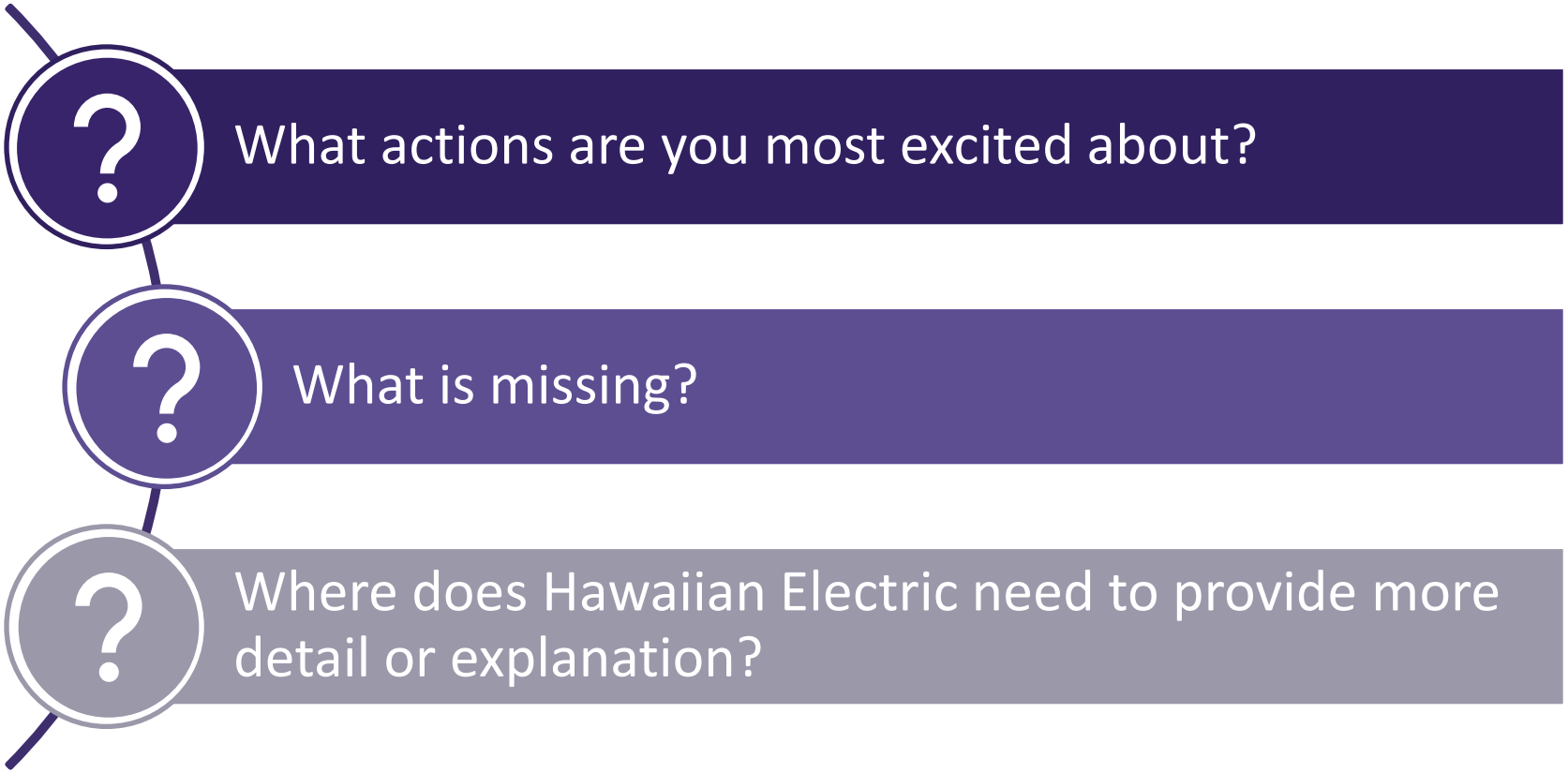
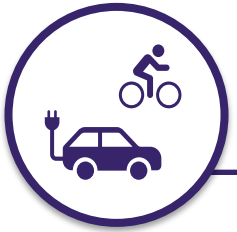
Hawaiian Electric

Breakout Group #1
Enable charging for personal mobility

Questions for You





Enable Charging for Personal Mobility

Objective: Enable charging for micromobility, personal cars, taxis, transportation network companies (Lyft, Uber)

Proposed Hawaiian Electric actions:

- Continue to reduce charger install & energize timelines, in coordination w/ state & county agencies
- Continue improvements in maintenance & repair of utility-owned public charging
- Investigate siting public charging at transit-focused hub/s, in conversation with local communities
- Collaborate with state and local agencies to ensure a robust public charging network
- Solicit input from TNCs & taxis on locations for public charging
- Develop toolkit of charging best practices in multi-family housing & commercial properties
- Investigate opportunities for innovative public charging in rights-of-way, e.g. streetlights
- Expand make-ready charging programs, potentially w/ enhanced support for disadvantaged communities

What actions within this topic are you most excited about?

- Increasing reliability and availability of public charging
- Reducing energization timelines
- Focus on charging in disadvantaged communities

What Hawaiian Electric EoT actions are missing?

- Sense of urgency needs to be captured
- Some surprise that Hawaiian Electric suggests they should not support charger incentives
- Being prepared for Level 3 chargers in commercial areas
- Collaborating with Transit-Oriented Development Council to coordinate around new developments to assist with successfully incorporating charging
- Hawaiian Electric should be providing equal level of support and reliability for its public charging infrastructure consistent with how it provides electricity service
- Increased focus on simplifying and enabling multi-unit housing

Where does Hawaiian Electric need to provide more detail or explanation?

- Interest in knowing how private landowners can participate in charger programs, especially to help disadvantaged communities
- Need more clarity on roles when Hawaiian Electric is collaborating with state and local agencies, so work is not duplicated

Other Comments

- There’s a role for both Level 2 and level 3 chargers at different locations
- Hawaiian Electric has a lot of old chargers and should speed its upgrade schedule
- Everyone needs to move quickly, and sense of urgency is important

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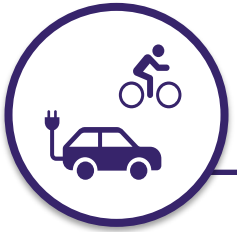
Breakout Group #2
Enable charging for commercial vehicles



Enable Charging for Commercial Vehicles

Objective: Enable charging for fleets, rental cars, transit buses, school buses, tourist buses, seaports, airports

Proposed Hawaiian Electric actions:

- Use fleet data to site/design public charging locations that support light- & medium-duty fleets
- Develop materials & advisory services to provide guidance on charging, resiliency, rates for fleets seeking to electrify
- Support electrification plans across Department of Defense facilities
- Expand make-ready programs to support additional light-, medium-, & heavy-duty fleet charging
- Continue electrifying Hawaiian Electric's vehicle fleet; incorporate learnings across actions
- Investigate need for en-route charging for tourist bus fleets
- Support seaports/airports in their development of long-range electrification plans

What actions within this topic are you most excited about?

- Interested in seeing charging infrastructure for both bus yards and enroute charging
- Cost of infrastructure is high so make-ready programs for the third-party market charging is critical
- Rates for fleets are of strong interest

What Hawaiian Electric EoT actions are missing?

- More incentives for fleets and buses rather than rental cars to encourage more sustainable modes of transportation for visitors
- Infrastructure upgrades for EV charging on the utility side of the meter should be part of the base services offered by the utility
- Seaports/airports are key locations to have charging infrastructure

Where does Hawaiian Electric need to provide more detail or explanation?

- Would like to see breakdown of steps to accomplish the actions

Other Comments

- Medium- and heavy-duty fleet electrification is strongly integrated with workforce development as there is a need to ensure fleets can be maintained
- There are V2X technologies for grid resiliency opportunities

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Breakout Group #3
Facilitate equitable access & community resiliency

Facilitate Equitable Access & Community Resiliency

Objective: Support equitable access to electric transportation choices & benefits, avoid disbenefits, & develop community-centered resiliency solutions

Proposed Hawaiian Electric actions:

Create a community-based Transportation Development Fund

Examples of projects funded through this type of community-led program in WA & OR:

- Community-based carshare, with focus on disadvantaged communities
- Ride-and-drives or vehicle trial program for personal cars and e-bikes
- Vehicle finance loan backstop fund
- E-tractor pilots

Site public chargers with focus on & in conversation with underserved communities

Seek Charge Up Commercial program customers in underserved communities

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

Develop toolkit of vehicle availability, incentives, charging specific to TNC drivers, in collaboration with partners

What actions within this topic are you most excited about?

- Loves the “in conversation with underserved communities” and encourages it
- Development fund is very innovative. Suggest adding funded partnerships with community-based organizations and coalitions to help develop funding.
- Love the pilot for resiliency hubs

What Hawaiian Electric EoT actions are missing?

- There is a tremendous opportunity to site public chargers on public lands and public developments. Look at opportunities with multi-modal hubs and long-range planning.
- More educational resources that are simple to understand for communities where EV may be very new
- Workplace chargers for those that don’t have charging access at home
- Resiliency hubs should be connected to disaster evacuation routes
- Alignment with special districts since private industry helps support and matches some of the community development, especially if it brings new infrastructure in their district
- Additional consideration of how pedestrian and charging safety fit in these actions

Where does Hawaiian Electric need to provide more detail or explanation?

- Interested in more details regarding the Transportation Development Fund. Will this be for multiple modes or focus on electric vehicle?
- Is “seek funding” from Federal funding or other?
- Interested in more details about the vehicle-to-home / vehicle-to-building pilots
- Would the resiliency hubs be transportation focused or more general resiliency?

Other Comments

- Consider working with a community agency to help with siting charging infrastructure in remote community areas
- Consider what and where is the economic development opportunity when siting charging stations
- There are a lot of challenges having to do with safety issues in low-income communities that will have to be addressed before residents feel they can safely adopt electric transportation
- Need a toolkit so people can compute how much it will cost and how long it will take to “fill up” an EV. For example, calculating how much gasoline to fill up your tank is easy with $/gallon. It’s not so simple to calculate how much it will cost to charge their EV when people already feel their electricity bills are high.

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Breakout Group #4
Support workforce development

Support Workforce Development

Objective: Help grow the EoT workforce in HI. Support standardized charging system designs to help make installation skills and processes transferable.

Proposed 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
- Specify standardized utility engineering, operations, & material standards for each island to ease charging installation by Hawaiian Electric & customers

What actions within this topic are you most excited about?

- Developing charger and vehicle maintenance curriculum in partnership with educational institutions, other local training programs, and manufacturers

What Hawaiian Electric EoT actions are missing?

- How can we tap into current education programs out there?
- Is there a “Helpline” for chargers? Could this be another workforce development opportunity but on the technical customer support side?
- Can Hawaiian Electric partner with manufacturers to support workforce development?
- Consider bringing pilot curriculum to high schools

Where does Hawaiian Electric need to provide more detail or explanation?

- Is the “partnerships with local design firms” about aesthetic/art on chargers?

Other Comments

- One barrier for a lot of people is the lack of infrastructure for ebikes
- Golf courses can electrify their golf carts, especially the municipal courses as part of the municipal fleet