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<td><strong>Docket Number:</strong></td>
<td>20-IEPR-02</td>
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<td><strong>Document Title:</strong></td>
<td>Value of EVs as Bidirectional Energy Storage</td>
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<tr>
<td><strong>Description:</strong></td>
<td>S1 1B. Ryan Harty, Honda</td>
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<td><strong>Filer:</strong></td>
<td>Raquel Kravitz</td>
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Value of EVs as Bidirectional Energy Storage
Resiliency – Renewable Energy Integration – Infrastructure ROI

Ryan Harty
American Honda Motor Co., Inc
7/15/2020
Opportunity of Vehicle to Home / Load / Grid (V2X)

Where are the cars at any given time?

At Home, Parked
And plugged in...

At Work, Parked
And plugged in...

Commercial Site, Parked

96% of a typical vehicle’s lifetime is spent parked.

V2X Improves Value and Utilization of EVs for Resilience, RE, and Infrastructure
V2X Enables EVs as Resiliency Resource – Vehicle to Home / Load / Grid

Power Exporter for V2L, V2H

V2X Provides Energy Resiliency - At Home and At Play
V2X Enables Vehicle-Grid Integration for Renewable Energy

Renewable Electricity Can Supply Electric and Transportation Energy Systems:

- Electric and Transportation Energy Systems
- Renewable Electricity
- Can Supply Electric and Transportation Energy Systems:
  - Requires Integrated Energy Management
  - V1G = Charge Timing Control
  - V2G (future) = Bidirectional Power Transfer

V2X Improves Renewable Energy Integration

- Massive Energy Storage
- Seasonal Energy Storage
- Decouple Generation and Use

Day

Night

Electricity

Hydrogen

Electrolysis
Charging Infrastructure is Very Important to Promote EV Adoption

In any market with consistent policy, EV adoption tracks Charging Infrastructure Investments.

V2X Improves ROI for EV Charging Infrastructure. Positive ROI Promotes Investment.

Source: ICCT “EMERGING BEST PRACTICES FOR ELECTRIC VEHICLE CHARGING INFRASTRUCTURE”