

Hawaiian Electric Companies

Electric Vehicle Pilot Rates Report

Annual Report on the Progress and Status of the Commercial Public Electric Vehicle Charging Service Pilot Rates Transmittal No. 13-07 March 31, 2014

Background

In accordance with Ordering Paragraph 1.C. in the Hawaii Public Utilities Commission's Decision and Order No. 31338 filed July 1, 2013 in Transmittal Nos. 13-07 and 13-08 (consolidated), the attached 2013 report provides year ending December 31, 2013 information on the status of implementing Commercial Public Electric Vehicle Charging Service Pilot Rates, Schedules EV-F and EV-U.

I. Schedule EV-F Tariff

By its Transmittal No. 13-07 filed on July 4, 2013, the Hawaiian Electric Companies¹ sought to establish commercial rate Schedule EV-F pursuant to certain terms, including:

1. The rate is applicable only to separately metered commercial public EV charging facilities providing charging services with demand no greater than 100 kW. The facility is limited to no more than 5 kW for ancillary load, such as area lighting.
2. Time-of-use rate periods include Priority-Peak, Mid-Peak, and Off-Peak periods.
3. The maximum number of accounts is limited to: (A) 100 meters within Hawaiian Electric's service territory; (B) 40 meters within Hawai'i Electric Light's service territory; and (C) 40 meters within Maui Electric's service territory, consisting of its Lana'i, Maui, and Moloka'i Divisions.
4. The five year pilot is effective through June 30, 2018.

Schedule EV-F supports clean energy goals by encouraging “the development of public EV charging facilities by pricing electricity at levels that are lower than Schedule EV-C and Schedule J at lower energy consumption levels for start-up EV public charging operators.”²

¹The Hawaiian Electric Companies are: Hawaiian Electric Company, Inc., Hawai'i Electric Light Company, Inc., and Maui Electric Company, Limited.

² Transmittal No. 13-07 at 22

A. Adoption and Status of Schedule EV-F

Table 1 below provides a breakdown of the number of customer accounts billed each month on the Schedule EV-F Pilot Rate for the three Companies.

**Table 1
EV-F Customers Billed
July – December 2013**

Month	O‘ahu	Hawai‘i	Maui
Jul	0	0	0
Aug	3	0	0
Sep	3	0	0
Oct	3	0	0
Nov	2	0	0
Dec	4	0	0

Under this rate 11,323 kWh were consumed in the year 2013 to support electric vehicle charging.

B. Summary of Cost and Revenue

Table 2a presents a breakdown of the revenue generated each month from Schedule EV-F for the three Companies. Between July 4, 2013 and December 31, 2013, \$4,557.94 in revenue was generated from customers under the Schedule EV-F Pilot rate.

**Table 2a
EV-F Revenues
July – December 2013**

Month	O‘ahu	Hawai‘i	Maui
Jul	\$ -	\$ -	\$ -
Aug	\$ 308.47	\$ -	\$ -
Sep	\$ 861.00	\$ -	\$ -
Oct	\$ 1,033.99	\$ -	\$ -
Nov	\$ 817.16	\$ -	\$ -
Dec	\$ 1,537.32	\$ -	\$ -

Incremental costs to support Schedule EV-F, including cost to enroll and bill customers, are de minimis.

C. Subsidization by non-participating ratepayers

Table 2b below summarizes the total monthly revenue generated from Schedule EV-F compared to the potential revenue generated if the charging facility were billed under Schedule J, General Service Demand. The potential Schedule J revenue provided in Table 2b is provided based on an assumed monthly billing demand of 47.5 kW. The total subsidization under Schedule EV-F for the year 2013 was \$7,030.21.

**Table 2b
EV-F Subsidization
July – December 2013**

Month	Total Schedule EV-F	Potential Schedule J	Difference
Jul	\$ -	\$ -	\$ -
Aug	\$ 308.47	\$ 1,115.88	\$ 807.41
Sep	\$ 861.00	\$ 2,482.70	\$ 1,621.70
Oct	\$ 1,033.99	\$ 2,597.29	\$ 1,563.30
Nov	\$ 817.16	\$ 2,748.71	\$ 1,931.55
Dec	\$ 1,537.32	\$ 2,643.57	\$ 1,106.25

D. Recommendation of revisions to Schedule EV-F

1. Addressing Range Anxiety

The Hawaiian Electric Companies do not recommend any revisions to Schedule EV-F at this time to address range anxiety.

2. Company Research, Development, and demonstration activities related to EV charging Technologies and Load Control

The Hawaiian Electric Companies do not recommend any revisions to Schedule EV-F at this time based on research, development, and demonstration activities related to EV charging technologies and load control.

3. Minimize the level of extent of subsidization by non-participating ratepayers

The Hawaiian Electric Companies do not recommend any revisions to Schedule EV-F at this time to minimize subsidization by non-participating ratepayers.

II. Schedule EV-U Tariff

By its Transmittal No. 13-07 filed on July 4, 2013, the Hawaiian Electric Companies sought to establish commercial rate Schedule EV-U pursuant to certain terms, including:

4. Company-operated public charging facilities are based upon a fee-per-charge session.
5. Per session fees during the Priority-Peak and Off-Peak periods are set no more than \$0.50 above and \$0.50 below the Mid-Peak fee, respectively.
6. The maximum, aggregate amount of Company facilities will be twenty-five (25).
7. The Company may curtail charging of electric vehicles under certain circumstances.
8. The five year pilot is effective through June 30, 2018.

Schedule EV-U is intended to support the EV market by allowing the Companies 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 in multi-family dwellings.

A. Describe and Review the Adoption and Status of Schedule EV-U

Between July 4, 2013 and December 31, 2013, no DC fast chargers were available for public usage under Schedule EV-U. See table 3 below.

Table 3
DC Fast Charger Under Schedule EV-U
July – December 2013

Month	O'ahu	Hawai'i	Maui
Jul	0	0	0
Aug	0	0	0
Sep	0	0	0
Oct	0	0	0
Nov	0	0	0
Dec	0	0	0

In September 2013, Hawaiian Electric solicited a Request For Proposal (“RFP”) for a DC fast charging system capable of charging at a maximum 50 kW DC output and requiring no more than 23 kVA input. Hawaiian Electric worked with the selected vendor on the procurement of the charging system through the end of December 2013. Hawaiian Electric has solicited another RFP for DC fast charging systems with 50 kVA input. Hawaiian Electric plans to purchase a charging system from the second RFP to complete installation by end of 2014.

In September 2013, Maui Electric solicited a RFP for a single DC fast charger. The fast charger was purchased and installed at the Maui Electric Kahalui office. Initial testing was conducted in 2013 with plans to have the charging station available by the second quarter of 2014.

B. Summary of Costs and Revenue

Table 4 below reports expenses from July 4 to December 31, 2013, for capital cost (for purchase of capital equipment and labor for design and installation of the project site), O&M labor (for project management and research), and non-labor (for operations and maintenance).

**Table 4
Labor and Non-labor Costs
July – December 2013**

Service Territory	Cost Element	Cost
O‘ahu	Capital Costs	\$ -
	O&M Labor Costs	\$ 25,240.40
	O&M Non-Labor Costs	\$ -
	Total Costs	\$ 25,240.40
Hawai‘i	Capital Costs	\$ -
	O&M Labor Costs	\$ -
	O&M Non-Labor Costs	\$ -
	Total Costs	\$ -
Maui	Capital Costs	\$ 49,666.54
	O&M Labor Expense	\$ 34,116.34
	O&M Non-Labor Expense	\$ -
	Total Costs	\$ 83,782.88
ALL	CAPITAL COSTS	\$ 49,666.54
	O&M LABOR COSTS	\$ 59,356.74
	O&M NON-LABOR COSTS	\$ -
	TOTAL COSTS	\$ 109,023.28

Between July 4, 2013 and December 31, 2013, no revenue was collected under Schedule EV-U. See table 5 below.

Table 5
Schedule EV-U Revenue
July – December 2013

Month	O‘ahu	Hawai‘i	Maui
Jul	\$ -	\$ -	\$ -
Aug	\$ -	\$ -	\$ -
Sep	\$ -	\$ -	\$ -
Oct	\$ -	\$ -	\$ -
Nov	\$ -	\$ -	\$ -
Dec	\$ -	\$ -	\$ -

C. Identify and Describe the Level and Extent of Subsidization by non-participating ratepayers

There was no revenue subsidization for Schedule EV-U since there were no revenues in 2013.

D. Recommendation of revisions to Schedule EV-U

1. Addressing Range Anxiety

The Hawaiian Electric Companies do not recommend any revisions to Schedule EV-U at this time to address range anxiety.

2. Company Research, Development, and demonstration activities related to EV charging Technologies and Load Control

The Hawaiian Electric Companies do not recommend any revisions to Schedule EV-U at this time based on research, development, and demonstration activities related to EV charging technologies and load control.

3. Minimize the level of extent of subsidization by non-participating ratepayers

The Hawaiian Electric Companies do not recommend any revisions to Schedule EV-U at this time to minimize subsidization by non-participating ratepayers.

III. Information provided to potential Schedule EV-F customers and DC fast charging hosts

Attachment A includes information to promote awareness of Schedule EV-F and fast charging opportunities under Schedule EV-U. Advertising was provided in the “HawaiiDealer” publication of the Hawaii Automobile Dealers Association. Information was also provided in the “SmartBusiness Central” email newsletter, which is also available on the Company website.

EV PILOT RATES
ANNUAL REPORT 2013

ATTACHMENT A

INFORMATIONAL MATERIAL ON
COMMERCIAL PUBLIC ELECTRIC VEHICLE CHARGING
SERVICE PILOT RATES

When and where was the first gas station built?

1905, St. Louis, Missouri

And the second?

1907, Seattle, Washington 2,000 miles away

Now THAT was a good reason for 'range anxiety.'

More people bought automobiles and by 1930, America had 100,000 gas stations. Drivers still ran out of gas, but AAA offered roadside help to stranded drivers. Range anxiety was a problem no more. Today, range anxiety may be why some people do not buy an electric vehicle. Most auto trips are less than 30 miles (and even less in Hawaii), but no one wants to be stranded away from home.

Hawaiian Electric wants to help!

The Hawaiian Electric Companies are adding a new charge rate designed to encourage ownership of plug-in electric vehicles and ease "range anxiety" by adding more fast chargers across Hawaii. A fast charger can refill an "empty" EV to an 80 percent charge in less than 30 minutes.

The new Schedule EV-F will make it financially attractive for business customers to open public EV charging facilities. Now gas stations, shopping centers or stores, auto dealers, hotels or any other business can provide fast charging to the public at a better rate.

Learn more at www.hawaiianelectric.com/goev or call 808-543-GOEV (4638). Or check out the State Energy Office's EV program at www.electricvehicle.hawaii.gov.



Hawaiian Electric Company
Maui Electric Company
Hawaii Electric Light Company

hawaiianelectric.com

Is there a fast charger in your future?

By hosting an electric vehicle fast-charging station, your business can show its commitment to the environment – and gain the gratitude of a growing number of EV drivers.

The Hawaiian Electric Companies are seeking business partners willing to provide space for an electric vehicle fast-charging station to be operated by the utility.

A direct current (DC) EV fast charger can “fill up” an empty electric vehicle battery to 80% charge in about 30 minutes. Hawaiian Electric hopes to extend EV driving range on all islands we serve. At the same time, we continue studying how best to integrate electrical vehicles on the electric grid.

If your company provides hosting space on O’ahu, Maui County or Hawai’i Island, the utility will install, own, and operate the charging station. Any serious site proposal will be carefully considered, especially remote locations, preferably accessible to the public 24/7.

Companies that collaborate with us will attract EV-driving customers and get clean energy “bragging rights.” It may help you comply with state law requiring public parking lots with 100 or more spaces to provide at least one parking space with an EV charging station.

To learn more about becoming a hosting site, visit www.hawaiianelectric.com/goev or call (808) 543-GoEV (4638) on O’ahu, 871-8461 ext. 2224 on Maui, or 969-0340 on Hawai’i Island.



Hawaiian Electric
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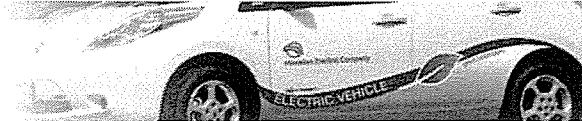
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New Electric Rate Promotes Installation of EV Charging Stations



To increase the number of publically available electric vehicle charging stations across the state, the Public Utilities Commission has given the Hawaiian Electric Companies the green light to institute a new, pilot EV charging rate. The new rate aims to encourage businesses to install EV charging stations to ease their customers' anxiety about depleting their EVs' battery charge while traveling a distance from their home EV chargers.

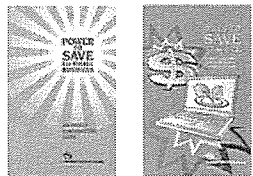
Electric rate schedule EV-F, Commercial Public Electric Vehicle Charging Facility Service Pilot, makes it more financially attractive for businesses to offer public EV charging service. Schedule EV-F serves facilities that are metered separately from other business electricity uses, offers commercial EV time-of-use rates, and eliminates the demand charge that is normally assessed for large commercial electricity use.

Under the new EV electric rate, businesses can provide direct current fast charging, which delivers a quicker charge but at a higher demand, without paying a demand charge. A DC fast-charging station can bring an "empty" EV battery to an 80-percent charge in about 30 minutes.

"Plug-in electric vehicle use continues to increase, and we want to make it easier for individuals to own and use them," said Jim Alberts, Hawaiian Electric senior vice president for customer service. "While most electric vehicle owners will continue to charge their EVs overnight at home, more charge spots across the islands will provide assurance to EV drivers that they won't 'run out of juice' while away from home."

Additionally, the new commercial EV charging station rate offers businesses a way to increase the services they provide to their customers.

For detailed information on electric vehicles and the new EV rate, go to hawaiianelectric.com/goev or call 543-4638 on Oahu, 871-2390 on Maui, or 969-0358 on Hawaii Island.



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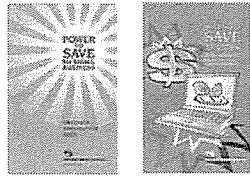


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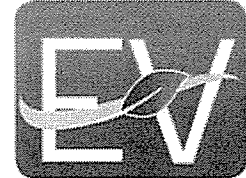
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Are you interested in hosting an EV charging station?

At the Hawaiian Electric Companies, we are looking for partners who will host a publicly accessible, DC fast-charging, electric vehicle charging station. DC fast charging can provide an empty EV battery an 80 percent charge in about 30 minutes.

Under a new five-year pilot program, we will install, own, and operate EV charging stations located at sites that will best extend EV driving ranges to remote destinations or to locations where drivers can best make use of fast chargers. Through this pilot program we hope to extend EV driving range on O'ahu, Maui, and Hawai'i Island, while further studying how to best integrate EV charging with the electric grid.



goev.heco.com

Companies that partner with us and host an EV charging station will benefit by providing their EV-driving customers with access to a fast charger and by complying with new state legislation. Act 89 mandates public parking lots with 10 or more spaces to provide at least one parking space with an EV charging station. Additionally, these partner companies would be instrumental in promoting a green technology.

For more information on participating in the program as a site host, or on electric vehicles and EV charging rates, go to <http://heco.com/goev> or call us at 543-4638 on Oahu, at 971-8461 ext. 2224 on Maui, or at 969-0358 on Hawai'i Island.

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