



DIVISION OF RATEPAYER ADVOCATES

NARUC 2010

Shifting Gears to EVs and Plug-in Hybrids

The Ratepayer Perspective

Dave Ashuckian, Deputy Director
CPUC, Division of Ratepayer Advocates

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The Voice of Consumers, Making a Difference!



Presentation Overview

- Potential Benefits
- Potential Costs
- Ratepayer Concerns
- Recommendations



EV and Plug-in HEV Benefits

- Potential for overall GHG and criteria pollutant reductions
- Reduced petroleum dependence
- Potential for increased grid efficiency
- Potential for improved renewable integration
- Potential to moderate electric rates
- New revenue stream for utilities/shareholders



Potential Costs (to the Utility and Ratepayers)

- Electric vehicle charging equipment
- Additional secondary metering
- Distribution and transformer upgrades
- Generation and/or transmission capacity increases to accommodate on-peak charging



Other Revenue Considerations

- State and Federal highway excise taxes not collected from electricity used as a motor fuel
- State and local sales taxes not collected from electricity used as a motor fuel



Ratepayer Concerns

- On-Peak Charging diminishes – if not eliminates many benefits from expanded use of EVs
 - Air Quality
 - GHG
 - System Efficiency
 - Capacity increases
- Inappropriate allocation of EV-related costs will increase costs to ratepayers that are not EV owners



Recommendations

- Rates must be established that not only encourage, but ensure that the majority of charging is conducted off-peak.
- Revenue generated from EV owners must collect all EV-related costs, including marginal generation, transmission, distribution, and environmental costs.



Recommendations

- Additional costs should not impact ratepayers if:
 - EV owners pay TOU rates that fully cover marginal costs
 - EV-related transmission and distribution system upgrade costs are charged to EV owners
 - GHG reductions from transportation sector are allocated to electricity sector
 - Revenue contribution is used to hold down rates for all ratepayers



Conclusion

- With proper rate design and cost allocation, policymakers can create the perfect trifecta with EVs and Plug-in HEV's:
 - For the environment
 - For the utility and shareholders
 - And for ratepayers





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**Contact:
david.ashuckian@cpuc.ca.gov**

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