

Charging Ahead: Rate Design & Electric Vehicles

EV Pilot Programs in Maryland

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Commissioner, Maryland Public Service Commission

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Background

- Maryland's Legislature authorized EV pilot programs in 2011 via SB179
- Baltimore Gas & Electric
 Pilot began August 2013
- Pepco
 - Pilot began January 2014

Other utilities do not have EV-specific tariffs

Maryland EV Registrations from Nov. 2010 to Sept. 2015



Pepco Demand Management Pilot for Plug-In Vehicle Charging in Maryland: Final Report-Results, Insights, and Customer Metrics, Pepco (Apr. 2016)

Baltimore Gas & Electric's EV Pilot Program

- Whole house Time of Use
 - Includes household <u>and</u> EV charging station use
- Off Peak rate
 - Reduced from SOS ~40%
- On Peak rate
 - □ Summer → increased from SOS ~78%
 - □ Winter \rightarrow increased from SOS ~ 110%
- Revenue Neutral
 - Typical SOS customer would be no worse off on Schedule EV

Baltimore Gas & Electric's Results

- 83% of customers saved money
 - Incentivized shift
 - \$6.75 monthly average saved
- 91% reported "Extremely Satisfied" or "Satisfied" with EV Rate Program
- Pilot program made permanent: June 2016

Pepco's EV Pilot Programs

Schedule PIV

- Charging station and household-use separately billed on TOU and traditional SOS, respectively
- Pepco either...
 - installed second AMI meter on property or
 - allowed customer to purchase discounted charging station with embedded AMI meter
- PIV-Green option for all renewable energy

Schedule R-PIV

- Whole house Time of Use
 - Mirrors BGE's Schedule EV

Pepco's Pilot Rate Schedules

Schedule PIV

Charging station & house separate

Schedule R-PIV

Whole house TOU

Off Peak rate
 Reduced from SOS ~40%

Off Peak rate

 Reduced from SOS between 7% and 15%

- On Peak rate
 - increased from SOS an average of 47%

- On Peak rate
 - increased from SOS an average of 47%

Pepco's Results

- Schedule PIV customers shift EV charging to Off Peak times
- Average monthly savings of \$7.43 for PIV and PIV-Green customers
- Almost 95% of customers were "very satisfied" or "satisfied"
- Pilot program made permanent: Sept. 2016
 Only Schedule R-PIV is accepting new customers

Future Possibilities

- Public Conference 43
 - Exploration into the regulatory, technical, and financial barriers that affect the deployment of EVs in Maryland
 - Technical EV conference at PSC
 - July 2016

Up to \$3,000 tax credit for qualified EV purchase

 Due to high demand, funds for credit depleted before June 2017 termination date

Should we be providing more options?



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Charging Ahead: Rate Design & Electric Vehicles

Citizens' Utility Board of Oregon

Oregon's EV Framework



Bob Jenks

NARUC

November 14, 2016



Why Are We Talking About This?

Transportation Takes Over

U.S. carbon dioxide emissions, in billions of metric tons



Considerations

1. Are within the service territory of the electric company;

2. Are prudent as determined by the commission;

3. Are reasonably expected to be used and useful as determined by the commission;

Considerations

4. Are reasonably expected to enable the electric company to support the electric company's electrical system;

5. Are reasonably expected to improve the electric company's electrical system efficiency and operational flexibility, including the ability of the electric company to integrate variable generating resources;

Considerations

6. Are reasonably expected to stimulate innovation, competition and customer choice in electric vehicle charging and related infrastructure and services.



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