7 FEBRUARY 2019

EV Charging Infrastructure
Utility and Regulatory Approaches

NASEO Energy Policy Outlook Conference

Jessica Shipley
Associate
The Regulatory Assistance Project

Washington, DC
United States

jshipley@raponline.org
503-816-2639
www.raponline.org

Outline

1. Context: what is the charging infrastructure gap, and why are utility regulators getting involved?
2. Key to *beneficial* transportation electrification: smart charging
3. Recent utility proposals and commission decisions: what's happening on the ground?

Takeaways

- Utility regulators are increasingly being asked to evaluate investments in EV charging infrastructure
- In doing so, regulators must balance multiple regulatory and policy priorities
- Charging can and should be done in a way that reduces costs and emissions and benefits the grid
- State agency coordination can improve data, analysis, policy, and outcomes

EV Charging – Coming to a PUC Near You

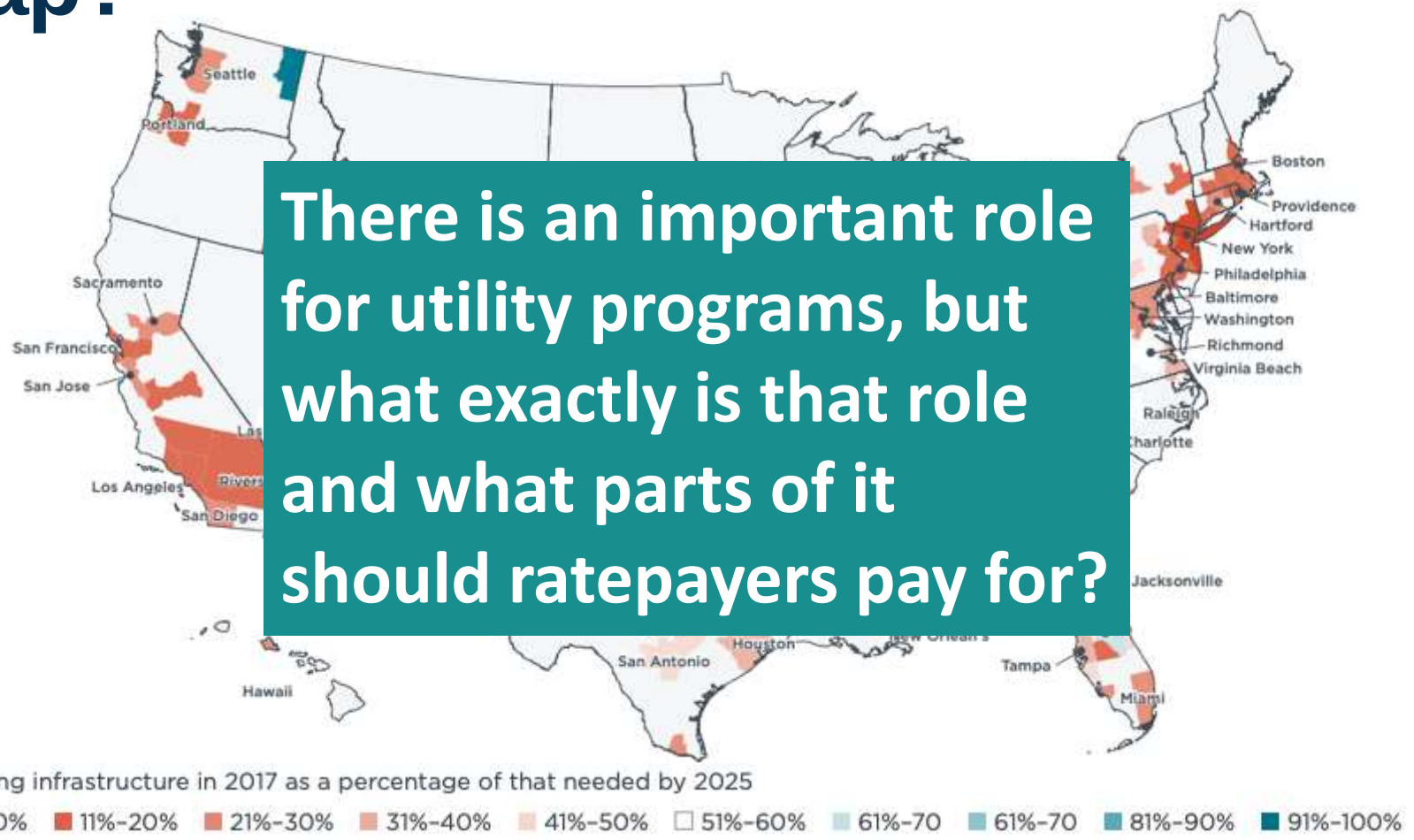
- Utility regulators are increasingly being asked to evaluate investments in EV charging infrastructure
  - Utility proposals
  - State policy goals
  - Market trends

EV Charging – Coming to a PUC Near You

- Mark

"The Commission's authority over EV charging programs is consistent with [our] general duty to consider "the economy of the State, the conservation of natural resources, and the preservation of environmental quality""
- Maryland PUC, January 2019

What Is The Charging Infrastructure Gap?



Source: Nicholas, Michael, Dale Hall, and Nic Lutsey, *Quantifying the Electric Vehicle Charging Infrastructure Gap Across US Markets*, ICCT, January 2019.
https://www.theicct.org/sites/default/files/publications/US_charging_Gap_20190124.pdf

Regulators Must Balance Multiple Priorities

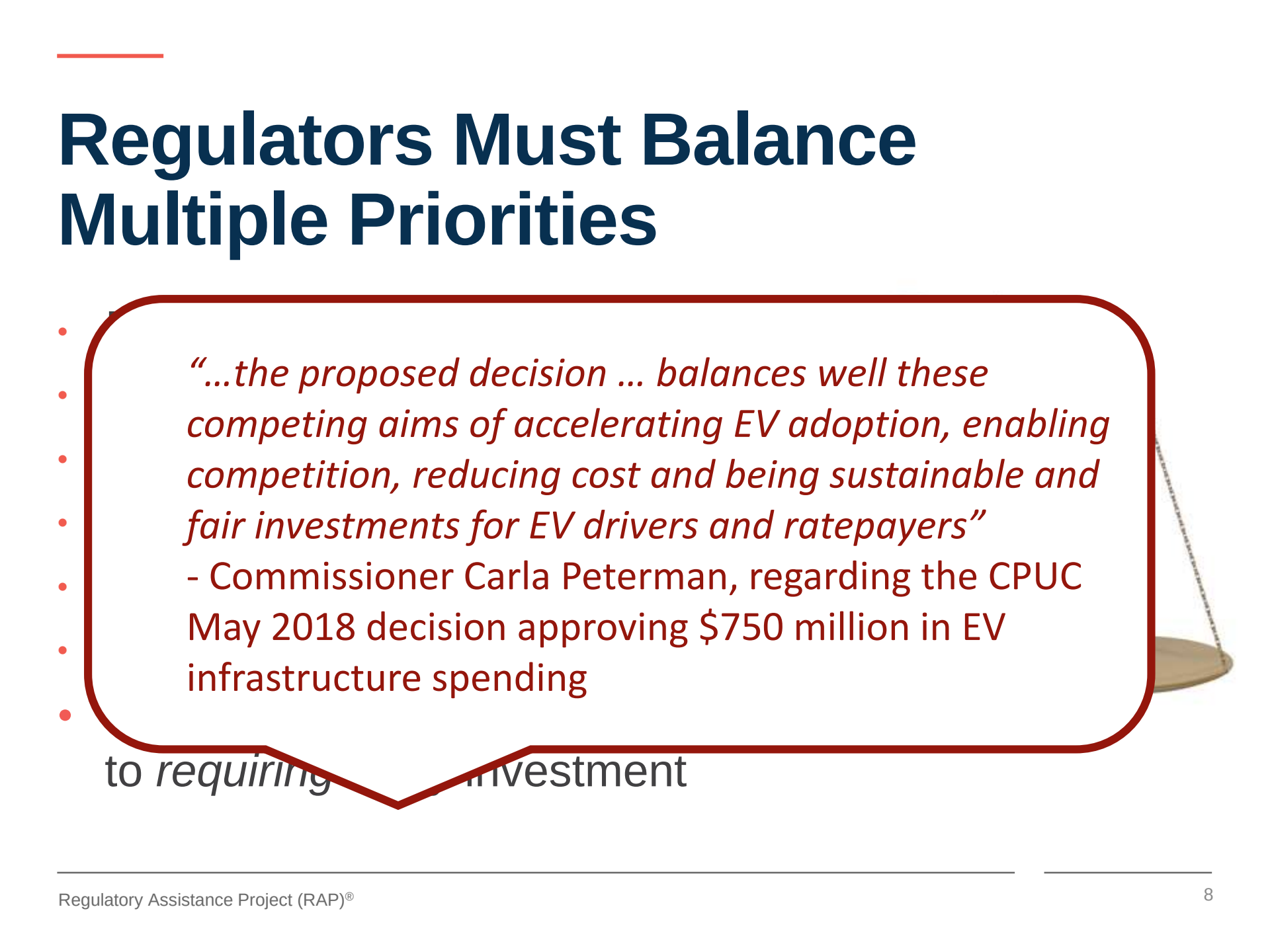
- Equitable access
- Preserving competition
- Increasing EV adoption
- Environmental concerns
- Reducing costs
- Fair to ratepayers
- CA's evolution: from *prohibiting* to *requiring* utility investment

Regulators Must Balance Multiple Priorities

- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible]

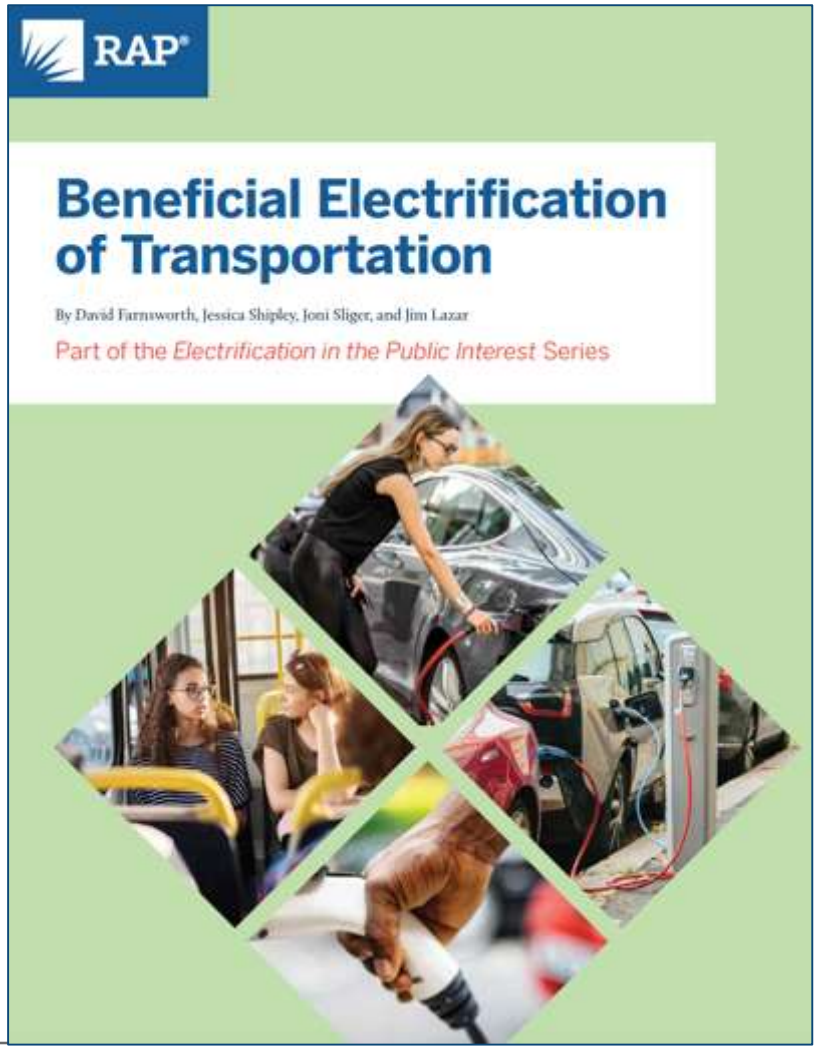
to *requiring* [illegible] investment

> *"…the proposed decision … balances well these competing aims of accelerating EV adoption, enabling competition, reducing cost and being sustainable and fair investments for EV drivers and ratepayers"*
> - Commissioner Carla Peterman, regarding the CPUC May 2018 decision approving $750 million in EV infrastructure spending



Beneficial Electrification of Transportation

- Reduces costs for consumers
- Lowers emissions
- Benefits the grid
  - Reduces renewable curtailment
  - Doesn't add to peak
  - Increases utilization of existing infrastructure

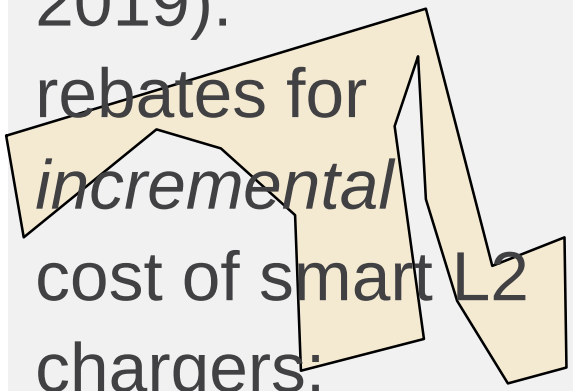


https://www.raponline.org/knowledge-center/beneficial-electrification-of-transportation/

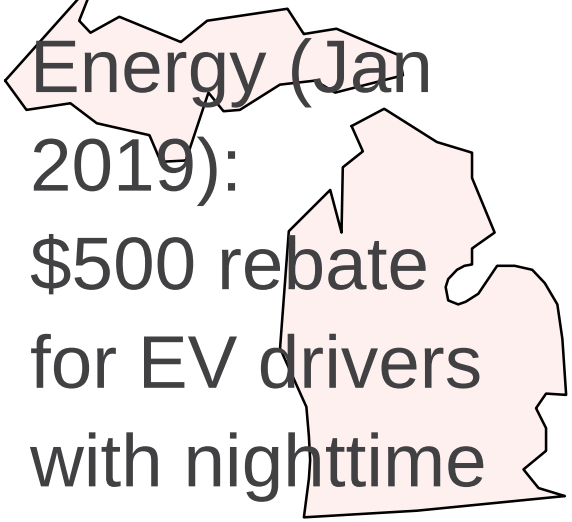
Residential Charging

Key issues: cross-subsidization, increasing EV adoption, energy efficiency, encouraging off-peak usage

Maryland (Jan 2019): rebates for *incremental* cost of smart L2 chargers; customers must enroll in TOU



Consumers Energy (Jan 2019): $500 rebate for EV drivers with nighttime EV rate

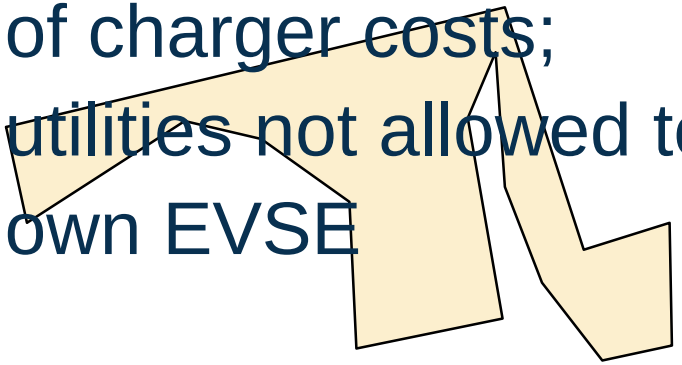


SDG&E (May 2018): rebate for EVSE approved, utility ownership of customer-side infrastructure denied

Multi-unit Dwelling Charging

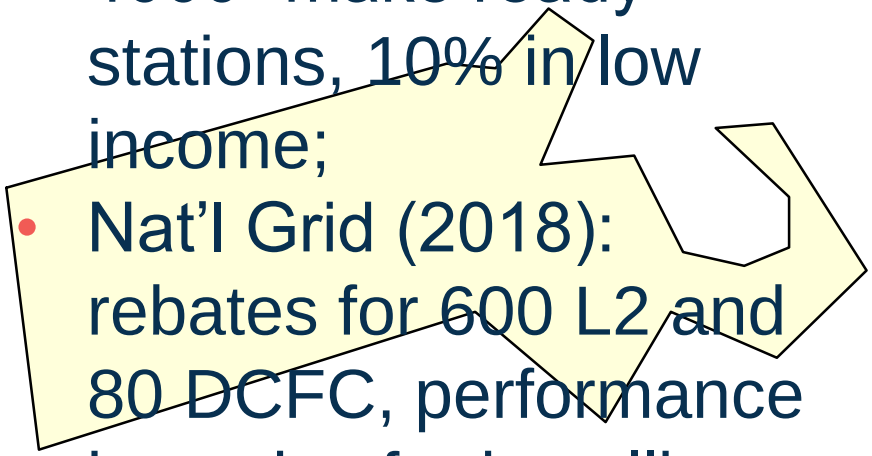
Key issues: lack of private market investment, “right to charge”, up front cost, equitable access

Maryland (Jan 2019): Rebates for up to 50% of charger costs; utilities not allowed to own EVSE



Massachusetts:

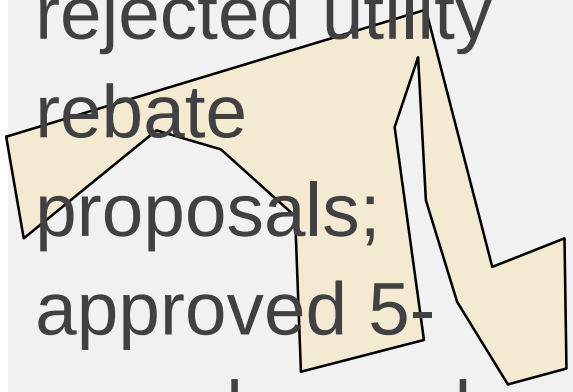
- Eversource (2017): 4000 “make ready” stations, 10% in low income;
- Nat’l Grid (2018): rebates for 600 L2 and 80 DCFC, performance incentive for installing 75% of target sites



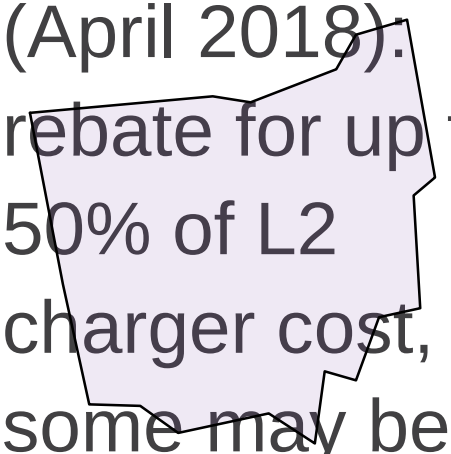
Workplace and Commercial Charging

Key issues: important for a subset of EV drivers, electric ratepayers' role?, reforming rate design

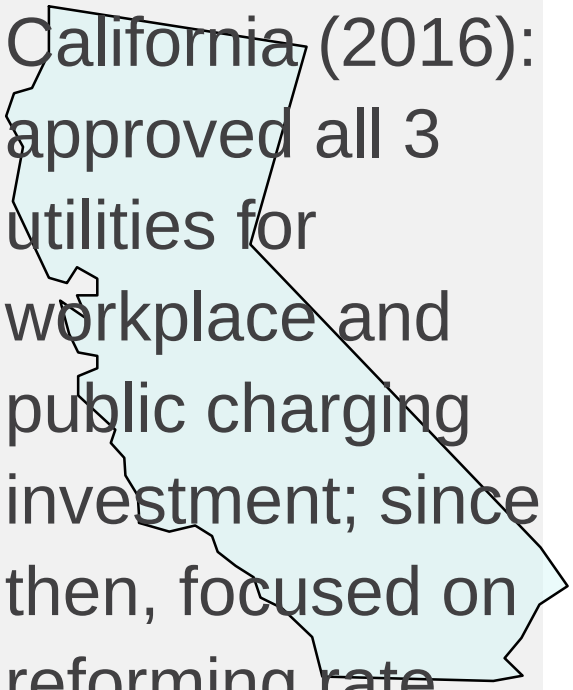
Maryland: rejected utility rebate proposals; approved 5-year demand charge waiver



AEP (Ohio) (April 2018): rebate for up to 50% of L2 charger cost, some may be located at workplaces



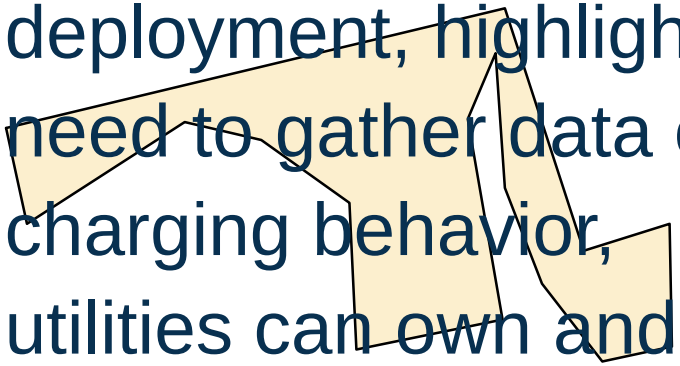
California (2016): approved all 3 utilities for workplace and public charging investment; since then, focused on reforming rate design



Public Charging

Key issues: preserving competition, lack of private market investment, reforming rate design

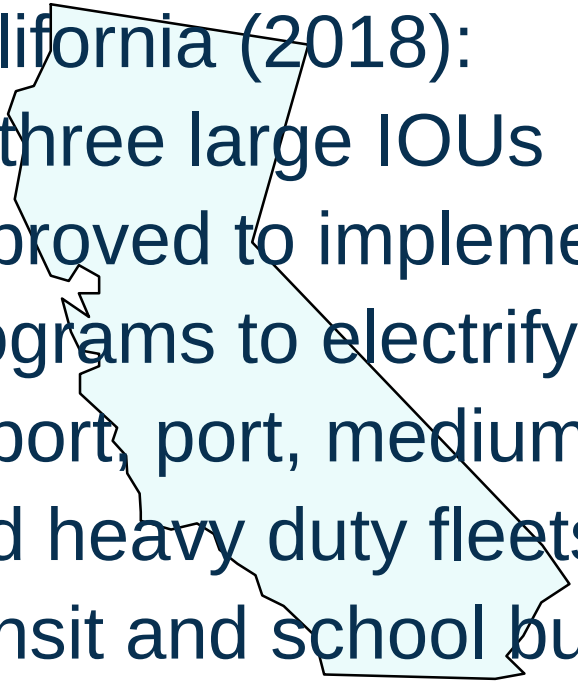
Maryland (Jan 2019): approved limited deployment, highlighted need to gather data on charging behavior, utilities can own and operate, must be at public properties



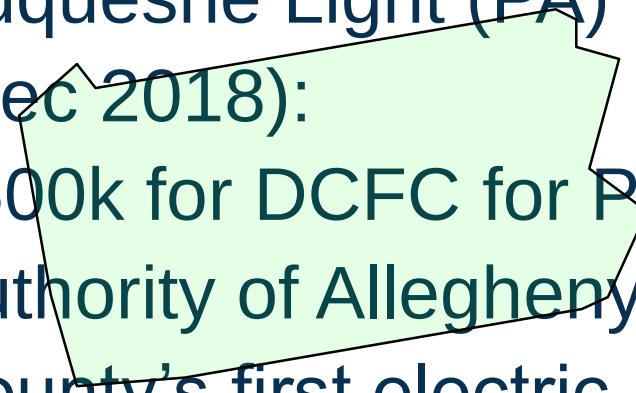
NV Energy (June 2018): Rebates for public charging on NV electric highway;
must file demand charge transition tariff for DCFC

Other Transportation Electrification

Key issues: local environmental benefits, up front cost barriers, reforming rate design



California (2018):
all three large IOUs approved to implement programs to electrify airport, port, medium and heavy duty fleets, transit and school buses



Duquesne Light (PA) (Dec 2018):
$500k for DCFC for Port Authority of Allegheny County's first electric transit buses

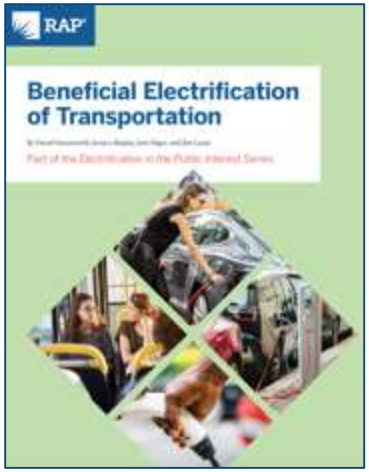
Takeaways

- Utility regulators are increasingly being asked to evaluate investments in EV charging infrastructure
- In doing so, regulators must balance multiple regulatory and policy priorities
- Charging can and should be done in a way that reduces costs and emissions and benefits the grid
- State agency coordination can improve data, analysis, policy, and outcomes

Discussion

- **What Developments or Key Issues Are Happening in Your State?**

- Please take a copy of RAP's new publication "*Beneficial Electrification of Transportation*"!



About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org

Contact Jessica at:
jshipley@raponline.org
@jship10