Key Takeaways from EoT Roadmap in 2018

- Electrification of Transportation will help integrate renewable energy
- Electrification of Transportation increases EV adoption, which slows down the effects of climate change and increases energy security
- Electrification of Transportation in the long-term benefits all customers regardless if they own an EV or not
## 10 Proposed Near-Term Initiatives Hawaiian Electric Can Lead

<table>
<thead>
<tr>
<th>Initiative #1</th>
<th>Work with partners to deliver <strong>education and outreach</strong> campaigns to drivers, dealerships, fleet managers, and taxi and TNCs</th>
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</thead>
<tbody>
<tr>
<td>Initiative #2</td>
<td>Continue to <strong>electrify Hawaiian Electric’s own fleets</strong> as availability of electrified vehicle technologies expands and total cost of ownership (TCO) comes down</td>
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<td>Initiative #3</td>
<td>Work with partners to find ways to <strong>lower EV purchase costs</strong></td>
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<td>Initiative #4</td>
<td>Investigate and develop opportunities to lower customer bills in return for “smart” charging of vehicles and provision of <strong>grid services</strong></td>
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<td>Initiative #5</td>
<td>Expand access to charging for customers living in <strong>multi-unit dwellings</strong> (MUDs) (i.e. condominiums and apartment buildings)</td>
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<td>Initiative #6</td>
<td>Expand availability of <strong>workplace charging</strong></td>
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<td>Initiative #7</td>
<td>Expand availability of <strong>public charging</strong></td>
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<td>Initiative #8</td>
<td>Engage the <strong>tourism industry</strong> (via hotels, rental cars, TNCs, destinations)</td>
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<td>Initiative #9</td>
<td>Encourage and enable electrification of <strong>smart charging of buses</strong></td>
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<tr>
<td>Initiative #10</td>
<td>Encourage and enable electrification of <strong>medium and heavy-duty vehicles</strong> and off-road equipment as technologies mature and become commercially available at reasonable cost.</td>
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Leading by Example
Hawaiian Electric Companies’ Fleet

Early fleet efforts
• 3 Hybrid to Plug-in Hybrid conversions in 2009
• First all-electric company Nissan Leaf sedan arrived on 3/18/11
• 2 Ford F-550 PHEV / Altec Industries AT-37G Trouble Bucket Truck in 2011

Current fleet (1300) – 36% AFV or hybrid
• 10% of class 1 (passenger) vehicles are plug-in
• 26 ePTO medium/heavy-duty trucks
• 4 plug-in medium/heavy-duty trucks
• 55 hybrids
Electric Buses

- Working with state, city, and private bus operators to help transition their fleet to electric

- Providing E-BUS pilot rates which provides lower energy and demand charges outside of On-Peak times
Electric School Bus Pilot in Partnership with EPRI

- In partnership with the Electric Power Research Institute
- Gather data to show effectiveness of day time charging
- Demonstrate electric school bus with DoE and private schools
EoT Near-Term Workplan

- Rate Design request will include a commercial time-of-use rate
- Make-Ready pilot program will request utility installation and ownership of charging infrastructure from the grid, past the meter, up to the charge station
- Initial pilot targets fleets
Drive Electric Hawaii seeks to promote the use of electric vehicles, cut fossil-fuel transportation and add more renewable energy through collaboration on education, promotion, advocacy and infrastructure to make electric mobility easier for all.