Hawaiian Electric

Electrification of Transportation Strategic Roadmap 2.0

Hawaiian Electric EoT Actions

March 2024

Agenda/Objectives

1 Roadmap 2.0 Update

- Overview of the process
- Preview Final Draft of Hawaiian Electric EoT actions
- Answer any clarifying questions about actions

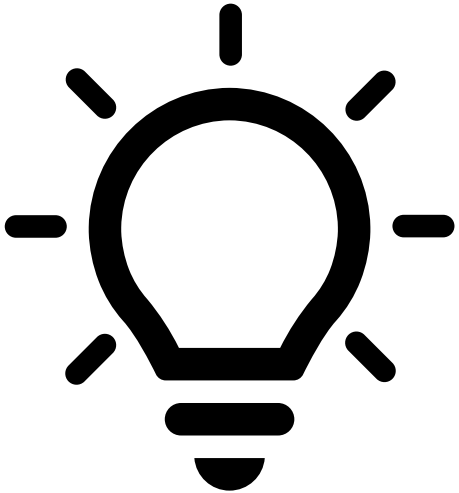
2 Next Steps

- Request letters of support to include with the report
- File the report in Docket No. 2018-0135

We will email this presentation to all invitees after the meeting, along with a recording of the presentation

Process for Developing Hawaiian Electric Actions on EoT

1. Compile Ideas



- On-island community stakeholder workshops
- Meetings with Hawaiian Electric teams
- Follow-up meetings w/ industry & stakeholders
- Follow-up stakeholder survey
- Review of HI state & county plans
- Research & interviews on equity-focused EoT programs
- Atlas EV Hub data & research on utility programs nationwide

Step 2. Define Guiding Principles for EoT

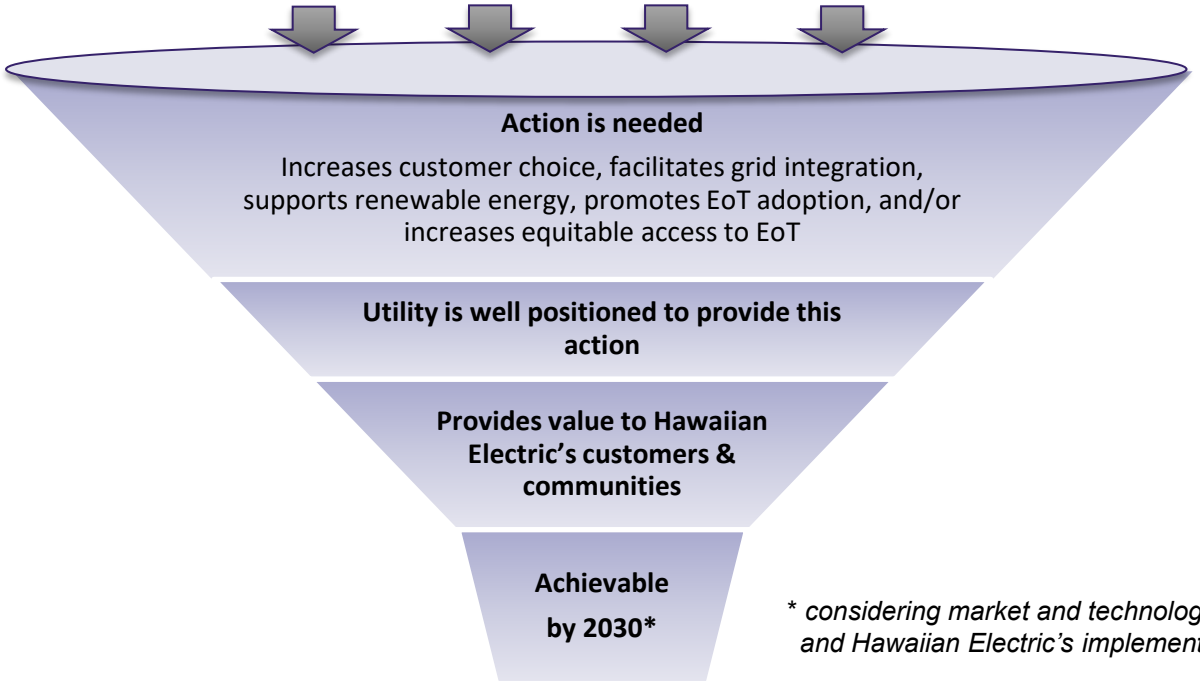
- ***Electrifying transportation is critical to Hawaii's future.*** We seize opportunities to support customers as they adopt electric vehicles at increasing rates, and to advance and accelerate electric transportation across all sectors. Getting off imported fossil fuels helps address climate change, removes Hawai'i from the volatility of world energy markets and gives future generations a tremendous advantage, while improving air quality in our communities.
- ***Working together is necessary to our shared success.*** Our actions to eliminate transportation emissions reductions are only one part of the broader energy-transportation nexus. We work collaboratively and in coordination with our partners to each bring our capabilities, funding, and information to achieve systemic change while ensuring efficiency and effectiveness in our actions. We work collaboratively with our customers and communities to consider local plans and challenges and ensure that equity is embedded in our actions.
- ***The energy transformation must include everyone.*** Electricity and transportation are both essential. Our plans, as well as public policy, should ensure access to affordable electricity and increased transportation options, with special consideration given to low-income households and historically disadvantaged communities. Meaningful community participation must be a key element of transportation electrification planning and the energy transition.

Guiding Principles for EoT

- ***Transportation is essential.*** Transportation plays a critical role in the lives of our customers, communities, and our island economy. As our customers adopt electric transportation, they need to be sure it will meet their transportation needs. Our plans and work must support our customers by maintaining or enhancing the reliability and resilience of our transportation systems.
- ***Today's decisions must be open to tomorrow's breakthroughs.*** Our plans keep the door open to developments in the rapidly evolving transportation and energy nexus. We must be able to easily accept new, emerging and breakthrough technologies that are cost-effective and efficient when they become commercially viable.
- ***Our plans must support modernization of the power grid and our future power supply.*** As our grid modernizes to deliver 100% clean energy and our power supply portfolio evolves to renewable energy, electric transportation must support these efforts by enabling additional renewable energy use and optimizing the use of our distribution system.
- ***There's no perfect choice.*** No single energy source, technology, or organization can achieve our climate and clean energy goals. We recognize that rapidly attaining our clean energy and climate goals is imperative to our land and natural resources, our economy and our communities. We seek to make the best choices at each decision point by engaging with community members, regulators, policymakers and other stakeholders so that we can all move with purpose and urgency to transition to our clean energy future.

Step 3. Use a ‘Funnel’ to Further Filter Actions

Action ideas aligned with Hawaiian Electric’s EoT Guiding Principles



** considering market and technology development and Hawaiian Electric’s implementation resources*

Proposed Roadmap Actions

Actions Best Led by Groups Other Than Hawaiian Electric

Direct rebates on vehicles & chargers

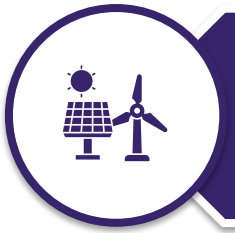
Mass marketing / education campaigns on EVs

Owning & operating vehicles, beyond utility fleet

Hawaiian Electric EoT Actions

Hawaiian Electric's EoT Actions Categories

Plan for EoT on the grid



Encourage managed charging

Enable charging for personal vehicles

Facilitate equitable access & community resiliency

Enable charging for public fleets & commercial vehicles

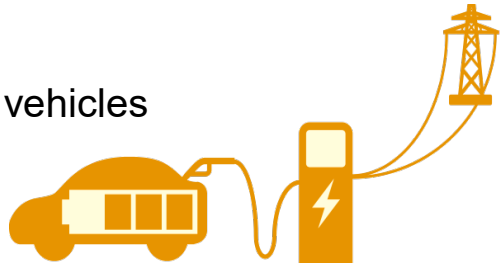
Support workforce development

For each Action Category, Hawaiian Electric describes in our Roadmap:

- The need being addressed
- Potential partners
- Plans to support equitable outcomes through these actions
- How Hawaiian Electric is well positioned to provide these actions
- Value proposition for Hawaiian Electric's customers
- Factors enabling these actions by 2030
- Examples of these actions from other jurisdictions

Plan for EoT on the Grid

Objective: Anticipate and incorporate future electricity demand from vehicles into grid planning



Hawaiian Electric actions:

- Update forecasts on Hawaiian Electric's Integrated Grid Planning cycle
- Develop comprehensive, site-specific load forecasts for major EoT customers
- Use Hawai'i-specific EV charging data to support updated planning and operations

Image credit: Tommaso.sansone91, CC0, via Wikimedia Commons

Enable Charging for Personal Mobility (1/2)

Objective: Enable charging for micromobility, personal cars, taxis, rideshare

Hawaiian Electric actions:

- **Continue to reduce** Hawaiian Electric's charger installation and energization timelines; coordinate with state and county agencies to support simplified, accelerated charger installations
- **Specify** utility engineering, operations, and material standards for each island to simplify charging installation
- **Continue improvements** to maintenance and repair of utility-owned public charging
- **Site public chargers** with a focus on and in conversation with underserved communities
- **Investigate** siting at least one public charging installation as a transit-based charging hub, in conversation with local communities
- **Solicit input** from rideshare and taxi drivers on locations for siting public charging

Enable Charging for Personal Mobility (2/2)

Objective: Enable charging for micromobility, personal cars, taxis, rideshare

Hawaiian Electric actions:

- **Collaborate** with state and local agencies to ensure a robust public charging network
- **Develop a toolkit** of vehicle availability, incentives, charging availability, and use cases specific to rideshare drivers, in partnership with drivers, Hawai‘i Energy, and Drive Electric Hawai‘i
- **Develop** and keep updated a toolkit of best practices for installing and managing charging in multi-family housing and commercial properties
- **Investigate** opportunities for innovative public charging in rights-of-way, e.g. on streetlights
- **Expand** make-ready charging programs to support additional multi-family homes and workplaces, public charging, and single-family residences. Seek program participants in disadvantaged communities.

Enable Charging for Public Fleets & Commercial Vehicles (1/2)

Objective: Enable charging for publicly-owned fleets, rental cars, transit buses, school buses, tourist buses, tourist

Hawaiian Electric actions:

- **Identify and design** charging locations that support light- and medium-duty vehicle fleets
- **Develop** case studies, advisory services, and materials to provide guidance on charging, resiliency, and electric rates for fleets as they seek to electrify
- **Support** fleet and facility electrification plans across Department of Defense facilities
- **Expand** electrification of Hawaiian Electric's light-duty vehicle fleet and incorporating learnings into customer programs, Workforce Development actions, and Planning for EoT actions

Enable Charging for Public Fleets & Commercial Vehicles (2/2)

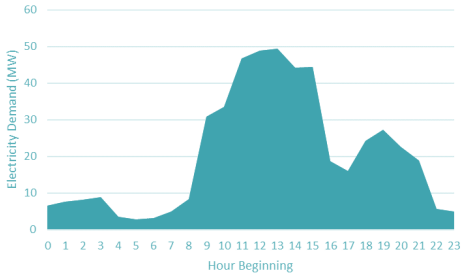
Objective: Enable charging for publicly-owned fleets, rental cars, transit buses, school buses, tourist buses, tourist

Hawaiian Electric actions:

- **Investigate** feasibility of electrified medium- and heavy-duty vehicles in Hawaiian Electric's fleet
- **Investigate** need for charging away from overnight parking spots for bus fleets
- **Expand** make-ready charging programs to support additional light-duty, medium-duty, and heavy-duty fleet charging
- **Support** seaports and airports in their development of long-range electrification plans and investigation of potential funding pathways

Encourage Managed Charging

Objective: Encourage vehicle owners to charge during off-peak and high-renewables hours to reduce customer bills, enable more renewables, and limit needed grid upgrades



Source: 2018 Roadmap Smart Charging case

Hawaiian Electric actions:

- Expand vehicle telematics program to capture behavioral data
- Continue toward time-varying residential rates
- Develop successor rates for commercial EoT customers
- Pilot charge management technologies
- Develop roadmap for vehicle-to-grid technologies
- Pilot off-peak subscription charging rate

Support Community Resiliency

Objective: Develop community-centered resiliency in electric transportation

Hawaiian Electric actions:

Create a community-led Transportation Development Fund

Examples of projects funded through this type of fund in WA & OR:

- Community-based carshare
- Ride-and-drives or vehicle trial program for cars and e-bikes
- Vehicle finance loan backstop fund
- E-tractor pilots

Investigate vehicle-to-home / vehicle-to-building pilots to support resiliency at customer sites

Seek funding to pilot microgrid community resiliency hub e.g. at transit center, school, disaster preparedness site

Support Workforce Development

Objective: Help grow the EoT workforce in HI to improve vehicle and charger reliability and job opportunities

Hawaiian Electric actions:

- Develop charger & vehicle maintenance curriculum, in partnership with educational institutions, other local training programs, manufacturers
- Offer internships & job pathways informed by the Company's programs
- Develop standardized charging system designs to support charging site development, in partnership with local design & electrical installation firms

Next Steps

- We will email all invitees with:
  - This deck
  - Link to recorded presentation on Hawaiian Electric's website
  - Request for Letter of Support to include in the filing of the Report, including a general template that could be used

Mahalo for your time.