



March 31, 2025

The Honorable Chair and Members of the
Hawai'i Public Utilities Commission
Kekuanaoa Building, First Floor
465 South King Street
Honolulu, Hawai'i 96813

Dear Commissioners:

Subject: Docket No. 2018-0135 – Hawaiian Electric Companies
Electrification of Transportation Strategic Roadmap
Consolidated Annual EOT Report

Pursuant to Order No. 38647, filed on October 10, 2022 in Docket No. 2018-0088, Hawaiian Electric¹ respectfully submits its Consolidated Annual EOT Report, consisting of:

- *Annual Report on the Progress and Status of the Commercial Public Electric Vehicle Charging Service Pilot Rates*²
- *EV-Maui Tariff Annual Report*³
- *Annual Report on the Progress and Status of E-BUS Pilot Program*⁴

Sincerely,

/s/ Kevin M. Katsura

Kevin M. Katsura
Director
Regulatory Non-Rate Proceedings

Attachment

cc: Division of Consumer Advocacy

¹ Hawaiian Electric Company, Inc., Maui Electric Company, Limited, and Hawai'i Electric Light Company, Inc. are each doing business as "Hawaiian Electric" and have jointly registered "Hawaiian Electric" as a trade name with the State of Hawai'i Department of Commerce and Consumer Affairs, as evidenced by Certificate of Registration No. 4235929, dated December 20, 2019 and renewed on December 4, 2024.

² See Ordering Paragraph 1.C of Decision and Order No. 31338, filed July 1, 2013 in regard to Transmittal Nos. 13-07 and 13-08 (consolidated), as modified by Decision and Order No. 34592, filed June 2, 2017 in Docket No. 2016-0168.

³ See the Company's representations in Docket No. 2018-0422, Maui Electric's Revised Schedule EV-Maui Tariff, Exhibit 2, page 5 of 15, footnote 13, filed on August 30, 2019.

⁴ See Ordering Paragraph 3.C of Decision and Order No. 36220, filed March 20, 2019 in regard to Transmittal No. 18-06.

Hawaiian Electric's Electric Vehicle Rates Report

Annual Reports on the Progress and
Status of the Commercial Public Electric
Vehicle Charging Service Pilot Rate EV-U
and EV-F (Transmittal 13-07), and the
Electric Vehicle Charging Service Rate
EV-MAUI (Dkt No. 2018-0422)

March 31, 2025

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Executive Summary¹

In 2024, Hawaiian Electric² continued to build upon its growing momentum in the electrification of transportation sector, with the development of programs and actions keeping pace with the needs for electric vehicle charging. The Company's efforts align with the 2018 *Electrification of Transportation Strategic Roadmap* and its 2024 update *Roadmap 2.0* which gathered community and industry input to develop a set of top EoT actions which the Company is best positioned to implement toward 2030.³ These actions contribute to the State of Hawai'i's clean energy vision and create economic benefits for all customers. The Company's public fast charging efforts align with the Roadmap 2.0 action "Enable charging for personal mobility", which recommends adding public chargers in collaboration with state and local agencies, rideshare, taxi drivers, and communities, and continuing to improve maintenance and repair of chargers.⁴ Throughout 2024, the Company continued to execute on its vision to provide reliable, accessible public fast charging to enable personal electrified mobility through continued operation and maintenance of its network of public direct current fast chargers ("Fast Chargers") implemented through Schedule EV-U: Commercial Public Electric Vehicle Charging Service and Electric Vehicle Charging Service EV-MAUI Tariffs. The following are key highlights from 2024:

- **Installed one additional Fast Charger** – The Company installed an additional Fast Charger under one of the two existing meter accounts at Hawaiian Electric Ward Office, bringing the consolidated installed EV-U and EV-MAUI Fast Charger count to 33. This is the Company's first 75 kW charger installed.⁵
- **Completed four Fast Charger upgrades** – To improve EV driver experience and increase reliability, the Company upgraded four Fast Chargers at Dole Plantation, Hawaiian Electric Ward Office 1, Hawaiian Electric Ward Office 2, and Koolau Center with state-of-the-art charging equipment, the Tritium RTM50. Tritium RTM Fast Chargers feature a more robust protective exterior and modular power architecture which contribute to reducing equipment downtime. The Company will upgrade additional Fast Chargers in 2025 according to need and feasibility.
- **Completed migration of all Fast Chargers to OpConnect Network** – In 2024, the Company migrated 21 Fast Chargers to the OpConnect Network, completing the transition from the Shell Recharge Network. This shift was initially prompted by a network-wide weeklong outage that occurred between April and May of 2023, as well as ongoing challenges with the Shell Network. Since the transition, driver feedback has been generally positive, and OpConnect has been highly responsive to customer and Company input. The switch has also led to noticeable operational improvements.

¹ This consolidated report covers the annual reporting requirements for Docket No. 2018-0135 and Docket No. 2018-0422 and is being filed in both dockets for the convenience of the reader.

² Hawaiian Electric Company, Inc., Hawai'i Electric Light Company, Inc., and Maui Electric Company, Limited, are collectively referred to herein as "Hawaiian Electric" or the "Company."

³ See the Company's Electrification of Transportation Strategic Roadmap, filed on March 29, 2018 in Docket No. 2016-0168, refiled on June 18, 2018 in Docket No. 2018-0135; Addendum to Hawaiian Electric Companies' Electrification of Transportation Strategic Roadmap, filed on November 29, 2018 in Docket No. 2018-0135; 2024 EoT Strategic Roadmap Update, filed on May 31, 2024 in Docket No. 2018-0135 ("2024 EoT Strategic Roadmap Update").

⁴ 2024 EoT Strategic Roadmap Update at 57.

⁵ The Company had previously only installed 50 kW Fast Chargers. A 75 kW charger can deliver the same amount of power in 40 minutes as a 50 kW charger can in 1 hour.

- **EV-U and EV-MAUI energy dispensed increased by 70 percent in aggregate from the prior year** – This increase can be attributed to several things including the Company’s continual improvements in repair, operations, and maintenance leading to increased availability and utilization of the chargers, increases in EV ownership across the Company’s service territory, and increased utilization of electric vehicles in high mileage industries such as rideshare and rental cars.
- **Mid-Day period continued to be the most utilized** – Most of the charging usage for EV-U and EV-MAUI was initiated during the Mid-Day period of 9 a.m. to 5 p.m. – 50 percent and 59 percent, respectively. The Mid-Day period has the lowest energy cost.

In 2024, the Company continued to provide the Commission information related to its *Public Electric Vehicle Charger Expansion Project* (“Expansion Project”) Application in Docket No. 2021-0173, which proposed a significant expansion of public charging infrastructure and updates to existing programs. Key changes proposed in the application include revised EV-U tariffs and a consolidation of public charging rates by terminating EV-MAUI and placing those fast-charging stations under EV-U. The plan also included maintaining the shared savings mechanism (“SSM”) for existing EV-MAUI Fast Charger sites until their replacement, at which point they would no longer be subject to the SSM. On August 13, 2024, the Company requested a suspension of Docket No. 2021-0173.⁶ On August 20, 2024, the Commission suspended the docket effective September 6, 2024, until further order by the Commission.⁷ In response to the Commission’s letter to the Company issued on December 10, 2024, the Company subsequently provided a status update on January 15, 2025⁸ regarding the priority, timing, and ability to commit funds to the Expansion Project, with a commitment to provide another status update on its ability and intent to move forward with Docket No. 2021-0173 by, at latest, March 31, 2025. On March 18, 2025, the Company filed a status update informing the Commission that the Company intends to request withdrawal of the application for the Expansion Project and address Schedule EV-MAUI and the related shared savings mechanism in a separate proceeding, including moving the EV-MAUI stations to the EV-U tariff.⁹

⁶ Hawaiian Electric’s *Status Update and Suspension Request*, filed on August 13, 2024, in Docket No. 2021-0173.

⁷ Order No. 40977, (1) *Soliciting Comments from Parties and Participants on EV-U Rate Design and Modified Project Scope*; and (2) *Suspending the Docket, Effective September 6, 2024*, issued on August 20, 2024, in Docket No. 2021-0173, at 8.

⁸ Hawaiian Electric’s *Status Update and Request to Resume Proceeding*, filed on January 15, 2025 in Docket No. 2021-0173, requesting a continuation of the suspension of the docket and committing to provide another status update by March 31, 2025.

⁹ Hawaiian Electric’s *Status Update*, filed on March 18, 2025, in Docket No. 2021-0173.

The following report¹⁰ provides the year-end 2024 status of all company-owned public Fast Chargers implemented under Schedule EV-U: Commercial Public Electric Vehicle Charging Service¹¹ and Electric Vehicle Charging Service EV-MAUI¹² Tariffs for 2024.

Background

Schedule EV-U was introduced in 2013 to support the EV market by allowing the Company to install and operate public EV charging facilities in strategic locations to address range anxiety, support the rental EV market, and increase EV acceptance by residents living in multi-unit dwellings (“MUDs”). Schedule EV-F, simultaneously introduced in 2013, was intended to support clean energy goals by encouraging “the development of public EV charging facilities by pricing electricity at levels that are lower than Schedule EV-C¹³ and Schedule J at lower energy consumption levels for start-up EV public charging providers.”¹⁴

In mid-2016, the Company requested to extend the termination date of the pilot program.¹⁵ A year later,¹⁶ the Commission approved a five-year extension of the pilot program and request to convert the EV-U rate from a fixed fee to volumetric on the condition that the Company submit revised rate structures for Schedule EV-U and Schedule EV-F within ninety days and comply with applicable requirements.¹⁷ On December 12, 2017, the Company implemented the revised rate structure for Schedules EV-U and EV-F for all participating accounts, charging customers based on their actual

¹⁰ In Order No. 38082, *Addressing Proposed Changes to Reporting Requirements for the Hawaiian Electric Companies*, filed on November 22, 2021 in Docket No. 2018-0088, the Commission noted that it agreed with the Companies’ proposal to consolidate EoT Annual Reports currently reflected in Docket Nos. 2018-0422, 2016-0168, and Transmittal Nos. 13-07, 13-08, and 18-06 into a single report, and ordered the Companies to submit a proposed modified version. The Companies provided a sample of a proposed consolidated report on March 8, 2022 in Docket No. 2018-0088 and the Commission approved the proposal in Order No. 38647, *Approving the Hawaiian Electric Companies’ Reporting Requirements Proposal filed on March 8, 2022*, on October 10, 2022.

¹¹ In accordance with Ordering Paragraph 1.C. of Decision and Order No. 31338, filed July 1, 2013 in Transmittal Nos. 13-07 and 13-08 (consolidated) (“D&O 31338”), as explicitly modified by D&O 34592, filed June 2, 2017 in Docket No. 2016-0168.

¹² Consistent with the Company’s representations in Docket No. 2018-0422, Maui Electric’s Revised Schedule EV-MAUI Tariff (“Revised Schedule EV-MAUI Tariff”), Exhibit 2, page 5 of 15, footnote 13, filed on August 30, 2019.

¹³ By Decision and Order No. 33165, issued on September 25, 2015 in Docket No. 2015-0342, the Commission approved “the Companies’ request to terminate Schedule EV-C, as of October 1, 2015.”

¹⁴ Transmittal No. 13-07 at 22.

¹⁵ On June 27, 2016, the Company filed a non-docketed transmittal requesting to extend the termination date for Schedule EV-F and Schedule EV-U from June 30, 2018 to June 30, 2028. On July 5, 2016, the Commission issued Order No. 33783, *Opening Docket*, in Docket No. 2016-0168 opening the docket for the purpose of reviewing the Company’s request. On September 15, 2016, the Commission issued Order No. 33918, *Establishing Issue and Setting Procedural Schedule*, in Docket No. 2016-0168. On November 18, 2016, the Company filed its Reply Statement of Position thereby completing the procedural schedule.

¹⁶ On June 2, 2017, the Commission issued Decision and Order No. 34592 in Docket No. 2016-0168 (“D&O 34592”), approving a five-year extension of the pilot.

¹⁷ In D&O 34592, the Commission provided guidance that the revised rate structures for Schedule EV-F and Schedule EV-U should (1) align to TOU rates developed within Docket No. 2014-0192, (2) “incorporate lessons learned from time-of-use rates and demand response initiatives” into the revised rate structures, (3) contemplate various business and EV charging models that may be facilitated through various technologies, and (4) be “proactive in proposing revised rate structures and tariffs as research, technology, and market-related changes occur.” The Commission also required the Company to include discussion on efforts to forecast anticipated utilization in subsequent EV charging deployments and how costs for EV charging deployments have been and are anticipated to be recovered from customers. On September 5, 2017, the Company submitted revised rate structures and accompanying tariff sheets for Schedules EV-F and EV-U. On October 13, 2017, the Commission issued Order No. 34867 filed in Docket No. 2016-0168, approving the Company’s revised tariff sheets for Schedules EV-F and EV-U, to be implemented within 60 days.

electricity consumption. The time-of-use (“TOU”) periods for rate Schedules EV-F and EV-U were defined as follows: Off-Peak: 10 p.m. to 9 a.m.; Mid-Day: 9 a.m. to 5 p.m.; On-Peak: 5 p.m. to 10 p.m., whereby the Mid-Day period provides a lower energy cost that reflects system needs.

In December 2018, Maui Electric proposed taking ownership of four Fast Charger sites from the EVohana network, which was previously owned and operated by the Maui Economic Development Board for a pilot which was set to end. Revised Schedule EV-MAUI rates were submitted on August 30, 2019¹⁸ which were 35 percent to 42 percent less than the corresponding rates that were previously proposed for all TOU periods (i.e., Mid-Day, On-Peak, and Off-Peak), with the greatest percent reduction in rates for the Mid-Day period. The revised rate design incentivized charging during hours of solar generation, sent appropriate pricing signals to current and potential EV drivers, and was tailored for Maui’s specific grid needs.¹⁹ The Commission approved Maui Electric’s revised Schedule EV-MAUI and accompanying proposal to own and operate four EV Fast Chargers²⁰ and reiterated its approval of Maui Electric’s request for deferred accounting treatment in light of Maui Electric’s adoption of the shared savings mechanism set forth in D&O 36229.

The EV-MAUI program was launched in 2020, with the first charger installed and made available to EV drivers on August 18, 2020 at the Pukalani Terrace Shopping Center (“PTC”), and three additional chargers installed in December 2020, at the Lahaina Aquatic Center (“LAC”), Pi’ilani Village Shopping Center (“PVC”), and Queen Ka’ahumanu Center (“QKC”). These four chargers were selected based on residential customer feedback, market pricing information, historic data, and forecasted charging network information. Additionally, the EV-MAUI chargers increased access to public EV charging beyond the previous CHAdeMO-only charging ports under the EVohana program.

On October 29, 2021, the Company filed an application for its *Public Electric Vehicle Charger Expansion Project* (“Expansion Project”) in Docket No. 2021-0173, which requested to expand the Company’s public charging network by constructing an additional 150 direct current fast charging ports and up to 300 level 2 charging ports at an estimated 75 sites across the Company’s service territory between 2023 and 2030. Additionally, the Company proposed a suite of changes to the existing public charging programs, including revised EV-U tariffs designed to be roughly cost-competitive with gasoline and encourage charging during the middle of the day when solar is abundant. The application also requested the termination of the EV-MAUI tariff with the goal of providing customers consistency in pricing for fast charging on each island.²¹

With the EV-U pilot set to expire on June 31, 2023 and the expansion docket still pending, the Companies submitted a motion on October 25, 2022 to reopen Docket No. 2016-0168 to extend the *Commercial Public Electric Vehicle Charging Service Pilot* (“pilot program”) and related Schedule EV-U tariff. On December 7, 2022, the Commission reopened Docket No. 2016-0168 and granted the

¹⁸ Pursuant to Decision and Order No. 36229 issued on March 22, 2019 in Docket No. 2018-0422 (“D&O 36229”).

¹⁹ See D&O 36229 at 35-36.

²⁰ See Decision and Order No. 36943 issued on January 10, 2020 in Docket No. 2018-0422 (“D&O 36943”).

²¹ Hawaiian Electric’s Application for approval to commit funds in excess of \$2,500,000 for the Public Electric Vehicle Charger Expansion Project, to Recover the Capital and Operations and Maintenance Expenses Costs through the Exceptional Project Recovery Mechanism, and Related Requests, filed on October 29, 2021 in Docket No. 2021-0173

Companies' request, extending the Schedule EV-U tariff until the Commission issues a decision on the Companies' Expansion Project in Docket No. 2021-0173.

On March 18, 2025, the Company filed a status update in Docket No. 2021-0173 informing the Commission that the Company intends to request withdrawal of the application for the Expansion Project and address Schedule EV-MAUI and the related shared savings mechanism in a separate proceeding, including moving the EV-MAUI stations to the EV-U tariff.²²

Status of EV-F Tariff

On September 30, 2020, the Company proposed a successor to EV-F in its *Application For Approval to establish Electric Vehicle Tariffs for Schedule EV-J – Electric Vehicle Charging Service – Demand and Schedule EV-P – Electric Vehicle Charging Service – Large Demand, on a Pilot Basis*. In the application, the Company requested that upon approval of Schedules EV-J and EV-P, the Commission close Schedule EV-F to new enrollment and allow existing EV-F customers to continue service under EV-F until the rate's pilot period expires, or they transition to another rate, whichever comes first²³. In Decision and Order No. 38157 issued on December 30, 2021 in Docket No. 2020-0152 ("D&O 38157"), the Commission approved Schedule EV-J and EV-P, which became effective March 18, 2022 for O'ahu, Maui, and Hawai'i Island, and on August 1, 2022 for Lāna'i and Moloka'i. As a result, Schedule EV-F closed to new enrollment on March 18, 2022 for O'ahu, Maui, and Hawai'i Island, and on July 31, 2022 for Lāna'i and Moloka'i. D&O 34592 issued on June 2, 2017 in Docket No 2016-0168 ordered Schedule EV-F's pilot period to end on June 30, 2023. Consequently, Schedule EV-F was discontinued for all enrolled accounts effective July 1, 2023.

Introduction

Electrification of transportation continues to grow steadily across the State. As shown in Figure 1, registered passenger EVs in the Company's service territory in 2024 increased by 20% percent from the prior year.²⁴ EVs represent a little over 3 percent of the overall passenger vehicles registered in the State. The EV market is anticipated to experience tremendous growth in the next few decades based on the Company's forecast that one in every two vehicles will be electric by 2045.²⁵

²² Hawaiian Electric's *Status Update*, filed on March 18, 2025, in Docket No. 2021-0173.

²³ Docket No. 2020-0152, *Application For Approval to Establish Electric Vehicle Tariffs for Schedule EV-J – Electric Vehicle Charging Service – Demand and Schedule EV-P – Electric Vehicle Charging Service – Large Demand, on a Pilot Basis* filed on September 30, 2020 at 10.

²⁴ Source is data from <http://dbedt.hawaii.gov/economic/energy-trends-2/>.

²⁵ Company's Electrification of Transportation Strategic Roadmap, refiled on June 18, 2018 in Docket No. 2018-0135 at 34.

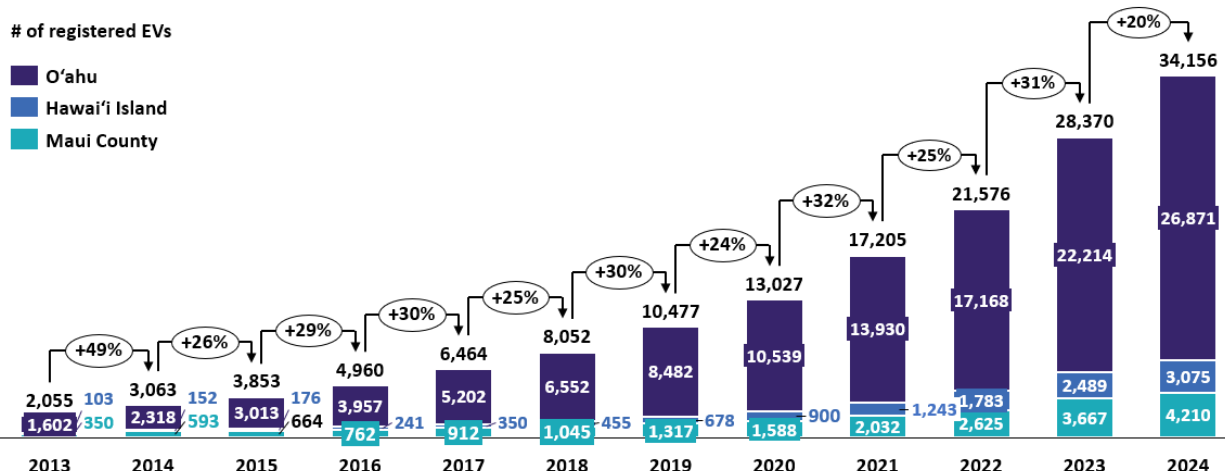


Figure 1: Cumulative EV Adoption in the Company's Service Territory Since Pilot Program Inception

Energy dispensed by Company owned public Fast Chargers outpaced the growth of EV registrations, with a total increase of 70% from the year prior²⁶. Figures depicting this growth and other metrics can be found in the specific discussions of each rate later in this report. Nearly all Company owned Fast Charger locations experienced significant increases in utilization from the year prior with a few exceptions²⁷. This substantial growth in utilization can be attributed to several factors:

- Improved ability to reduce charger downtime using internal resources** – In 2024, the Company streamlined and developed new internal processes, increased performance documentation, and implemented training programs to improve response times and resolve issues efficiently and effectively. This included implementing measures to ensure the asset management team quickly receives customer inquiries. In late 2023, the asset team expanded from one full time employee (“FTE”), an EV Charging Station Asset Manager, to two FTEs to include an EV Charging Station Analyst. The Analyst supports the Asset Manager by enhancing monitoring and reporting, analyzing session data, managing dispatches and repairs, supporting customer service, and improving documentation. In 2024, the asset management team strengthened the Company's ability to support Fast Chargers in-house by developing training programs for tier 1²⁸ service dispatches and integrating the chargers into the Company's asset management system with aligned identification. These efforts improved collaboration across process areas and streamlined service response. Additionally, support groups received manufacturer training and certification to enhance technical knowledge and skills relevant to the specific Company owned Fast Charger models.

²⁶ Total energy consumption from Company owned chargers in 2024 was 2,368,193 kWh, up from 1,396,507 kWh in 2023.

²⁷ EV-U stations at Hawaiian Electric Kahului Baseyard, Kaunakakai, and Punaluu Bakeshop, and the EV-Maui station at Queen Ka'ahumanu, experienced a decrease in utilization in 2024.

²⁸ Tier 1 service surrounding Company owned and operated DC Fast Chargers includes external visual inspections of the equipment, emergency stop resets, charging station hard resets, and station communication observation/testing. All dispatched employees must complete the associated training modules and meet the required safety protocols prior to executing the assigned tasks.

- **Stronger relationships with vendors to maintain support** – Many of the Company’s past struggles to maintain uptime for its Fast Chargers has stemmed from difficulties working with vendors. Strengthening these relationships to maintain support is a key focus area for the continued successful operation of Company owned Fast Chargers. In 2024, the Company worked closely with Tritium to maintain support for the newly installed Fast Chargers, working with new employees to help bridge the knowledge gap and making improvements to their commissioning process. The Company worked closely with OpConnect to fix occasional issues with their system and make improvements to their customer service technical support process. The Company also made in-roads with its legacy charging equipment provider, Efacec, developing relationships and reliable communication pathways resulting in faster responses.
- **Proactive measures to prevent equipment failure** – Over time, the Company has noted the harsh environmental conditions that have affected the reliability of its Fast Chargers, overall as well as by individual location. For this reason, Hawaiian Electric has standardized bi-annual preventative maintenance visits at a minimum and, in 2024, identified locations requiring increased servicing to be visited on a quarterly cadence moving forward. Preventative maintenance visits, which include detailed cleaning inside and out of the chargers, checking for secure connections and component degradation, and other tests, keeps the charging equipment running optimally and avoids many equipment failures that would otherwise impact charger uptime.
- **Migration of Fast Chargers from Shell Network to OpConnect** – To enhance reliability and improve operational efficiency, the Company completed the migration of its Fast Chargers to the OpConnect network, migrating 20 Efacec chargers and one Tritium charger in 2024. The final charger to be moved off the Shell Recharge network to OpConnect was completed in October 2024. The decision to conduct the migration was driven by a Shell Recharge network-wide weeklong outage that occurred between April and May of 2023, which significantly impacted charging availability and customer experience. Following the outage, the Company faced ongoing operational challenges with Shell Recharge including unscheduled service disruptions and connectivity issues affecting overall charger usability and remote visibility of stations. The Company also experienced delayed responses and limited communication from the support team. On September 19, 2024, Shell Recharge informed the Company it would be ending its business relationship with the Company following a 30-day transition period²⁹. Since the migration, driver feedback has been generally positive, with many users reporting improved charger reliability and a more seamless charging experience. Additionally, OpConnect has demonstrated a strong commitment to customer satisfaction, actively responding to feedback and implementing suggested improvements. From an operational perspective, the Company has observed measurable benefits, including improved uptime and better network support. Moving forward, the Company will continue to monitor charger performance and collaborate with OpConnect to further optimize the charging experience for drivers.

²⁹ At the time of Shell’s notification, only one charger remained active on Shell Recharge’s network. In December 2024, it was reported publicly that Shell would be discontinuing its charging management software as of the end of April 2025.

- Replacement of Efacec chargers with Tritium, including the addition of a new station at Ward**
 - The Company’s portfolio of Fast Chargers are primarily Efacec QC45. At some of the earliest sites, the Company installed Efacec QC50, which is a model that the manufacturer discontinued and does not provide technical support for. As a result, in 2023, the Company began projects to replace Fast Chargers identified based on support, age, and performance, upgrading to Tritium RTMs which will enhance the EV driver experience and increase charger reliability. The Tritium RTM has a strong ingress protection rating and seals out contaminants such as dust, salt, moisture, and insects which can cause degradation of internal components and a shorter equipment lifespan. These chargers also feature a modular power architecture which will contribute to better uptime due to the isolation of failures which result in incremental derating of the charger rather than going completely out of service. In 2024, the Company completed replacements at Dole, Ward 1, Ward 2 and Koolau. Ward is one of the Company’s busiest locations, where customers experienced long wait times. The Company replaced Ward 1 and 2 and added an additional 75 kW Tritium charger at the Ward 2 metered account, increasing the total number of stations at the Ward site from two to three.

Another likely factor in charger utilization outpacing EV registrations is higher usage by rideshare and rental car drivers, who drive more daily miles than the typical resident and may depend more on public infrastructure that allows them to fuel up faster. This assumption is supported by in-the-field interactions with drivers at Company owned Fast Chargers, many of whom have identified themselves to be rideshare drivers or tourists who have rented an electric vehicle.

Utilization grew significantly despite challenges the Company continues to face to maintain its chargers. While relationships with vendors have improved, it remains a challenge to get needed spare parts in a timely manner. An order of spare parts from Efacec, based in Portugal, that was received in May of 2024, took over a year to be delivered. The order had originally been placed to ensure that the Company had enough stock of spare parts. However, as time elapsed, the order became urgently needed to restore CHAdeMO charging functionality at nine stations. CHAdeMO cables are not components that can be repaired, and they must come directly from the manufacturer. Efacec also provides limited guidance and formalized procedures to service their chargers, making it difficult to troubleshoot problems without direct manufacturer support. Despite some assistance, many issues that arose during the year with Efacec chargers took significant time to resolve as the manufacturer was unable to remotely diagnose many of the problems.

As EV registrations and EV charging utilization grows in Hawaii, so too have the number of available third-party fast charging locations. In 2024, Hawaiian Electric supported the installation of several notable third-party owned fast charging sites: Hawai’i Department of Transportation (“HDOT”) opened two National Electric Vehicle Infrastructure (“NEVI”) sites, each with four 150 kW fast charging ports - one in Kahului, Maui in February and one at Aloha Tower on Oahu in November. Electrify America opened two charging sites in November at Walmart in Kapolei and Honolulu, each with four 150 kW ports. Tesla opened a supercharger site at the Kahala Hotel in early March consisting of twelve charging stalls capable of delivering 250 kW each. This site is not easily accessible by the public as it requires the

driver to valet their vehicle at an additional cost not included in the price of charging. In December, Tesla opened another supercharger site in Kaneohe with twelve 250 kW capable ports. This is the first and currently only site open to non-Tesla EV models with NACS compatibility, in most cases requiring an adapter.

Schedule EV-U Tariff

2024 was the eleventh full year of the EV-U pilot program.³⁰ The EV-U tariff is limited to 25 meter accounts, and some have more than one Fast Charger installed. The total number of Fast Chargers installed under the EV-U tariff as of the end of 2024 is 33. As displayed in Figure 2, the Company completed the installation of the 25 meter accounts allowed in the EV-U pilot program in 2022 and as such, there were not any new meter accounts added in 2023 or 2024.

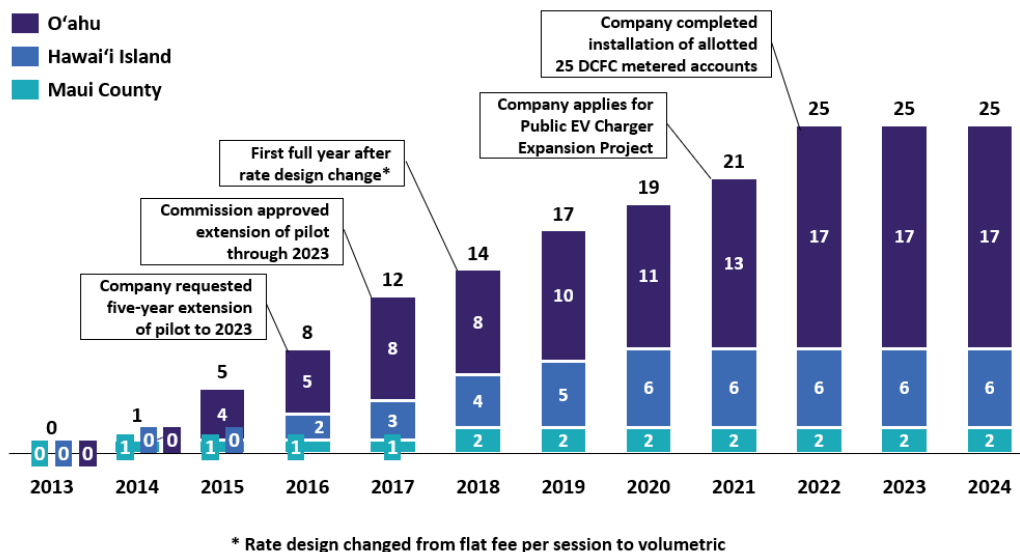


Figure 2: Cumulative Installed EV-U Fast Charger Meter Accounts Since Pilot Program Inception

Figure 3 displays the annual Fast Charger meter account installations on each island from the EV-U pilot program inception through 2024. After the release of the Company's Backbone Study in July 2019,³¹ the Company targeted areas in its service territory shown to have a high need for chargers, and prioritized locations with willing site hosts accordingly.

³⁰ On July 3, 2013, in accordance with D&O 31338, Hawaiian Electric filed its commercial rates Schedule EV-F and Schedule EV-U to be effective July 4, 2013.

³¹ Electric Vehicle Critical Backbone Study: Planning Methodology, filed on July 30, 2019 in Docket No. 2018-0135.

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
O'ahu			- Dole Plantation - Ko'olau Center - Kapolei Commons - Hawai'i Kai 7-Eleven	Hawaiian Electric Ward Office 1	- Hawaiian Electric Ward Office 2 - Wai'anae Shopping Mall 801 Dillingham		- Times Square SC - Hale'iwa TC	Kapolei SC	- Salt Lake SC - Waipio SC	- TC of Mililani - Bishop Museum - Kailua Foodland Marketplace - Waikiki-Kapahulu Public Library		
Hawai'i Island				- Hawaiian Electric Hilo Office - Hawaiian Electric Kona Office	Waimea KTA	The Shops at Mauna Lani	Punalu'u Bake Shop	Puna Kai SC				
Maui		Hawaiian Electric Kahului Baseyard										
Moloka'i						Kaunakakai						

Figure 3: EV-U Fast Charger Meter Account Installations Since Pilot Program Inception

EV-U Utilization Across the Company's Service Territory

In 2024, energy dispensed by EV-U Fast Chargers across the Company's service territory was 2,184,143 kWh, about an 81 percent increase from the prior year.³² Figure 4 shows the annual energy dispensed by service area from pilot program inception through 2024. Figure 5 and Figure 6 shows the number of charging sessions that occurred and energy that was dispensed in 2024 by month, respectively.

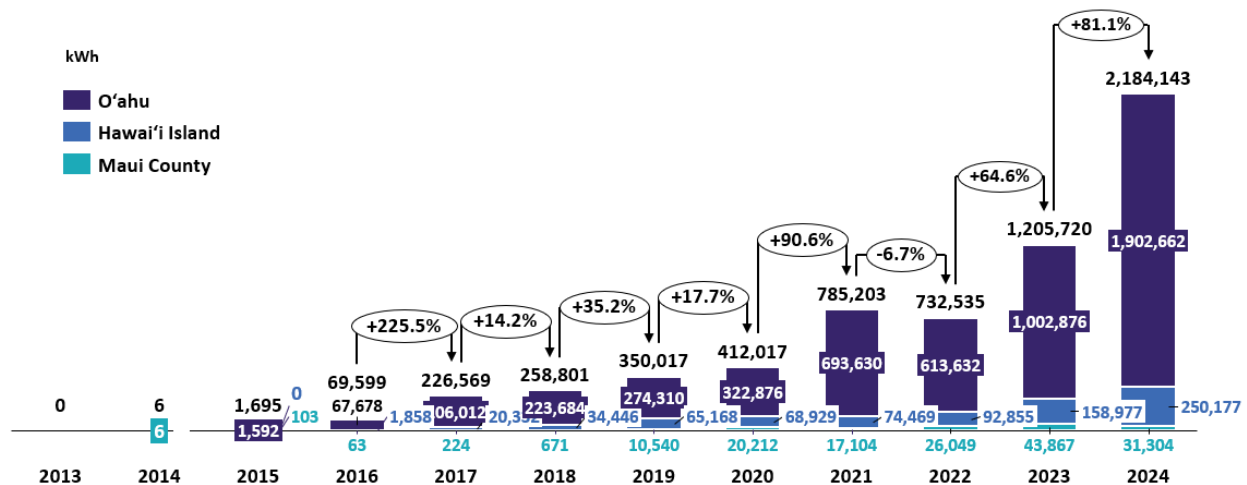


Figure 4: Annual Utilization for EV-U Pilot by Energy Dispensed (kWh)

³² 2024: 2,184,143kWh vs. 2023: 1,205,720 kWh

of Sessions

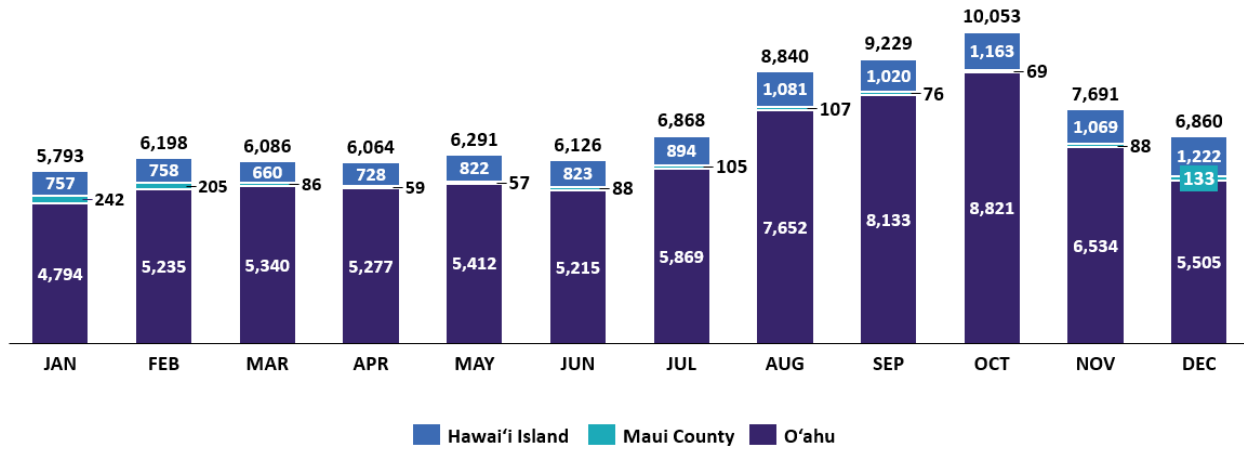


Figure 5: EV-U Monthly Utilization by Number of Sessions

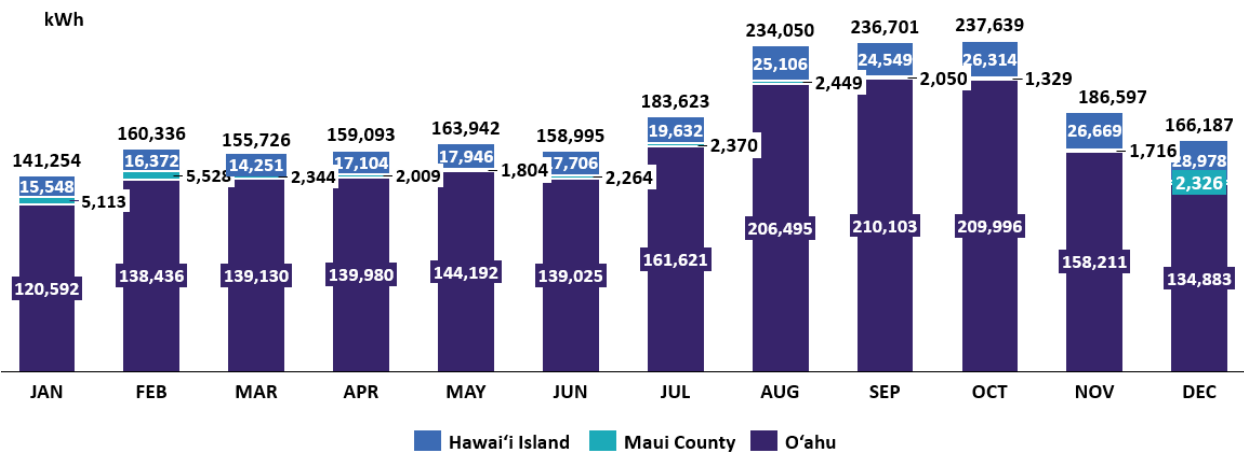


Figure 6: EV-U Monthly Utilization by Energy Consumption

EV-U Utilization on O'ahu

In 2024, annual energy dispensed at Oahu EV-U Fast Chargers totaled 1,902,662 kWh which represents 87 percent of the charging usage in the EV-U pilot program in 2024. This is an 88 percent, or 899,786 kWh increase over the year prior. The monthly utilization by time of use for all EV-U Fast Chargers on O'ahu is shown by number of sessions in Figure 7 and by energy dispensed in Figure 8.

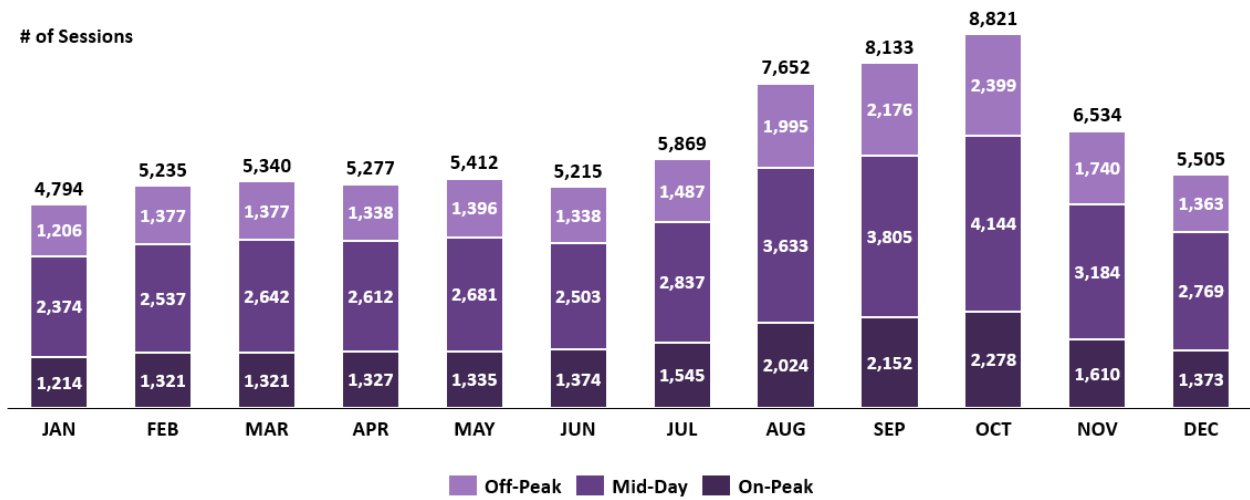


Figure 7: Monthly Number of Sessions by TOU period for O'ahu EV-U Fast Chargers

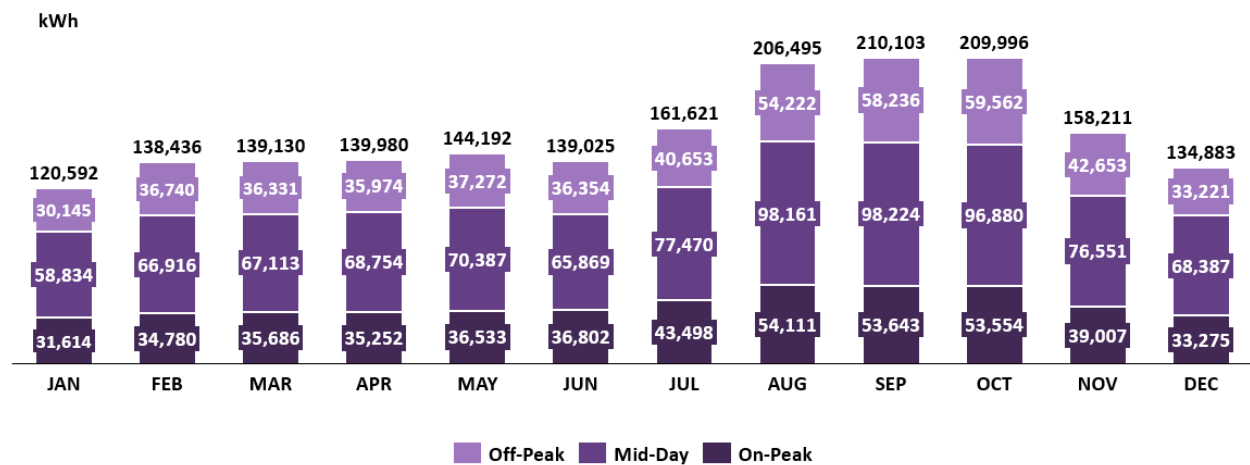


Figure 8: Monthly Energy Dispersed (kWh) by TOU period for O'ahu EV-U Fast Chargers

The overall utilization for the EV-U Fast Chargers, by meter account, on O'ahu is shown by number of sessions in Figure 9 and by energy dispensed in Figure 10. The meter accounts are listed in chronological order based on when they were first made available to the public.

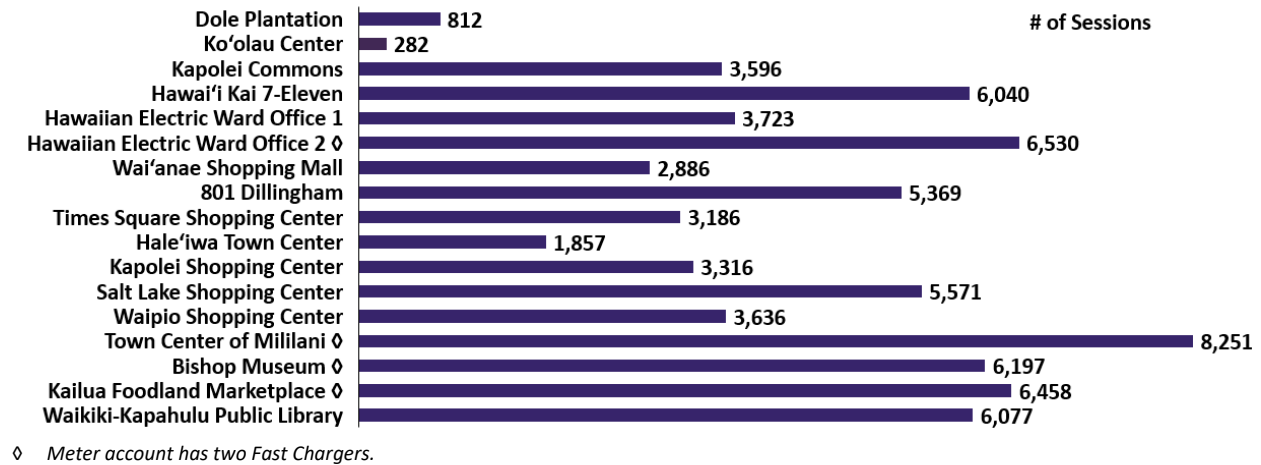


Figure 9: Number of Sessions by O'ahu EV-U Fast Charger Meter Account

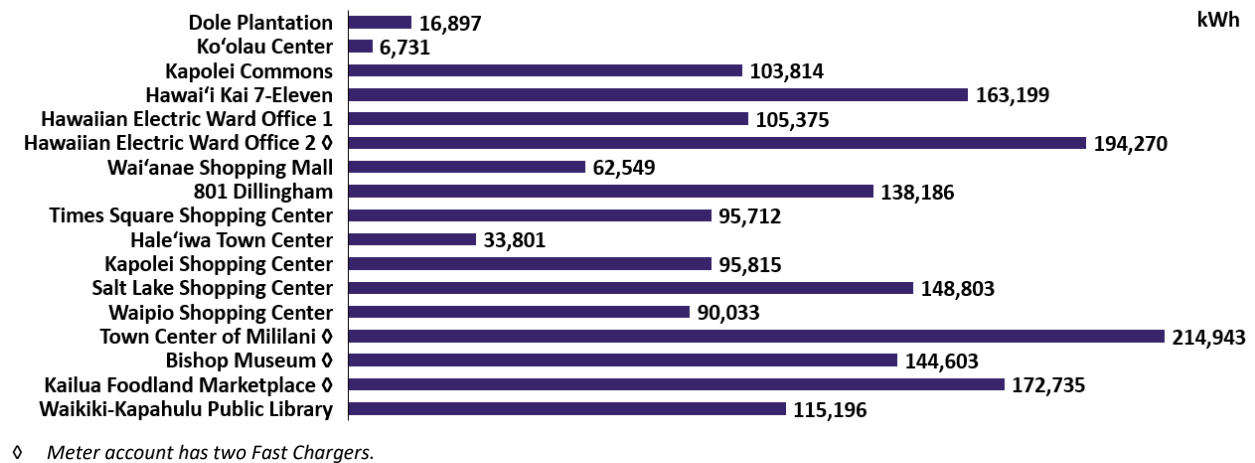


Figure 10: Energy Dispensed by O'ahu EV-U Fast Charger Meter Account

Figure 11 provides a summary of key metrics for all EV-U Fast Charger meter accounts on O'ahu, with TOU period utilization calculated using energy (kWh) data for charging sessions initiated within the specified period. Following the table are individual discussions on the context and status of each EV-U meter account.

	% Utilization			Avg Energy/Session (kWh)			Avg Revenue/Session (\$)			Avg Time/Session (min)		
	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak
Dole Plantation	7%	90%	3%	28	21	14	\$ 15.00	\$ 10.18	\$ 8.05	30	26	22
Ko'olau Center	22%	57%	21%	24	25	22	\$ 13.14	\$ 12.00	\$ 12.49	25	26	27
Kapolei Commons	22%	51%	28%	27	29	29	\$ 14.68	\$ 14.37	\$ 16.80	33	35	35
Hawaii Kai 7-Eleven	31%	42%	27%	26	27	28	\$ 13.91	\$ 13.27	\$ 16.24	38	38	39
Hawaiian Electric Ward Office 1	31%	44%	25%	27	29	29	\$ 14.75	\$ 14.11	\$ 16.37	36	38	37
Hawaiian Electric Ward Office 2 ◊	32%	43%	24%	30	30	29	\$ 16.21	\$ 14.61	\$ 16.70	37	36	35
Wai'anae Mall	23%	52%	25%	22	21	22	\$ 11.77	\$ 10.53	\$ 12.52	30	28	29
801 Dillingham	28%	46%	26%	26	26	26	\$ 14.00	\$ 12.53	\$ 14.72	31	31	30
Times Square Shopping Center	25%	49%	27%	32	30	30	\$ 17.04	\$ 14.50	\$ 16.85	30	30	31
Hale'iwa Town Center	15%	59%	25%	19	18	18	\$ 10.22	\$ 8.89	\$ 10.22	30	29	29
Kapolei Shopping Center	25%	50%	25%	27	30	29	\$ 14.76	\$ 14.46	\$ 16.74	29	29	28
Salt Lake Shopping Center	32%	43%	25%	27	26	27	\$ 14.59	\$ 12.96	\$ 15.25	29	30	30
Waipio Shopping Center	23%	48%	29%	24	25	25	\$ 13.20	\$ 12.06	\$ 14.40	30	31	29
Town Center of Mililani ◊	26%	47%	27%	28	26	26	\$ 14.86	\$ 12.55	\$ 14.55	29	30	30
Bishop Museum ◊	17%	61%	22%	23	23	23	\$ 12.55	\$ 11.50	\$ 13.12	34	35	34
Kailua Foodland Marketplace ◊	21%	51%	27%	27	27	26	\$ 14.63	\$ 13.22	\$ 14.86	31	31	29
Waikiki-Kapahulu Public Library	34%	42%	24%	20	18	18	\$ 11.03	\$ 8.94	\$ 10.45	22	19	19

◊ Metered account has two chargers

Figure 11: Summary of Key Metrics for O'ahu EV-U Fast Charger Meter Accounts³³

Dole Plantation

The Dole Plantation Fast Charger is located in a tourist location, next to one of the major thoroughfares in the North Shore area on O'ahu. This area has limited public EV charging options.

The replacement of the Dole Plantation Fast Charger was completed in January 2024. Ninety percent of charging usage in 2024 was initiated during the Mid-Day period. This is the highest percentage of Mid-Day utilization among all meter accounts in the EV-U pilot program. This is likely attributable to Dole Plantation's business hours of 9:30 a.m. to 4:30 p.m. – although, access to this charger is sometimes extended beyond normal business hours. 7 percent and 3 percent of charging usage was initiated during the Off-Peak and On-Peak periods, respectively.

Ko'olau Center

Similar to the Dole Plantation Fast Charger, the Ko'olau Center Fast Charger meter account is located next to a thoroughfare that provides access to the north side of O'ahu. Ko'olau Center is situated in Kaneohe at a small shopping center. This area has limited public EV charging options.

In early January 2022, the Ko'olau Center Fast Charger, which was an Efacec QC50, went out of service. The Efacec QC50 is an older model that the manufacturer discontinued and does not provide technical support for it. The Company repeatedly attempted to repair this charger but was not successful. As a result, the Company subsequently removed this charger. The Company then negotiated with the site host who requested the Fast Charger be moved to a new location on site, in exchange for extending the term of the license agreement. The new Tritium RTM50 50 kW Fast Charger was installed in October 2024.

³³ Due to rounding of percentages to the nearest whole number, the sum for each charger will not always equal 100 percent.

In the final months of 2024, 57 percent of charging usage for this charger was initiated during the Mid-Day period, 22 percent during the Off-Peak, and 21 percent during the On-Peak.

Kapolei Commons

The Kapolei Commons Fast Charger is situated in a shopping center near large residential neighborhoods along a major highway thoroughfare. This shopping center also provides Level 2 charging from third-party charger providers. Additionally, the Company's Kapolei Shopping Center Fast Charger is nearby. Originally, the Kapolei Commons Fast Charger had provided only a CHAdeMO connector. To support more EV drivers, the Company installed a new Fast Charger in 2020, which provides CCS and CHAdeMO connectors.

In 2024, 51 percent of charging usage for this charger was initiated during the Mid-Day period, 22 percent during the Off-Peak, and 28 percent during the On-Peak.

Hawai'i Kai 7-Eleven

The Hawai'i Kai 7-Eleven Fast Charger is located next to residential homes and condominiums. Its proximity to condominiums may have contributed to its high utilization. EV owners living in condominiums and townhouses without a garage often need to rely on public EV chargers, such as this one, for their EV charging needs. Additionally, this is the only Fast Charger on the south-east side of O'ahu.

In mid-November 2023, the original Hawai'i Kai 7-Eleven Fast Charger was replaced with a new Tritium RTM50 50 kW Fast Charger, the first Tritium to be installed for Hawaiian Electric and in the State of Hawai'i. The original charger was an Efacec QC50, an older model that the manufacturer discontinued and does not provide technical support for.

In 2024, 42 percent of charging usage for this charger was initiated during the Mid-Day period, 31 percent during the Off-Peak, and 27 percent during the On-Peak. In 2024, the Hawai'i Kai 7-Eleven Fast Charger was the most utilized Fast Charger across all Hawaiian Electric Fast Chargers, ranking fourth in meter accounts behind locations with two collocated chargers (Town Center of Mililani, Hawaiian Electric Ward 2, and Kailua Foodland Marketplace).

Hawaiian Electric Ward Office 1 and 2

The Hawaiian Electric Ward Office 1 and 2 are separate meter accounts at Hawaiian Electric's office on Ward Avenue. This location is situated near the growing density of high-rise condominiums, many office buildings, and the downtown Honolulu district.

In 2024, the Hawaiian Electric Ward Office 1 and 2 Fast Chargers were replaced with new Tritium RTM50 50 kW Fast Chargers. Additionally, a third charger was installed at this location, a Tritium RTM75, the second to be installed under the Ward 2 meter account and the first 75 kW Fast Charger installed for Hawaiian Electric.

In 2024, the Hawaiian Electric Ward Office 2 meter account ranked 2nd for utilization, due to the addition of the new Fast Charger. However, Ward 1 fell to ninth place from its historical ranking in the top three of Fast Chargers. The Ward location faced changes and challenges this year, which led to several months

of the chargers being out of service. Ward 1 and 2 were taken offline for replacement from May through July, following several issues that were occurring on the Ward 1 Fast Charger beginning in April. Utilization boomed once the new Tritium chargers were opened to the public at the end of July, until an unexpected outage occurred in early November which took all three chargers offline until January 2025. The outage was due to electrical repair work that was taking place within the baseyard.

Hawaiian Electric Ward Office 1 and 2 Fast Chargers had 44 and 43 percent of sessions initiated during Mid-Day, respectively. Charging usage initiated during Off-Peak for Hawaiian Electric Ward Office 1 and 2 Fast Chargers were 31 percent and 32 percent, respectively. Additionally, the share of charging usage initiated during On-Peak for Hawaiian Electric Ward Office 1 and 2 Fast Chargers was 25 percent and 24 percent, respectively.

Wai'anae Shopping Mall

The Wai'anae Shopping Mall Fast Charger is located at a shopping center among restaurants and stores, and near residential neighborhoods along a highway thoroughfare. It is currently the westernmost public EV charger along Farrington Highway on the west side of O'ahu. This location provides EV drivers assurance they can travel to and from the Leeward coast and encourages EV adoption in this important area that is significantly lacking in public charging options.

In 2024, 52 percent of charging usage was initiated during the Mid-Day, 23 percent during the Off-Peak, and 25 percent during the On-Peak.

This Fast Charger is scheduled for replacement with a Tritium RTM50 in the third quarter of 2025.

801 Dillingham

The 801 Dillingham Fast Charger is near the Iwilei Costco, an extremely high-traffic location. Moreover, it is adjacent to many other shops and restaurants, making it an ideal location for convenient charging while running errands. This Fast Charger has faced several challenges over the years and is scheduled for replacement with a Tritium RTM50 in early 2025.

In 2024, 46 percent of charging usage was initiated during the Mid-Day, 28 percent during the Off-Peak, and 26 percent during the On-Peak.

Times Square Shopping Center

The Times Square Shopping Center Fast Charger, located in Waimalu, is in an area of high population density, high penetration of MUDs, and high traffic density. While the Company installed one dual-standard 50 kW Fast Charger, the underlying electrical infrastructure is designed to support more. The Company strategically employed this approach to enable flexibility when technology or customer needs change. Planning for the future with excess capacity enables the Company to install additional Fast Chargers or upgrade to a higher-powered Fast Charger in the future if deemed appropriate.

In 2024, a delay from the charger manufacturer in delivering a parts order for CHAdeMO cables impacted this location. As a result, CHAdeMO functionality, which went down in January, could not be restored until late May. In 2024, 49 percent of charging usage was initiated during the Mid-Day, 25 percent during the Off-Peak, and 27 percent during the On-Peak.

Hale'iwa Town Center

The Hale'iwa Town Center Fast Charger supports residents and tourists driving to and from the North Shore area of O'ahu. The Fast Charger is in a location strategically selected to alleviate range anxiety as there is little to no charging options in the area. In 2024, a delay from the charger manufacturer in delivering a parts order for CHAdeMO cables impacted this location. As a result, CHAdeMO functionality was down from mid-February to early June.

In 2024, 59 percent of charging usage was initiated during the Mid-Day, 15 percent of charging was initiated during the Off-Peak, and 25 percent during the On-Peak.

This Fast Charger is scheduled for replacement with a Tritium RTM50 in the third quarter of 2025.

Kapolei Shopping Center

The Kapolei Shopping Center Fast Charger is one of two public Fast Chargers in this area – the Company's Kapolei Commons Fast Charger is nearby. Additionally, it is situated next to level 2 chargers that are operated by other third-party charging providers. When the Kapolei Shopping Center Fast Charger opened to the public in January 2020 the Company installed one dual-standard 50 kW Fast Charger, but the underlying electrical infrastructure was designed to support more. The Company strategically employed this approach to enable flexibility when technology or customer needs change. Planning for the future with excess capacity enables the Company to install additional Fast Chargers or upgrade to a higher-powered Fast Charger in the future if deemed appropriate.

In 2024, a delay from the charger manufacturer in delivering a parts order for CHAdeMO cables impacted this location. As a result, CHAdeMO functionality, which had been down since October 2023, could not be restored until late May. In 2024, 50 percent of charging usage was initiated during the Mid-Day, 25 percent during the Off-Peak, and 25 percent during the On-Peak.

Salt Lake Shopping Center

The Salt Lake Shopping Center Fast Charger is in a high-density residential area near the urban core of Honolulu. This strategic fast charging location, the first in the Salt Lake area, is located directly across from the Honolulu International Airport, which could support the electrification of the rental car market. While the Company installed one dual-standard 50 kW Fast Charger installed, the underlying electrical infrastructure was designed to support more. The Company strategically employed this approach to enable flexibility when technology or customer needs change. Planning for the future with excess capacity enables the Company to install additional Fast Chargers or upgrade to a higher-powered Fast Charger in the future if deemed appropriate.

In 2024, the Salt Lake Shopping Center Fast Charger had the second highest utilization of any single Fast Charger, behind Hawaii Kai. Based on meter account, it ranked 5th behind meter accounts with collocated chargers. 43 percent of charging usage was initiated during the Mid-Day, 32 percent during the Off-Peak, and 25 percent during the On-Peak.

Waipio Shopping Center

The Waipio Shopping Center Fast Charger is located at a shopping center among restaurants and stores, adjacent to a residential neighborhood along a highway thoroughfare. While the Company installed one dual-standard 50 kW Fast Charger, the underlying electrical infrastructure was designed to support more. The Company strategically employed this approach to enable flexibility when technology or customer needs change. Planning for the future with excess capacity enables the Company to install additional Fast Chargers or upgrade to a higher-powered Fast Charger in the future if deemed appropriate.

In 2024, 48 percent of charging usage was initiated during the Mid-Day, 23 percent during the Off-Peak, and 29 percent during the On-Peak.

Town Center of Mililani (two Fast Chargers)

In July 2022, two Fast Chargers at the Town Center of Mililani, under one meter account, opened to the public. This strategic and convenient location is in the heart of a dense residential neighborhood, at a shopping center with restaurants and stores, and easily accessible from the H2 freeway. These chargers are the first Fast Chargers installed in the Mililani area and help to serve EV drivers traveling to and from the North Shore.

In 2024, for the first time, the Town Center of Mililani had the highest utilization of all EV-U meter accounts. This meter account had 47 percent of charging usage initiated during the Mid-Day, 26 percent during the Off-Peak, and 27 during the On-Peak.

Bishop Museum (two Fast Chargers)

In August 2022, two Fast Chargers at Bishop Museum, under one meter account, opened to the public. The Bishop Museum Fast Chargers are located at a tourist attraction, centrally located in the growing Kalihi-Palama community, near the urban core and the H1 freeway. There are also two Level 2 chargers onsite, which were installed by the Bishop Museum as part of an effort to provide sustainable options for the neighborhood community of Kalihi-Palama. In a first for the EV-U pilot program, the Fast Chargers at Bishop Museum feature an artistic wrap designed to be representative of the Company's and Bishop Museum's sustainability vision. The wrap was designed by local artist, Wooden Wave.

In 2024, one of the two Bishop Museum Fast Chargers experienced significant internal component failures which impacted utilization. From March through July, multiple efforts were made to restore functionality to the charger, however the manufacturer was unable to provide a resolution. Through the partnered diagnostic efforts of two internal support groups, it was determined that the main power supply for the station was irreparable. Finally, the Company designed a solution that repurposed core components from a decommissioned Ward charger, restoring functionality to the station as quickly and cost-effectively as possible.

In 2024, this meter account had 61 percent of charging usage initiated during the Mid-Day, 17 percent during the Off-Peak, and 22 percent during the On-Peak. The high Mid-Day utilization is directly related to public access to these chargers only being available during Bishop Museum's business hours of 9 a.m. to 8 p.m.

Kailua Foodland Marketplace (two Fast Chargers)

In November 2022, the first Fast Charger at the Kailua Foodland Marketplace opened to the public. The second Fast Charger at this location, under the same meter account, opened to the public in April 2023. The convenient location of Kailua Foodland Marketplace, located in the central shopping district of Kailua, provides much needed fast charging options for EV drivers in the East Windward region of O‘ahu and were the first Fast Chargers installed in the Kailua area. This area also has Level 2 charging from third-party charging providers.

In 2024, Kailua Foodland Marketplace was ranked third in utilization among EV-U meter accounts. 51 percent of charging usage was initiated during the Mid-Day, 21 percent during the Off-Peak, and 27 percent during the On-Peak.

Waikiki-Kapahulu Public Library

In mid-December 2022, the Waikiki-Kapahulu Public Library Fast Charger opened to the public, making it the 25th and final meter account to open under the authority of the EV-U pilot. This site is strategic not just in location, but also in the potential for a broader partnership with the Hawai‘i State Public Library System to add Fast Chargers to other library locations. The dense commercial and tourist-centric area of Waikiki is an essential location for providing convenient and accessible EV fast charging.

The Waikiki-Kapahulu Public Library Fast Charger went out of service during the first quarter of 2024 due to a breaker issue which took multiple replacements of parts, one of which was backordered. It was brought back online in March and later experienced issues with intermittent power output which reduced the number of successful charging sessions starting sometime in September and continuing through most of November. Additionally, a delay from the charger manufacturer in delivering a parts order for CHAdeMO cables impacted this location. As a result, CHAdeMO functionality, which had been down since December 2023, could not be restored until late May.

In 2024, 42 percent of charging usage was initiated during the Mid-Day, 34 percent during the Off-Peak, and 24 percent during the On-Peak.

EV-U Utilization on Hawai‘i Island

Longer driving distances on Hawai‘i island make public Fast Chargers an essential resource for the island’s EV drivers. In 2024, annual energy dispensed at Hawai‘i island EV-U Fast Chargers totaled 250,177 kWh which represents 11 percent of the charging usage in the EV-U pilot program. This is a 57 percent, or 91,201 kWh increase over the year prior. The monthly utilization by time of use for all EV-U Fast Charger sites on Hawai‘i Island is shown by number of sessions in Figure 12 and by energy dispensed in Figure 13.

of Sessions

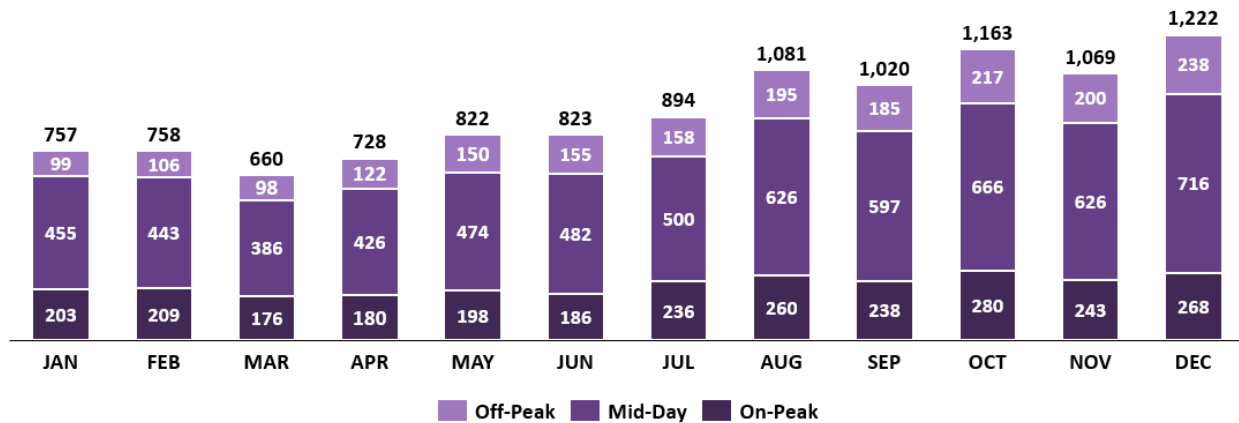


Figure 12: Monthly Number of Sessions by TOU for Hawai'i Island EV-U Fast Charger Meter Accounts

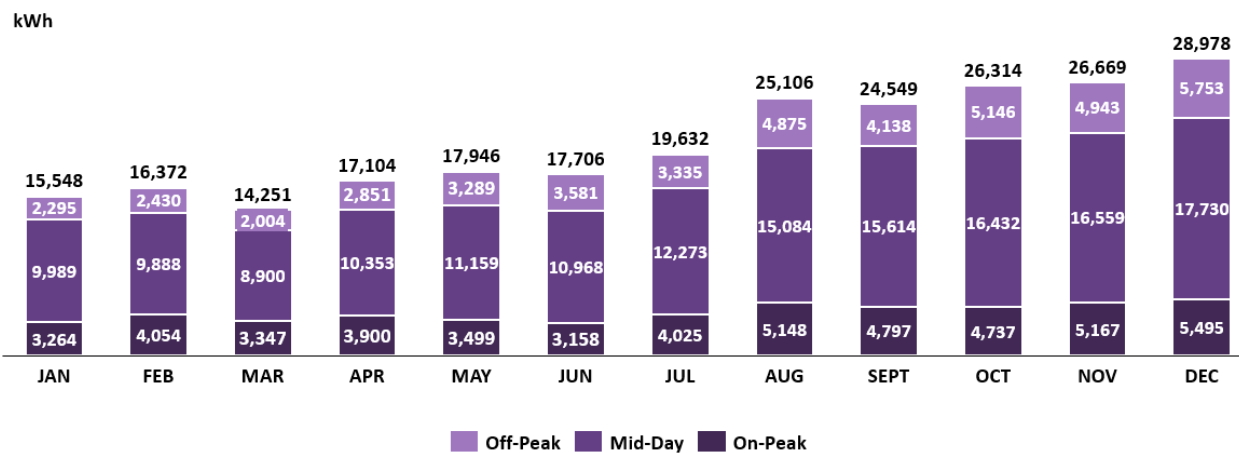
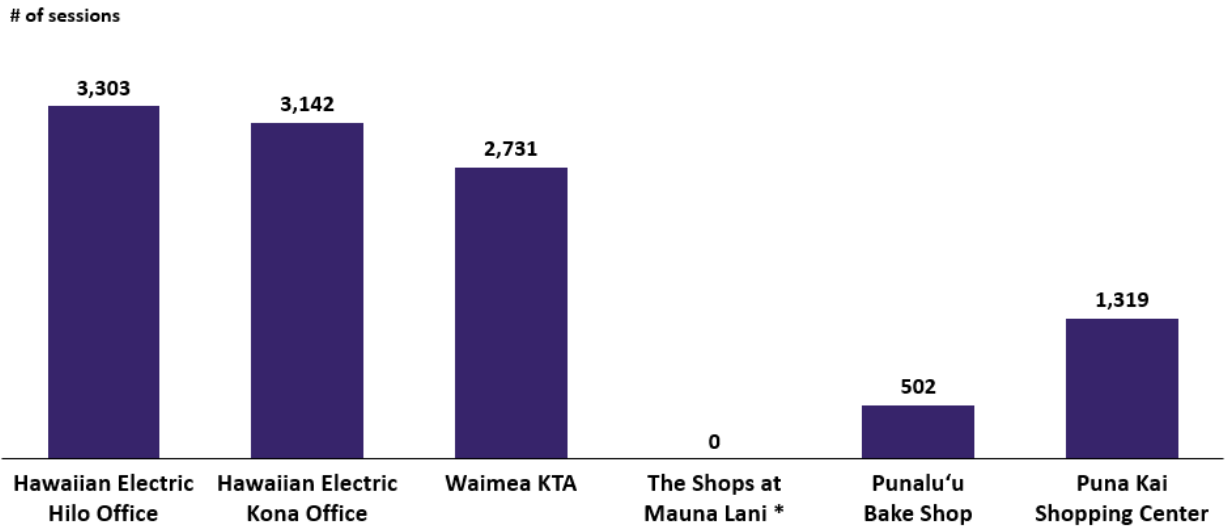


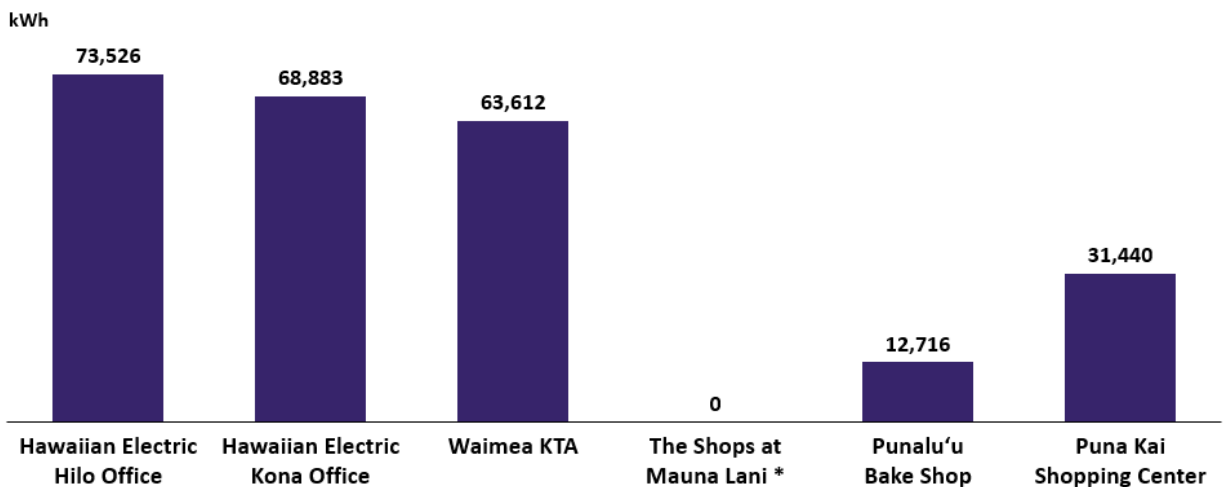
Figure 13: Monthly Energy Dispensed (kWh) by TOU for Hawai'i Island EV-U Fast Charger Meter Accounts

The overall utilization for the EV-U Fast Charger meter accounts on Hawai'i Island is shown by number of sessions in Figure 14 and by energy dispensed in Figure 15. The meter accounts are listed in chronological order based on when they were first made available to the public. As shown in Figure 15, the Hawaiian Electric Hilo Office Fast Charger was the most utilized charger on Hawai'i Island. It ranked fourteenth for energy dispensed in the EV-U pilot program in 2024.



* Shops at Mauna Lani Fast Charger went out of service in late 2021. The property is undergoing a change in ownership and replacement plans are on hold until a new agreement can be executed.

Figure 14: Number of Sessions by Hawai'i Island EV-U Fast Charger Meter Account



* Shops at Mauna Lani Fast Charger went out of service in late 2021. The property is undergoing a change in ownership and replacement plans are on hold until a new agreement can be executed.

Figure 15: Energy Dispensed by Hawai'i Island EV-U Fast Charger Meter Account

Figure 16 provides a summary of key metrics for all EV-U Fast Charger meter accounts on Hawai'i Island with TOU period utilization calculated using energy dispensed (kWh) data for charging sessions initiated within the specified period. Following the table are individual discussions on the context and status of each EV-U meter account.

	% Utilization			Avg Energy/Session (kWh)			Avg Revenue/Session (\$)			Avg Time/Session (min)		
	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak
Hawaiian Electric Hilo Office	19%	60%	22%	22	22	22	\$ 13.68	\$ 11.39	\$ 13.82	34	33	32
Hawaiian Electric Kona Office	22%	58%	20%	21	26	15	\$ 13.11	\$ 13.35	\$ 9.52	28	31	22
Waimea KTA	16%	61%	23%	26	24	19	\$ 15.79	\$ 12.49	\$ 12.27	34	35	30
The Shops at Mauna Lani *	0%	0%	0%	0	0	0	\$ 0	\$ 0	\$ 0	0	0	0
Punalu'u Bake Shop	14%	82%	4%	28	25	25	\$ 17.18	\$ 12.71	\$ 15.59	28	31	31
Puna Kai Shopping Center	12%	70%	18%	26	24	21	\$ 15.59	\$ 12.37	\$ 13.51	33	30	28

* Shops at Mauna Lani Fast Charger went out of service in late 2021. The property is undergoing a change in ownership and replacement plans are on hold until a new agreement can be executed.

Figure 16: Summary of Key Metrics for Hawai'i Island EV-U Fast Charger Metered Accounts³⁴

Hawaiian Electric Hilo Office

The Hawaiian Electric Hilo Office Fast Charger is located at Hawaiian Electric's main office on Hawai'i Island. This Fast Charger is next to some shops and eateries within a short walking distance.

In 2024, this Fast Charger was ranked highest in utilization among EV-U chargers on Hawai'i Island. Additionally, this Fast Charger is ranked fourteenth in the overall EV-U pilot program. In 2024, 60 percent of charging usage was initiated during the Mid-Day, 19 percent during the Off-Peak, and 22 percent during the On-Peak.

The strategic location of this site, its popularity, and the availability of excess capacity within the electrical infrastructure has made this site a top priority for the addition of a second charger, which is scheduled to take place in early 2025. The project, which was originally scheduled to be completed in 2024, experienced a delay due to needing a revised permit after a re-design. Adding a second charger will increase charging availability in the Hilo area and improve the reliability of this location as a charging hub for long distance travel or local errands. In parallel with the installation of the additional Fast Charger, the original Fast Charger at the Hilo Office will also be replaced. Both chargers will be Tritium RTM50.

Hawaiian Electric Kona Office

The Hawaiian Electric Kona Office Fast Charger is located at Hawaiian Electric's office in Kailua-Kona and is the only Fast Charger in the area. This site is near many commercial businesses with some markets and restaurants located a few blocks away.

In 2024, this Fast Charger had the second highest utilization among EV-U chargers on Hawai'i Island and is ranked fifteenth in the overall EV-U pilot program. In 2024, 58 percent of charging usage was initiated during the Mid-Day, 22 percent during the Off-Peak, and 20 percent during the On-Peak.

The strategic location of this site, its popularity, and the availability of excess capacity within the electrical infrastructure has made this site a top priority for the addition of a second charger, which is scheduled to take place in early 2025. The project, which was originally scheduled to be completed in 2024, experienced a delay due to needing a revised permit after a re-design. In parallel with installation

³⁴ Due to rounding of percentages to the nearest whole number, the sum for each charger will not always equal 100 percent.

of the additional Fast Charger, the original Fast Charger at the Kona Office will also be replaced and upgraded. Both chargers will be Tritium RTM50.

Waimea KTA

The Waimea KTA Fast Charger is located at a grocery store in Waimea in the northwest portion of Hawai'i Island, near other retail businesses.

While the Company has one dual-standard 50 kW Fast Charger installed, the underlying electrical infrastructure was designed to support more. The strategic location of this site, its popularity, and the availability of excess capacity within the electrical infrastructure has made this site a top priority for the addition of a second charger, which is scheduled to take place in early 2025. The project, which was originally scheduled to be completed in 2024, experienced a delay due to needing a revised permit after a re-design. The second charger installed will be a Tritium RTM50.

In 2024, 61 percent of charging usage was initiated during the Mid-Day, 16 percent during the Off-Peak, and 23 percent during the On-Peak.

The Shops at Mauna Lani

The Shops at Mauna Lani Fast Charger is located at a resort shopping area along the Kohala coast and was intended to support EV drivers between Waimea and Kona, including those bound for the Kona Airport. The Shops at Mauna Lani Fast Charger, which was an Efacec QC50, had intermittent maintenance issues throughout 2021 and went out of service in October 2021. The Company repeatedly attempted to repair this charger but was not successful. The charger manufacturer discontinued this model and does not provide technical support for it. The Company had been in talks with the site host to replace this Fast Charger and was designing a relocation of the charger to bring it up to current ADA compliance. However, the effort was placed on hold once it became known that ownership of the property would be changing. Once the situation stabilizes, the Company plans to engage with the new site host on executing a new license agreement for the new Fast Charger. Until then, the current Fast Charger and associated infrastructure is set to be removed in early 2025.

Punalu'u Bake Shop

The Punalu'u Bake Shop Fast Charger in Na'ālehu opened to the public in March 2019. This location was selected to alleviate range anxiety and support EV adoption, since there are not any Fast Chargers on the south side of Hawai'i Island. A public Fast Charger in this area is important to provide residents and tourists the confidence to travel to destinations within and through the south side of Hawai'i Island.

In 2024, 82 percent of charging usage was initiated during the Mid-Day, 14 percent during the Off-Peak, and 4 percent during the On-Peak. This directly correlates with access to the charger being limited to the business's open-gate hours of 3:30am to 5:15pm.

Puna Kai Shopping Center

The Puna Kai Shopping Center Fast Charger in Pahoa opened to the public in August 2020. This location is intended to alleviate range anxiety and support EV adoption on Hawai'i Island.

In 2024, 70 percent of charging usage was initiated during the Mid-Day, 12 percent during the Off-Peak, and 18 percent during the On-Peak.

EV-U Utilization in Maui County

In 2024, annual energy dispensed at Maui County EV-U Fast Chargers totaled 31,304 kWh which represents 1 percent of the charging usage in the EV-U pilot program. This is a 3 percent, or 12,564 kWh decrease from the year prior. The monthly utilization by time of use for all EV-U Fast Charger meter accounts in Maui County is shown by number of sessions in Figure 17 and by energy dispensed in Figure 18.

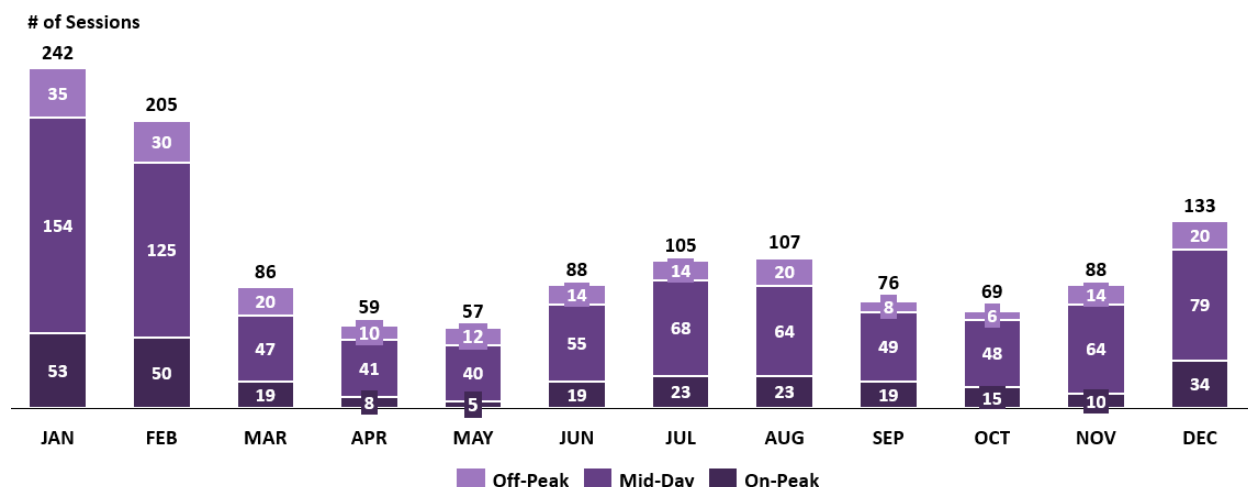


Figure 17: Monthly Number of Sessions by TOU for Maui County EV-U Fast Charger Metered Accounts

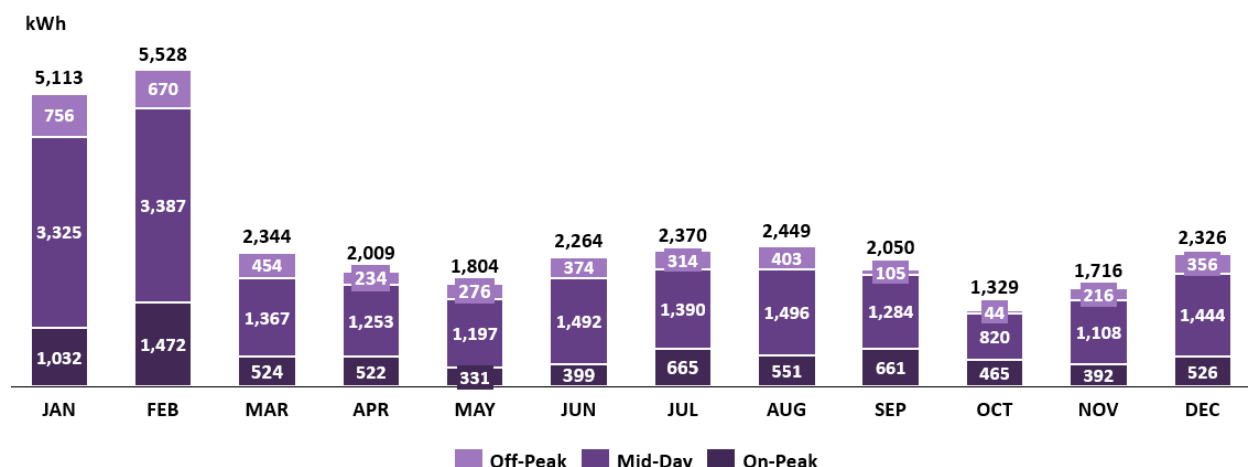


Figure 18: Monthly Energy Dispensed (kWh) by TOU for Maui County EV-U Fast Charger Metered Accounts

The overall utilization for individual meter accounts in Maui County under EV-U is shown by number of sessions in Figure 19 and by energy dispensed in Figure 20. The meter accounts are listed in chronological order based on when they were first made available to the public.

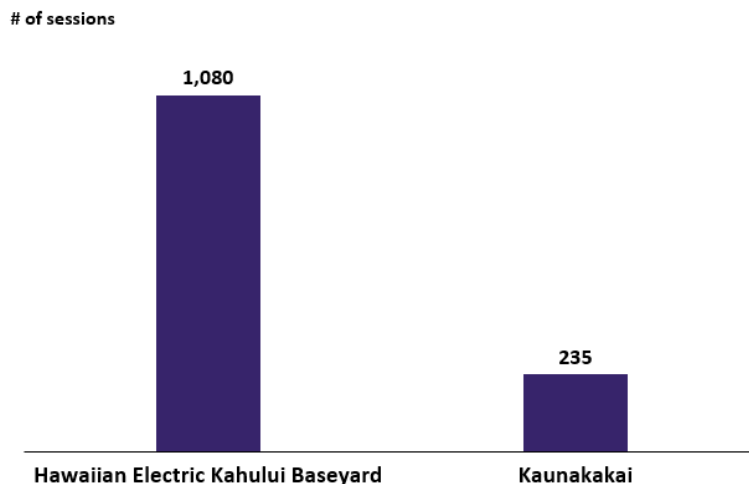


Figure 19: Number of Sessions by Maui County EV-U Fast Charger Meter Accounts

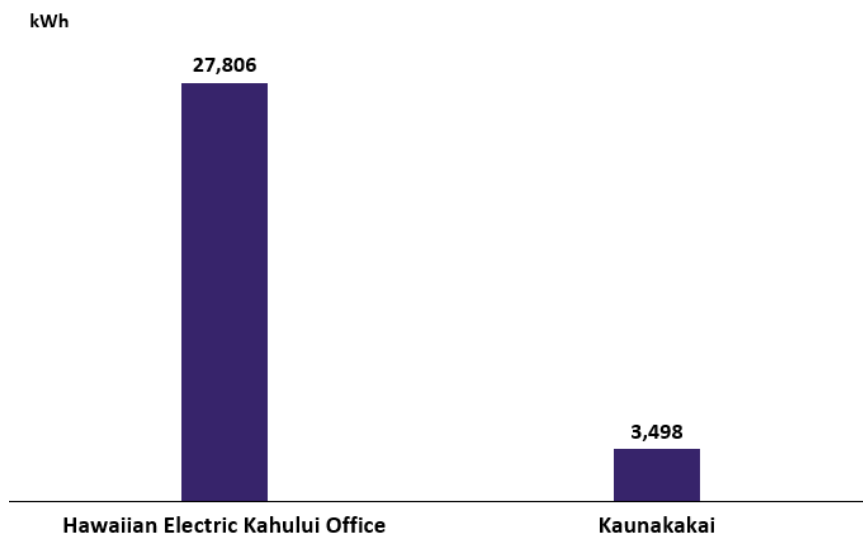


Figure 20: Energy Dispersed by Maui County EV-U Fast Charger Meter Accounts

Figure 21 provides a summary of key metrics for all EV-U Fast Charger meter accounts in Maui County, with TOU period utilization calculated using energy dispensed (kWh) data for charging sessions initiated within the specified period. Following the table are individual discussions on the context and status of each EV-U meter account.

	% Utilization			Avg Energy/Session (kWh)			Avg Revenue/Session (\$)			Avg Time/Session (min)		
	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak
Hawaiian Electric Kahului Baseyard	14%	63%	23%	23	26	26	\$ 13.56	\$ 12.92	\$ 16.32	36	37	37
Kaunakakai	8%	60%	31%	10	12	33	\$ 6.22	\$ 6.64	\$ 21.85	20	24	21

Figure 21: Summary of Key Metrics for Maui County EV-U Fast Charger Meter Accounts³⁵

Hawaiian Electric Kahului Baseyard

The Fast Charger at the Company's Kahului Headquarters is near shopping centers and restaurants. It is also near the Company's Queen Ka'ahumanu Fast Charger, which is under the EV-MAUI tariff.

The utilization of the Hawaiian Electric Kahului Baseyard Fast Charger decreased significantly from the year prior. Historically, the utilization at this location has been impacted by the closeness of the EV-MAUI Fast Charger at Queen Ka'ahumanu Center, given that EV-MAUI rates are lower than EV-U. In 2024, the first of the Hawaii Department of Transportation's (HDOT) National Electric Vehicle Infrastructure (NEVI) funded sites opened on Maui in February. These Fast Chargers offer 150 kW charging which is three times as fast as the Company's 50 kW chargers and at cheaper rates, likely a significant reason for the decrease of utilization at this location and other Company owned Fast Chargers on Maui.

Additionally in 2024, the Hawaiian Electric Kahului Baseyard Fast Charger faced network related issues up until it was migrated to the OpConnect network in May. Furthermore, from February through May, CHAdeMO cable functionality was limited due to a faulty cable. The CHAdeMO cable was replaced at the end of May after receiving a year-long delayed parts shipment from Efacec.

In 2024, 63 percent of its charging usage was initiated during the Mid-Day, 14 percent during the Off-Peak, and 23 percent during the On-Peak.

Kaunakakai

In 2018, the Company installed a Fast Charger on Ala Malama Avenue in Kaunakakai, fronting restaurants and retail shops. This Fast Charger is the only public EV charger on Moloka'i and is centrally located to provide fast charging service to those driving to and from Kaunakakai, the main location of commerce on the island. This Fast Charger has the lowest utilization of all Company owned Fast Chargers. The most probable reason for this may be that the EV drivers on Moloka'i needing to charge have older model EVs with a smaller or age-induced limited battery capacity. Also, most of the population on Moloka'i resides near the charger, making driving distances relatively short. This Fast Charger also saw a decrease in utilization from the year prior. Prior to migrating this station to the OpConnect network at the end of February, this station previously suffered network related issues, often during peak utilization hours. Combined with the low number of EV drivers on this island, it can be deduced that the charger's compromised reputation could be a factor in the reduced number of sessions.

³⁵ Due to rounding of percentages to the nearest whole number, the sum for each charger will not always equal 100 percent.

In 2024, 60 percent of charging usage was initiated during the Mid-Day, 8 percent during the Off-Peak, and 31 percent during the On-Peak.

Analysis of EV-U Rate

Figure 22 provides aggregate EV-U energy dispensed by service area and TOU period.³⁶ As shown below, the Mid-Day period, which has the lowest energy cost, continues to be the most utilized charging period in which charging usage was initiated.

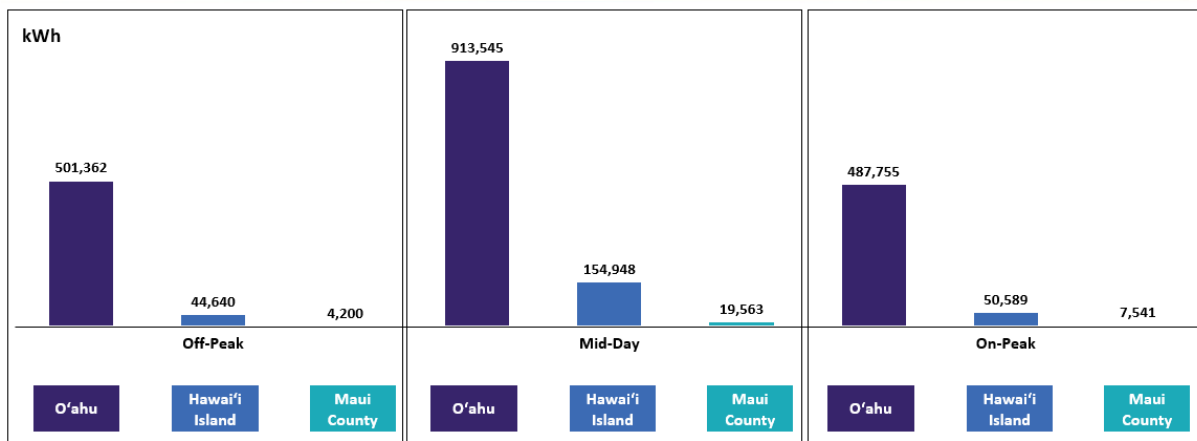


Figure 22: EV-U Energy Dispensed by Service Territory and TOU Period

Figure 23 shows the percent share of charging energy dispensed by service area and TOU period, again indicating that the Mid-Day period is the most utilized, and in aggregate represents 50 percent of all energy dispensed at the EV-U chargers in 2024.

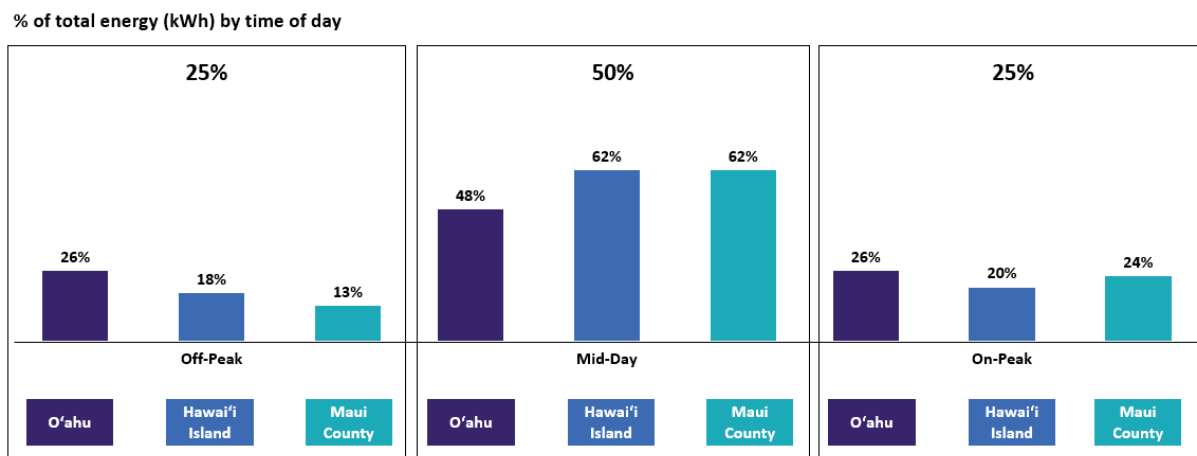


Figure 23: EV-U Share of Energy Dispensed by Service Area and TOU Period³⁷

³⁶ Off-Peak occurs from 10 p.m. to 9 a.m., Mid-Day occurs from 9 a.m. to 5 p.m., and On-Peak occurs from 5 p.m. to 10 p.m.

³⁷ Due to rounding of percentages to the nearest whole number, the sum will not always equal 100 percent.

Figure 24 shows the number of sessions by service area and TOU period. The majority of EV-U sessions for all service areas occurred during the Mid-Day period.

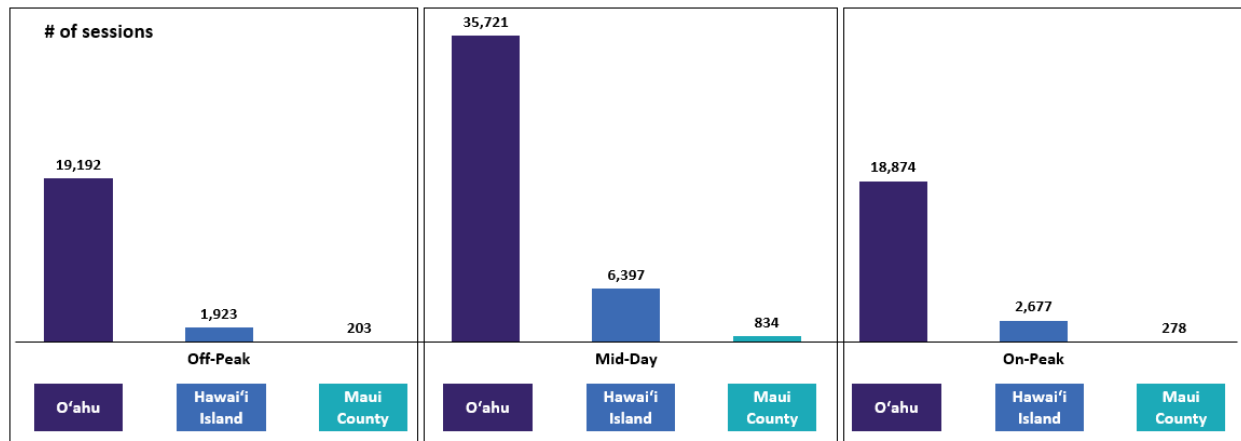


Figure 24: EV-U Sessions by Service Area and TOU Period

Figure 25 shows the percentage of sessions by service area and TOU period. The Mid-Day period is the most utilized by each service area and on aggregate is 50 percent of all EV-U charging sessions in 2024.

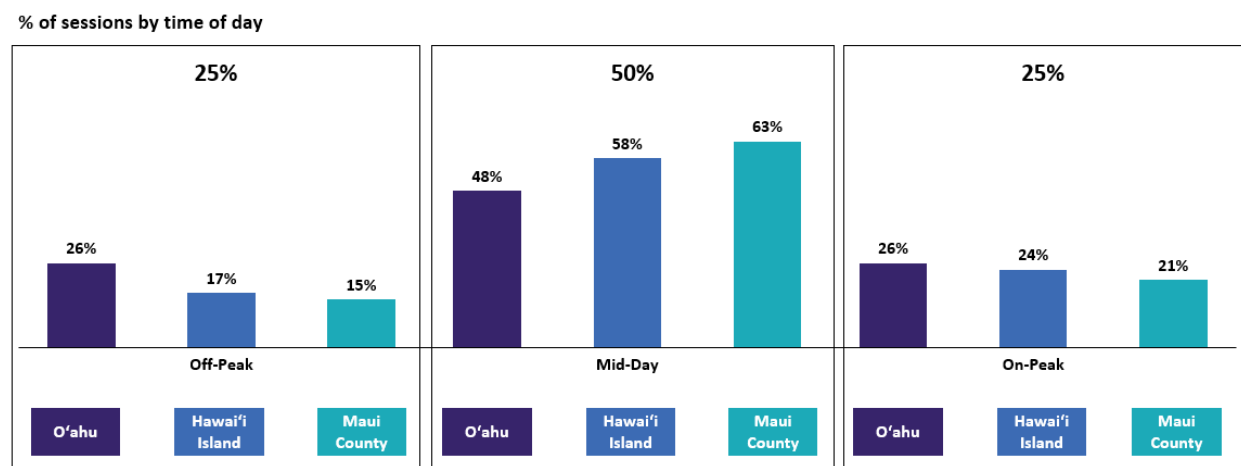


Figure 25: EV-U Share of Charging Sessions by Service Area and TOU Period³⁸

³⁸ Due to rounding of percentages to the nearest whole number, the sum will not always equal 100 percent.

Figure 26 shows the average time duration per session by service area and TOU period for all EV-U chargers.

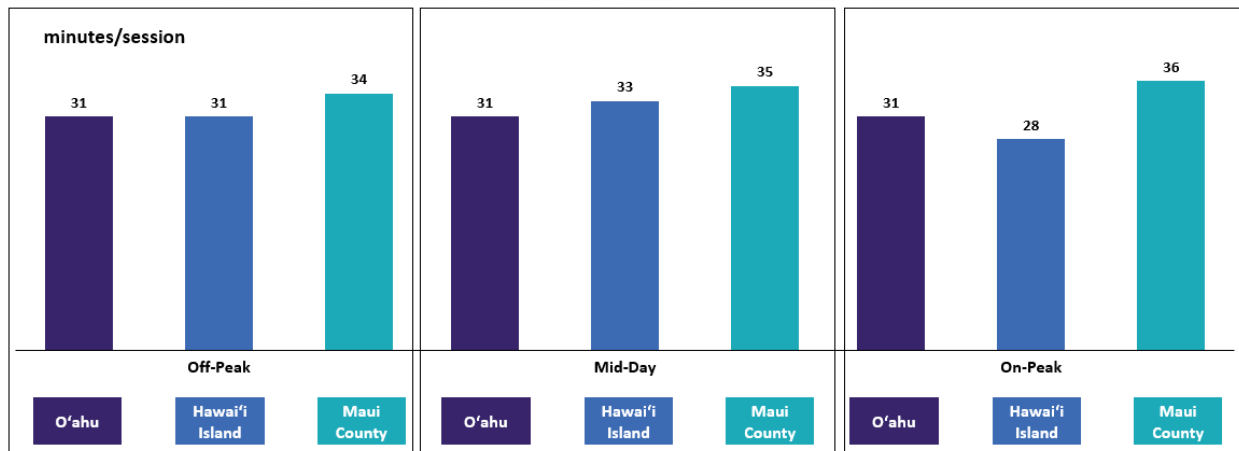


Figure 26: EV-U Average Time per Session by Service Area and TOU Period

Figure 27 illustrates the average energy dispensed per session by service area and TOU period for all EV-U chargers.

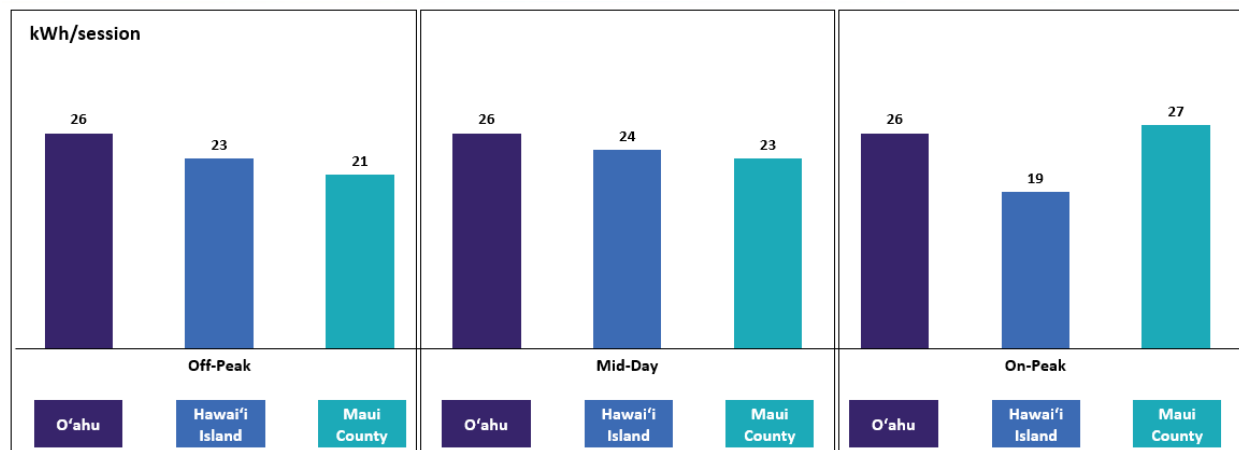


Figure 27: EV-U Average Energy Usage per Session by Service Area and TOU Period

Summary of Cost and Revenue³⁹

In D&O 34592, the Commission ordered the Company to provide “a discussion of how and to what extent the costs for each Fast Charger facility have been and/or are proposed to be recovered from

³⁹ Details of Revenues, Expenses, and Capital from inception of the program can be found in Appendix B.

ratepayers.”⁴⁰ The recovery of capital and operating and maintenance (“O&M”) costs for Company-owned and operated Fast Chargers is discussed herein.

Revenue and Operating and Maintenance Expenses

In the early stages of the EV-U/EV-F pilot program development, there were stakeholder concerns regarding the Company’s influence on the EV charging market and competitive fairness. As a result, the Company took steps to report O&M costs by reflecting incurred costs in a similar fashion to a third-party charger provider. In previous annual reports, the equivalent cost of electricity associated with charger use was included in the reported O&M costs per site. Since the Company does not report electricity sales to itself, the Company had previously provided a manual calculation showing the equivalent cost of electricity by creating a “faux bill” (i.e., billing the Company and then reversing the charge). Providing this calculation was a time-consuming and administratively burdensome process that was not a reporting requirement for the pilot program.⁴¹ Starting in 2022, the company discontinued the faux billing process, which calculated and tracked the cost of electrical service associated with charging dispensed. As such, the equivalent cost of electrical service is not included in this report.

Figure 28 illustrates the revenue⁴² and expenses for each service area in 2024. Reported revenues consist of gross revenue generated at the Fast Chargers. Reported expenses include costs for charger repair and maintenance, program overhead, network license fees, and transaction fees.

2024 Actuals:	Program Costs, January - December 2024			
	O’ahu	Hawai’i	Maui County	Total
Revenue	\$ (1,020,081)	\$ (136,573)	\$ (16,787)	\$ (1,173,441)
Total O&M Expenses	\$ 509,546	\$ 107,456	\$ 71,438	\$ 688,439

Figure 28: EV-U Summary of Revenue and O&M Expenses for 2024

For further details regarding revenue and expenses for 2024 and the program, see Appendix B.

Capital and Removal Costs

Figure 29 provides the capital and removal costs (in aggregate) of each EV-U Fast Charger meter account as they were chronologically placed in operation.⁴³ Average total capital and removal cost for the

⁴⁰ D&O 34592 at 68.

⁴¹ D&O 31338, filed July 1, 2013, at 41.

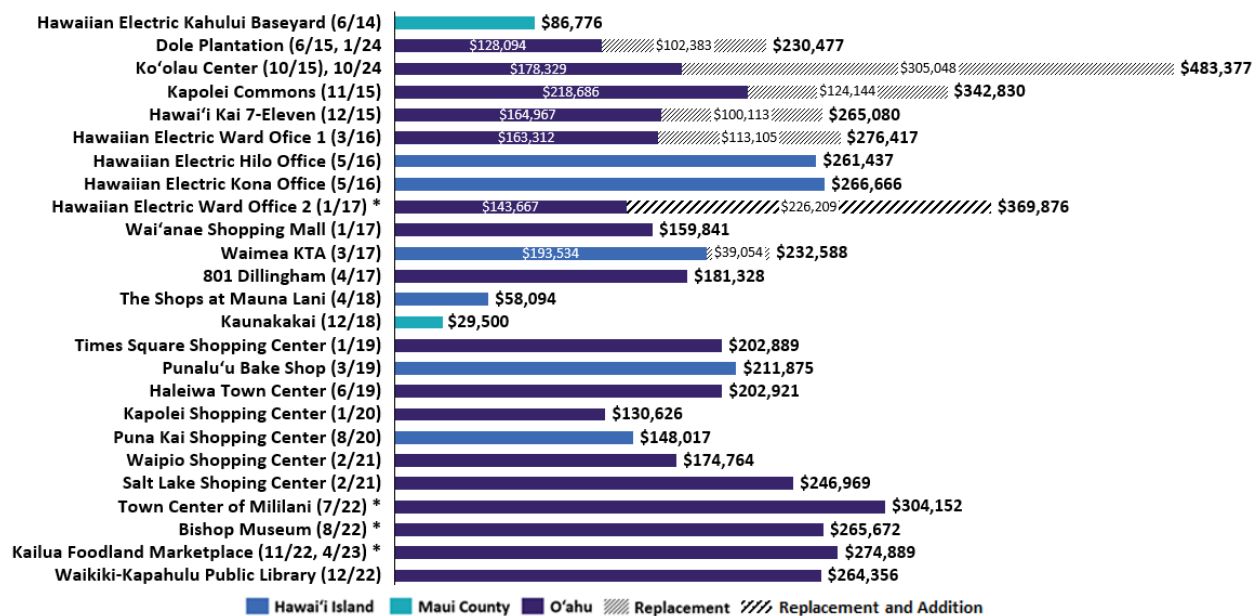
⁴² On a monthly basis, the Company undergoes a reconciliation process to assess net revenue owed by the Fast Charger network providers who collect payment from customers. The network provider submits a monthly report of session data including energy usage, billed amounts, and transaction fees. The Company then validates the data to determine actual amounts of revenue and fees. Accounting requires monthly data to be provided by the first business day following each month, so to meet such requirements, estimated monthly revenue and transaction fees based upon the previous month’s usage are accrued and then adjusted the following month when actuals are available.

⁴³ The figure provided in this report reflects changes made to amounts reported in the 2023 annual report. Hawaii Kai 7-Eleven project cost was updated to include straggling costs. A correction to Kapolei Commons was made to the amounts allocated for the original and replacement charger projects.

Company is \$226,857 per installed EV-U meter account. This amount is reflective of some meter accounts having two Fast Chargers and some having incurred costs for charger replacement. The average total capital and removal cost after factoring in Contribution In Aid of Construction (“CIAC”) is \$220,317 per meter account.⁴⁴ While the Company makes every effort to minimize construction costs, the overall development costs vary based upon the site’s location, the availability of existing electrical infrastructure, the condition of existing parking spaces, and the site host’s desired location on their property.

The following Capital projects were completed in 2024:

- In January 2024, the Company replaced the Dole Plantation Fast Charger.
- In July 2024, the Company replaced Hawaiian Electric Ward Office 1 and 2 Fast Chargers and installed one additional Fast Charger under the existing meter account for Ward 2. It is important to note that since all the work at this location essentially constituted one project, the cost allocation between the meter accounts shown in Figure 29 is not exact.
- In October 2024, the Company completed the relocation and installation of the new Fast Charger at Koolau.



* Metered account has two Fast Chargers

Figure 29: Capital and Removal Cost Associated with In-Service EV-U Fast Charger Meter Accounts in Chronological Order of Operational Date (Mo/Yr)⁴⁵

⁴⁴ A CIAC of \$163,486 was provided by Electric Research Power Institute (“EPRI”) for the original battery-tied experimental Fast Charger at Kapolei Commons.

⁴⁵ The cost shown does not include the offset of a \$163,486 CIAC from EPRI for the original battery-tied experimental charger. With CIAC considered, the net total cost is \$179,344.

Subsidization by non-participating customers

A key consideration in developing EV rates and programs is to reduce barriers to the adoption of EVs for customers. Because the EV market is still below 15 percent market share in Hawai’i and transportation decarbonization is a State policy goal, it is prudent at this time to provide a rate that will support the acceleration of EV adoption. The revenues collected by the incremental load of EV charging contributes to the costs to install, own, operate, and maintain the Company’s public charging network and support the State’s transition to cleaner transportation. Some degree of subsidy is necessary to support EV adoption and such subsidy can be considered for future reduction or elimination as EV adoption and charging availability hits critical mass. As identified in the Roadmap, the Company anticipates that the electrification of transportation will provide long-term economic benefits for the Company’s customers, as increased energy demanded by EV drivers to charge their vehicles creates net benefits for all the Company’s customers – not just for EV drivers. This is because as EV drivers demand more energy, the utility’s fixed costs for generating and distributing energy are spread across more kWh units, lowering the effective cost per kWh, and thereby creating net benefits for all customers.

Figure 30 summarizes the total annual revenue from Schedule EV-U compared to the potential revenue from Schedule J. This illustrates that the total EV-U earned revenue is 120 percent of the potential Schedule J⁴⁶ revenue for 2024.⁴⁷

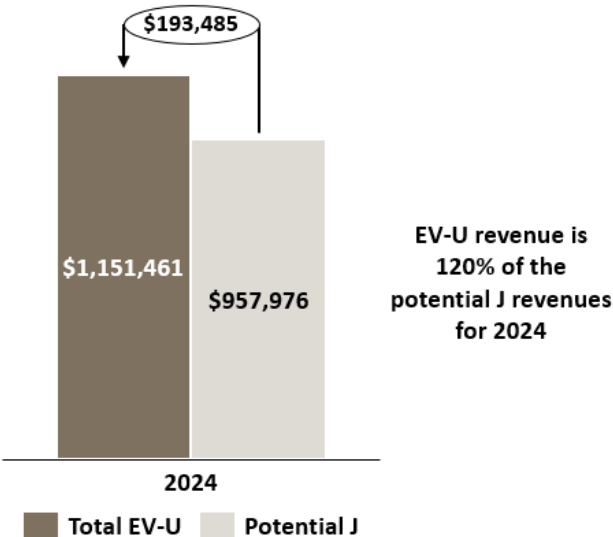


Figure 30: Difference Between Potential Schedule J and Actual EV-U Revenue for 2024

⁴⁶ The potential Schedule J revenues were based upon the reported monthly kWh energy provided to charge EVs under Schedule EV-U and an assumed 47.5 kW billing demand for one charger, 95 kW for a meter with two chargers. A typical EV will fast charge at power up to 50 kW but will reduce power as the battery state of charge increases.

⁴⁷ Earned revenue of \$1,151,461 differs from recorded revenue of \$1,173,441 due to accrual of estimates based on prior month usage which is done to meet accounting deadlines and results in a one-month lag from actuals.

Schedule EV-MAUI Tariff

EV-MAUI Fast Charger Utilization

The Company took over operation of four Fast Charger sites on the island of Maui which were placed under the EV-MAUI tariff. In August 2023, the EV-MAUI Fast Charger at the Lahaina Aquatic Center was damaged in the Lahaina wildfire and taken offline.

In 2024, the EV-MAUI Fast Chargers dispensed a total of 184,050 kWh, which represents a 3.5 percent decrease from the prior year.⁴⁸ This decrease can be attributable to the loss of the Lahaina Fast Charger, challenges with the Fast Charger at the Queen Ka‘ahumanu site, as well as the opening of the Kahului HDOT NEVI site in February 2024. The NEVI Fast Chargers are three times faster than the EV-MAUI Fast Chargers, at a higher cost, with four available ports at the location (EV-MAUI Fast Chargers offer one port).

The monthly utilization for the EV-MAUI sites is shown by number of sessions in Figure 34 and by energy dispensed in Figure 35.

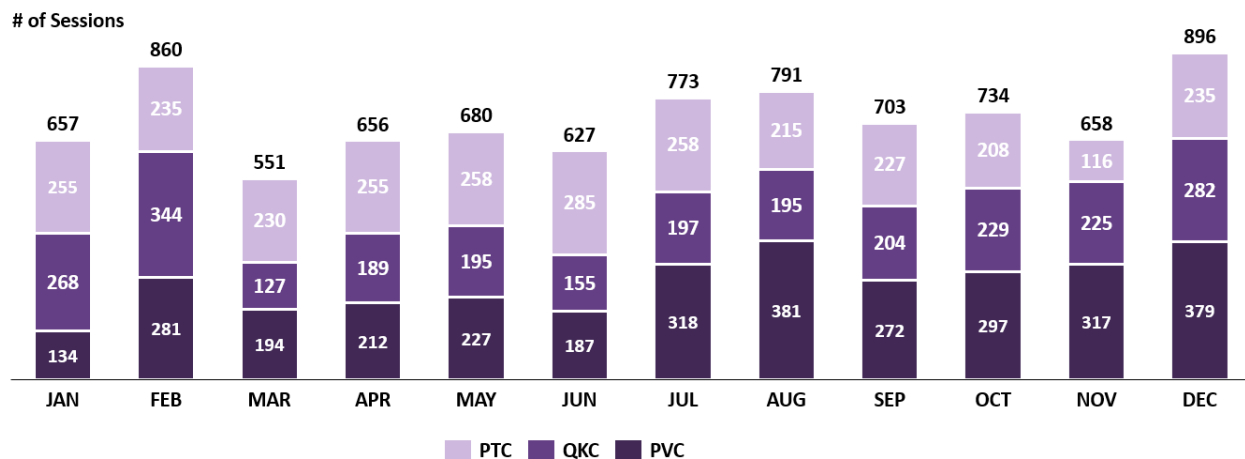


Figure 34: Monthly Number of Sessions by EV-MAUI Fast Charger Metered Accounts

⁴⁸ 2023 EV-MAUI utilization: 190,787 kWh

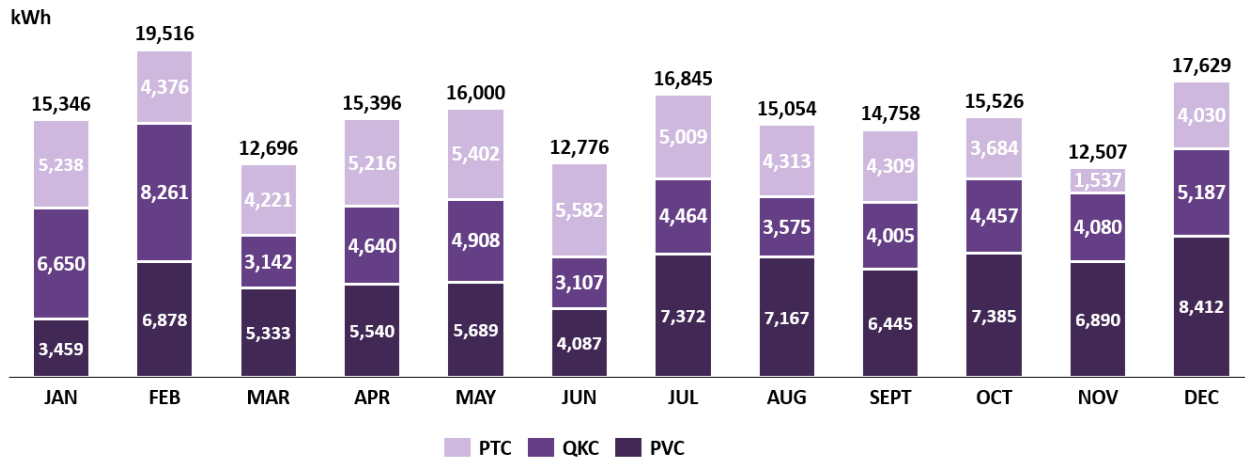


Figure 35: Monthly Energy Dispersed (kWh) for EV-MAUI Fast Charger Metered Accounts

Market research from two surveys, analysis of historic utilization data, geographic diversity, and the Company's Backbone Study were some of the criteria used in the selection of sites.⁴⁹ As shown in the usage summaries for each metered account, most of the charging is initiated during the Mid-Day period. This may be mostly attributed to the large price difference between the On and Off-Peak periods and the lowest cost Mid-Day period. The TOU pricing per kWh for the EV-MAUI tariff is as shown below:

Off-Peak (10 p.m. to 9 a.m.)	Energy Charge - per kWh	38.3412 cents
Mid-Day (9 a.m. to 5 p.m.)	Energy Charge - per kWh	28.3412 cents
On-Peak (5 p.m. to 10 p.m.)	Energy Charge - per kWh	40.3412 cents

The start time of the charging session determines the applicable time-of-use period.

Figure 36 provides a summary of key metrics for EV-MAUI Fast Charger metered accounts, with TOU period utilization calculated using energy dispensed (kWh) data for charging sessions initiated within the specified period. The metered accounts are listed in chronological order based on when they were made available to the public. Following the table are individual discussions on the context and status of each EV charger metered account.

	% Utilization			Avg Energy/Session (kWh)			Avg Revenue/Session (\$)			Avg Time/Session (min)		
	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak	Off-Peak	Mid-Day	On-Peak
Pukulani Terrace Shopping Center	15%	65%	20%	22	19	19	\$ 8.44	\$ 5.23	\$ 7.65	29	27	26
Queen Ka'ahumanu Center	16%	63%	21%	16	24	21	\$ 6.23	\$ 6.72	\$ 8.52	32	32	32
Lahaina Aquatic Center *	0%	0%	0%	0	0	0	\$ -	\$ -	\$ -	0	0	0
Pi'ilani Village Shopping Center	24%	52%	24%	23	23	24	\$ 8.70	\$ 6.62	\$ 9.57	29	32	32

* LAC Fast Charger went out of service in August 2023.

Figure 36: Summary of Key Metrics for EV-MAUI Fast Charger Metered Accounts⁵⁰

⁴⁹ Revised Schedule EV-MAUI Tariff, Exhibit 2 at 14, footnote 37.

⁵⁰ Due to rounding of percentages to the nearest whole number, the sum for each charger will not always equal 100 percent.

Pukalani Terrace Shopping Center (PTC)

The PTC Fast Charger became available to the public on August 18, 2020. PTC is in Upcountry Maui and serves the areas of Pukalani, Makawao, and Kula. It is accessible 24 hours per day, seven days per week, although most of the nearby businesses' hours align with the Mid-Day period.

In 2024, 65 percent of charging usage was initiated during the Mid-Day, 15 percent during the Off-Peak, and 20 percent during the On-Peak.

Queen Ka'ahumanu Center (QKC)

The QKC Fast Charger became available to the public on December 9, 2020. QKC is in Central Maui and serves the Kahului area; it is accessible 24 hours per day, seven days per week. It is also next to the Hawaiian Electric Kahului Baseyard Fast Charger.

In 2024, this station saw an increase in internal fuse failures resulting in station inoperability. This condition was resolved by upgrading the fuses to a later model. In addition, a higher presence of reptile infestation caused internal cooling and electronic components to have limited functionality. Resolution is ongoing with efforts to seal the station with manufacturer approved methods. This station also suffered vandalism to the credit card reader which limited payment options until a new credit card reader was installed. These factors combined with the opening of the higher-powered NEVI site in close proximity resulted in a decrease in utilization from the year prior.

In 2024, 63 percent of charging usage was initiated during the Mid-Day, 16 percent during the Off--Peak, and 21 percent during the On-Peak.

Lahaina Aquatic Center (LAC)

The LAC Fast Charger became available to the public on December 17, 2020. The LAC Fast Charger was damaged in the August 2023 wildfire and subsequently removed in 2024. When appropriate, the Company plans to replace this charger.

Prior to the wildfire, this Fast Charger provided critical access to fast charging to the West Maui community, as well as drivers traveling in this area. There were several times a year when the two-lane highway was shut down for hours due to reasons including vehicular accidents and other blockages, limiting access to other chargers. For EV drivers in West Maui, this site was their only public Fast Charger option within 20 miles. The LAC Fast Charger served the areas of Lahaina, Kahana, Napili, and Kapalua.

Pi'ilani Village Shopping Center (PVC)

The PVC Fast Charger became available to the public on December 17, 2020. PVC is the only Fast Charger site open to the public in South Maui and serves the areas of Kihei and Wailea; it is accessible 24 hours per day, seven days per week. It is located at a large hub for shopping and restaurants.

In 2024, the PVC Fast Charger was the most utilized EV-MAUI charger. Moreover, 52 percent of charging usage was initiated during the Mid-Day, 24 percent during the Off-Peak, and 24 percent during the On-Peak.

Analysis of EV-MAUI Rate

Figure 37 provides aggregate energy dispensed by TOU period. As shown below, the Mid-Day period continues to be the most utilized charging period which is in-line with the lowest charging rates.

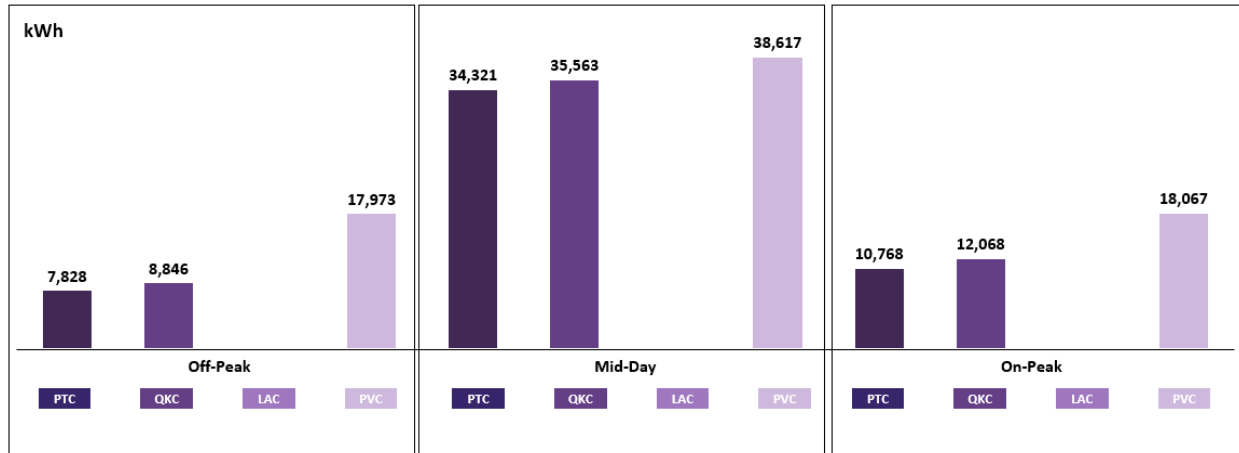


Figure 37: Aggregate Energy Dispensed by Site and TOU Period for EV-MAUI Metered Accounts

Figure 38 shows the percent share of energy dispensed for each site by TOU period. The Mid-Day period is the most utilized by each utility and on aggregate is 59 percent of all energy consumed in 2024 under Schedule EV-MAUI.

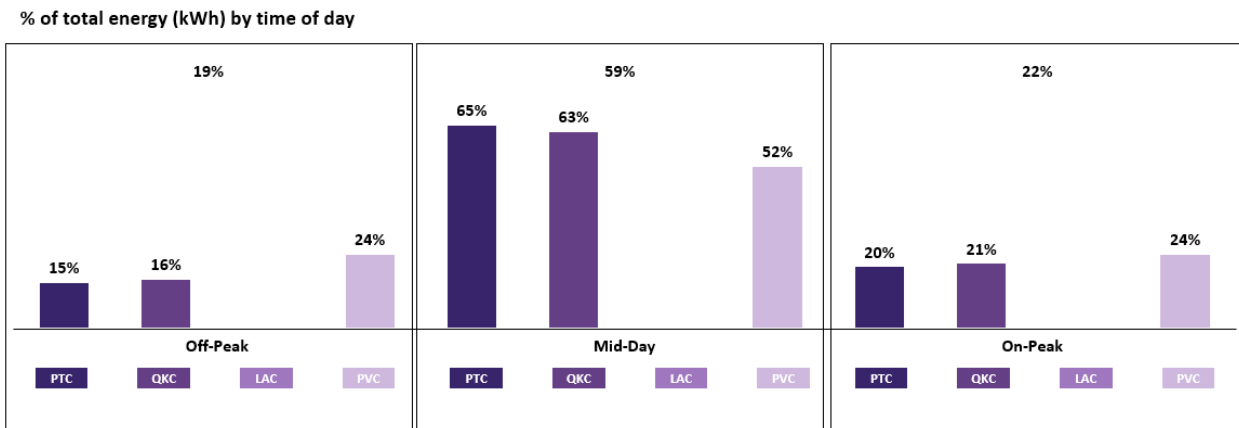


Figure 38: Percent of Energy Consumed by Site and TOU Period for EV-MAUI Metered Accounts⁵¹

⁵¹ Due to rounding of percentages to the nearest whole number, the sum will not always equal 100 percent.

Revenue and Operating and Maintenance Expenses

As mentioned in the EV-U section, the Company has discontinued the faux billing process, which calculated and tracked the cost of electrical service associated with charging dispensed. As such, the equivalent cost of electrical service is no longer included in this report.

Figure 29 illustrates the revenue⁵² and expenses for EV-MAUI in 2024.

2024 Actuals:	Program Costs, January - December 2024
Revenue	<u>\$ (59,558)</u>
Expenses	<u>\$ 60,821</u>

Figure 29: 2024 Annual Revenue and O&M Expenses for EV-MAUI Meter Accounts

For further details regarding revenue and expenses for 2024 and the program, see Appendix D.

Deferred Operating and Maintenance Expenses

The following O&M items were requested for deferral in Maui Electric’s *Application for Approval to Establish Schedule EV-MAUI Electric Vehicle Fast Charging Service and Related Accounting Treatment*, filed on December 21, 2018, and in response to PUC-MECO-IR-103, filed on October 30, 2019, in Docket No. 2018-0422:

- 1. Fixed annual O&M for year:
 - a. Networking Plan
 - b. Extended Warranty
 - c. Routine Maintenance
 - d. Unplanned Repair
 - e. Tax rate of 4.712%
- 2. Variable annual O&M:
 - a. Transaction Fees

In D&O 36229, the Commission approved Maui Electric’s request for deferred accounting treatment for the actual O&M expenses incurred before Maui Electric’s next interim or final decision and order in

⁵² On a monthly basis, the Company undergoes a reconciliation process to assess net revenue owed by the Fast Charger network providers who collect payment from customers. The network provider submits a monthly report of session data including energy usage, billed amounts, and transaction fees. The Company then validates the data to determine actual amounts of revenue and fees. Accounting requires monthly data to be provided by the first business day following each month, so to meet such requirements, estimated monthly revenue and transaction fees based upon the previous month’s usage are accrued and then adjusted the following month when actuals are available.

Maui Electric's next rate case with a cap of \$180,000.⁵³ The Commission conditioned its approval of Maui Electric's request for deferred accounting treatment upon implementation of a Shared Savings Mechanism ("SSM") and noted its expectation that this SSM will incentivize Maui Electric to control costs and maximize revenues for the benefit of Maui Electric and its customers.⁵⁴

Total deferred O&M expenses for 2024 is \$16,316.

Summary of the Shared Savings Mechanism

In D&O 36229, the Commission conditioned its approval of Maui Electric's ("MECO") request for deferred accounting treatment upon implementation of an SSM.

In D&O 36943, the Commission approved MECO's proposed Revised Schedule EV-MAUI tariff as just, reasonable, and in the public interest provided implementation of the SSM.

The SSM is as follows:

For years 1 through 5, customers and MECO shall share in the net costs (i.e., the total expenses minus revenues), via the recording of a regulatory asset, related to MECO's ownership and operation of the chargers on stepped-down basis as follows:

Year 1: 100% customers - 0% MECO
Year 2: 80% customers - 20% MECO
Year 3: 60% customers - 40% MECO
Year 4: 50% customers - 50% MECO
Year 5: 0% customers - 100% MECO

To the extent revenues exceed costs in the first four years, Maui Electric may retain the entirety of any net revenues (i.e., the profit). However, in consideration of the significant potential customer contribution to net costs in years one through four, beginning in year five, if revenues generated by the chargers exceed the total expenses, thereby resulting in profit, such net revenues shall be shared between customers and Maui Electric as follows:

Year 5: 80% customers 20% MECO⁵⁵

Figure 40 shows graphically the SSM and the allocation of costs and revenues between Maui Electric and customers for the EV-MAUI program:

⁵³ See D&O 36229 at 33 ("For the purposes of the shared savings mechanism, annual O&M expenses shall be based on actual annual O&M expenses, capped at [Maui Electric]'s estimate of \$180,000."). $\$180,000/8 \text{ sites} = \$22,500 \text{ O\&M expense cap per site}$.

⁵⁴ See D&O 36229 at 30 ("The Commission expects that implementation of the shared savings mechanism will provide incentives for [Maui Electric] to control costs and maximize revenues, for the benefit of [Maui Electric] and [Maui Electric]'s customers.").

⁵⁵ D&O 36229 at 31.

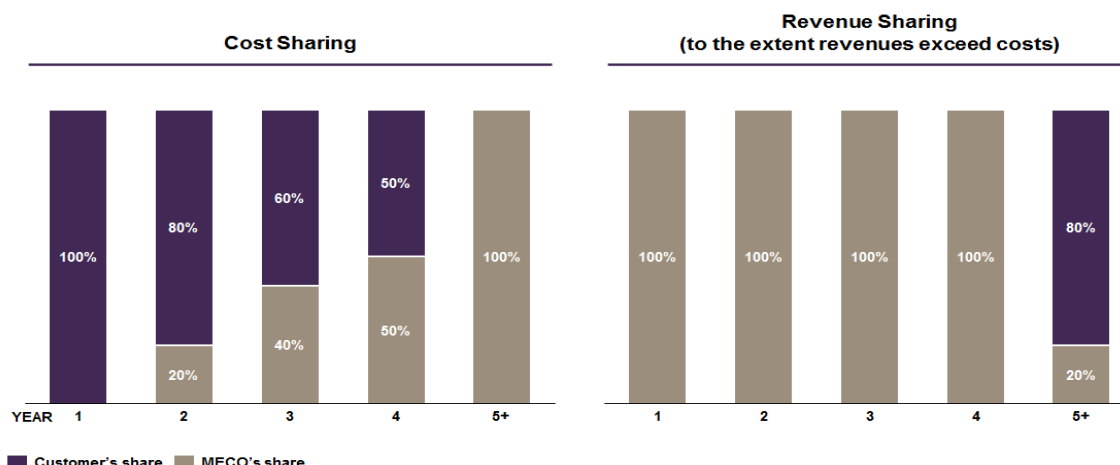


Figure 40: EV-MAUI Shared Savings Mechanism

Maui Electric's *Schedule EV-MAUI Tariff Annual Report* filed on March 31, 2021 in Docket No. 2018-0422 provided the EV-MAUI shared savings/cost mechanism calculation for each of the four EV-MAUI sites for Year 1 (calendar year 2020).⁵⁶ Since only Pukalani Terrace Center showed revenues that exceeded expenses in the first year, and Maui Electric is allowed to retain 100 percent of the profits in Year 1, there was no sharing of profits with the customers. For the other three sites (LAC, PVC and QKC), at the end of December 2020, project amounts had to be finalized to factor in straggling costs. As such, the allowed return calculation was based on preliminary project amounts and the preliminary calculation resulted in net cost with no offsetting revenues. The installation of the Fast Chargers at these three sites was completed late in December 2020 and no revenue/ incremental expense accrual was recorded as there was no reasonable basis available at that time to determine the accrual. While costs greater than profit in Year 1 (2020) can be 100 percent allocated to ratepayers, the amounts were deemed immaterial, and Maui Electric did not record a regulatory asset for the customers share of costs for Year 1 (2020).

Further, in Year 1 (2020), Maui Electric treated EV-MAUI revenues (other operating revenues) similar to EV-U revenues (other operating revenue) and thus included EV-MAUI revenues in adjusted revenues used in the calculation of its monthly RBA adjustment in accordance with D&O 31338 on Transmittal No. 13-07 (Schedules EV-U and EV-F).⁵⁷ As a result, Maui Electric's RBA balance as of December 31, 2020 was slightly understated by the amount of EV-MAUI revenues it had included in its RBA adjustment, to the benefit of the customers.

⁵⁶ The EV-MAUI SSM is calculated on a calendar year basis. The customer and company share of any cost/profit is calculated on a consolidated basis.

⁵⁷ See D&O 31338 issued on July 1, 2013 on Transmittal No. 13-07 *Application for Approval to Establish Schedule EV-F – Commercial Public Electric Vehicle Charging Facility Service Pilot, and Schedule EV-U – Commercial Public Electric Vehicle Charging Service Pilot* and Transmittal No. 13-08 *Application to Modify Tariff Rule 15 – Supply to Separate Premises and Resale of Electric Energy* (Consolidated) at 25. As noted in D&O 31338, "all customers will benefit from any kWh sales under these rates" when other operating revenues, such as EV-U revenue, are included in adjusted revenue used for the determination of RBA adjustment.

In Year 2 (2021), Maui Electric recognized that the treatment of EV-MAUI revenues should have conformed with the Commission's conditioned approval of Maui Electric's request for deferred accounting treatment upon implementation of the SSM.⁵⁸ Therefore, beginning in Year 2 (2021), the Company included EV-MAUI revenues in the SSM calculation as ordered in D&O 36229 and excluded EV-MAUI revenues from the determination of the monthly RBA adjustment to properly evaluate the performance of the EV-MAUI operation and share the O&M expenses, capital expenditures, and electric vehicle charging revenues between Maui Electric and its customers through the EV-MAUI SSM.⁵⁹

In Year 2 (2021), Year 3 (2022), and Year 4 (2023), for purposes of the SSM, EV-MAUI total consolidated revenues exceeded consolidated costs by approximately \$13,500, \$24,400, and \$21,400, respectively. As Maui Electric is allowed to retain 100 percent of the profits in Years 2 through 4, there was no sharing of these net consolidated profits with customers. Therefore, there was no recording of a regulatory liability for Years 2 through 4.

2024 was Year 5 of the SSM, the first year in which Maui Electric is to share 80% of net revenues with the customers. Total consolidated revenues exceeded costs by \$20,347, therefore the customer's share is \$16,278. The Company recorded removal costs for the Lahaina Aquatic Center Fast Charger, which was damaged in the August 2023 wildfire, in the amount of \$8,640. To the benefit of the customer, this cost was not included in the SSM calculation.

Appendix E to this Annual Report is an excerpt from the Revised Schedule EV-MAUI Tariff⁶⁰ that contains the details of the financial model for the four sites, including the consolidated revenue sharing mechanism, bill impact and assumptions used for each site selected. Appendix F to this report includes the actual 2024 Shared Savings/Cost Mechanism Accounting Sheets for each of the four EV-MAUI sites.⁶¹

Capital Costs

Figure 41 provides the historical capital costs of each EV-MAUI Fast Charger meter account installation. Utilizing the previous EVohana sites greatly reduced installation time and electrical infrastructure costs. Each site took approximately three days to remove the former EVohana chargers, install the new charger, and commission the new charger for public use. Average capital cost for EV-MAUI was \$71,481 per metered account. The EV-MAUI chargers did not require engineering and infrastructure development to the same extent as a "green" site where no existing Fast Charger compatible service exists.

⁵⁸ See D&O 36229 at 30 and D&O 36943 Ordering Paragraph 2 at 34.

⁵⁹ See D&O 36229 at 17.

⁶⁰ See Revised Schedule EV-MAUI Tariff, Attachment C at 1.

⁶¹ Transmittal 22-01 *Notice to Update Target Revenue through the Major Project Interim Recovery Adjustment Mechanism and Calculation of 2021 Performance Incentive Mechanism and Shared Savings Mechanism Financial Incentives* filed on February 25, 2022, reported SSM data (MECO-WP-E-008) that had excluded some deferred overheads that should have been included in calculations contributing to the Allowed Return on Chargers line item. The impact is minimal and is properly reflected in the SSM accounting sheets included as appendices to this report.

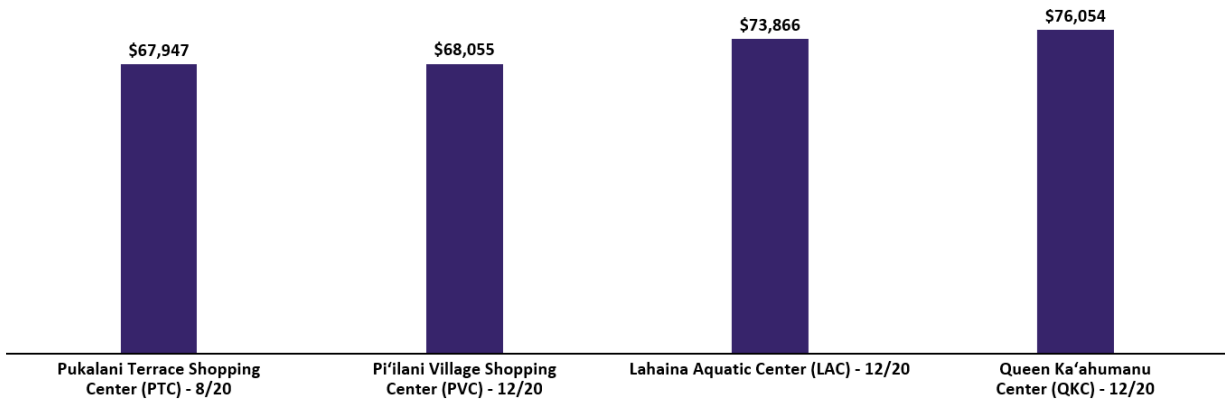


Figure 41: Associated Capital Cost for EV-MAUI Fast Charger Metered Accounts in Chronological Order of Operational Date (Mo/Yr)

In 2024, the Lahaina Aquatic Center Fast Charger was removed after being damaged in the August 2023 wildfire. Removal costs of \$8,640 were recorded and as mentioned above, not included in the SSM calculation to the benefit of the customer.

Recommendation of Revisions to Rate Structures

On December 30, 2021, the Commission approved the Company's *Application For Approval to Establish Electric Vehicle Tariffs for Schedule EV-J – Electric Vehicle Charging Service – Demand and Schedule EV-P – Electric Vehicle Charging Service – Large Demand, on a Pilot Basis*, a request for time-of-use commercial rates that provide lower prices for energy during the Mid-Day and demand charges lower than existing commercial electric rates.⁶² The effective date of these new rates, March 18, 2022, officially closed Schedule EV-F to new enrollment on O'ahu, Hawai'i Island and Maui. Schedules EV-J and EV-P became effective on August 1, 2022 for the islands of Lāna'i and Moloka'i, where enrollment in Schedule EV-F closed to new customers on July 31, 2022. Schedule EV-F was then discontinued for all enrolled accounts effective July 1, 2023.

On October 29, 2021, the Company filed its application for approval of its *Public Electric Vehicle Charger Expansion Project* in Docket No. 2021-0173⁶³ which requested a dramatic expansion of public charging offerings and a suite of changes to the existing public charging programs. This application proposed, among other things, revised EV-U tariffs designed to be roughly cost-competitive with gasoline and which encourage charging during the middle of the day when solar is abundant. Revisions included the removal of charging O&M costs and network fees from the EV-U rate design itself, and an update of the underlying basis of the rate to be the proposed EV-J rate for each Company.⁶⁴ The application also proposed to terminate Schedule EV-MAUI rate and have existing EV-MAUI meters included under the

⁶² See D&O 38157.

⁶³ Hawaiian Electric's Application for approval to commit funds in excess of \$2,500,000 for the Public Electric Vehicle Charger Expansion Project, to Recover the Capital and Operations and Maintenance Expenses Costs through the Exceptional Project Recovery Mechanism, and Related Requests, filed on October 29, 2021 in Docket No. 2021-0173 ("2021-0173 Application").

⁶⁴ 2021-0173 Application at 31.

revised Schedule EV-U rate for Maui Island when the revised Schedule EV-U takes effect. The Company contends that having a uniform rate offering for public charging at Company owned sites will improve customer experience, improve internal administrative efficiency, and increase utilization of all Company Fast Chargers on the island of Maui.⁶⁵ The Company also proposed to continue the SSM for the four existing EV-MAUI chargers until the end of their useful life, or until they are replaced if prior to the end of their useful life. Once those chargers are replaced, the Company proposed that the replacement chargers will no longer be subject to the SSM.⁶⁶

Furthermore, the Company is interested in implementing idle fees for EV drivers who remain plugged-in to a charger well after finishing their charging session. Idle fees are used in the public EV charging industry⁶⁷ to incentivize drivers to move their vehicle, thereby increasing access for other drivers. The Company plans to introduce idle fees as a proposed revision to the EV-U tariff in the future.

Customer Engagement and Outreach

As outlined in the Company's Roadmap and Roadmap 2.0, customer engagement and outreach is foundational and paramount to the success of the electrification of transportation in Hawai'i. At the time of writing the Roadmap, the Company discovered that there was limited awareness, understanding, and enthusiasm for EVs among fleet operators, auto dealerships, and the public.⁶⁸ By working with partners⁶⁹ who share clean transportation objectives and who are willing to contribute their knowledge and expertise, the Company has leveraged the unique abilities of each partner and is hopeful that partners will continue to contribute financial and/or in-kind resources to this effort. Ultimately, the extent of the Company's action needed on outreach and education will depend on the ability of partners to assist.

In 2024, the Company contributed to the EV-U, EV-F, and EV-MAUI program education and outreach effort in the following ways:

- Kept the Company's EV related webpages updated as a go-to resource for many customers seeking information about the Company's Fast Chargers, including location, operation status (i.e., in-service or out-of-service), applicable rates, and upgrade project status.
 - In November, the Company posted a new EV Facts and Myths Resource
- Press and social media alerts which announced the opening of new and upgraded Fast Chargers
- Distributed quarterly e-newsletter to customers and key stakeholders occasionally highlighting public charging information and updates.
- Continued to facilitate ongoing Drive Electric Hawaii meetings to increase knowledge sharing across many stakeholder groups

⁶⁵ 2021-0173 Application at 32.

⁶⁶ 2021-0173 Application at 32-33.

⁶⁷ Idle fees are used by EV charging operators such as Tesla, Electrify America, Blink, and others.

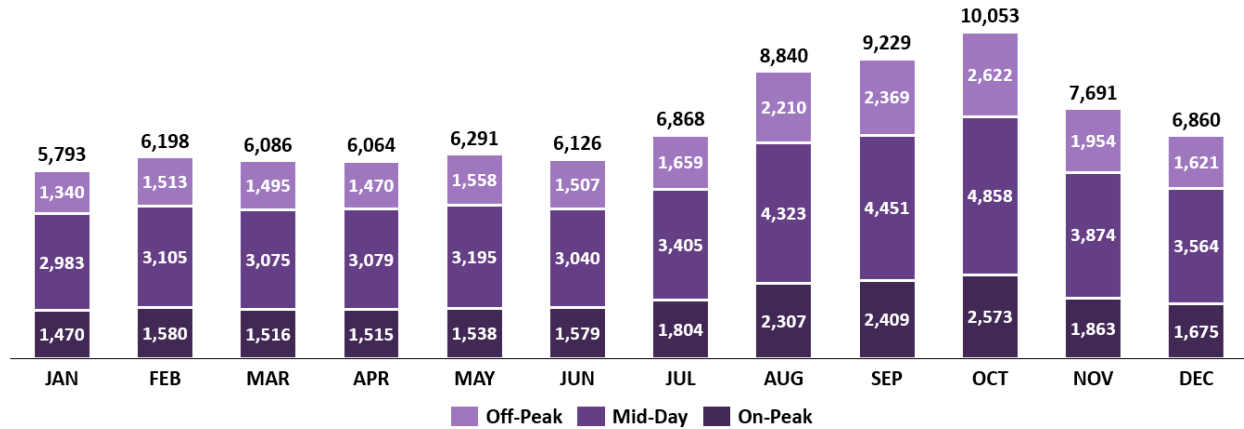
⁶⁸ Company's Electrification of Transportation Strategic Roadmap, filed on March 29, 2018 in Docket No. 2016-at 69.

⁶⁹ Potential partners identified in the Roadmap: Drive Electric Hawai'i, Hawai'i Energy, NGOs, Automakers, Electrify America, and Dealerships and Hawai'i Automotive Dealer Association.

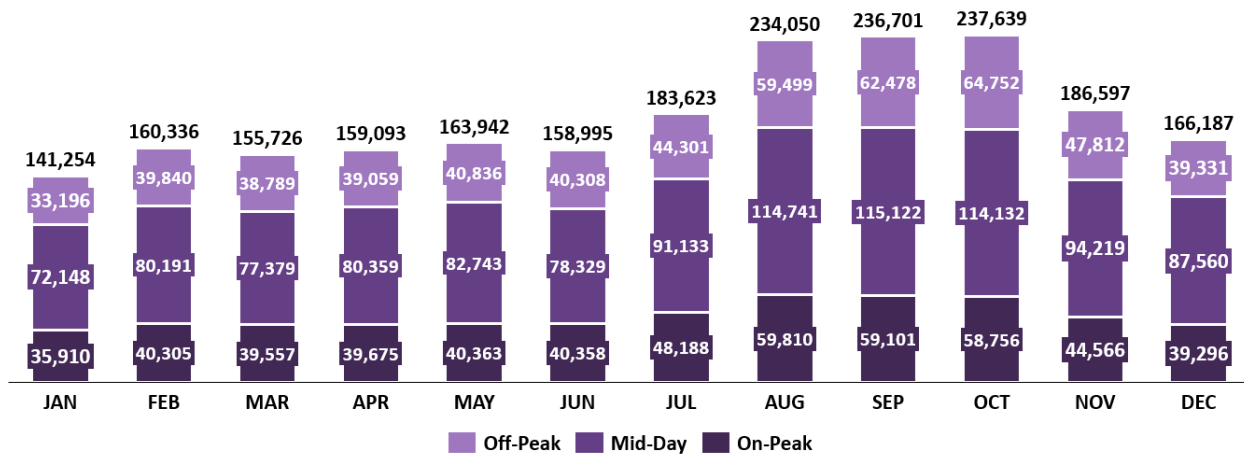
- Responded to inbound customer inquiries related to the EV-U and EV-MAUI Fast Charger operations
- Participated in speaking engagements at schools, workshops, member organizations, digital and broadcast television shows, radio shows, and community events such as:
 - The BIA Hawaii Home Building & Remodeling Show
 - National Drive Electric Week KHON2 Interview with Chris Latronic
 - National Drive Electric Week Event at Pearlridge Center
 - He Ala Pono Electric Vehicle and Sustainability Fair

Appendix A – Summaries of All EV-U Charging Locations by TOU period

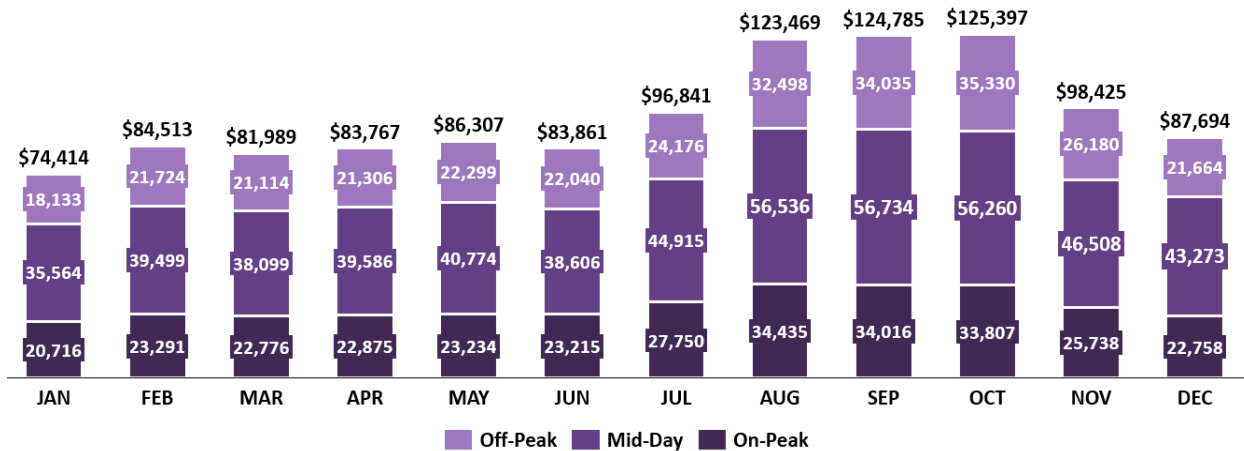
2024 Aggregated - # of Sessions by TOU



2024 Aggregated - Energy (kWh) by TOU

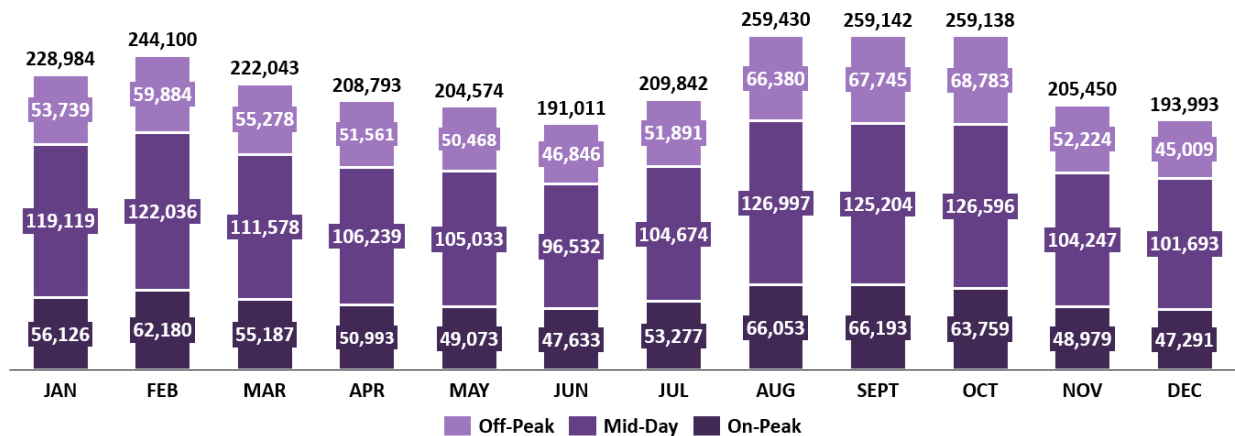


2024 Aggregated - Gross Revenue (\$) by TOU



Note: The aggregated gross revenue (\$) by TOU shown above reflects revenue based on actuals which will vary from booked revenue based on timing of billing activities.

2024 Aggregated - # of Minutes by TOU



Appendix B – Details for Schedule EV-U for 2024

Details of Revenues, Expenses, and Capital for EV-U for 2024 and from inception of pilot program.

2024 Actuals:	Program Costs, January - December 2024			
	O'ahu	Hawai'i	Maui County	Total
Revenue	\$ (1,020,081)	\$ (136,573)	\$ (16,787)	\$ (1,173,441)
Expenses				
O&M				
Labor	\$ 114,883	\$ 27,113	\$ 21,212	\$ 163,208
Non-labor	\$ 394,663	\$ 80,343	\$ 50,226	\$ 525,232
Total Expenses	\$ 509,546	\$ 107,456	\$ 71,438	\$ 688,439
Capital & Removal Costs (net of CIAC)	\$ 644,689	\$ 58,612	\$ 80,143	\$ 783,444
2024 PTD:	Program Costs, Pilot Inception Through December 2024			
	O'ahu	Hawai'i	Maui County	Total
Revenue	\$ (2,730,023)	\$ (423,705)	\$ (81,283)	\$ (3,235,010)
Expenses				
O&M				
Labor	\$ 1,037,305	\$ 62,357	\$ 83,169	\$ 1,182,831
Non-labor	\$ 1,087,690	\$ 249,206	\$ 153,955	\$ 1,490,852
Total Expenses	\$ 2,124,995	\$ 311,564	\$ 237,124	\$ 2,673,683
Capital & Removal Costs (net of CIAC)	\$ 4,422,044	\$ 1,360,707	\$ 196,419	\$ 5,979,170

Note: Reflected labor costs are direct labor costs only. Overhead costs are included in non-labor. Additionally, totals may not foot due to rounding to the nearest whole number.

Appendix D - Details for Schedule EV-MAUI for 2024

Details of Revenues, Expenses, and Capital for EV-MAUI for 2024 and from inception of pilot program.

2024 Actuals:

Program Costs, January - December 2024

Revenue	\$	(59,558)
Expenses		
Deferred O&M	\$	16,316
O&M*	\$	44,505
Total Expenses	\$	60,821
Capital & Removal Costs	\$	51,654

2024 PTD:

Program Costs, Pilot Inception Through December 2024

Revenue	\$	(239,746)
Expenses		
Deferred O&M	\$	53,588
O&M*	\$	83,187
Total Expenses	\$	136,775
Capital & Removal Costs	\$	337,576

*Note: "O&M" refers to all program related O&M expenses not eligible to be deferred. For 2024, all non-deferred O&M expenses were non-incremental labor and associated overheads.

Appendix E. Revised Schedule EV-MAUI Tariff Attachment C

EV-MAUI

Consolidated - Queen Kaahumanu Center (QKC), Piilani Village Shopping Center (PVC), Pukalani Terrace Center (PTC) and Lahaina Aquatic Center (LAC)

Shared Savings Mechanism

	Year 1 2020	Year 2 2021	Year 3 2022	Year 4 2023	Year 5 2024	Year 6 2025	Year 7 2026	Year 8 2027	Year 9 2028	Year 10 2029	Year 11 2030	Year 12 2031	Year 13 2032	Year 14 2033	Year 15 2034
Expenses															
1 Incremental O&M expense	-	10,122	20,649	21,062	21,483	21,913	22,351	22,798	23,254	23,719	24,193	24,677	25,171	25,674	26,188
2 Amortization expense (Deferred O&M)	-	4,168	8,336	8,336	4,168	-	-	-	-	-	-	-	-	-	-
3 Depreciation expense	-	17,507	17,507	17,507	17,507	17,507	17,507	17,507	17,507	17,507	17,507	17,507	17,507	17,507	17,507
4 Allowed return on chargers	8,504	16,752	15,320	13,085	11,205	9,719	8,389	7,162	6,145	5,233	4,321	3,382	2,416	1,449	483
5 Federal Income Tax	1,671	3,293	3,011	2,572	2,202	1,910	1,649	1,408	1,208	1,029	849	665	475	285	95
6 State Income Tax	509	23	(63)	(197)	(309)	(398)	(478)	(551)	(612)	(667)	(722)	203	145	87	29
7 Total Expenses	10,685	51,865	64,760	62,364	56,257	50,651	49,417	48,324	47,502	46,821	46,149	46,434	45,713	45,002	44,302
8 Revenue Taxes	1,042	5,058	6,315	6,081	5,486	4,939	4,819	4,712	4,632	4,566	4,500	4,528	4,458	4,388	4,320
9 Total Expenses including Revenue Taxes	11,727	56,922	71,075	68,446	61,742	55,591	54,236	53,036	52,134	51,387	50,650	50,962	50,171	49,391	48,622
Revenues															
10 Charging Station Revenues	8,008	10,891	11,109	11,331	11,557	11,788	12,024	12,265	12,510	12,760	13,015	13,276	13,541	13,812	14,088
11 Revenues Total	8,008	10,891	11,109	11,331	11,557	11,788	12,024	12,265	12,510	12,760	13,015	13,276	13,541	13,812	14,088
12 NET COST/(PROFIT)	3,719	46,032	59,966	57,115	50,185	43,802	42,212	40,771	39,624	38,627	37,634	37,686	36,630	35,579	34,534
O&M Adjustment															
13 O&M Cap	-	45,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000
14 O&M above cap not recovered	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15 Revenue Taxes on the above cap O&M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16 Total non-recoverable O&M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17 NET COST/(PROFIT) ADJUSTED FOR O&M CAP	3,719	46,032	59,966	57,115	50,185	43,802	42,212	40,771	39,624	38,627	37,634	37,686	36,630	35,579	34,534
Shared Savings Mechanism															
18 Customer Share Allocation of Cost	100%	80%	60%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
19 Customer Share Allocation of Profit	0%	0%	0%	0%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
20 Customers' share of Cost/(Profit)	3,719	36,825	35,980	28,558	-	-	-	-	-	-	-	-	-	-	-
21 MECO's share of Cost/(Profit)	-	9,206	23,987	28,558	50,185	43,802	42,212	40,771	39,624	38,627	37,634	37,686	36,630	35,579	34,534

Notes

* Includes 4 charging stations - Queen Kaahumanu Center (QKC), Piilani Village Shopping Center (PVC), Pukalani Terrace Center (PTC) and Lahaina Aquatic Center (LAC)

Line

- 1 2% escalation applied to O&M.
- 4 Allowed return based on 9.50% ROE from MECO TY2018 Rate Case Dkt 2017-0150 Interim D&O No. 35631 (Exhibit A, dated 8/9/18).
- 5/6 Federal and State Income Taxes were included in the calculation of Net Cost/(Profit) in order to capture all costs of project expenditures.
- 12 Total expenses minus revenues results in "net costs," which may be a loss or a profit depending on whether total expenses exceed revenues.
- 13 Per D&O 36229, "For the purposes of the shared savings mechanism, annual O&M expenses shall be based on actual annual O&M expenses, capped at MECO's estimate of \$180,000." \$180,000/8 sites = \$22,500 O&M expense cap per site.
- 16 Per D&O 36229, "To the extent that annual O&M expenses exceed the cap of \$180,000, MECO may not recover such excess costs from customers."
- 18/19 Per D&O 36229, "For years 1 through 5, customers and MECO shall share in the net costs (i.e., the total expenses minus revenues) related to MECO's ownership and operation of the charges on a stepped-down basis. To the extent revenues exceed costs in the first four years, MECO may retain the entirety of any net revenues." However, beginning in year 5, if revenues generated by the stations exceed the total expenses, thereby resulting in a profit, such net revenues shall be shared between customers and MECO 80% customers/20% MECO.
- 21 MECO's share of Net Cost/(Profit) includes non-recoverable O&M.

Appendix F. Actual 2024 EV-MAUI Shared Savings/Costs Mechanism Accounting Sheets

Shared Savings/Costs Mechanism

2024 Year 5

CONSOLIDATED

Queen Kaahumanu Center, Piilani Village Center,
Lahaina Aquatic Center

Expenses

		<u>Queen Kaahumanu Center</u>	<u>Piilani Village Center</u>	<u>Pukalani Terrace Center</u>	<u>Lahaina Aquatic Center</u>	2024 Total
1	Incremental O&M expense	-	-	-	-	-
2	Amortization expense (Deferred O&M)	-	-	-	-	-
3	Depreciation expense (Capital)	5,072.80	4,539.25	4,532.04	4,926.90	19,071.00
4	Allowed return on chargers (Capital and Deferred O&M)	4,481.32	4,363.57	3,988.49	3,822.73	16,656.11
5	Federal Income Tax	-	-	-	-	-
6	State Income Tax	-	-	-	-	-
7						
8	Revenue Taxes	931.66	868.15	830.87	853.21	3,483.90
9	Total Expenses including Revenue Taxes	10,485.78	9,770.97	9,351.40	9,602.85	39,211.00
<u>Revenues</u>						
10	Charging Station Revenues	17,663.64	25,677.48	16,217.01	-	59,558.13
11						
12	NET COST/(PROFIT)	(7,177.86)	(15,906.51)	(6,865.61)	9,602.85	(20,347.13)
<u>O&M Adjustment</u>						
13	O&M Cap	22,500.00	22,500.00	22,500.00	22,500.00	90,000.00
14	O&M above cap not recovered	-	-	-	-	-
15	Revenue Taxes on the above cap O&M	-	-	-	-	-
16	Total non-recoverable O&M	-	-	-	-	-
17	NET COST/(PROFIT) ADJUSTED FOR O&M CAP	(7,177.86)	(15,906.51)	(6,865.61)	9,602.85	(20,347.13)

EV-Maui
Shared Savings/Costs Mechanism
2024 Year 5

Queen Kaahumanu Center

Plant Add date per PowerPlan 12/17/20. Project #MZ.005053.01

		Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024 Total
<u>Expenses</u>														
1	Incremental O&M expense	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Amortization expense (Deferred O&M)	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Depreciation expense (Capital)	422.73	422.73	422.73	422.73	422.73	422.73	422.73	422.73	422.73	422.73	422.73	422.73	5,072.80
4	Allowed return on chargers (Capital and Deferred O&M)	369.86	376.64	378.35	374.85	373.68	373.35	372.33	371.47	370.85	371.54	372.56	375.84	4,481.32
5	Federal Income Tax	-	-	-	-	-	-	-	-	-	-	-	-	-
6	State Income Tax	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Total Expenses	792.59	799.37	801.08	797.58	796.42	796.09	795.06	794.21	793.58	794.27	795.29	798.57	9,554.12
8	Revenue Taxes	77.29	77.95	78.12	77.78	77.66	77.63	77.53	77.45	77.39	77.45	77.55	77.87	931.66
9	Total Expenses including Revenue Taxes	869.88	877.32	879.20	875.36	874.08	873.72	872.59	871.65	870.97	871.72	872.84	876.44	10,485.78
<u>Revenues</u>														
10	Charging Station Revenues	1,831.92	2,247.00	3,243.99	(667.80)	1,968.77	1,637.53	444.29	1,925.85	799.27	1,457.46	1,582.22	1,193.14	17,663.64
11	Revenues Total	1,831.92	2,247.00	3,243.99	(667.80)	1,968.77	1,637.53	444.29	1,925.85	799.27	1,457.46	1,582.22	1,193.14	17,663.64
12	NET COST/(PROFIT)	(962.04)	(1,369.68)	(2,364.79)	1,543.16	(1,094.69)	(763.81)	428.30	(1,054.20)	71.70	(585.74)	(709.38)	(316.70)	(7,177.86)
O&M Adjustment														
13	O&M Cap	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	22,500.00
14	O&M above cap not recovered	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Revenue Taxes on the above cap O&M	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Total non-recoverable O&M	-	-	-	-	-	-	-	-	-	-	-	-	-
17	NET COST/(PROFIT) ADJUSTED FOR O&M CAP	(962.04)	(1,369.68)	(2,364.79)	1,543.16	(1,094.69)	(763.81)	428.30	(1,054.20)	71.70	(585.74)	(709.38)	(316.70)	(7,177.86)

EV-Maui
Shared Savings/Costs Mechanism
2024 Year 5

<u>Piilani Village Center</u>		Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024 Total
Plant add per PowerPlan 12/23/20. Project #MZ.005053.03														
<u>Expenses</u>														
1	Incremental O&M expense	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Amortization expense (Deferred O&M)	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Depreciation expense (Capital)	378.27	378.27	378.27	378.27	378.27	378.27	378.27	378.27	378.27	378.27	378.27	378.27	4,539.25
4	Allowed return on chargers (Capital and Deferred O&M)	356.56	359.18	356.18	357.53	361.25	361.56	361.09	361.50	362.90	368.53	374.08	383.21	4,363.57
5	Federal Income Tax	-	-	-	-	-	-	-	-	-	-	-	-	-
6	State Income Tax	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Total Expenses	734.83	737.45	734.45	735.80	739.52	739.83	739.37	739.77	741.17	746.80	752.35	761.48	8,902.82
8	Revenue Taxes	71.66	71.91	71.62	71.75	72.11	72.14	72.10	72.14	72.27	72.82	73.37	74.26	868.15
9	Total Expenses including Revenue Taxes	806.48	809.36	806.06	807.55	811.63	811.98	811.46	811.91	813.45	819.63	825.72	835.74	9,770.97
<u>Revenues</u>														
10	Charging Station Revenues	4,196.75	(785.50)	3,469.67	1,203.19	2,016.11	1,918.45	854.54	3,607.74	2,337.96	1,843.52	2,891.43	2,123.62	25,677.48
11	Revenues Total	4,196.75	(785.50)	3,469.67	1,203.19	2,016.11	1,918.45	854.54	3,607.74	2,337.96	1,843.52	2,891.43	2,123.62	25,677.48
12	NET COST/(PROFIT)	(3,390.27)	1,594.86	(2,663.61)	(395.64)	(1,204.48)	(1,106.47)	(43.08)	(2,795.83)	(1,524.51)	(1,023.89)	(2,065.71)	(1,287.88)	(15,906.51)
O&M Adjustment														
13	O&M Cap	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	22,500.00
14	O&M above cap not recovered	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Revenue Taxes on the above cap O&M	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Total non-recoverable O&M	-	-	-	-	-	-	-	-	-	-	-	-	-
17	NET COST/(PROFIT) ADJUSTED FOR O&M CAP	(3,390.27)	1,594.86	(2,663.61)	(395.64)	(1,204.48)	(1,106.47)	(43.08)	(2,795.83)	(1,524.51)	(1,023.89)	(2,065.71)	(1,287.88)	(15,906.51)

EV-Maui
Shared Savings/Costs Mechanism
2024 Year 5

<u>Pukalani Terrace Center</u>		Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024 Total
Plant add per PowerPlan 10/7/20. Project #MZ.005053.04														
<u>Expenses</u>														
1	Incremental O&M expense	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Amortization expense (Deferred O&M)	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Depreciation expense (Capital)	377.67	377.67	377.67	377.67	377.67	377.67	377.67	377.67	377.67	377.67	377.67	377.67	4,532.04
4	Allowed return on chargers (Capital and Deferred O&M)	329.94	334.11	330.97	331.06	331.15	331.13	331.28	331.10	330.79	333.34	332.96	340.65	3,988.49
5	Federal Income Tax	-	-	-	-	-	-	-	-	-	-	-	-	-
6	State Income Tax	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Total Expenses	707.61	711.78	708.64	708.73	708.82	708.80	708.95	708.77	708.46	711.01	710.64	718.32	8,520.53
8	Revenue Taxes	69.00	69.41	69.10	69.11	69.12	69.12	69.13	69.12	69.08	69.33	69.30	70.05	830.87
9	Total Expenses including Revenue Taxes	776.62	781.19	777.75	777.84	777.94	777.92	778.08	777.88	777.54	780.34	779.93	788.37	9,351.40
<u>Revenues</u>														
10	Charging Station Revenues	1,240.49	2,103.87	1,174.61	1,350.36	1,955.65	1,730.83	1,930.62	1,382.72	1,192.18	1,410.88	929.06	(184.26)	16,217.01
11	Revenues Total	1,240.49	2,103.87	1,174.61	1,350.36	1,955.65	1,730.83	1,930.62	1,382.72	1,192.18	1,410.88	929.06	(184.26)	16,217.01
12	NET COST/(PROFIT)	(463.87)	(1,322.68)	(396.86)	(572.52)	(1,177.71)	(952.91)	(1,152.54)	(604.84)	(414.64)	(630.54)	(149.13)	972.63	(6,865.61)
<u>O&M Adjustment</u>														
13	O&M Cap	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	22,500.00
14	O&M above cap not recovered	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Revenue Taxes on the above cap O&M	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Total non-recoverable O&M	-	-	-	-	-	-	-	-	-	-	-	-	-
17	NET COST/(PROFIT) ADJUSTED FOR O&M CAP	(463.87)	(1,322.68)	(396.86)	(572.52)	(1,177.71)	(952.91)	(1,152.54)	(604.84)	(414.64)	(630.54)	(149.13)	972.63	(6,865.61)

EV-Maui
Shared Savings/Costs Mechanism
2024 Year 5

Lahaina Aquatic Center		Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	24-Jul	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024 Total
Plant add per PowerPlan 12/17/20. Project #MZ.005053.02														
<u>Expenses</u>														
1	Incremental O&M expense	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Amortization expense (Deferred O&M)	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Depreciation expense (Capital)	410.58	410.58	410.58	410.58	410.58	410.58	410.58	410.58	410.58	410.58	410.58	410.58	4,926.90
4	Allowed return on chargers (Capital and Deferred O&M)	333.20	331.03	325.67	323.49	321.30	319.12	316.94	314.76	312.58	310.40	308.22	306.03	3,822.73
5	Federal Income Tax	-	-	-	-	-	-	-	-	-	-	-	-	-
6	State Income Tax	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Total Expenses	743.78	741.60	736.24	734.06	731.88	729.70	727.52	725.34	723.15	720.97	718.79	716.61	8,749.64
8	Revenue Taxes	72.53	72.32	71.79	71.58	71.37	71.16	70.94	70.73	70.52	70.30	70.09	69.88	853.21
9	Total Expenses including Revenue Taxes	816.31	813.92	808.04	805.64	803.25	800.85	798.46	796.07	793.67	791.28	788.88	786.49	9,602.85
<u>Revenues</u>														
10	Charging Station Revenues	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Revenues Total	-	-	-	-	-	-	-	-	-	-	-	-	-
12	NET COST/(PROFIT)	816.31	813.92	808.04	805.64	803.25	800.85	798.46	796.07	793.67	791.28	788.88	786.49	9,602.85
O&M Adjustment														
13	O&M Cap	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	1,875.00	22,500.00
14	O&M above cap not recovered	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Revenue Taxes on the above cap O&M	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Total non-recoverable O&M	-	-	-	-	-	-	-	-	-	-	-	-	-
17	NET COST/(PROFIT) ADJUSTED FOR O&M CAP	816.31	813.92	808.04	805.64	803.25	800.85	798.46	796.07	793.67	791.28	788.88	786.49	9,602.85

HAWAIIAN ELECTRIC'S ANNUAL REPORT ON THE PROGRESS AND STATUS OF THE E-BUS-J AND E-BUS-P TARIFF PILOT

EoT Roadmap Docket 2018-0135

March 31, 2025

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BACKGROUND

The transportation sector continues to account for approximately 59% of Hawai‘i’s petroleum use,¹ making clean transportation solutions a critical component of the State of Hawai‘i’s transition to a sustainable and clean energy future. Electric transportation not only reduces carbon emissions, but it also complements the integration of additional renewable energy resources necessary to achieve 100 percent clean energy and support the State’s commitment to be carbon negative by 2045.

High-mileage fleets, such as buses, make excellent candidates for electrification due to reduced lifetime maintenance; however, they require more resources than light-duty vehicles due to the higher vehicle and charging infrastructure costs. Understanding these factors, federal and local governments and institutions are making significant goals and investments to assist the transition of medium and heavy-duty vehicles. Federal funding is allocated annually from the U.S.

Environmental Protection Agency (“EPA”) to reduce vehicle emissions from medium and heavy-duty diesel vehicles. The Bipartisan Infrastructure Law established in 2021, supports the transition to low- and zero-emission school buses by providing \$5 billion in rebate funding over five years through the EPA’s Clean School Bus Program. As of September 2024, the EPA awarded nearly \$3 billion,² including \$4.9 million previously received by the Hawai‘i Department of Education.³ One public charter school on O‘ahu utilized a portion of this funding

¹ Hawai‘i State Energy Office Open Data Portal, Hawai‘i Detailed Petroleum Use by Sector (2020). Available at: <https://energy.hawaii.gov/energy-data..>

² Biden-Harris Administration Makes \$965M Available to Fund Clean School Buses that Reduce Pollution, Save Money, and Protect Children’s Health. September 26, 2024. Available at: <https://www.epa.gov/newsreleases/biden-harris-administration-makes-965m-available-fund-clean-school-buses-reduce>
<https://www.epa.gov/newsreleases/biden-harris-administration-announces-nearly-1b-awards-clean-school-buses-across>

³ HIDOE awarded nearly \$5 million to begin electrifying school bus fleet. October 26, 2022. Available at: <https://www.hawaiipublicschools.org/ConnectWithUs/MediaRoom/PressReleases/Pages/electric-school-buses.aspx>

to purchase its first electric bus, and is a participant in Hawaiian Electric's Charge Up eBus pilot program for make-ready infrastructure. Through the 2022 Inflation Reduction Act, the EPA expected to provide \$1 billion in grants and/or rebates through 2031 for zero-emission heavy-duty vehicles. However, Executive Orders in 2025 cast uncertainty on achieving the level of support needed to transition the transportation sector to zero-emission solutions.

In December 2017, the four Hawai'i county mayors and their representatives committed to 100 percent public and private renewably fueled ground transportation by 2045, with Honolulu, Maui, and Kaua'i Counties signing proclamations to transition their fleets to renewable fuel by 2035. In 2019, Hawai'i was named a beneficiary of \$8.125 million of Volkswagen Environmental Mitigation Trust Funds with approximately \$6.9 million⁴ allocated to bus electrification projects. Additionally, Hawai'i signed on to the multi-state memorandum of understanding,⁵ pledging to expand the market for electric medium and heavy-duty vehicles with a goal of 100 percent of all new medium and heavy-duty vehicle sales be zero emission vehicles by 2050.

Hawaiian Electric's⁶ Electrification of Transportation Strategic Roadmap outlined ten key initiatives to accelerate the adoption of electric vehicles ("EVs"), including electric buses.⁷ In 2024, the company filed an updated Electrification of Transportation Strategic Roadmap, Roadmap 2.0, which outlines six categories and associated actions that the Company is best

⁴ Hawai'i State Energy Office 2019. Beneficiary Mitigation Plan. <https://energy.hawaii.gov/wp-content/uploads/2019/01/Hawaiis-Proposed-Beneficiary-Mitigation-Plan-for-the-VW-Environmental-Mitigation-Trust-January-2019.pdf>

⁵ <https://energy.hawaii.gov/commitment-to-zero-emission-vehicles>

⁶ Hawaiian Electric Company, Inc., Hawai'i Electric Light Company, Inc. ("Hawai'i Electric Light") and Maui Electric Company, Limited ("Maui Electric") are collectively referred to herein as "Hawaiian Electric" or the "Company."

⁷ See Docket No. 2016-0168, Electrification of Transportation Strategic Roadmap, filed March 29, 2018.

positioned to implement in support of EVs. This includes charging for public fleets and commercial vehicles.⁸

In support of bus electrification, the Company submitted an application for the Schedule E-BUS-J and Schedule E-BUS-P tariffs on a Pilot basis (collectively “E-BUS Tariffs Pilot”). In March 2019, the Hawai‘i Public Utilities Commission (“Commission”) approved the Company’s request to implement a pilot time-of-use (“TOU”) rate for electric bus charging.⁹ The approved E-BUS-J and E-BUS-P tariffs offer electricity per-kWh rates for bus charging that are lower than the respective comparable commercial rates during the Mid-Day period from 9:00 a.m. to 5:00 p.m., daily, and the Off-Peak period from 10:00 p.m. to 9:00 a.m., daily.¹⁰ The tariffs also provide an exemption from demand charges during the Mid-Day and Off-Peak periods.¹¹ This keeps the cost of vehicle charging low in most hours of the day to encourage investment in electric buses. Over the approved five-year pilot period, the program can serve a total of 20 customer accounts in Hawaiian Electric’s service territory.¹² On November 20, 2023, the Commission issued Order Number 40392, granting the pilot rates an extension through December 31, 2024 to enable continuity until revised rates became effective. On December 12, 2024, Commission Order 41250 granted another extension of the pilot rate until it issues a decision on proposed successor rates in Docket 2023-0457.

⁸ See Docket No. 2018-0135, 2024 Electrification of Transportation Strategic Roadmap Update, filed May 31, 2024.

⁹ See Transmittal No. 18-06 (Non-Docketed), Decision and Order No. 36220 (“D&O 36220”), filed March 20, 2019, Establishing an Electric Bus Tariff for Schedule J- General Service Demand and Schedule P – Large Power Service on a Pilot Basis.

¹⁰ During the On-Peak hours, 5:00 p.m. to 10:00 p.m., daily, per kWh rates for bus charging are substantially higher than the respective comparable commercial rates.

¹¹ Demand charges apply for load served during On-Peak hours that exceeds the billing demand of the host commercial account. An existing host commercial account is required for participation in the E-BUS pilot rates.

¹² D&O 36220 approved the pilot tariff rates to be in effect from March 31, 2019 through December 31, 2023.

In addition, on May 7, 2021, the Commission filed Decision and Order No. 37769 in Docket No. 2020-0098, approving Hawaiian Electric's request for a three-year pilot to deploy electric bus make-ready infrastructure at no cost to eligible participants. Customers that participate in the make-ready pilot, Charge Up eBus, will also enroll in either the E-BUS-J tariff or E-BUS-P tariff. In 2023, the Commission approved a revised implementation schedule, extending the make-ready pilot through December 31, 2025.¹³ Due to unanticipated delays in executing agreements and finalizing designs, the Company submitted a letter on December 4, 2024 in Docket 2022-0212, requesting to extend the Charge Ready Hawaii Pilot and eBus Make-Ready Infrastructure Pilot to December 31, 2026.

For the duration of the E-BUS-J and E-BUS-P tariffs pilot, Hawaiian Electric will provide the Commission with annual updates on the information outlined in D&O 36220.¹⁴ Specifically, D&O 36220 requires Hawaiian Electric to provide, at a minimum, the following information disaggregated by service territory:

- (1) The number of customer accounts enrolled in the E-BUS Program.
- (2) The number of battery electric buses acquired per customer account enrolled in the E-BUS Program.
- (3) Based on the participants' responses to an annual survey, the participants' feedback regarding the overall experience with and effectiveness of the E-BUS Program.
- (4) The estimated E-BUS Program implementation costs.
- (5) Revenues collected under the E-BUS Program.
- (6) The kWh consumption by TOU period.
- (7) Assessment of whether a demand charge is appropriate, including the supporting analysis and data.
- (8) The total number of battery electric bus miles in each pilot program year.

¹³ See D&O 39131 at 4

¹⁴ See Ordering Paragraph 3.C of Decision and Order No. 36220, filed March 20, 2019 regarding Transmittal No. 18-06 (non-docketed)

- (9) The number of customer accounts expected to be enrolled in the next pilot program year.
- (10) The number of battery electric buses expected for each anticipated customer account.
- (11) The estimated reduction in greenhouse gas emissions associated with the pilot program, including a description of the methodology used in calculating the emissions and supporting data.¹⁵

The following sections provide implementation data and information as directed by the Commission. Requirements 1, 2, 9, and 10 are included in the E-BUS Tariff Adoption section. The Bus Utilization and Environmental Impact section summarizes requirements 6, 8, and 11. The Customer Experience section highlights responses to the annual customer survey requirement 3. The Implementation Costs section addresses requirement 4. The Revenue section addresses requirement 5, and the Demand Charges section addresses requirement 7.

E-BUS TARIFF ADOPTION

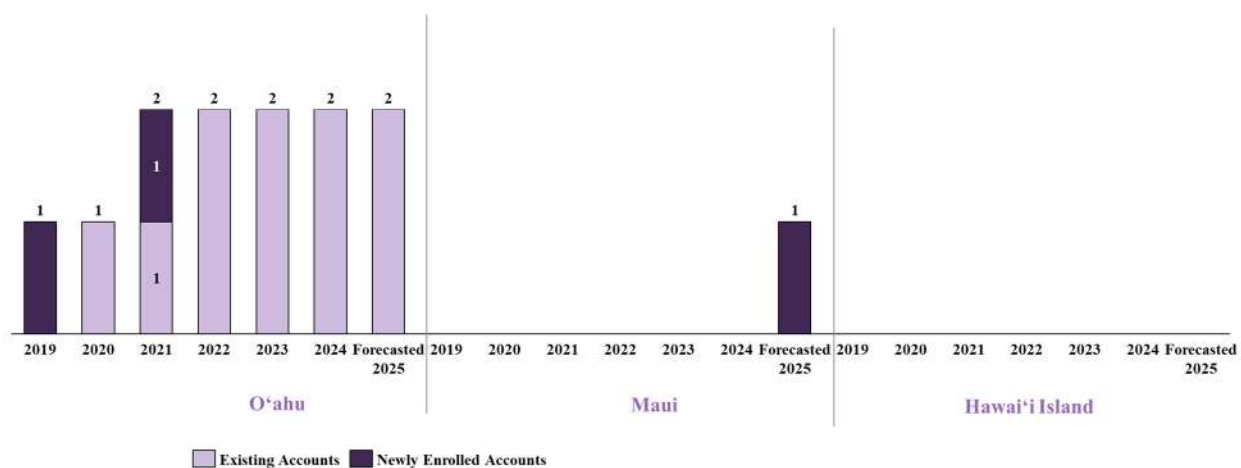
Hawaiian Electric continues to support fleet operators in the planning and construction of charging infrastructure. The economic impacts of the COVID-19 pandemic disrupted fleet electrification plans for many bus operators. Although incentives supported by the Bipartisan Infrastructure Law and Inflation Reduction Act encouraged growth in electric bus adoption, the industry has also witnessed the closure of some electric bus and charging service providers.

In 2024, no new customers enrolled in the E-BUS Tariff as shown in Figure 1 below. However, plans for electric bus charging facilities on O‘ahu, Maui, and Hawai‘i Island are progressing and targeting completion in the next two years.

¹⁵ D&O 36220, P. 41-42. Available at:
<https://dms.puc.hawaii.gov/dms/DocumentViewer?pid=A1001001A19C21A91005F00524>

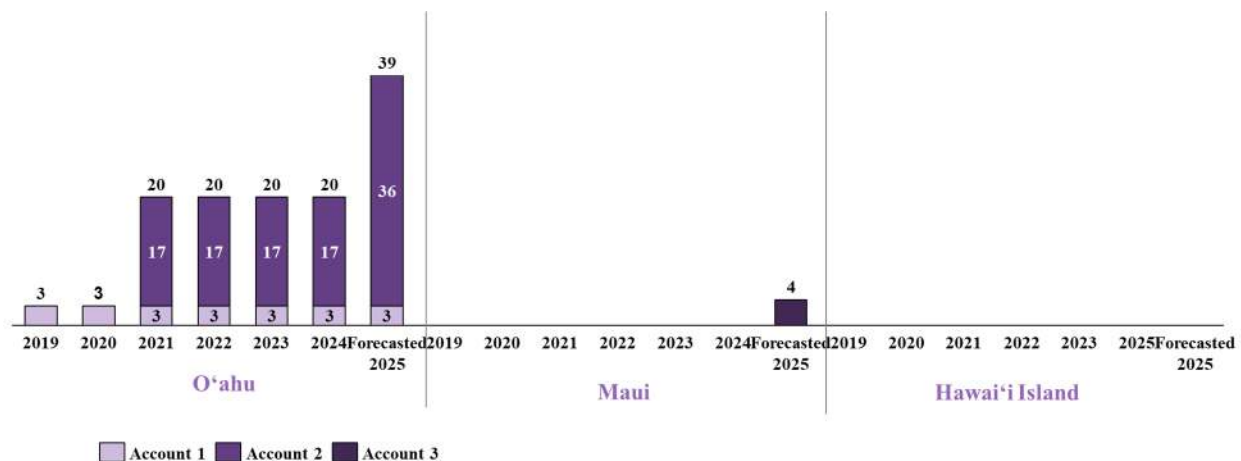
One new electric bus charging site on Maui is expected to enroll in an E-bus rate in 2025. Two other sites, one on O‘ahu and one on Hawai‘i Island, are expected to enroll in 2026. All three sites are applicants in the Charge Up eBus Pilot, which provides no-cost make-ready infrastructure to eligible customers.

Figure 1: Number of Customer Accounts Enrolled in E-BUS Tariff by Service Territory



As reflected in Figure 2, below, enrolled accounts anticipate 23 new electric buses in 2025.

Figure 2: Number of Battery Electric Buses by Account and Service Territory

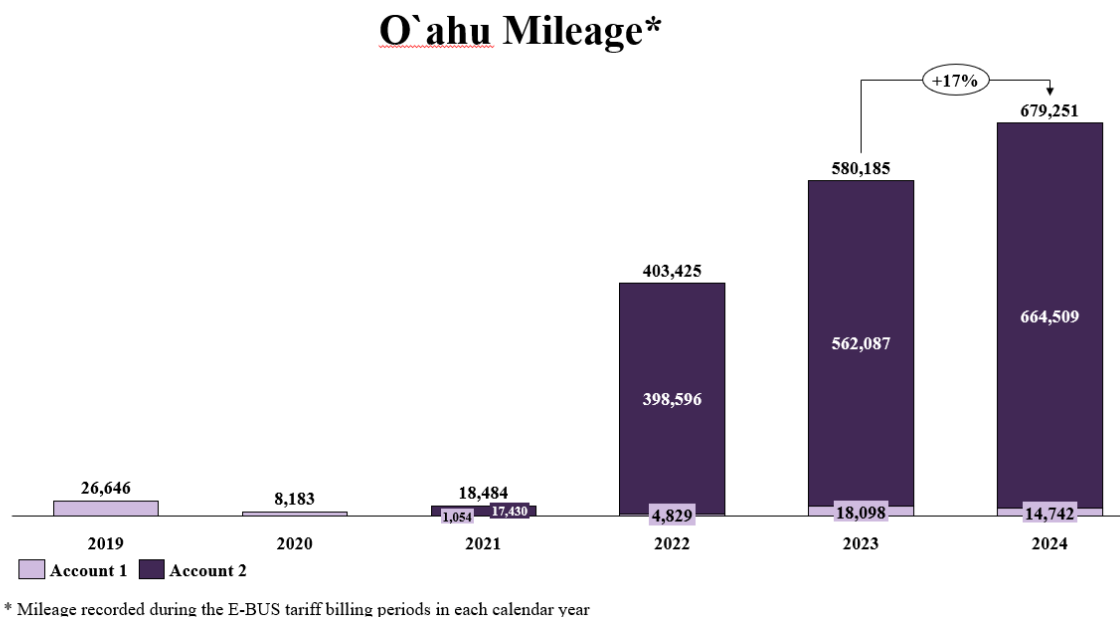


BUS UTILIZATION AND EFFECTS ON EMISSIONS

In 2024, 19 battery electric buses operating on O‘ahu accrued a total of 679,251 miles (Figure 3 below) billed under the E-BUS Program. This 17% increase over the prior year was hampered slightly when one customer encountered charging equipment issues and paused the operation of one bus due to the availability of parts. These challenges occurred during a time of transition when the bus original equipment manufacturer, Proterra, filed for Chapter 11 bankruptcy in 2023 and was acquired in 2024. In addition, 2024 daily telematic data for these Proterra buses could not be retrieved. In order to align with billing periods spanning from December 22, 2023 to December 20, 2024, bus mileage was estimated using 2023 data (previously received) and the average daily mileage in 2024.

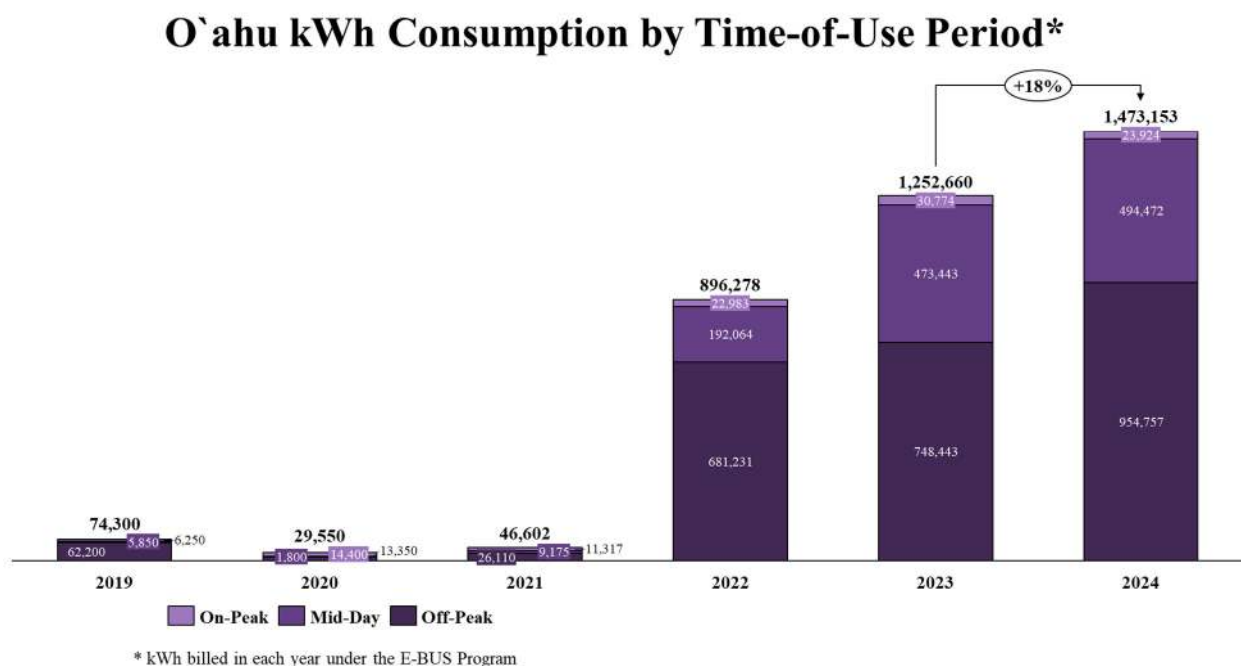
Total mileage, energy consumption, and emissions data reported below reflect electric buses on O‘ahu. There were no electric buses enrolled in the program on Maui or Hawai‘i Island in 2024.

Figure 3: Electric Bus Mileage



As shown in Figure 4, total energy consumption for bus charging increased by 18% on O‘ahu. Since buses typically operate during the day, the ability to charge during the Mid-Day period is limited. Approximately 65% of energy consumption occurred during the Off-Peak period, and 34% occurred during the Mid-Day period. Approximately 2% of energy consumption occurred during the On-Peak period when rates are highest and demand charges apply. The time-of-use rate pricing signals continue to minimize charging during the On-Peak period, thereby reducing the impact to the grid when resources are constrained.

Figure 4: Energy Consumption by Time-of-Use Period



Electric buses generally reduce greenhouse gas (“GHG”) emissions when compared to conventional fossil fuel-powered (diesel, gasoline, or compressed natural gas (“CNG”)) buses. Emission reductions are calculated as the difference between indirect emissions resulting from electricity generation used for vehicle charging, and combustion emissions that would have occurred from diesel-powered buses. A detailed explanation of the assumptions and

methodology is included in the attached Appendix A – Methodology of Greenhouse Gas Emissions Calculations for Electric Bus Annual Report for Operation in Calendar Year 2024.

The calculated emissions are based on the energy consumed for charging in each time-of-use period. The emission factors in each period reflect different generating resources including renewables. In 2024, electric bus charging emissions were approximately 853.7 metric tons (MT) CO₂e less than diesel buses driving an equivalent mileage.¹⁶ This represents 46% less emissions. GHG emission reductions are expected to improve as more vehicles participate in the program, the economy drives higher utilization of participating electric buses, and more renewables are incorporated into the grid.

The E-BUS Tariffs will also result in improved air quality and health benefits. Electric buses reduce diesel particulate matter emissions and other criteria air pollutants compared to buses with tailpipe emissions. These tailpipe emissions would otherwise negatively impact local air quality and the health of residents and commuters.

CUSTOMER EXPERIENCE

In support of this annual report, Hawaiian Electric issues a survey to local bus operators.

Customers enrolled in the E-BUS Tariff Pilot provide feedback on the operational impact, and overall satisfaction. Questions regarding future adoption include both enrolled and non-enrolled bus operators. Responses are based on a 1-5 scale, with 5 indicating a favorable experience. The survey questions are attached in Appendix B.

¹⁶ See Appendix A at Page 22.

Operational Impact

Existing customers noted substantial savings benefit (see Figure 5 below). However, they indicated that minimizing charging during the peak period had a substantial impact to operations (see Figure 6 below). In addition, when comparing the convenience of charging electric buses to refueling non-electric buses, the response was somewhat to very inconvenient (see Figure 7 below). While managed charging solutions can help to delay and sequence vehicle charging, technical issues have hindered anticipated operational efficiencies for some participants.

Figure 5: Energy Cost Savings Benefit

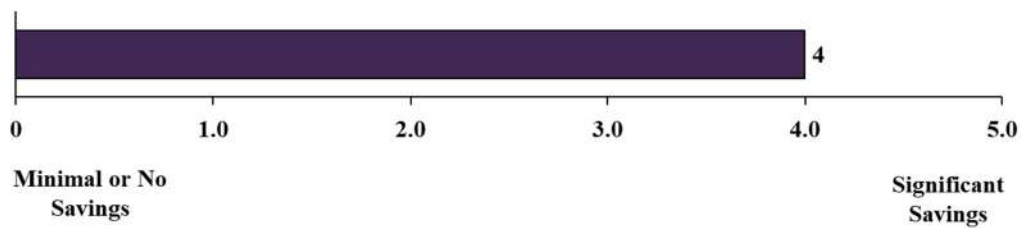


Figure 6: Impact to operations by minimizing peak charging

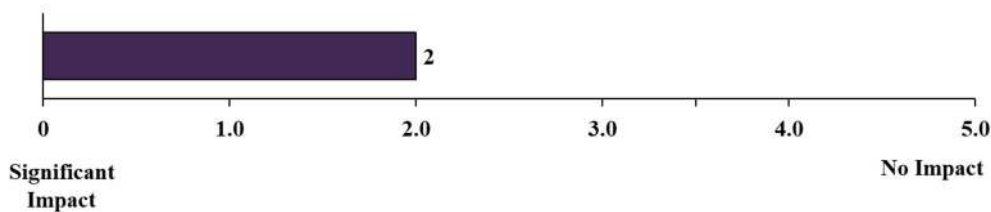
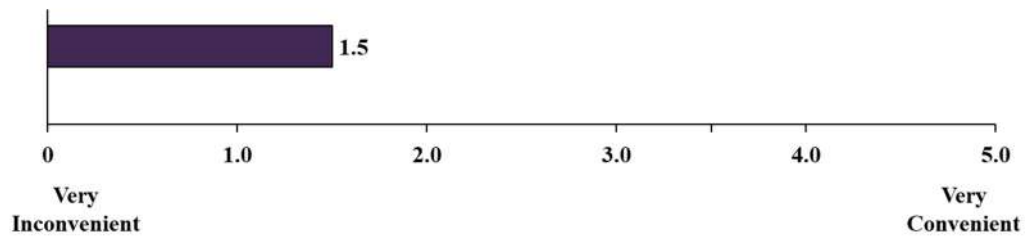


Figure 7: Level of convenience when comparing fueling electric fleet to fueling the existing non-electric fleet



Overall Satisfaction

Among customers enrolled in the E-BUS Tariff, the overall level of satisfaction with the program and likelihood of recommending it to other bus operators are very high (see Figures 8 and 9 below).

Figure 8: Overall Satisfaction

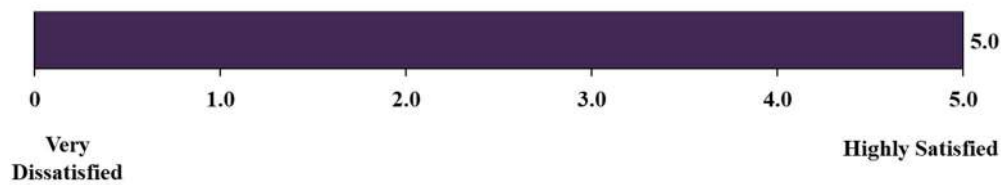


Figure 9: Likelihood to Recommend E-BUS Program



Adoption

Bus operators indicate that the availability of the E-BUS Tariff is perceived as a moderate to substantial influence on future electric bus purchases (see Figure 10 below). In addition, customers indicate they are somewhat likely to enroll future charging facilities in the newly proposed E-Bus rate if it is approved (see Figure 11 below).

Figure 10: E-BUS Program Influence on Future Electric Bus Purchases

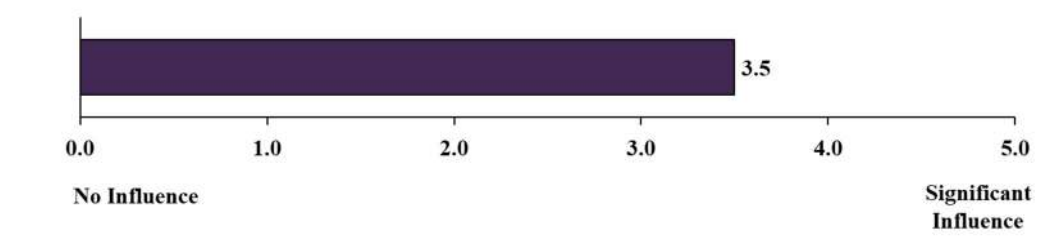
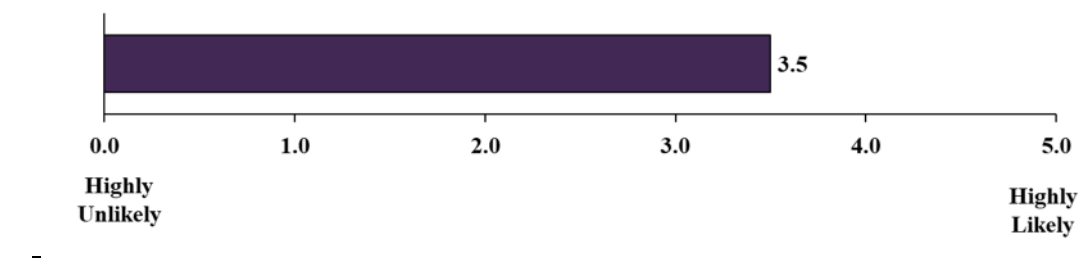


Figure 11: Likelihood of Enrolling Future Charging Facilities in the New Proposed E-Bus Rate if it is Approved

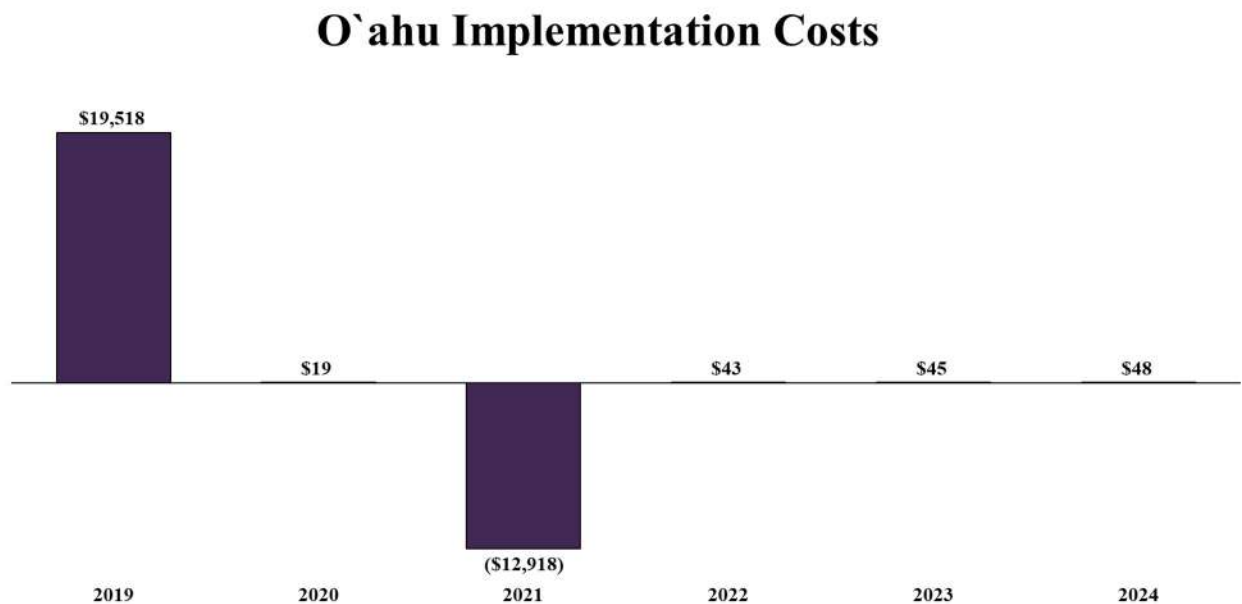


IMPLEMENTATION COSTS

Hawaiian Electric's implementation costs for the E-BUS Tariff Pilot include one-time capital costs for transformer and meter equipment, as well as ongoing meter network service fees. Incremental labor expenses to support E-BUS-J and E-BUS-P, such as enrolling and billing customers were negligible. Labor to support customer participation is similar to other rates and is also limited to 20 metered accounts. There were no new participants in 2024, resulting in no

implementation costs aside from ongoing meter network service fees (see Figure 12). In addition, there are no participant costs on Maui and Hawai’i Island.

Figure 12: Implementation Costs



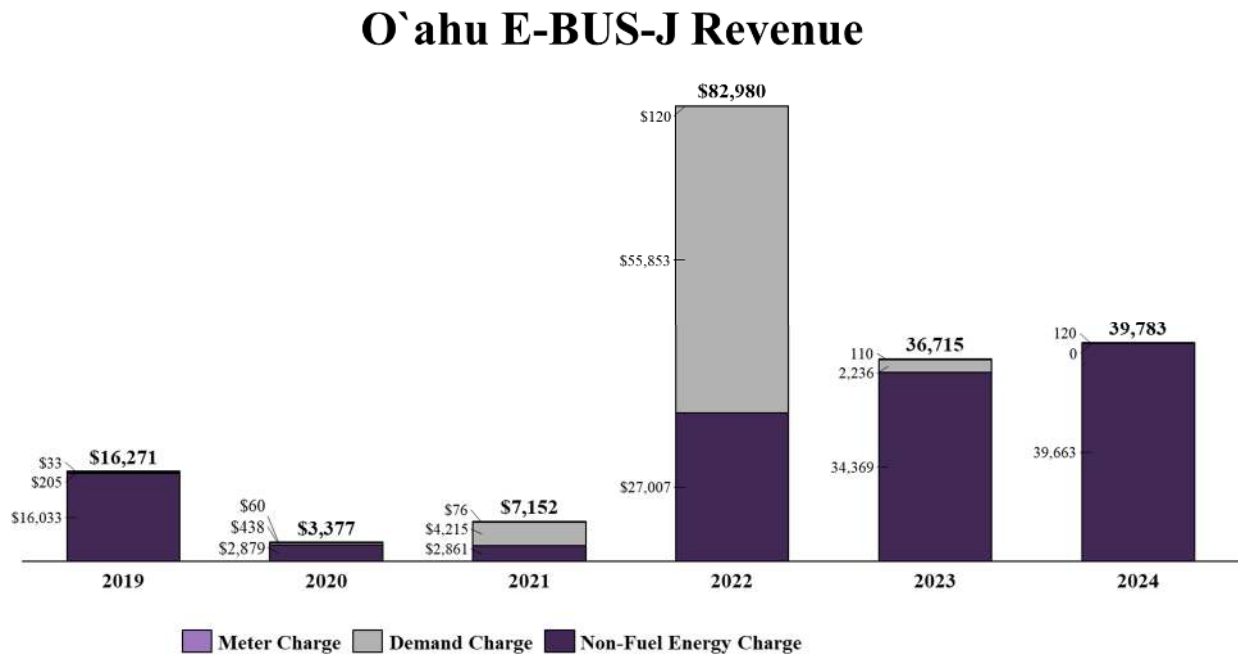
REVENUE

Initial capital costs, which are predominantly one-time expenses, are offset over time by revenues from meter, demand, and non-fuel energy charges. Green Infrastructure Fees, previously reported in Figure 13, have been removed. These fees are not considered base revenue, and therefore not included in incremental sales. The total revenue from E-BUS-J was approximately \$39,783 in 2024.¹⁷ The slight increase in revenue over the prior year is driven by greater energy consumption, which resulted in an increase in non-fuel energy charges. No demand charges were incurred, which demonstrates the benefit of managed charging to minimize

¹⁷ Figure 13 does not include revenues from surcharges other than the Green Infrastructure Fee.

load during the peak period. In 2024, there were no E-BUS-J participants in Maui County or on Hawai‘i Island, and no customers were enrolled in E-BUS-P.

Figure 13: E-BUS-J Revenue by Service Territory



DEMAND CHARGES

E-BUS-J and E-BUS-P are intended to reduce the financial risk for bus operators that are transitioning to electric fleets by eliminating demand charges in the Mid-Day and Off-Peak periods, as well as lowering non-fuel energy charge rates in those periods. In addition, demand charges only apply to On-Peak period usage that exceeds the billing demand of the host commercial account. As a result, customers are incentivized to charge during the Mid-Day and Off-Peak periods, providing new load on the electric system when there are abundant renewable resources, and aligning with participants’ operations.

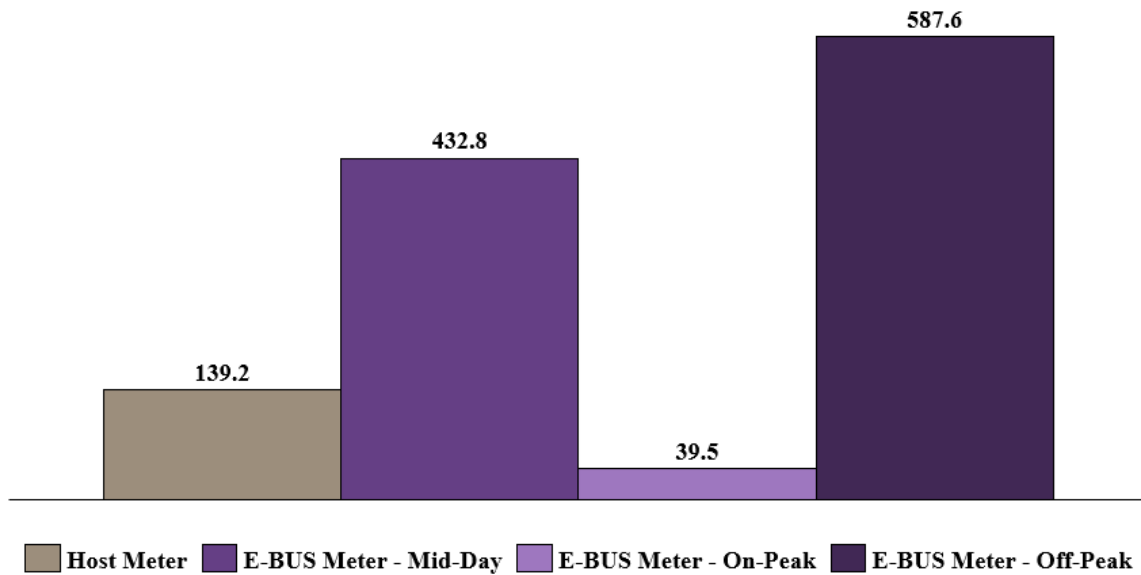
In 2024, the average measured demand in the mid-day and off-peak time periods for E-BUS-J on O‘ahu was above the average measured demand of 139.2 kW for host accounts (Figure 14 below).¹⁸ However, the on-peak demand was significantly lower than the host-meter, which resulted in no demand charges in 2024. This reflects strong customer effort to shift charging to other times of day. There were no participants in Maui County or on Hawai‘i Island.

Host accounts capture energy use for the facility, excluding electric bus charging, and are not billed by time-of-use periods. E-Bus rates are structured by time-of-use periods and incur incremental demand charges when energy demand exceeds the host account during the On-Peak period. In 2024, the highest average demand occurred during the Off-Peak period when demands on the grid are typically low (see Figure 14 below). The next highest demand occurred during the Mid-Day period, when renewable energy is typically most abundant. The average demand during the On-Peak period was the lowest, providing a positive indication that the E-BUS Tariff incentives support an overall shift in energy usage that minimizes the impact to the grid when demand is typically highest. As more customers enroll in E-Bus rates, the Company will gain a more diverse set of inputs to better understand energy and demand requirements that can inform future rate design.

¹⁸ For billing purposes, On-Peak period measured kW demand of the E-Bus meter is compared to the billed kW demand of the host commercial account, which is based on the measured kW demand of the host account. The data reflects the annual average measured demand in 2022 for host and E-Bus meters.

Figure 14: Average Measured Demand (kW) of Host Schedule J Accounts Compared to E-BUS-J Accounts

2024 O'ahu Average Measured Demand (kW) for Schedule J and E-BUS-J



2024 results reflect a steady overall increase in bus utilization despite some operational challenges. Looking ahead, electric bus fleets are projected to grow and additional customers are expected to enroll in E-Bus rates through the Charge Up eBus pilot.

APPENDIX A

Methodology of Greenhouse Gas Emissions Calculations for Electric Bus Annual Report for Operation in Calendar Year 2024

Hawaiian Electric Company, Inc.

March 31, 2025

1 Introduction

Hawaiian Electric completed its sixth pilot program year of the electric bus (“E-BUS”) tariff under a time-of-use rate structure. The Commission Decision and Order No. 36220 requires Hawaiian Electric to submit an annual report that documents “[t]he estimated reduction in greenhouse gas emissions associated with the pilot program, including a description of the methodology used in calculating the emissions and supporting data.”¹ This memorandum documents the methodology used to calculate the greenhouse gas (“GHG”) emissions reductions from the E-BUS operations.

2 Calculation Methodology

Electric buses generally reduce GHG emissions (“emissions”) compared to conventional fossil fuel-powered (diesel, gasoline, or CNG buses. Electric buses result in indirect GHG emissions from electricity use, if the electricity is not all generated by carbon-free sources. These electricity GHG emissions replace GHG tailpipe emissions from the fossil fuel-powered buses.

Several key variables affect the net GHG emissions reduction. These variables and the assumptions used for this analysis are as follows:

- Electricity CO₂e Emission Factors: The electricity GHG intensity factors (“factors” or “electricity factors”) represent the carbon dioxide equivalent (“CO₂e”) emissions in pounds (“lb”) per megawatt-hour (“MWh”) of electricity delivered to the grid. This varies by time of day, time of year, and electricity demand and is expected to decrease over time as the electricity grid incorporates more renewables. In 2024, the Hawaiian Electric Companies achieved a consolidated Renewable Portfolio Standard (“RPS”) of 36 percent.² On O’ahu, the RPS achieved was 31 percent.³ For 2024, Hawaiian Electric calculated electricity factors for the three time of use (“TOU”) periods of interest using January-December 2024 averages for O’ahu. The O’ahu factors are as follows:
 - Mid-Day (9:00 AM – 5:00 PM): 1,317 lb CO₂e per MWh
 - Peak (5:00 PM – 10:00 PM): 1,421 lb CO₂e per MWh
 - Off-Peak (10:00 PM – 9:00 AM [next day]): 1,561 lb CO₂e per MWh

These factors reveal the advantage, in terms of CO₂e emissions, of charging vehicles during the mid-day period, when Renewable Energy (“RE”) is most abundant on the system. The

¹ Decision and Order No. 36220, P. 42. Available at:

<https://dms.puc.hawaii.gov/dms/DocumentViewer?pid=A1001001A19C21A91005F00524>.

² Docket No. 2007-0008, Renewable Portfolio Standards Law Examination, filed February 8, 2022, P. 1. Available at:

https://www.hawaiianelectric.com/documents/clean_energy_hawaii/rps_report_2023.pdf. Accessed: February 6, 2024

³ See footnote 20.

factors will improve year-to-year as more RE is deployed on the grid. Additionally, the general use of batteries (i.e., storage and discharge) was accounted for in the TOU totals.

The electricity factors are calculated from hourly metered energy generation in kilowatt-hours (“kWh”) for the year sorted into the TOU periods, multiplied by the appropriate electricity factor for the generating unit in lb CO₂e/kWh and averaged for each TOU period. RE sources are assigned a CO₂e emission factor of zero. Fossil fuel generator intensities are calculated by dividing the CO₂e emissions by the corresponding generation. Behind-the-meter customer RE is not included because it is not on the grid available for charging buses.

- Electric Bus Electricity Use: The E-BUS Program in 2024 included two 40-passenger Proterra Catalyst E2 buses and seventeen transit buses that were in operation. The metered electricity from charging these buses was used to calculate indirect emissions from electricity generation. Metered electricity data was available on a monthly basis for each of the three TOU periods.
- Fossil Fuel-Powered Bus Fuel Economy: The fuel economy for diesel buses is based on a transit bus national average of 3.4 miles per gasoline gallon equivalent per US Department of Energy, Alternative Fuels Data Center, Public Transportation⁴. The fuel efficiency is converted into miles per diesel gallon based on high heating values of diesel and motor gasoline. This resulted in a fuel economy for diesel buses of 3.9 miles/gallon diesel.
- Combustion Emission Factors: The fossil fuel bus emission factor represents the GHG emissions per diesel gallon of fuel use or fuel gallon equivalent for CNG use. This calculation used a standard value of 23.21 lb CO₂e per gallon of diesel fuel.^{5,6}
- Vehicle Miles Traveled (“VMT”): The VMT represents the miles that were traveled by electric buses instead of fossil fuel-powered buses. This could be calculated using several methodologies depending on data availability, including use of odometer readings for buses or fuel use totals. In order to align with billing periods spanning from December 22, 2023 to December 20, 2024, daily mileage was obtained from One customer. Due to limited data, the other customer provided the total annual mileage, which was used to calculate a daily average.

Emissions reductions were calculated as the difference between indirect emissions from electricity generation used for charging the buses and combustion emissions that would have otherwise occurred from fuel use in diesel-powered buses. The indirect emissions for electricity generation were calculated by multiplying the electricity emission factor by the E-BUS metered

⁴ US Department of Energy, Alternative Fuels Data Center, Public Transportation (https://afdc.energy.gov/conserve/public_transportation.html)

⁵ U.S. Energy Information Administration (EIA). Carbon Dioxide Emissions Coefficients. 2022. Retrieved from: https://www.eia.gov/environment/emissions/co2_vol_mass.php. Accessed: February 6, 2024.

⁶ U.S. Environmental Protection Agency (EPA). 2018. Emission Factors for Greenhouse Gas Inventories. https://www.epa.gov/sites/default/files/2018-03/documents/emission-factors_mar_2018_0.pdf. Uses the global warming potentials from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) for methane and nitrous oxide.

electricity use, while the avoided combustion emissions were calculated by multiplying the combustion emission factor by the VMT and applying appropriate unit conversion factors.

3 Results

As shown in Table 1, in 2024, the E-BUS Program avoided overall GHG emissions by 853.7 metric tons (“MT”) CO₂e when compared to tailpipe emissions from fuel that would have been consumed by fossil fueled buses for the equivalent amount of VMT.

As more vehicles participate in the program and the economy drives higher utilization of the participating e-vehicles, coupled with more renewables that are incorporated into the grid, the GHG emissions reduction will be greater.

The E-BUS program also results in air quality and health co-benefits, even more so as more renewable energy is integrated into the electrical grid. Electric buses reduce local criteria air pollutant and diesel particulate matter emissions compared to buses with tailpipe emissions. These emissions would otherwise negatively impact local air quality and health.⁷

⁷ USEPA. Smog, Soot, and Other Air Pollution from Transportation. 2019. Available at: <https://www.epa.gov/transportation-air-pollution-and-climate-change/smog-soot-and-local-air-pollution>. Accessed: February 10, 2024.

Table 1
Electric Bus Charging Emissions Reduction for 2024 for Oahu
Hawaiian Electric
Hawai'i, USA

Inputs:

Vehicle Type	Bus
Vehicle Fuel Replaced	Diesel
Location	Oahu
Year Evaluated	2024

Assumptions and Calculations:

Description	Mid-day	Peak	Off-Peak	Units
Electricity Emission Factor ¹	1,317	1,421	1,561	(lb CO ₂ e/MWh)
Electricity Use for Charging Stations ²	494,472	23,924	954,757	(kWh/year)
Fuel Economy of Fossil Fuel-Powered Vehicle ³	3.9			(mile/fuel gallon)
Emissions from burning fuel ^{4,5}	23.2			(lb CO ₂ e/fuel gallon)
Annual VMT Reduction All Stations (based on E-BUS data) ⁶	679,251			(miles)
Fossil Fuel-Powered Vehicle Combustion Emissions	2,710			(grams CO ₂ e/mile)

Emissions Reductions Calculations:

Time-of-use	Mid-day	Peak	Off-Peak	Units
Emissions Reduction for Electric Vehicle Replacing Fossil Fuel-Powered Vehicle ⁷	1840.5			(MT CO ₂ e)
Emissions Increase from Electricity Used for Charging ⁷	295.4	15.4	676.0	(MT CO ₂ e)
	986.8			
Net Emissions Reduction ⁷	853.7			(MT CO ₂ e)

Notes:

- Time-of-use electricity emission factor provided by Hawaiian Electric for Oahu. Calculated based on each unit's heat rate, actual net generation per time-of-use, and each unit's actual GHG emissions in 2024.
- The electricity usage takes actual billed kWh from Hawaiian Electric.
- Based on transit bus national average of 3.4 miles per gasoline gallon equivalent per US Department of Energy, Alternative Fuels Data Center, Public Transportation (https://afdc.energy.gov/conservation/public_transportation.html). The fuel efficiency is converted into miles per diesel gallon based on high heating values of diesel and motor gasoline from U.S. Energy Information Administration (<https://www.eia.gov/energyexplained/units-and-calculators/british-thermal-units.php>).
- U.S. Energy Information Administration (eia). Carbon Dioxide Emissions Coefficients. 2022. Retrieved from: U.S. Energy Information Administration - EIA - Independent Statistics and Analysis (UPDATED 2024)
- Methane and nitrous oxide emissions for heavy-duty vehicles from U.S. Environmental Protection Agency (EPA). 2022. Emission Factors for Greenhouse Gas Inventories. https://www.epa.gov/system/files/documents/2023-03/ghg_emission_factors_hub.pdf (Updated 2024)
- Annual VMT reduction is based on actual recorded mileage travelled by the electric buses.
- Emissions reductions are calculated as the difference between indirect emissions from electricity generation used for charging and combustion emissions that would have otherwise occurred from fuel use. The indirect emissions for electricity generation are calculated by multiplying the electricity emission factor by the vehicle kWh electricity charging; while the avoided combustion emissions are calculated by multiplying the combustion emission factor by the vehicle miles traveled and applying appropriate unit conversion factors.

Abbreviations:

CO₂e - Carbon Dioxide Equivalent
 EF - Emission Factors
 GHG - greenhouse gas
 kWh - kilowatt-hour

lb - pound
 mpgge - miles per gasoline gallon equivalent
 MT - metric tons
 MWh - megawatt-hour
 VMT - vehicles miles traveled

APPENDIX B

E-BUS Customer Experience Survey

E-BUS Tariff and Make-Ready Customer Experience Survey

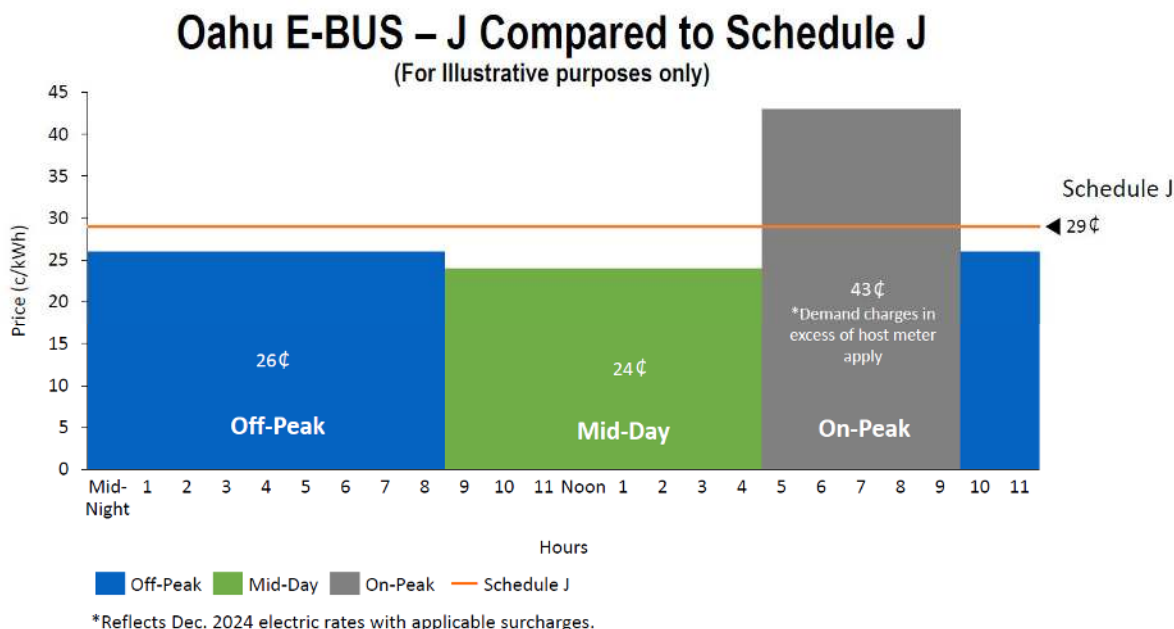
Thank you for taking time to complete this survey. Your valuable feedback helps us understand the growing needs of our customers.

Customer Type

1. Who do your buses provide transportation for (select all that apply)?
 - Visitors
 - Commuters
 - Students/youth (under the age of 18)
 - Low-income residents
 - Elderly
 - Disabled
 - Other: _____
2. Approximately how many passengers per year do you serve?
3. What is the name of the company you represent?
4. If we need to follow up with you regarding some of your survey responses, please provide your company email:

E-Bus Pilot Rate

Hawaiian Electric Company's E-Bus pilot rates provide discounted rates and no demand charges for bus charging in the Mid-Day (9:00 AM – 5:00 PM) and Off-Peak periods (10:00 PM – 9:00 AM next day). Under these pilot rates, bus charging must be separately metered on a premise where there is also a "host" meter on Schedule J or Schedule P. Demand that occurs during the On-Peak period (5 PM -10 PM) and exceeds the maximum demand on the host meter will be subject to demand charges (e.g., \$13/kW on E-Bus-J).



5. Are you aware of Hawaiian Electric Company's E-Bus pilot rate described above?

- Yes, I am aware
- No, I am not aware

6. Please select one of the following:

- Our organization is currently enrolled in Hawaiian Electric's E-Bus rate (continue to questions 7-8, 10-14)
- Our organization is not enrolled in Hawaiian Electric's E-Bus rate (continue to questions 9, 10 and 14 below)
- I do not know if our organization is enrolled in Hawaiian Electric's E-bus rate
- (continue to questions 10 and 14 below)

7. To what degree do you feel you are benefiting from energy cost savings under the E-Bus rate?

- | | | | | |
|------------|---------|----------|-------------|-------------|
| 1 | 2 | 3 | 4 | 5 |
| No Savings | Minimal | Moderate | Substantial | Significant |

8. What impact does minimizing charging during the peak period (5 PM – 10 PM) have on your operations?

1	2	3	4	5
Significant	Substantial	Moderate	Minimal	None

9. If you are not enrolled in the E-Bus pilot rate, please share why (select all that apply):

- We have not acquired eBus(es)
- We have not installed charging stations at our facility
- We installed charging stations under an existing meter at our facility
- Our facility does not have an existing Schedule J or P electric service to qualify for the pilot rate
- E-Bus rates are not a good fit for our operations
- Other: _____

10. To what degree does having a rate like the E-Bus rate influence your organization's decision to purchase electric buses in the future?

1	2	3	4	5
No Influence	Minimal Influence	Moderate Influence	Substantial Influence	Significant Influence

11. How likely would you be to recommend the E-Bus pilot rate to other bus operators?

1	2	3	4	5
Highly Unlikely	Somewhat Unlikely	Uncertain	Somewhat Likely	Highly Likely

12. Rate your overall satisfaction with the E-Bus pilot rate

1	2	3	4	5
Very Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Highly Satisfied

13. Compared to fueling your existing non-electric fleet, how much more convenient/inconvenient is it to fuel your electric fleet?

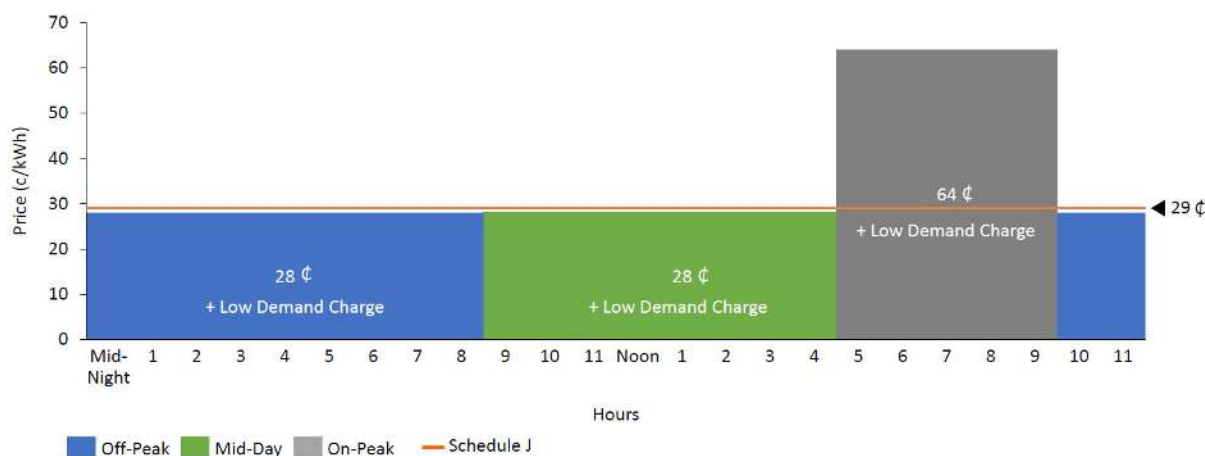
1	2	3	4	5
Very Inconvenient	Somewhat Inconvenient	Same	Somewhat Convenient	Very Convenient

14. Please provide any additional feedback on your experience with the E-Bus rate.

New Proposed E-Bus Rate

Hawaiian Electric Company proposed a permanent E-Bus rate to replace the pilot. If approved by the Hawaii Public Utilities Commission, it will provide discounted rates for bus charging in the Mid-Day (9:00 AM – 5:00 PM) and Off-Peak periods (9:00 PM – 9:00 AM next day). The proposed peak period is 5:00 PM – 9:00 PM (as opposed to 5:00 PM – 10:00 PM under the current E-Bus pilot rate). Under the new rate, low demand charges apply throughout the day (e.g., \$2/kW for E-Bus-J). A host meter is no longer needed, making the rate available to sites that were previously ineligible due to the lack of a qualifying host meter.

PROPOSED Oahu E-BUS – P Compared to Schedule P (For Illustrative purposes)



15. How likely would you be to enroll future charging facilities in the new E-Bus rate if it is approved?

1	2	3	4	5
Highly Unlikely	Somewhat Unlikely	Uncertain	Somewhat Likely	Highly Likely

16. How many sites do you anticipate enrolling in an E-Bus rate within the next three years?

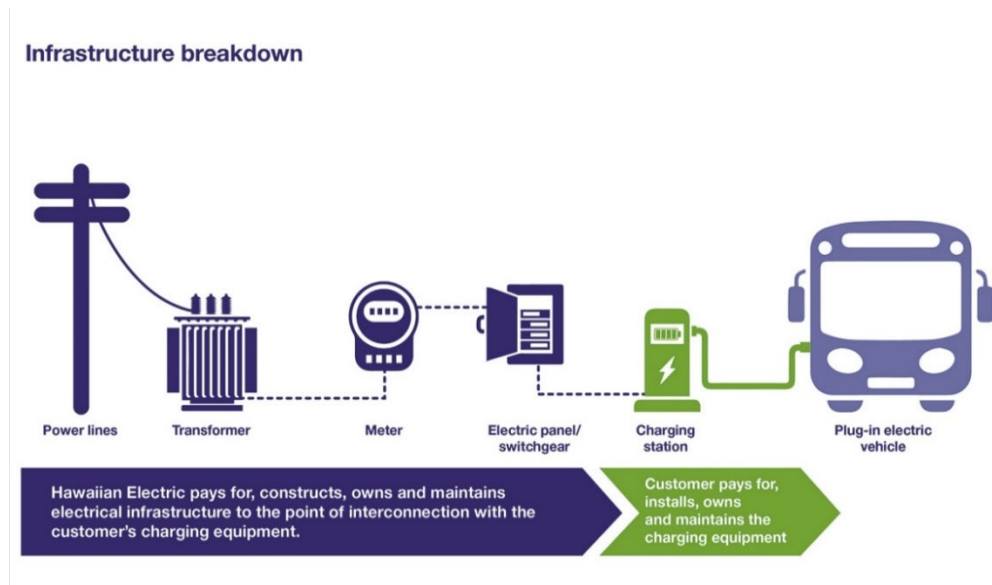
17. What impact would minimizing charging during the peak period (5 PM – 9 PM) have on your operations?

1	2	3	4	5
Significant	Substantial	Moderate	Minimal	None

18. If the rates were the same regardless of the time of day, what hours of the day would you charge electric buses based on your operational needs?

Make Ready

In 2022, Hawaiian Electric launched *Charge Up eBus*, which is a make-ready infrastructure pilot program. As part of this pilot, Hawaiian Electric designs, installs and maintains charging infrastructure up to the point of connection with the customer's charging equipment (as shown below). Charge up eBus provides infrastructure for Level 2 (120V/240V) and/or DC fast charging (277V/480V).



19. Are you aware of the Charge Up eBus Pilots?

- Yes, I am aware
- No, I am not aware

20. Is your organization planning to apply for Charge Up eBus Pilot?

- Yes, we applied (skip to question 22-23)
- Yes, we are planning to apply when the program expands and is open to new applicants (skip to question 22-23)
- No, but I'd like to receive more information (continue to questions 21 and 23)
- No, we are not planning to apply (continue to questions 21 and 23)
- Unsure (continue to questions 21 and 23)

21. If you are not planning to apply or are unsure, please share why your organization has not applied to Charge Up eBus (select all that apply):

- Not aware of the pilot program
- Pilot program schedule does not align with organization's plans
- Pilot program scope does not align with the organization's plans
- Number of charging ports supported by the pilot is too few
- We will not be acquiring an eligible Class 5-8 eBus(es)
- We will not be installing eligible networked charging equipment at our facility
- Our facility does not have an existing Schedule J or P electric service
- E-Bus or Commercial EV rates are not a good fit for our operations
- Other: _____

22. Please indicate your level of agreement with the following statement: I would recommend the Charge Up eBus Pilot to others.

1	2	3	4	5
Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree

23. What are the biggest barriers to eBus adoption? (select all that apply)

- Cost of eBuses
- Cost of charging infrastructure
- Complexity of installing and/or managing charging infrastructure
- Limited battery range
- Impact to bus operations (e.g. charging time)
- Limited incentives
- Other: _____

Existing Bus Fleet

24. "What was your average cost per gallon for diesel in 2024?"

\$_____ /gallon

25. How many different types of non-electric buses do you currently operate?

Bus Type	Number of buses	Fuel Type (e.g., diesel, hybrid)	Average annual mileage per bus	Average years in service before replacement

26. How many different types of battery electric buses does your organization currently operate?

	eBus Model 1	eBus Model 2	eBus Model 3
Bus Type (e.g., 40' transit)			
Number of electric buses			
Number of passenger seats per bus			
Average annual mileage per bus			
Average number of days per month in operation			
Vehicle Battery Size (kW)			
Are the buses registered in Hawaii? (Yes/No)			
Date the bus started operation (mm/yyyy)			
How many are test/demonstration electric buses?			
If applicable, what is the expected end date for the test/demonstration? (mm/yyyy)			

27. How many different types of non-electric vehicles were retired/replaced by electric buses in 2024?

Type (e.g., 40' transit)	Number of Buses Retired

Future Bus Fleet Plans

28. Indicate the type (e.g., 40' coach, 60' articulated, etc.) and number of new electric buses that you anticipate adding to your fleet in the next few years.

Type (e.g., 40' transit)	Number of Buses	Year In Service (YYYY)

29. How many facilities do you have existing bus charging stations at?

Charging Location (Address)	Type of Charging (e.g., Level 2, DCFC, pantograph)	Number of Ports	Total Charging Load (kW)	Year in Service

30. How many facilities are you planning to install charging at in the next 1-3 years?

Charging Location (Address)	Type of Charging (e.g., Level 2, DCFC, pantograph)	Total Charging Load (kW)	Year In Service (YYYY)

31. Please provide any additional feedback on how our company can further assist with the transition to electric buses.