

Electric Vehicle Charging Investments

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CEC Infrastructure Workshop
January 2015



Presentation Topics

- Updates on CPUC proceeding
- Update on NRG Settlement
- Goals and Strategies for Charging Investments

Regulatory Proceeding 13-11-007

- October 2013: Proceeding Began
- July 2014: Scoping Memo prioritizes the following activities:
 - Guiding Principles
 - Infrastructure policy
 - Defining VGI Program Development (structure and use cases)
 - Education and outreach
 - Demand charges
- Nov. 2014: Proposed Decision describing infrastructure balancing test
- Dec. 2014: Commission adopts Decision

December 2014 Decision

Eliminates previous “market failure” test for determining if the utilities can own PEV infrastructure

Establishes a balancing test to evaluate utility proposals:
“...weighs benefits of utility ownership of charging infrastructure against competitive limitation...”

Minimum evaluation elements:

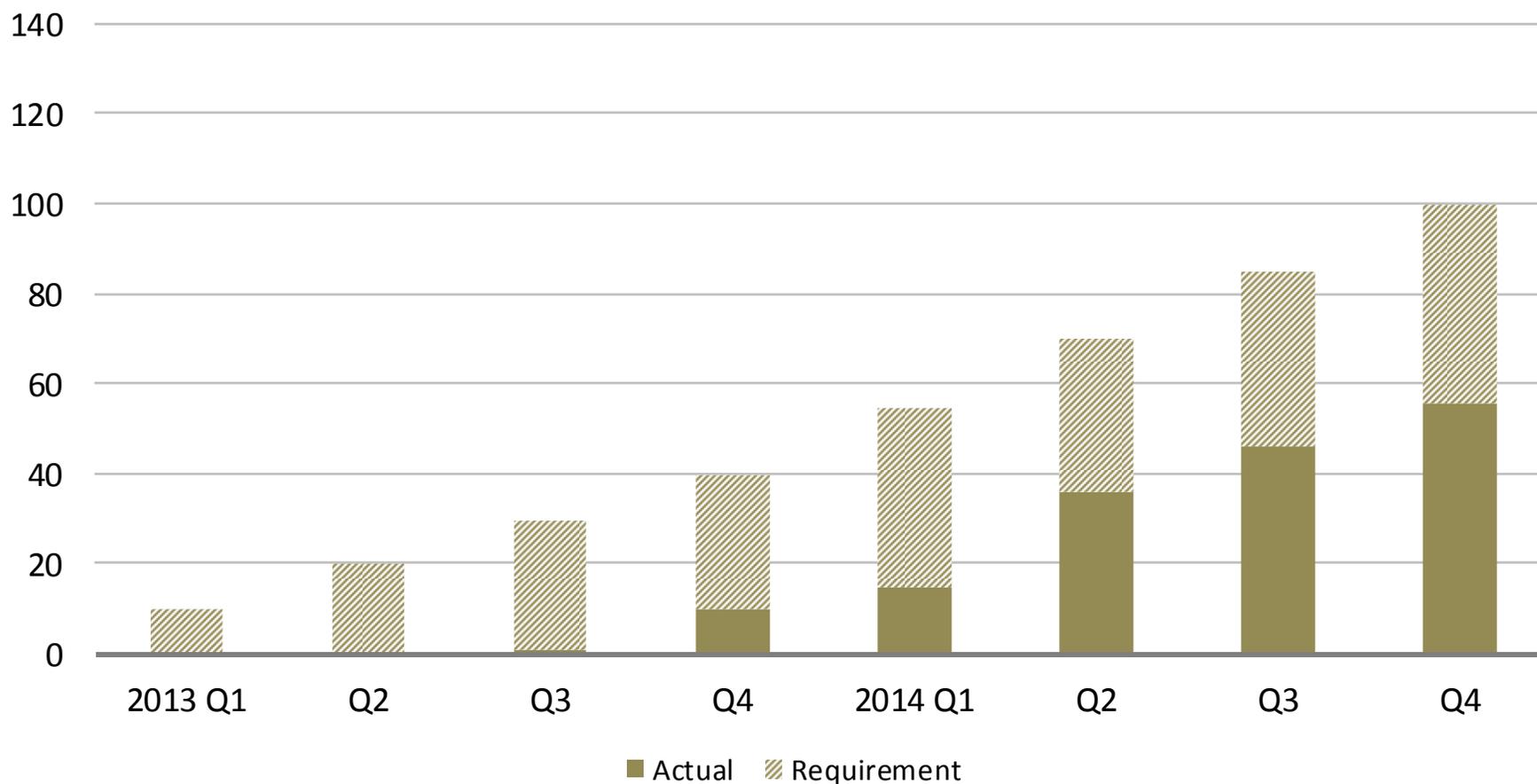
- Physical and operation elements
- Impact on market competitive and concentration
- Potential unfair utility market advantages
- Need for rules to prevent the utility from unfairly competing.

Infrastructure Proposals

	SDG&E	SCE
# of sites	550	3,000
Cost	\$103M	\$346.1M
Market Segments	Apartments and Workplaces	Apartments and Workplaces
Who Owns Make-Ready?	Utility	Utility
Who Owns Charger?	Utility	Host site
User Pricing	Utility Tariff Direct to the User	Determined by Host/EVSP

CPUC-NRG Settlement

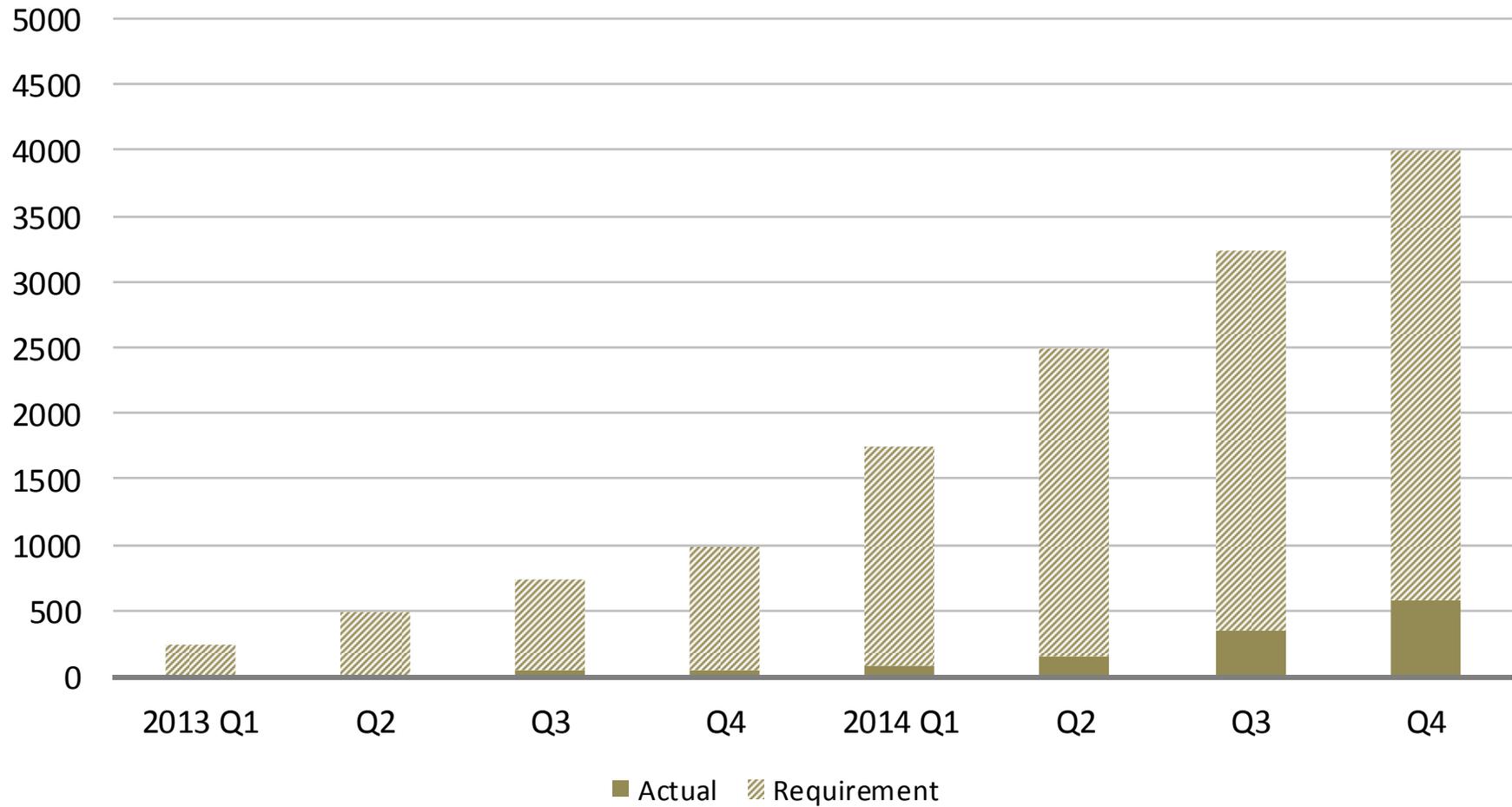
DC Fast Charging Stations



...less than 5 stations meet SAE Combo requirement and credit card swipe requirement...

CPUC-NRG Settlement

Make Ready Stubs

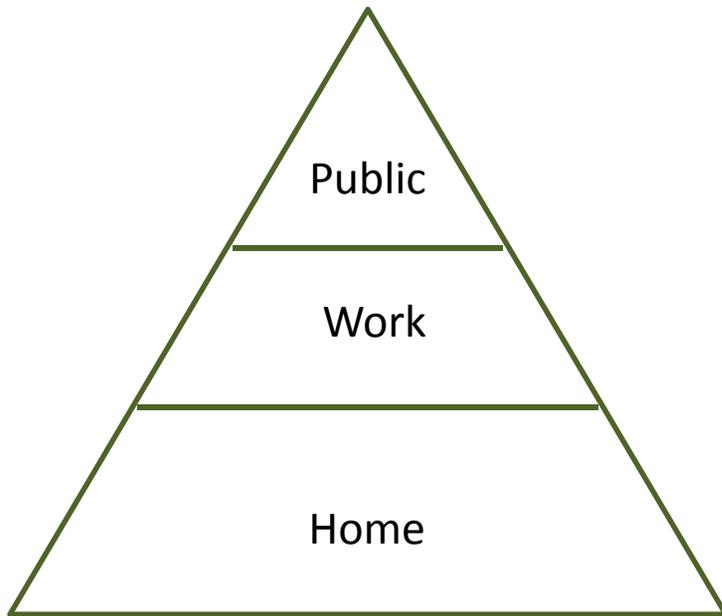


Strategic Approach

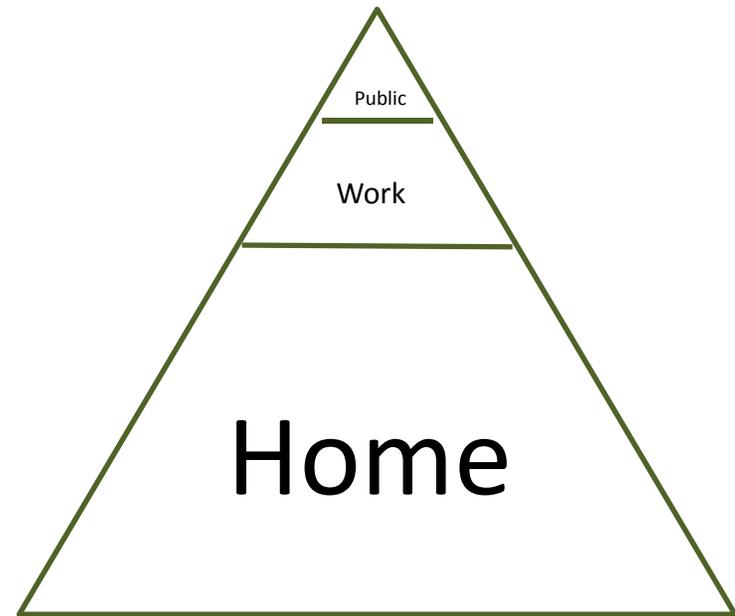
- Understand Perceived Need vs. Real Need
- Define and Measure Performance
- Understand Operational Characteristics

What Problem Are We Solving?

Perceived Need influences purchase decision ,
but isn't aligned with real need

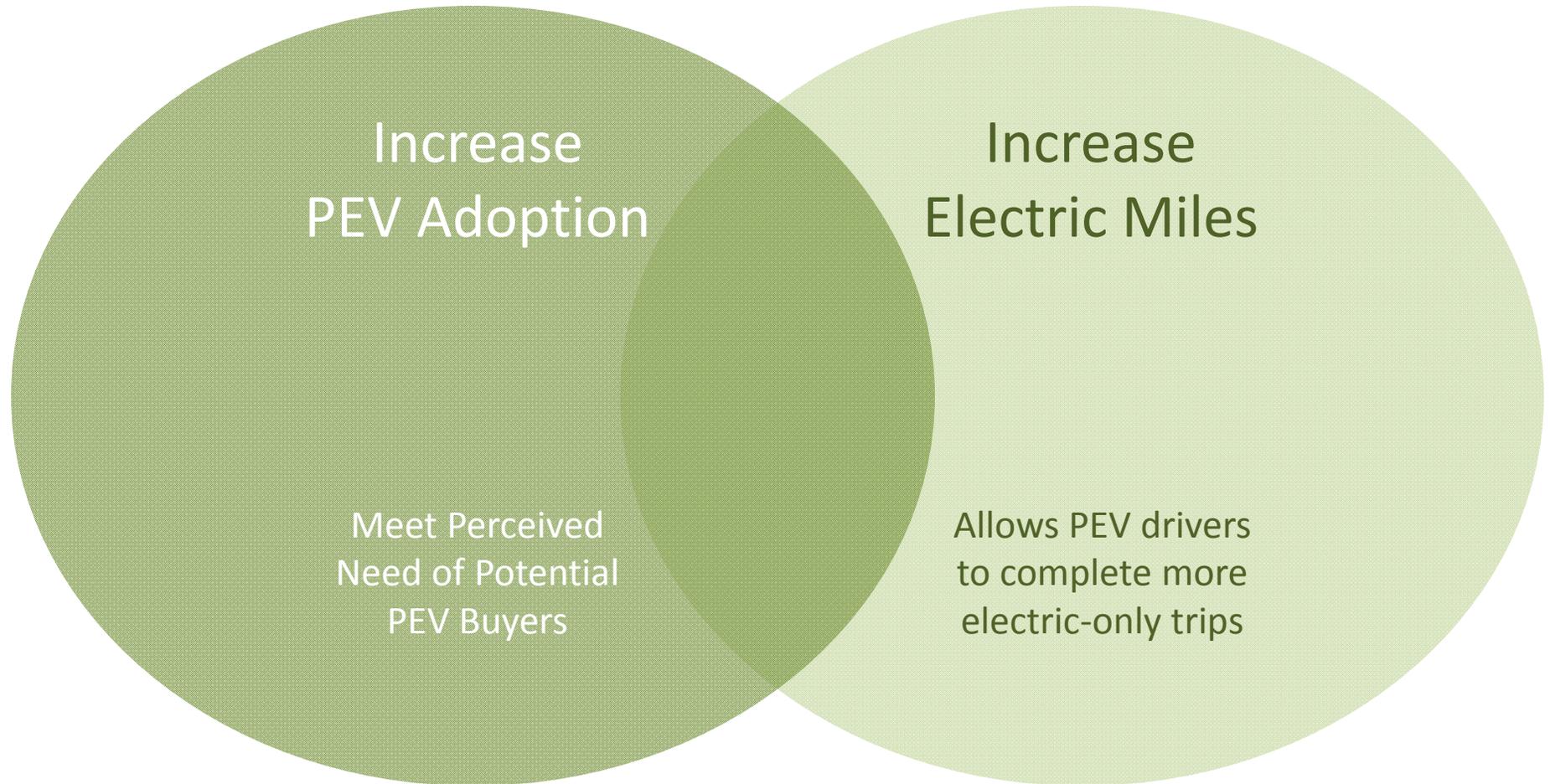


Perceived Need



Real Need

Goals from Charging Investments



Operation Questions

Authentication

identify eligible user

Proximity

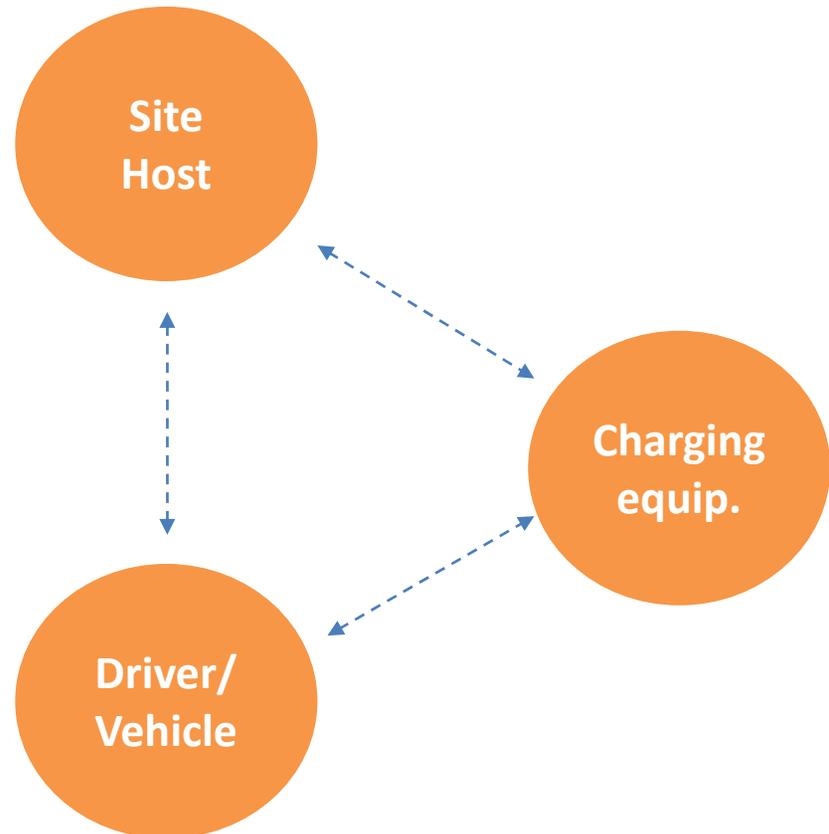
charge cordset must reach vehicle inlet

User Prioritization

Who gets to go first?

Grid Prioritization

usage should be aligned with grid conditions and facility demand charges



Focus on Performance

(...not technology)

Define what needs are met
by what types of locations

Define Performance
Metrics for each need type

Be mindful of impact
operational characteristics
for all investments

Encouraging technology
innovation by defining
technology agnostic
performance metrics

Questions?

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CPUC Alternative Fuel Vehicles Page

<http://www.cpuc.ca.gov/PUC/energy/altvehicles/>

