



Edison Electric  
INSTITUTE

# Electric Vehicle (EV) Policy Issues

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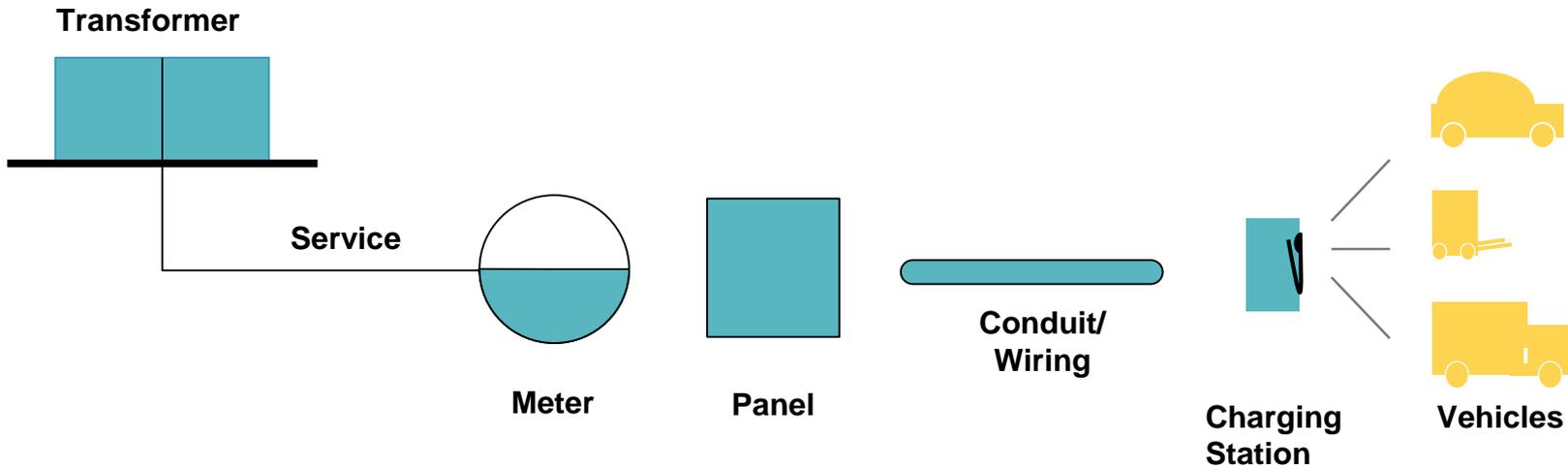
NASEO Transportation Committee – Conference Call  
August 31, 2017

# EV Policy Issues

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- Regulation of EV charging
- Electric rates
  - Time-of-use rates
  - High power charging
- Infrastructure deployment

# Regulation of EV Charging



## Electric rate

Billed by electric company to site host; \$/kWh

## Usage fee

Billed by charging station to EV driver; could be \$/kWh, \$/hour, \$/session, or other

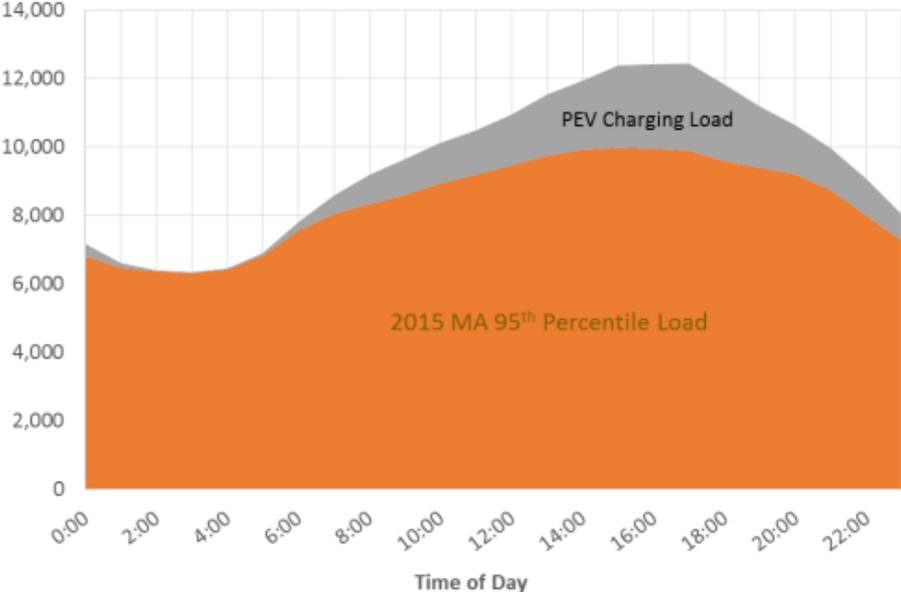
# Regulation of EV Charging

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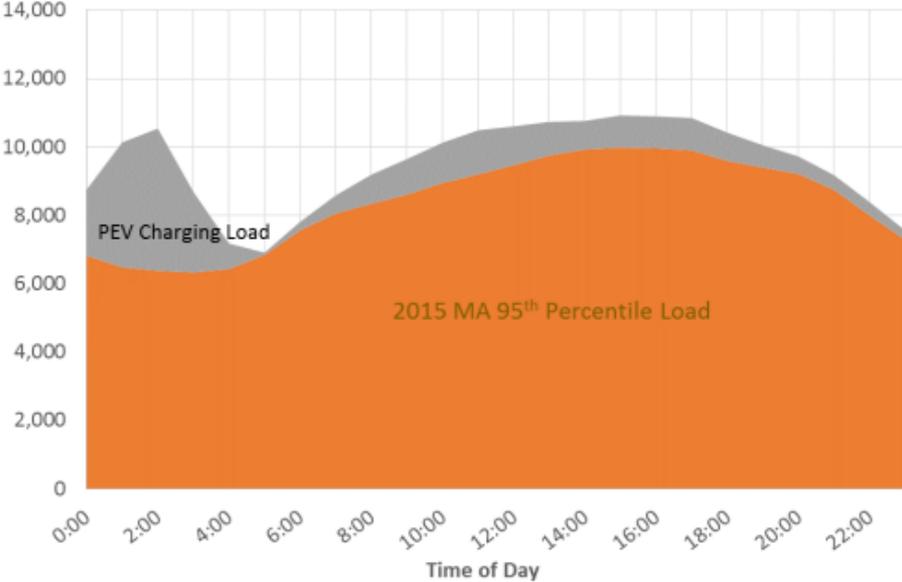
- Considerations:
  - Does electric vehicle charging constitute the sale of electricity, or the sale of a charging service?
  - Should electric vehicle charging be regulated by the PUC, or by some other entity?
  - If not regulated by PUC, what entity is accountable for consumer interests?
- More information:
  - Center for Climate and Energy Solutions,  
<https://www.c2es.org/initiatives/pev/maps/who-can-own-operate-a-charging-station>

# Electric Rates

Massachusetts PEV Charging Load  
2040, 80x50 Scenario, Baseline Charging  
(MW)



Massachusetts PEV Charging Load  
2040, 80x50 Scenario, Off-peak Charging  
(MW)



SOURCE: M.J. Bradley & Associates, *Electric Vehicle Cost-Benefit Analysis: Massachusetts*

# Time-of-Use Rates

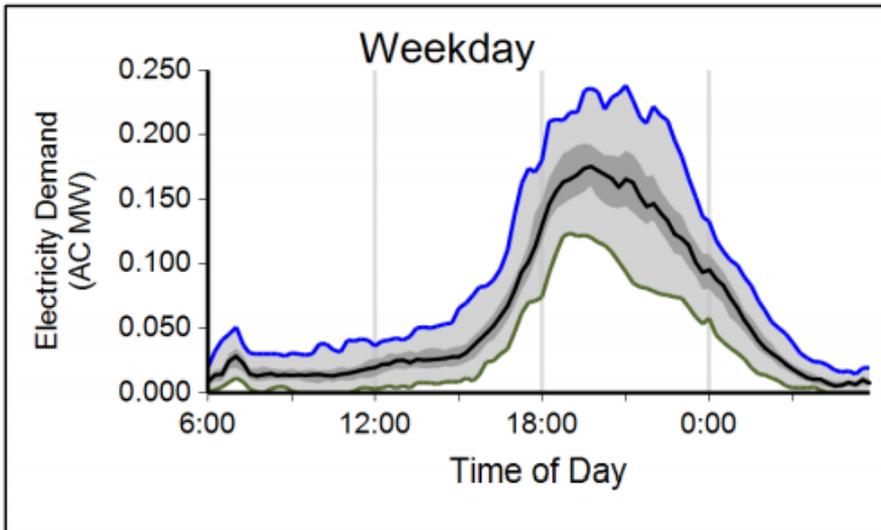


Figure 4 Weekday Residential Charging Demand in NES Territory, Q1 2013

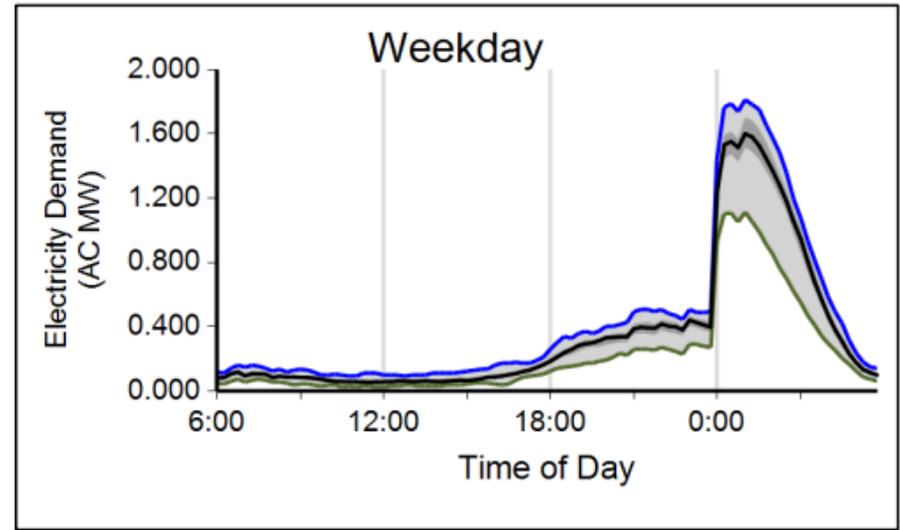


Figure 6 Weekday Residential Charging Demand in PG&E Territory, Q1 2013

# Electric Rates

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- Considerations:

- Goal: encourage charging behavior that makes efficient use of the power grid
- What mechanisms should we deploy that balance cost and effectiveness? TOU rates are one of many potential approaches to “managed charging”
- How do we phase the approach to encourage market growth and accommodate future technology advances?

- More information:

- Citizens Utility Board, *The ABCs of EVs: A Guide for Policy Makers and Consumer Advocates*, [https://citizensutilityboard.org/wp-content/uploads/2017/04/2017\\_The-ABCs-of-EVs-Report.pdf](https://citizensutilityboard.org/wp-content/uploads/2017/04/2017_The-ABCs-of-EVs-Report.pdf)
- SEPA, *Utilities and Electric Vehicles: The Case for Managed Charging*, <https://sepapower.org/resource/ev-managed-charging/>

# High Power Charging

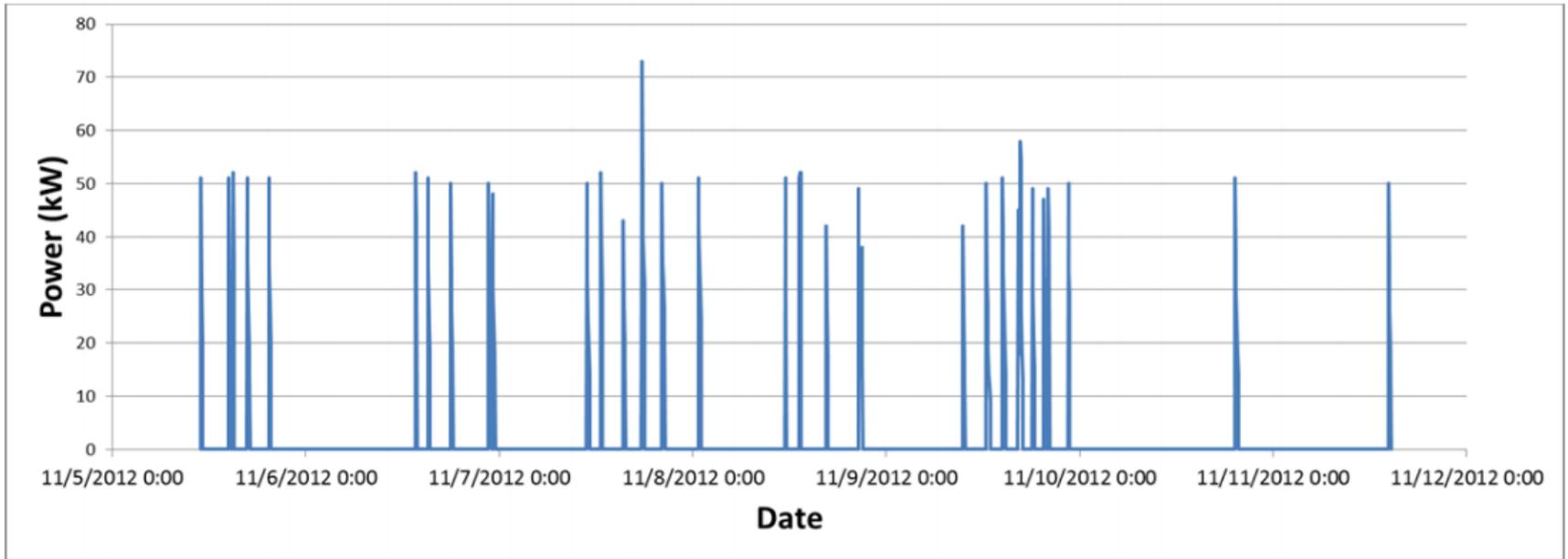


Figure 4 – Example of the aggregated demand curves for a typical week of two DCFC

# High Power Charging

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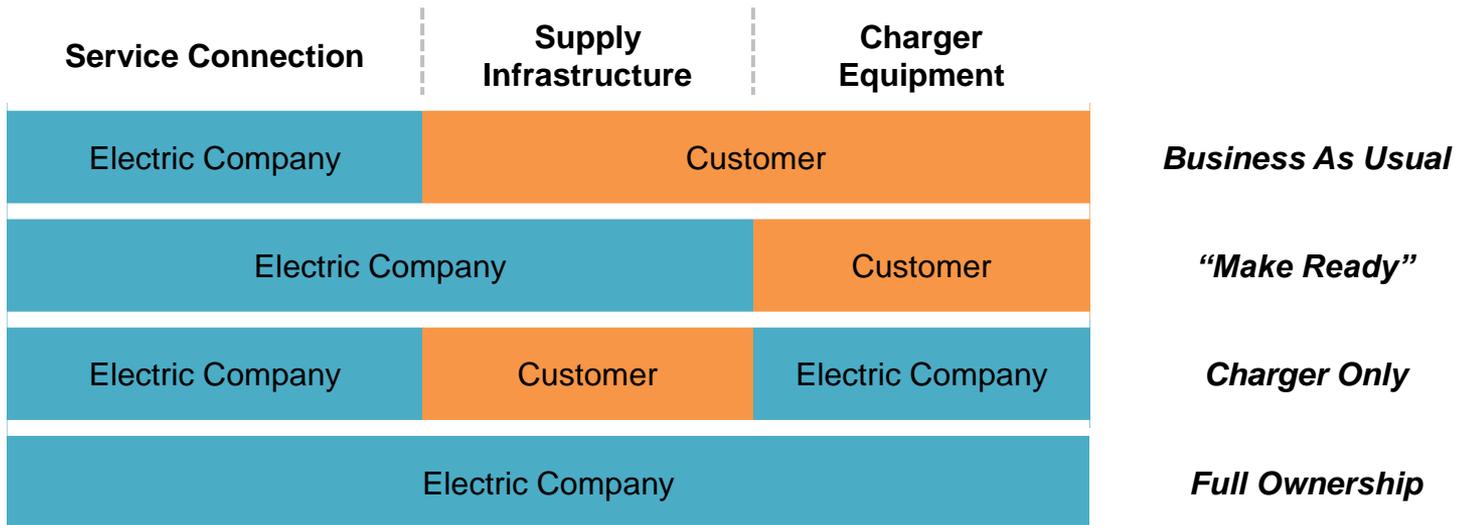
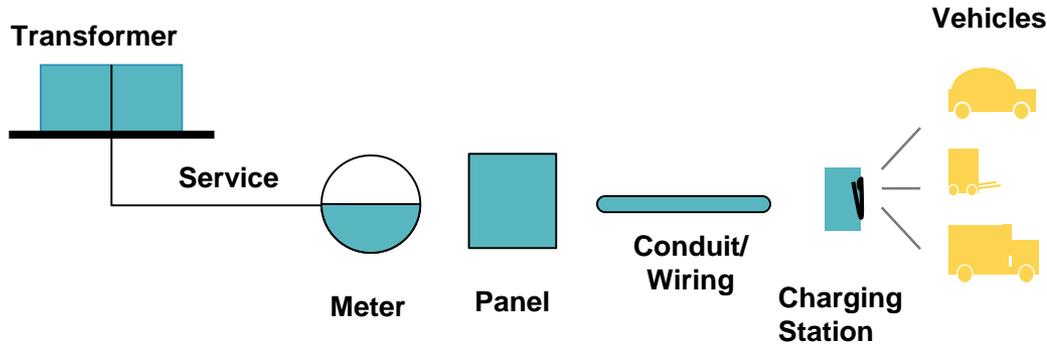
- Considerations:

- High powered EV charging is a “different” kind of usage
- Electric rates must balance various objectives, including system cost, policy priorities, and fair customer treatment
- Potential solutions:
  - Operational: increase utilization, pair multiple chargers
  - Technical: manage charging, pair with energy storage
  - Electric rates: innovative approaches such as transitional rates

- More information:

- Calstart, *Peak Demand Charges and Electric Transit Buses*, [http://www.calstart.org/Libraries/Publications/Peak\\_Demand\\_Charges\\_and\\_Electric\\_Transit\\_Buses\\_White\\_Paper.sflb.ashx](http://www.calstart.org/Libraries/Publications/Peak_Demand_Charges_and_Electric_Transit_Buses_White_Paper.sflb.ashx)

# Infrastructure Deployment



# Charging Infrastructure

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- Considerations:
  - Electric companies well suited to spur EV adoption, including infrastructure deployment
  - What type of program best meets the needs of your state, market, and customers?
- More information:
  - NRDC, *Driving Out Pollution: How Utilities Can Accelerate the Market for Electric Vehicles*, <https://www.nrdc.org/sites/default/files/driving-out-pollution-report.pdf>
  - RAP, *Getting From Here to There: Regulatory Considerations for Transportation Electrification*, <http://www.raonline.org/wp-content/uploads/2017/06/RAP-regulatory-considerations-transportation-electrification-2017-may.pdf>

# Charging Infrastructure

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- Select state examples:
  - CA: PG&E, Southern California Edison, and SDG&E approved pilots, additional proposals pending
  - WA: Avista approved pilot; commission policy guidance for future proposals (*Docket UE-160799*)
  - MA: Eversource, National Grid proposals pending
  - OR: Portland General Electric, PacifiCorp proposals pending
  - MD: Public Conference 44 stakeholder process
  - MI: Aug. 9, 2017 Technical Conference leading to guidance
  - OH: AEP proposal pending as part of smart cities program
  - UT: Rocky Mountain Power approved for incentive program
  - NV: NV Energy may propose incentive programs

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