



CONNECTICUT EV ROADMAP TECHNICAL MEETING

Time of Use (TOU) Rates

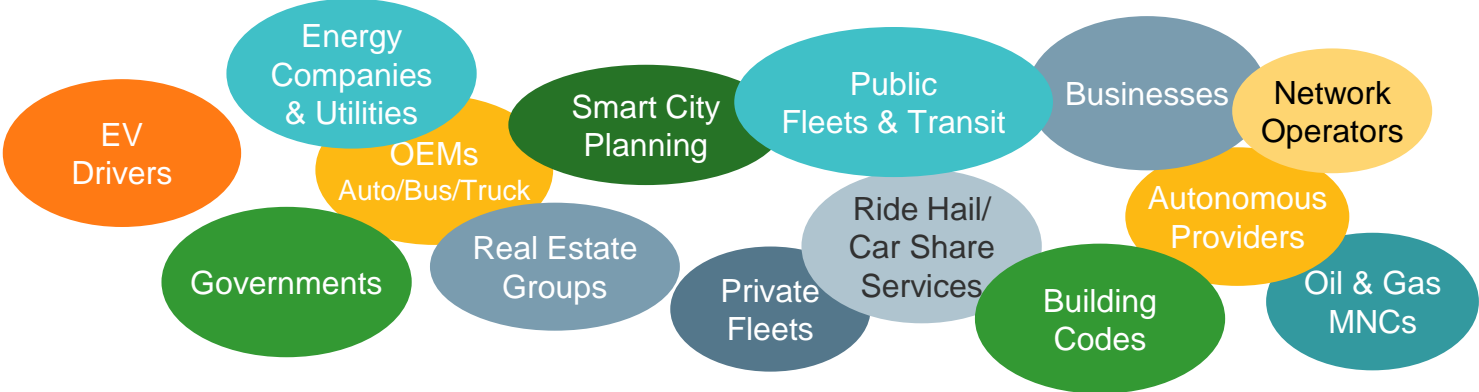
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February 8, 2019

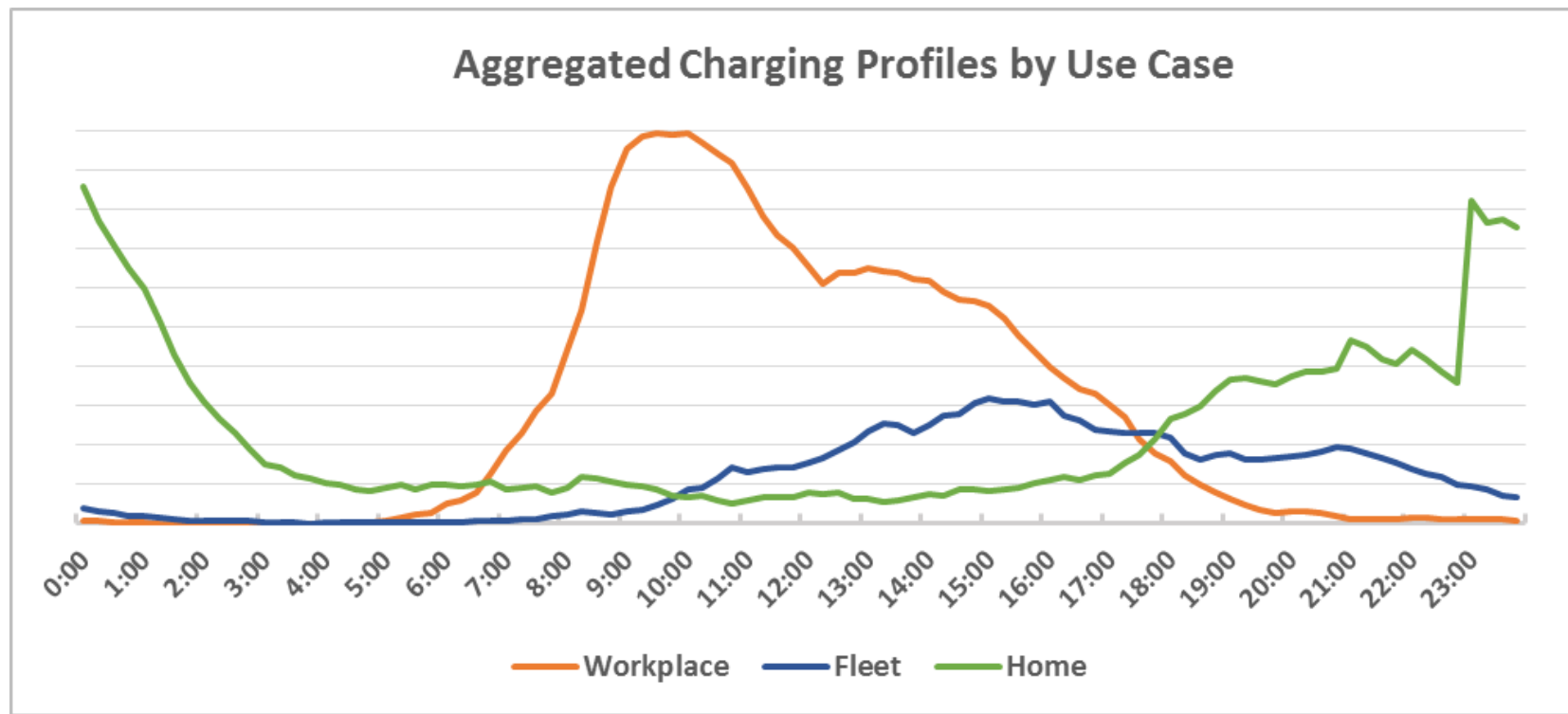
Supporting an Electric Fueling Network



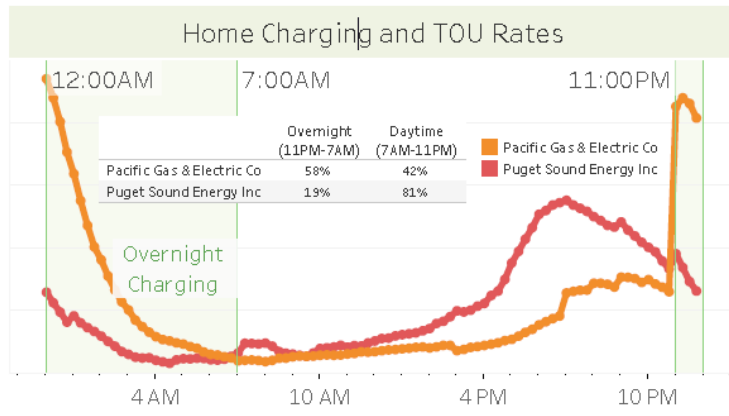
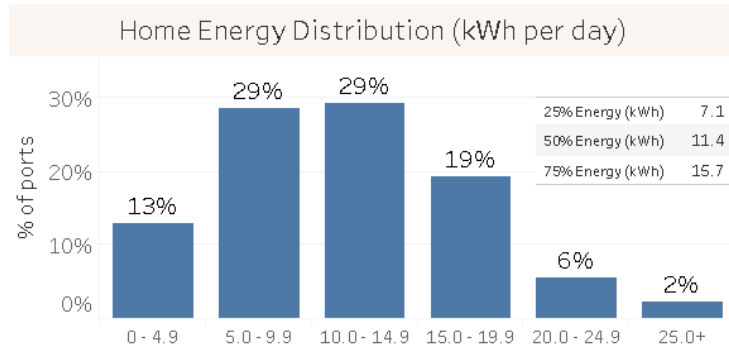
Charging happens wherever vehicles are parked and is supported by a diverse ecosystem



“Use Case” Drives the Grid Value of EV Chargers



Networked Charging = Smart Charging



+ Metering within networked EV charging stations can provide valuable and accurate data on EV charging behaviors

- Avg 11.4 kWh/weekday for home charging
- Xcel MN pilot to implement TOU rate with smart EVSE without installing additional meter

+ Demand Side Management

- EV TOU rates can be very effective in encouraging EV drivers to charge off-peak
- Ex: Customers charged 3x more off-peak
- Load management utilizing charging station network also can achieve similar results

+ Revising regulatory metering requirements is valuable for multiple policy mechanisms (e.g., LCFS, Clean Peak, Voluntary Credit Market)

Align Interests to Send Accurate Price Signals

EV Drivers



- Availability
- Consistent Experience
- Convenience
- Seamless Payment

Site Hosts



- Optimize utilization
- Limited Administration
- Remote Diagnostics
- Seamless Transaction

Utilities



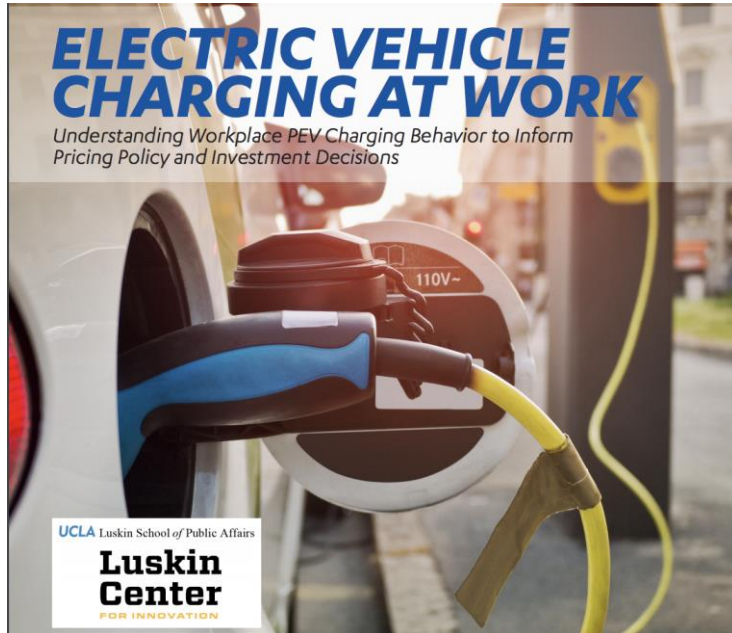
- Beneficial Load
- Grid Benefits
- Load Management
- Seamless Integration

Regulators



- Environmental Goals
- Widespread Benefits
- Equitable Access
- Seamless Operation

Maintaining Flexibility for EVSE Pricing is Critical



Source: <http://innovation.luskin.ucla.edu/sites/default/files/Full%20Report.pdf>

- + UCLA Luskin Center study of 400,000 workplace charging sessions
- + Key insights include:
 - Free charging is the most inefficient
 - Of paid policies, straight price per kWh leads to least efficient usage of EVSE.
 - When graduated rates are in effect, users prefer to stop charging right before the increased hourly rate begins
 - Drivers are elastic in response to price
 - “Hourly then Penalty” encourages the most efficient usage of the EVSE

Thank You

For further information on this topic,
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