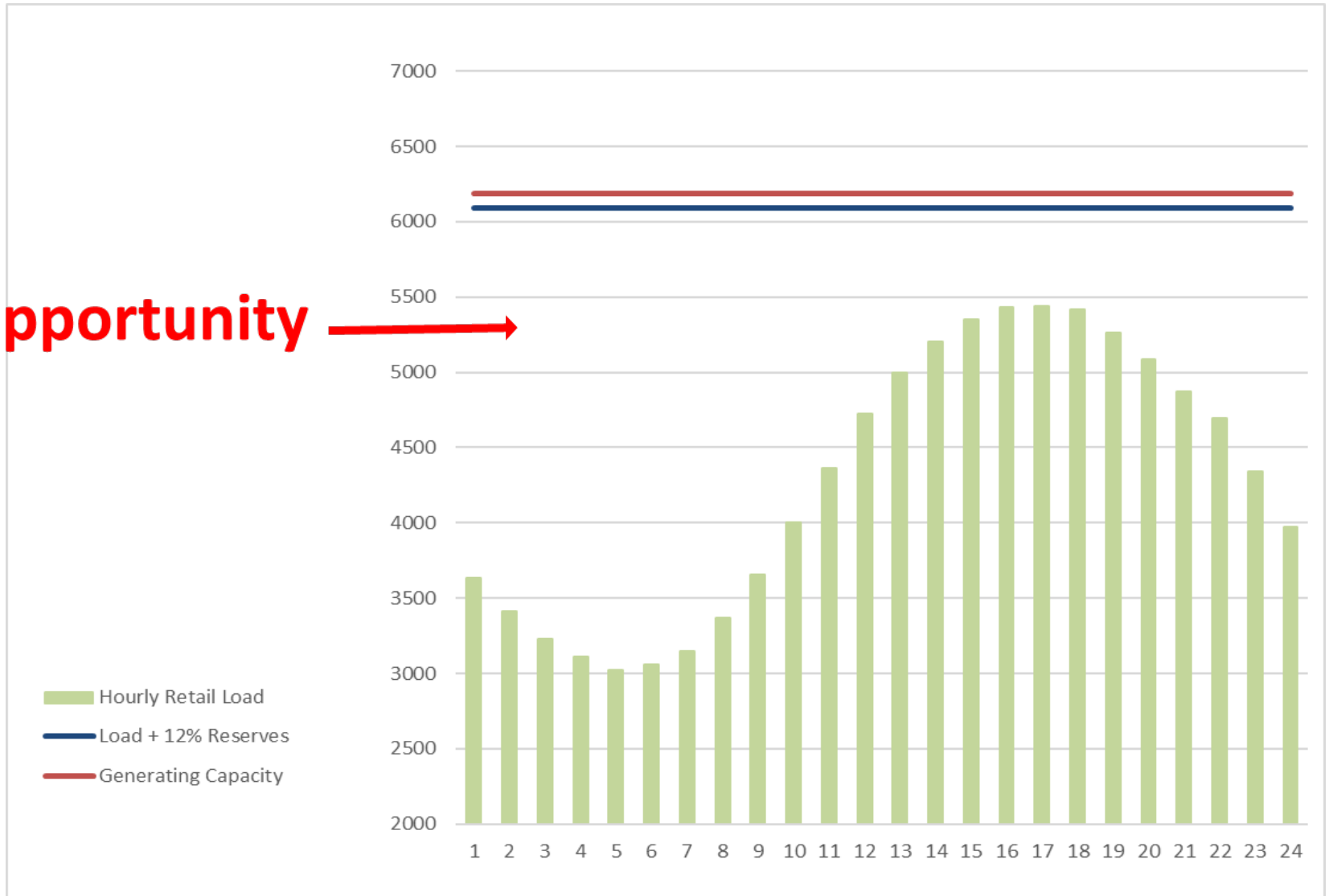
Host Site Segmentation





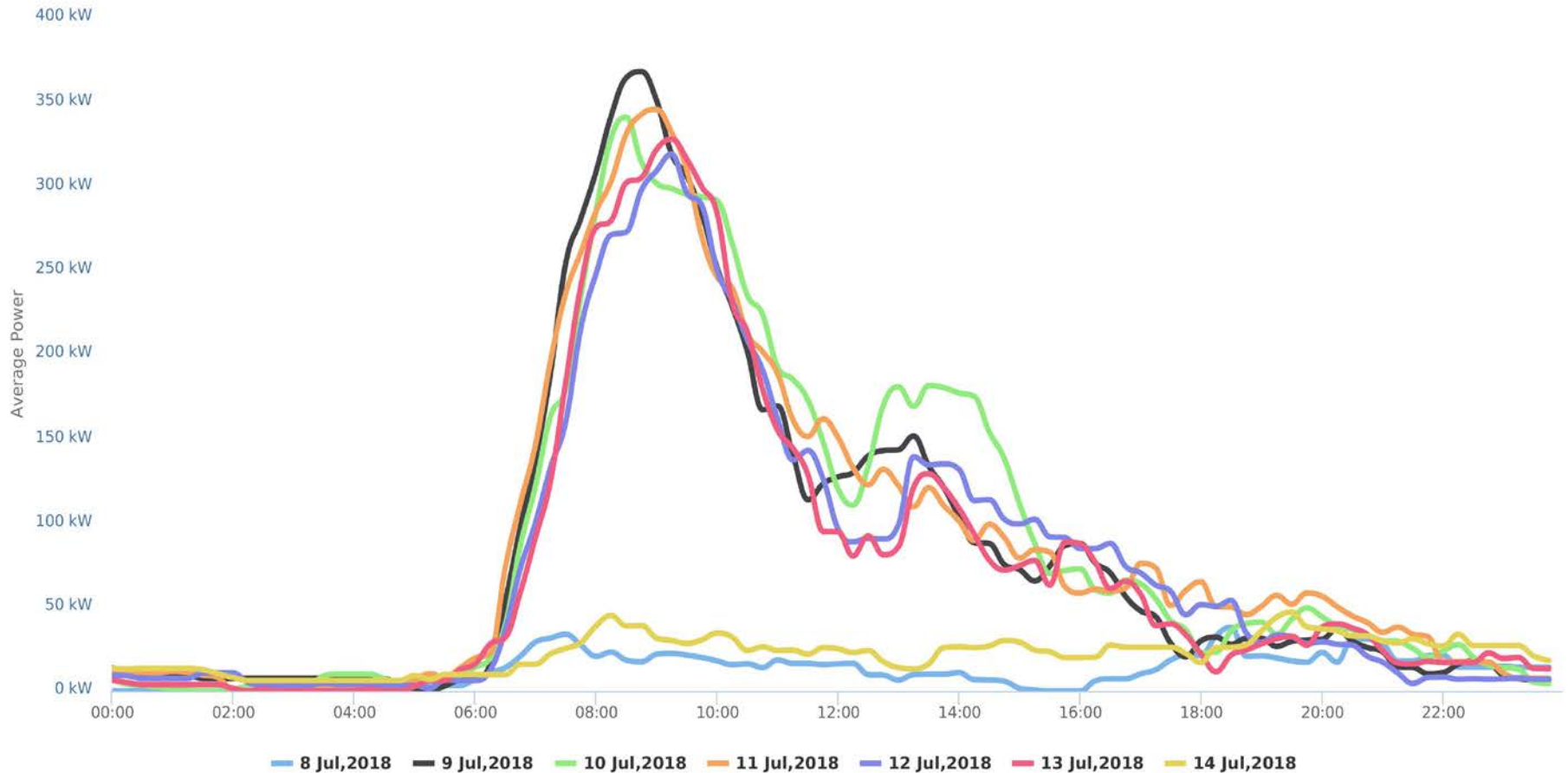
Grid Optimization Opportunity

Opportunity →

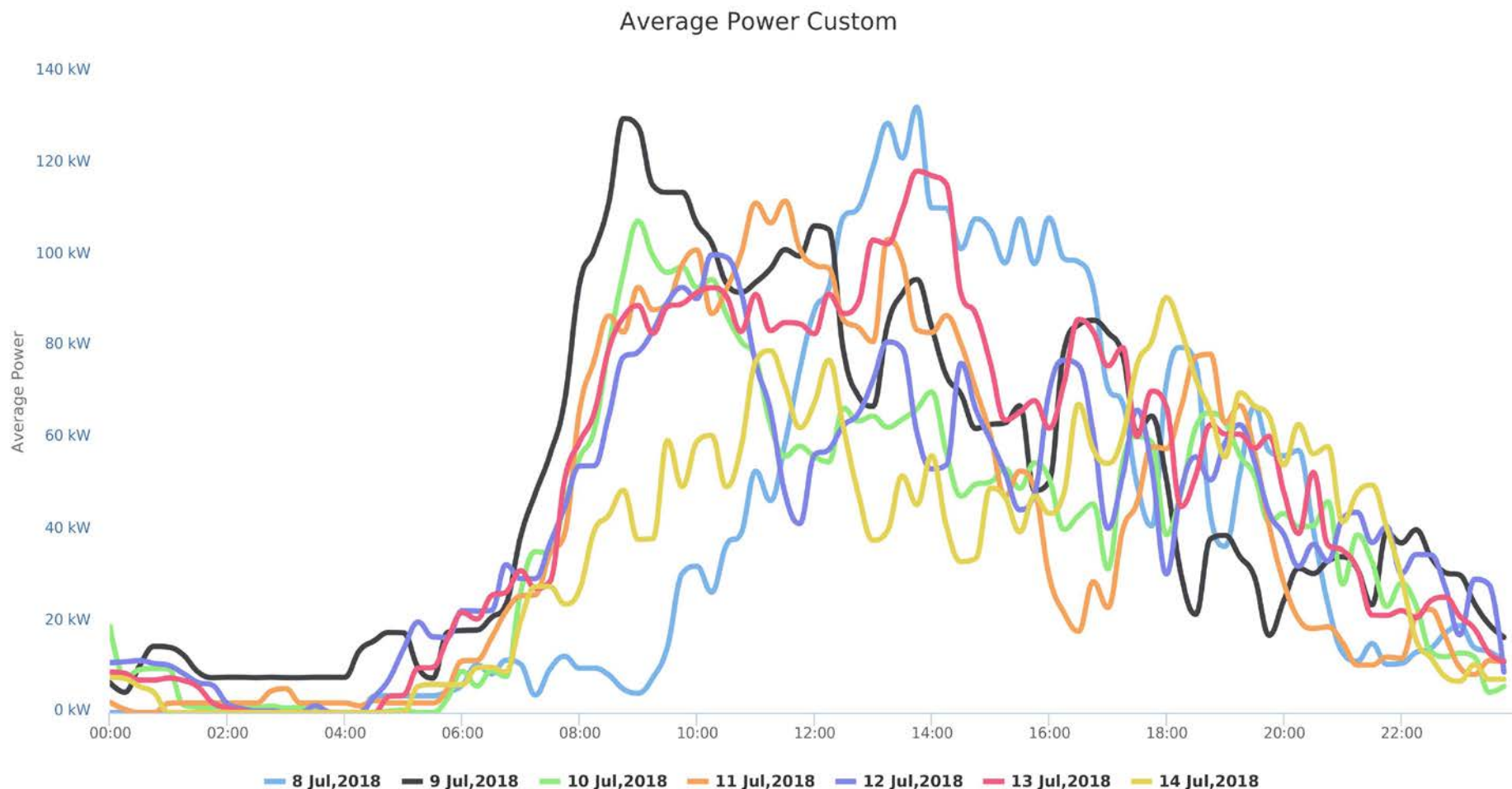


Workplace Charging Load Shape

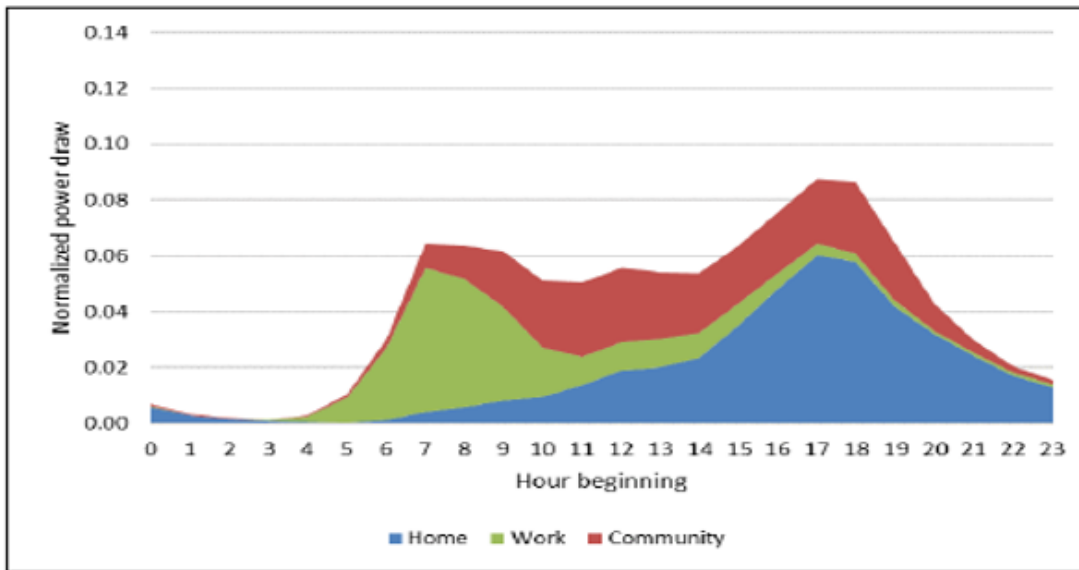
Average Power Custom



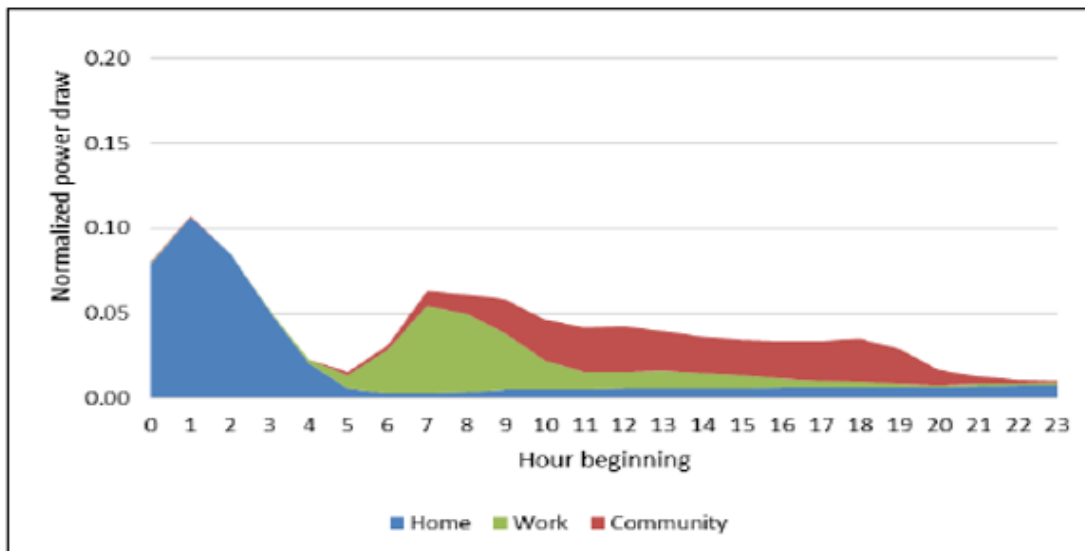
Retail Charging Load Shape



Influencing Charging Pattern



Unmanaged



Managed

Encouraging EV Adoption

- Maintain a position as a trusted provider of information of electric vehicles
- Ensure access to charging infrastructure
- Not a one size fits all framework
- Build mutually-beneficial partnerships with EV dealers and manufacturers
- Increase customer knowledge of CCN
- Electric vehicle showcase – KCP&L Connect
- Leverage benefits of CCN for utility
 - Get policy / regulatory framework right in the beginning
 - EV adoption tracking
 - Know our drivers through CCN registration



Next Steps to Continue to Advance EV Adoption

- Charging support for multi-family
 - On Street Street Light Charging Study via a DOE grant with MEC
- Fleet electrification
 - Continue education and awareness
- Mass transit
 - Partner to gain understanding of grid impacts and potential custom solutions i.e. charging rates, battery storage to offset demand
- Highway Corridor Infrastructure
 - Recent Ameren approval
 - Enable long-distance EV travel
 - Participate in MO EV Infrastructure Working Group to layout the design and plan (utilizing VW Settlement funds to fund a portion)
- Understand future grid impacts
 - DC fast charger deployments
 - Leveraging CCN data with customer home charging usage



For More Information

www.cleanchargenetwork.com

