



June 26, 2019

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PUBLIC UTILITIES  
COMMISSION

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: Hawaiian Electric Energy Cost Recovery Factor for July 2019

Hawaiian Electric Company, Inc.'s ("Hawaiian Electric" or "Company") July 2019 Energy Cost Recovery Factor is 14.545 cents per kilowatt-hour ("kWh"), a decrease of 0.654 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$160.95, a decrease of \$2.52 compared to rates effective June 1, 2019. The decrease in the residential typical bill is due to an increase in the Purchase Power Adjustment Clause rate (+\$0.87), an increase in the Public Benefits Fund Surcharge (+\$0.06), a decrease in the Energy Cost Recovery Factor (-\$3.27), and a decrease in the Green Infrastructure Fee (-\$0.18).

The Company's fuel composite cost of major energy decreased 61.60 cents per million BTU to 1,274.35 cents per million BTU. The Company's composite cost of minor energy increased 2.209 cents per kWh to 19.387 cents per kWh. The composite cost of purchased energy decreased 0.462 cents per kWh to 10.475 cents per kWh.

The attached sheets set forth the energy cost recovery factor in cents per kWh for each rate schedule that is applicable for *pro rata* use beginning July 1, 2019.

Very truly yours,

Dean K. Matsuura  
Director, Regulatory Rate Proceedings

Enclosures

cc: Division of Consumer Advocacy

**Hawaiian Electric Company, Inc.**  
**ENERGY COST RECOVERY FACTOR**

	<u>Effective Dates</u>		<u>Change</u>
	<u>06/01/19</u>	<u>07/01/19</u>	
Composite Cost Of Major Energy, ¢/mmbtu	1,335.95	1,274.35	(61.60)
Composite Cost Of Minor Energy, ¢/kwh	17.178	19.387	2.209
Composite Cost Of Purchased Energy, ¢/kWh	10.937	10.475	(0.462)
 <u>Residential, Schedule "R"</u>			
Energy Cost Recovery, ¢/kWh	15.199	14.545	(0.654)
 <u>Others, Schedules "G,J,DS,P,F"</u>			
Energy Cost Recovery, ¢/kWh	15.199	14.545	(0.654)
 <u>Residential Customer with:</u>			
500 kWh Consumption, \$/bill	163.47	160.95	(2.52)
600 kWh Consumption, \$/bill	194.39	191.42	(2.97)

Supersedes Sheet Effective:

June 1, 2019

Hawaiian Electric Company, Inc.  
ENERGY COST RECOVERY FILING

ENERGY COST RECOVERY (ECR) FILING - July 1, 2019 (page 1 of 2)

Line		
1	Effective Date	- July 1, 2019
2	Supersedes Factor	- June 1, 2019

**GENERATION COMPONENT**

<b>MAJOR ENERGY COMPONENT</b>				<b>MINOR ENERGY COMPONENT</b>				
FUEL PRICES, ¢/mmbtu				Fuel Type	Gen Cost ¢/KWH	Percent of Minor Energy	Weighted Gen Cost ¢/KWH	
3	Honolulu		0.00	32a Airport DG	35.70	1.27%	0.4538	
4	Kahe		1,274.47	32b CIP-Biodiesel	0.00	0.00%	0.0000	
5	Waiau-Steam		1,274.15	32c CIP-Diesel	33.52	15.23%	5.1058	
6	(Future Use)		0.00	32d SGS - Biodiesel	33.31	21.74%	7.2432	
7	(Future Use)		0.00	32e SGS - ULSD	18.36	0.94%	0.1731	
8	(Future Use)		0.00	32f Waiau-Diesel	29.94	21.41%	6.4113	
9	Other		0	32g West Loch PV	0.00	39.40%	0.0000	
	BTU MIX, %			32h COMPOSITE COST OF MINOR ENERGY, ¢/kWh				
10	Honolulu		0.00	33 % Input to System kWh Mix			19.387	
11	Kahe		62.37				1.92	
12	Waiau-Steam		37.63	34 WTD COMP MINOR ENERGY COST, ¢/kWh (Lines 32f x 33)				
13	(Future Use)		0.00				0.37223	
14	(Future Use)		0.00	35 2017 TY Loss Factor				
15	(Future Use)		0.00				1.0490	
16	Other		0.00	36 WTD COMP MINOR ENERGY COST, ¢/kWh (Line 34 x 35)				
			100.00				0.39047	
17	COMPOSITE COST OF GENERATION, MAJOR ENERGY ¢/mmbtu			1,274.35	37 BASE MINOR ENERGY COMP COST			
18	% Input to system kWh Mix			43.94	38 Base % Input to System kWh Mix			
	EFFICIENCY FACTOR, mmbtu/kWh				39 WTD BASE MINOR ENERGY COST, ¢/kWh (Line 37 x 38)			
	(A)	(B)	(C)	(D)	40 2017 TY Loss Factor			
			Percent of	Weighted	41 WTD COMP MINOR ENERGY COST, ¢/kWh (Line 39 x 40)			
			Centri Stn +	Eff Factor	42 Cost Less Base (Line 36 - 41)			
	Fuel Type	Eff Factor	Other		43 Revenue Tax Adjustment (1 / (1-0.08885))			
		mmbtu/kWh			44 MINOR ENERGY FACTOR, ¢/kWh (Line 42 x 43)			
19	LSFO	0.011165	100.00	0.011165				
20	(Future Use)	0.000000	0.00	0.000000				
21	(Future Use)	0.000000	0.00	0.000000				
22	Other	0.011165	0.00	0.000000				
	(Lines 19 through 22): Col(B) x Col(C) = Col(D)							
23	Weighted Efficiency Factor, mmbtu/kWh [lines 19(D) + 20(D) + 21(D) + 22(D)]			0.011165				
24	WEIGHTED MAJOR ENERGY COST, ¢/kWh Sales (lines 17 x 18 x 23)			6.25183				
25	BASE MAJOR ENERGY COST, ¢/mmbtu			0.00				
26	Base % Input to System kWh Mix			0.0000				
27	Efficiency Factor, Mbtu/kWh			0.000000				
28	WEIGHTED BASE MAJOR ENERGY COST ¢/KWH Sales (lines 25 x 26 x 27)			0.00000				
29	Cost Less Base (Line 24 - 28)			6.25183				
30	Revenue Tax Adjustment (1 / (1-0.08885))			1.097514				
31	MAJOR ENERGY GENERATION FACTOR, ¢/KWH (Line 29 x 30)			6.86147				

SUMMARY OF TOTAL GENERATION FACTOR, ¢/kWh	
45 MAJOR ENERGY (line 31)	6.86147
46 MINOR ENERGY (line 44)	- 0.42855
47 TOTAL GENERATION FACTOR, ¢/KWH (lines 45 + 46)	- 7.29002

Hawaiian Electric Company, Inc.  
ENERGY COST RECOVERY FILING

ENERGY COST RECOVERY (ECR) FILING - July 1, 2019 (page 2 of 2)

Line		
1	Effective Date	- July 1, 2019
2	Supercedes Factor	- June 1, 2019

Line	PURCHASED ENERGY COMPONENT		
	PURCHASED ENERGY PRICE - FOSSIL - ¢/KWH		
48	PAR Hawaii	- On Peak	12.421
49	PAR Hawaii	- Off Peak	13.472
50	IES Downstream	- On Peak	12.421
51	IES Downstream	- Off Peak	13.472
52	Kalaeloa		12.654
53	AES-HI		3.482
	PURCHASED ENERGY PRICE - RENEWABLE - ¢/KWH		
54	HRRV	- On Peak	17.63
55		- Off Peak	17.13
56	HRRV	- On Peak (excess)	11.23
57		- Off Peak (excess)	6.74
58	Kawaiiloa		22.395
59	Kahuku Wind		21.013
60	Waianae Solar PV		14.500
61	As Available I		22.399
62	FIT		19.252
63	CBRE PV		15.000
64	(Future IPP)		0.000
65	(Future IPP)		0.000
66	(Future IPP)		0.000
67	(Future IPP)		0.000
	PURCHASED ENERGY KWH MIX - FOSSIL - %		
68	PAR Hawaii	- On Peak	0.21
69	PAR Hawaii	- Off Peak	0.15
70	IES Downstream	- On Peak	0.01
71	IES Downstream	- Off Peak	0.01
72	Kalaeloa		39.43
73	AES-HI		36.58
73a	Subtotal Fossil %		76.39
	PURCHASED ENERGY KWH MIX - RENEWABLE - %		
74	HRRV	- On Peak	6.85
75		- Off Peak	2.32
76	HRRV	- On Peak (excess)	0.00
77		- Off Peak (excess)	2.54
78	Kawaiiloa		4.45
79	Kahuku Wind		2.83
80	Waianae Solar PV		2.16
81	As Available I		0.64
82	FIT		1.55
83	CBRE PV		0.27
84	(Future IPP)		0.00
85	(Future IPP)		0.00
86	(Future IPP)		0.00
87	(Future IPP)		0.00
87a	Subtotal Renewable %		23.61
87b	Total Purchased Energy %		100.00
87c	Composite Cost of Purchased Energy, Fossil		8.26
87d	Composite Cost of Purchased Energy, Renewable		17.63
88	COMPOSITE COST OF PURCHASED ENERGY, ¢/KWH		10.475
89	% Input to System kWh Mix		54.14
90	WTD CMP PURCH ENRGY COST, ¢/KWH (lines 88 x 89)		5.67117
91	2017 TY Loss Factor		1.0490
92	WTD CMP PURCH ENRGY COST, ¢/KWH (lines 90 x 91)		5.94906
93	BASE PURCHASED ENERGY COMPOSITE COST, ¢/KWH		0.000
94	Base % Input to System kWh Mix		0.0000
95	WEIGHTED BASE PURCHASED ENERGY COST, ¢/KWH SALES (lines 93 x 94)		0.00000
96	2017 TY Loss Factor		1.049
97	WTD CMP PURCH ENRGY COST, ¢/KWH sales (lines 95 x 96)		0.00000
98	Cost Less Base (Line 92 - 97)		5.94906
99	Revenue Tax Adjustment (1 / (1-0.08885))		1.097514
100	PURCHASED ENERGY FACTOR, ¢/KWH (lines 98 x 99)		6.52917

Calculation of Monthly Fossil Fuel Cost Risk Sharing Component	
<b>Baseline LSFO (Actual)</b>	
101	LSFO \$, baseline month \$44,129,782
102	LSFO mmbtu, baseline 3,300,499
103	Baseline LSFO, ¢/mmbtu 1337.06
<b>Baseline Diesel (Actual)</b>	
104	Diesel \$, baseline month \$1,726,670
105	Diesel mmbtu, baseline 107,471
106	Baseline Diesel, ¢/mmbtu 1,606.64
<b>Month LSFO</b>	
107	LSFO mmbtu, budget 2,867,658
108	LSFO Cost, ¢/mmbtu 1,274.35
109	LSFO ECRC Fossil Cost \$36,543,993
110	LSFO Base ECRC Recovery Target \$38,342,428
111	LSFO differential -\$1,798,435
<b>Month Diesel</b>	
112	Diesel mmbtu, budget 80,941
113	Diesel Cost, ¢/mmbtu 1,681.39
114	Diesel ECRC Fossil Cost \$1,360,940
115	Diesel Base ECRC Recovery Target \$1,300,430
116	Diesel differential \$60,509
117	Total Fossil -\$1,737,925
118	2% of above -\$34,759
118A	Total Monthly Fossil Fuel Cost Risk Sharing, Prior Months in Year -\$197,068
118B	Maximum Annual Cap (bi-directional) \$2,500,000
118C	Applicable Monthly Fossil Fuel Cost Risk Sharing -\$34,759
118D	Total Monthly Fossil Fuel Cost Risk Sharing, Including This Month -\$231,827
119	Fossil Cost Risk Sharing before taxes -\$34,759
120	Revenue Tax Adjustment 1.097514
121	Fossil Cost Risk Sharing w/revenue tax -\$38,148
122	Forecasted Month MWh Sales 578,500
123	Fossil Fuel Cost Risk Sharing Component, ¢/kWh 0.0066

Derivation of Non-Adjustable Component:	
80A	Fuel Handling Exp, \$000 \$7,604.5
	Final Settlement, HECO-603, p1
80B	Revenue Tax Adjustment 1.097514
80C	Non-Adj Revenues, \$000 \$8,346.0
80D	2017 TY Sales, MWh 6,660,200
	HECO-301, p1
80E	Non-Adj Revenues, ¢/kWh 0.12531

Line	SYSTEM COMPOSITE	
124	GEN AND PURCHASED ENERGY FACTOR, ¢/kWh (lines 47 + 100)	13.8192
125	(Future Use) Adjustment, ¢/kWh	0.0000
126	ECR Reconciliation Adjustment	0.5940
127	Non-Adjustable Component (line 80E)	0.1253
128	Fossil Fuel Cost Risk Sharing Component (line 123)	0.0066
129	Monthly Energy Cost Recovery Factor (lines 124 + 125 + 126 + 127 + 128)	14.545

**Hawaiian Electric Company, Inc.**  
**FUEL OIL INVENTORY PRICES FOR 07-01-19**

	Honolulu	Kahe	Waiau
Average Low Sulfur Fuel Oil, ¢/Mbtu	1,274.15	1,274.15	1,274.15
Kahe Fuel Additive, ¢/Mbtu	-	0.32	-
Honolulu Trucking Cost, ¢/Mbtu	-	-	-
Low Sulfur Fuel Oil Prices Used For Filing, ¢/Mbtu	1,274.15	1,274.47	1,274.15
	Waiau	CIP Biodiesel	CIP Diesel
Average Diesel / Biodiesel Oil, ¢/Mbtu	1,666.44	-	1,691.30
Thruput Charges, ¢/Mbtu	-	-	0
Diesel / Biodiesel Oil Prices Used for Filing, ¢/Mbtu	1,666.44	-	1,691.30
	SGS ULSD	SGS Biodiesel	
Average Diesel / Biodiesel Oil, ¢/Mbtu	2,000.71	3,611.41	
Thruput Charges, ¢/Mbtu	-	-	
Diesel / Biodiesel Oil Prices Used for Filing, ¢/Mbtu	2,000.71	3,611.41	
	Honolulu	Kahe	Waiau
Average Low Sulfur Fuel Oil, \$/bbl	79.61	79.61	79.61
Kahe Fuel Additive, \$/bbl	-	0.02	-
Honolulu Trucking Cost, \$/bbl	-	-	-
Low Sulfur Fuel Oil Prices Used For Filing, \$/bbl	79.61	79.63	79.61
	Waiau	CIP Biodiesel	CIP Diesel
Average Diesel / Biodiesel Oil, \$/bbl	95.94	-	95.66
Thruput Charges, ¢/Mbtu	-	-	-
Diesel / Biodiesel Oil Prices Used for Filing, \$/bbl	95.94	-	95.66
	SGS ULSD	SGS Biodiesel	
Average Diesel / Biodiesel Oil, \$/bbl	115.96	190.92	
Thruput Charges, ¢/Mbtu	-	-	
Diesel / Biodiesel Oil Prices Used for Filing, \$/bbl	115.96	190.92	
Distributed Generation Fuel Prices Used for Filing, ¢/kWh			35.700

FOAC July 2019

<u>LSFO</u>	<u>BARRELS</u>	<u>MBTU</u>	<u>AMOUNT</u>	<u>AVE \$/MBTU</u>
Per FOAC run	1,171,430	7,318,843.32	93,252,813.70	12.741469
Additional	-	-	-	-
Forecast Amt	1,171,430	7,318,843.32	93,252,813.70	12.741469
	-	6.20	-	ADD'L BBL
	7,318,843	1,171,430	6.2478	MBTU / BBL
	93,252,814	1,171,430	79.61	DOLLARS / BBL
<u>WAIU DIESEL</u>	28,974	166,805.26	2,779,712.61	16.664418
	2,779,713	28,974	95.94	DOLLARS / BBL
<u>CIP BIODIESEL</u>	-	-	-	-
	-	-	-	DOLLARS / BBL
<u>CIP DIESEL</u>	44,607	252,310.58	4,267,328.54	16.912999
	4,267,329	44,607	95.66	DOLLARS / BBL
<u>SGS ULSD</u>	426	2,469	49,399.63	20.00714025
	49,399.63	426	115.96	DOLLARS / BBL
<u>SGS BIODIESEL</u>	11,395	60,239.78	2,175,507.76	36.11413589
	2,175,508	11,395	190.92	DOLLARS / BBL
<b>KAHE FUEL ADDITIVE *</b>				0.003194
Additional				
Forecast Amt	-	-		0.003194
\$ / BBL =	-	-	0.02	DOLLARS / BBL
<b>HONOLULU TRUCKING COST</b>				
Per FOAC run	-	-	-	-
Additional				
Forecast Amt	-	-	-	-
\$ / BBL =	-	-	-	DOLLARS / BBL

**Hawaiian Electric Company, Inc.**

**CONTRACT PRICES EFFECTIVE 6-1-19**

<u>TYPE OF OIL BURNED</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>
<b>LOW SULFUR FUEL OIL</b>		
Tax *	4.6373	74.80
Ocean Transportation	0.0000	0.00
Land Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00
<b>DIESEL</b>		
Tax *	4.6373	74.80
Ocean Transportation	0.0000	0.00
Land Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00
<b>ULTRA LOW SULFUR DIESEL</b>		
Tax *	5.6908	99.31
Ocean Transportation	0.0000	0.00
Land Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00
<b>BIODIESEL</b>		
Tax *	8.4000	160.06
Ocean Transportation	0.0000	0.00
Land Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00

\* Tax includes HGET, Hawaii Use Tax, Liquid Fuel Tax, LUST, Federal Oil Spill Recovery Fee, and Environmental Response, Energy and FS Tax.

Note: Since these components are not accounted for separately in inventory, contract prices for the current month are being provided. Contract prices are considered accurate pending actual delivery of the fuel.

HAWAIIAN ELECTRIC COMPANY, INC.  
DETERMINATION OF DISTRIBUTED GENERATION EXPENSE

Line No.		<u>Airport DG Biodiesel</u>	<u>Schofield Biodiesel</u>	<u>Schofield ULSD</u>			
(A)	\$	31.79	\$	36.11	\$	20.01	Estimated Distributed Generation Fuel Cost (\$/MBTU)
(B)		1662		23,347		1007	Estimated MBTU Consumption
(B1)		317		4,449		176	Estimated fuel consumption barrels
(C) = (A) x (B)		\$52,841		\$843,166		\$20,145	Estimated Distributed Generation Fuel Cost (\$)
(D)		148,000		2,531,625		109,748	Estimated Distributed Generation kWh
(E) = ((C) ÷ (D)) x 100		<u>35.700</u>		<u>33.310</u>		<u>18.360</u>	¢/kWh



**Hawaiian Electric Company, Inc.**  
**ECA RECONCILIATION ADJUSTMENT**  
**July 2019**

1.	Amount to be collected	\$	9,386,800
2.	Monthly Amount (Line 1 x 1/3)	\$	3,128,933
3.	Revenue Tax Divisor		0.91115
4.	Total (Line 2 / Line 3)	\$	3,434,049
5.	Estimated MWh Sales (July 2019)		578,500
6.	ECA Reconciliation Adjustment, ¢/kWh (Line 4 ÷ Line 5)		<u><u>0.594</u></u>

**HAWAIIAN ELECTRIC COMPANY, INC.**  
**2019 Cumulative Reconciliation Balance**

	(1)		(2)	(3)	(4)	(5)	(6)
	YTD FOA		FOA Rec	FOA Rec	Try to	Actual	Month-end
<u>Month</u>	<u>Reconciliation</u>	<u>Qtr</u>	<u>Variance</u>	<u>Variance</u>	<u>Collect</u>	<u>Collect</u>	<u>Cumulative</u>
							<u>Balance</u>
November '18	(3,451,000)	(3)	46,479	(3,497,479)	1,150,333	1,163,303	(2,284,162)
December					1,150,333	1,102,163	(1,181,999)
January '19					1,150,333	1,121,708	(60,291)
February	(8,214,600)	(4)	(31,672)	(8,182,928)	2,738,200	2,387,566	(5,855,653)
March					2,738,200	2,502,912	(3,352,741)
April					2,738,200	2,610,703	(742,038)
May	(9,386,800)	(1)	(614,547)	(8,772,253)	3,128,933	3,065,471	(6,448,820)
June					3,128,933		
July					3,128,933		

**NOTES:**

- Col(1): Quarterly FOA reconciliation amounts. (Refer to Attachment 4)  
A positive number is an over-collection. A negative number is an under-collection.
- Col(2): FOA reconciliation adjustment variance accumulated during the last three months, starting with the fourth prior month; the difference between the estimated recorded sales used to derive the \$/kwh adjustment and the actual recorded sales.  
(Col(5)-Col(4))
- Col(3): FOA reconciliation generated in the current quarter. The YTD FOA reconciliation difference minus the adjustment variance. Col(1)-Col(2)
- Col(4): Amount that the FOA reconciliation adjustment is trying to collect. (Col(1) \* 1/3)
- Col(5): Actual collected amount. (recorded sales \* \$/kwh adjustment/1.09751)
- Col(6): Cumulative balance of the FOA reconciliation (Previous balance + Col(3) + Col(5))

**Hawaiian Electric Company, Inc.**  
**ENERGY COST RECOVERY FACTOR DATA**

<u>EFFECTIVE DATE</u>	ENERGY COST FACTOR CENTS / KWH <u>RESIDENTIAL &amp; COMMERCIAL</u>	RESIDENTIAL BILL (\$)	
		<u>@ 500 KWH</u>	<u>@ 600 KWH</u>
January 1, 2017	-2.091	135.39	161.22
February 1, 2017	-1.863	142.81	170.13
March 1, 2017	-1.730	143.26	170.66
April 1, 2017	-1.608	143.43	170.86
May 1, 2017	-2.347	140.42	167.26
June 1, 2017	-2.215	141.89	169.01
July 1, 2017	-2.003	141.79	168.91
August 1, 2017	-2.180	140.14	166.92
September 1, 2017	-2.288	139.74	166.45
October 1, 2017	-2.216	139.91	166.65
November 1, 2017	-2.109	139.52	166.18
December 1, 2017	-1.629	141.82	168.96
January 1, 2018	-1.145	144.26	171.84
February 1, 2018	-0.261	150.24	179.01
March 1, 2018	-0.389	152.06	181.14
April 1, 2018	-0.483	152.06	181.14
May 1, 2018	0.923	149.05	177.53
June 1, 2018	1.529	154.86	184.50
July 1, 2018	1.204	158.27	188.61
August 1, 2018	0.802	158.79	189.22
September 1, 2018	4.201	169.09	201.16
October 1, 2018	4.008	168.13	200.01
November 1, 2018	5.151	167.62	199.40
December 1, 2018	5.553	169.64	201.82
January 1, 2019	14.095	161.36	191.85
February 1, 2019	12.044	147.31	175.01
March 1, 2019	13.449	154.51	183.63
April 1, 2019	14.338	158.42	188.34
May 1, 2019	14.721	163.56	194.50
June 1, 2019	15.199	163.47	194.39
July 1, 2019	14.545	160.95	191.42

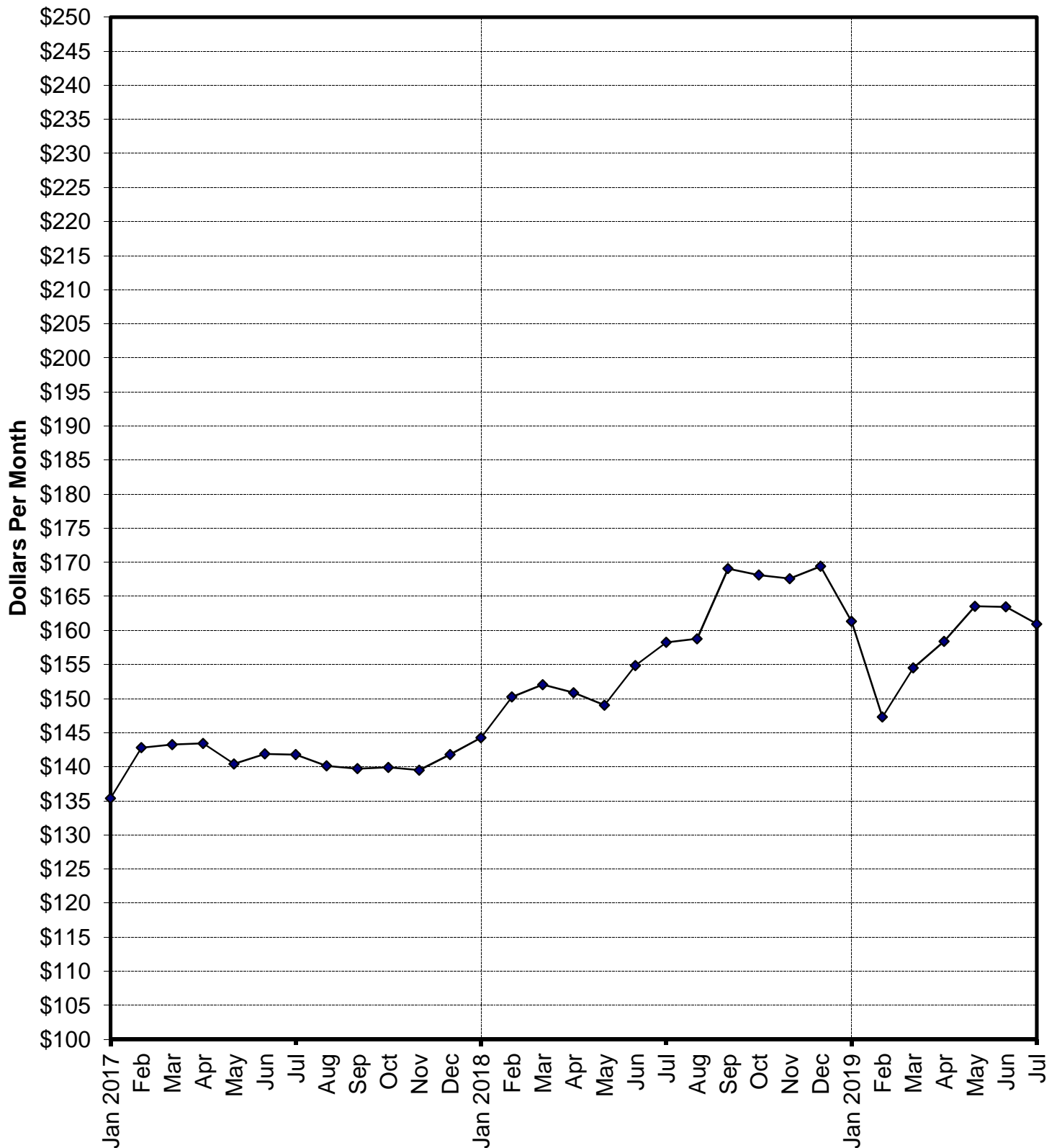
**Hawaiian Electric Company, Inc.**  
**RESIDENTIAL SURCHARGE DATA**

EFFECTIVE DATE	DESCRIPTION OF SURCHARGE	RATE
09/01/12 - 8/31/2018	FINAL RATE INCREASE (TY2011) 3.39% EFFECTIVE 09/01/12, DOCKET NO. 2010-0080	
2/1/2013	REFUND OF 2011 INTERIM RATE INCREASE	0.00 PERCENT ON BASE
01/1/2016 - 01/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	2.8642 CENTS/KWH
12/17/2015 - 02/29/2016	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0204 CENTS/KWH
01/01/2016 - 06/30/2016	GREEN INFRASTRUCTURE FEE	1.3000 DOLLARS/MONTH
02/1/2016 - 02/29/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.3809 CENTS/KWH
03/1/2016 - 03/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.3578 CENTS/KWH
3/1/2016 - 05/14/2016	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0204 CENTS/KWH
04/1/2016 - 04/30/2016	SOLAR SAVER ADJUSTMENT	-0.1223 CENTS/KWH
04/1/2016 - 04/30/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.3834 CENTS/KWH
4/1/2016 - 3/31/2017	RESIDENTIAL DSM ADJUSTMENT	0.0811 CENTS/KWH
5/1/2016 - 3/31/2017	SOLAR SAVER ADJUSTMENT	0.00 CENTS/KWH
05/1/2016 - 05/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.6989 CENTS/KWH
<b>5/15/2016</b>	<b>RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION</b>	<b>0.0000 CENTS/KWH</b>
06/1/2016 - 06/30/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.7373 CENTS/KWH
6/1/2016 - 5/31/2017	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	2.1098 CENTS/KWH
07/1/2016 - 07/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.6808 CENTS/KWH
7/1/2016 - 12/31/2016	GREEN INFRASTRUCTURE FEE	1.1300 DOLLARS/MONTH
7/1/2016 - 6/30/2017	RESID. PBF SURCHARGE ADJUSTMENT	0.5865 CENTS/KWH
08/1/2016 - 08/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.2621 CENTS/KWH
09/1/2016 - 09/30/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.2827 CENTS/KWH
10/1/2016 - 10/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.2576 CENTS/KWH
11/1/2016 - 11/30/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.1959 CENTS/KWH
12/1/2016 - 12/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.1815 CENTS/KWH
01/1/2017 - 01/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	2.2812 CENTS/KWH
1/01/2017 - 06/30/2017	GREEN INFRASTRUCTURE FEE	1.2700 DOLLARS/MONTH
02/1/2017 - 02/28/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5384 CENTS/KWH
03/1/2017 - 03/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.4937 CENTS/KWH
04/1/2017 - 04/30/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5276 CENTS/KWH
4/1/2017 - 02/15/2018	RESIDENTIAL DSM ADJUSTMENT	0.0774 CENTS/KWH
4/1/2017 - 4/30/2017	SOLAR SAVER ADJUSTMENT	-0.1187 CENTS/KWH
5/1/2017-3/31/2018	SOLAR SAVER ADJUSTMENT	0.0000 CENTS/KWH
05/1/2017 - 05/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5484 CENTS/KWH
06/1/2017 - 06/30/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5894 CENTS/KWH
6/1/2017 - 2/15/2018	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	2.2291 CENTS/KWH
7/1/2017 - 12/31/2017	GREEN INFRASTRUCTURE FEE	1.1800 DOLLARS/MONTH
7/1/2017 - 7/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5388 CENTS/KWH
7/1/2017 - 6/30/2018	RESID. PBF SURCHARGE ADJUSTMENT	0.4244 CENTS/KWH
8/1/2017 - 8/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.3840 CENTS/KWH
9/1/2017 - 9/30/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.4128 CENTS/KWH
10/1/2017 - 10/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.3748 CENTS/KWH
11/1/2017 - 11/30/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.1890 CENTS/KWH
12/1/2017 - 12/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.1709 CENTS/KWH
1/1/2018 - 1/31/2018	PURCHASED POWER ADJUSTMENT CLAUSE	3.1422 CENTS/KWH
1/1/2018 - 6/30/2018	GREEN INFRASTRUCTURE FEE	1.3400 DOLLARS/MONTH
2/1/2018 - 2/28/2018	PURCHASED POWER ADJUSTMENT CLAUSE	3.4536 CENTS/KWH
2/16/2018 - 04/12/018	INTERIM RATE INCREASE 2017 TEST YEAR	8.8700 PERCENT ON BASE
2/16/2018 - 5/31/2018	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	0.7116 CENTS/KWH
2/16/2018 - 3/31/2018	RESIDENTIAL DSM ADJUSTMENT	0.0000 CENTS/KWH
3/1/2018 - 3/31/2018	PURCHASED POWER ADJUSTMENT CLAUSE	3.4266 CENTS/KWH
4/1/2018 - 4/30/2018	PURCHASED POWER ADJUSTMENT CLAUSE	3.4413 CENTS/KWH
4/1/2018 - 4/30/2018	SOLAR SAVER ADJUSTMENT	-0.1063 CENTS/KWH
4/1/2018 - 7/31/2018	RESIDENTIAL DSM ADJUSTMENT	-0.0513 CENTS/KWH
4/13/2018 - 8/31/2018	INTERIM RATE INCREASE 2017 TEST YEAR	5.8900 PERCENT ON BASE
5/1/2018 - 3/31/19	SOLAR SAVER ADJUSTMENT	0.0000 CENTS/KWH
5/1/2018 - 5/31/2018	PURCHASED POWER ADJUSTMENT CLAUSE	2.2718 CENTS/KWH
6/1/2018 - 6/30/2018	PURCHASED POWER ADJUSTMENT CLAUSE	2.5042 CENTS/KWH
6/1/2018 - 5/31/2019	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	1.0350 CENTS/KWH
7/1/2018 - 12/31/2018	GREEN INFRASTRUCTURE FEE	1.2100 DOLLARS/MONTH
7/1/2018 - 6/30/2019	RESID. PBF SURCHARGE ADJUSTMENT	0.4658 CENTS/KWH
7/1/2018 - 7/31/2018	PURCHASED POWER ADJUSTMENT CLAUSE	3.4959 CENTS/KWH
8/1/2018 - 8/31/2018	PURCHASED POWER ADJUSTMENT CLAUSE	3.9557 CENTS/KWH
8/1/2018 - 10/31/2018	RESIDENTIAL DSM ADJUSTMENT	-0.0064 CENTS/KWH
9/1/2018 - 9/30/2018	PURCHASED POWER ADJUSTMENT CLAUSE	4.3234 CENTS/KWH
<b>9/1/2018</b>	<b>INTERIM RATE INCREASE 2017 TEST YEAR</b>	<b>0.0000 PERCENT ON BASE</b>
<b>9/1/2018</b>	<b>FINAL RATE INCREASE (TY2017) -0.039% EFFECTIVE 09/01/18, DOCKET NO. 2016-0328</b>	
10/1/2018 - 10/31/2018	PURCHASED POWER ADJUSTMENT CLAUSE	4.3252 CENTS/KWH
11/1/2018 - 11/1/2018	PURCHASED POWER ADJUSTMENT CLAUSE	3.0539 CENTS/KWH
11/1/2018 - 1/31/2019	RESIDENTIAL DSM ADJUSTMENT	0.0203 CENTS/KWH
12/1/2018 - 12/31/2018	PURCHASED POWER ADJUSTMENT CLAUSE	3.0553 CENTS/KWH
1/1/2019 - 1/31/2019	PURCHASED POWER ADJUSTMENT CLAUSE	3.0574 CENTS/KWH
1/1/2019 - 6/30/2019	GREEN INFRASTRUCTURE FEE	1.3500 DOLLARS/MONTH
2/1/2019 - 4/30/2019	RESIDENTIAL DSM ADJUSTMENT	0.0000 CENTS/KWH
2/1/2019 - 2/28/2019	PURCHASED POWER ADJUSTMENT CLAUSE	2.3209 CENTS/KWH
3/1/2019 - 3/31/2019	PURCHASED POWER ADJUSTMENT CLAUSE	2.3532 CENTS/KWH
4/1/2019 - 4/30/2019	PURCHASED POWER ADJUSTMENT CLAUSE	2.3341 CENTS/KWH
4/1/2019 - 4/30/2019	SOLAR SAVER ADJUSTMENT	-0.0857 CENTS/KWH
5/1/2019 - 5/31/2019	PURCHASED POWER ADJUSTMENT CLAUSE	2.8780 CENTS/KWH
5/1/2019	SOLAR SAVER ADJUSTMENT	0.0000 CENTS/KWH
5/1/2019	RESIDENTIAL DSM ADJUSTMENT	0.0133 CENTS/KWH
6/1/2019 - 6/30/2019	PURCHASED POWER ADJUSTMENT CLAUSE	2.4806 CENTS/KWH
<b>6/1/2019</b>	<b>REVENUE BALANCING ACCOUNT RATE ADJUSTMENT</b>	<b>0.9376 CENTS/KWH</b>
<b>7/1/2019</b>	<b>PURCHASED POWER ADJUSTMENT CLAUSE</b>	<b>2.6543 CENTS/KWH</b>
<b>7/1/2019</b>	<b>GREEN INFRASTRUCTURE FEE</b>	<b>1.17 DOLLARS/MONTH</b>
<b>7/1/2019</b>	<b>RESID. PBF SURCHARGE ADJUSTMENT</b>	<b>0.4775 CENTS/KWH</b>

- Surcharges currently in effect are in bold.

- Base charges include customer charge, demand charge, energy charge, power factor adjustment, voltage discount and minimum charge.

## Hawaiian Electric Company, Inc. Residential Bill at 500 KWH/Month Consumption



**Hawaiian Electric Company, Inc.**  
**CALCULATIONS OF THE AVERAGE RESIDENTIAL CUSTOMER BILL**

	Rate		Charge (\$) at 500 kWh			
	6/1/2019	7/1/2019	6/1/2019	7/1/2019	Difference	
<b>Base Rates</b>	effective date:	01/01/19	01/01/19			
Base Fuel/Energy Charge	¢/kWh	-	-	0.00	0.00	0.00
Non-fuel Fuel Energy Charge						
First 350 kWhr per month	¢/kWh	10.6812	10.6812	37.38	37.38	0.00
Next 850 kWhr per month	¢/kWh	11.8347	11.8347	17.75	17.75	0.00
Customer Charge	\$	11.50	11.50	11.50	11.50	0.00
<b>Total Base Charges</b>				66.63	66.63	0.00
<b>Purchase Power Adjustment</b>	¢/kWh	2.4806	2.6543	12.40	13.27	0.87
<b>RBA Rate Adjustment</b>	¢/kWh	0.9376	0.9376	4.69	4.69	0.00
<b>DSM Adjustment</b>	¢/kWh	0.0133	0.0133	0.07	0.07	0.00
<b>Interim Rate Increase (TY 2017)</b>	% on base	0.000%	0.000%	0.00	0.00	0.00
<b>Refund of 2011 Interim</b>	% on base	0.000%	0.000%	0.00	0.00	0.00
<b>PBF Surcharge</b>	¢/kWh	0.4658	0.4775	2.33	2.39	0.06
<b>Renewable Energy Infrastructure Cost Recovery Provision</b>	¢/kWh	-	-	0.00	0.00	0.00
<b>SolarSaver Adjustment</b>	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
<b>Energy Cost Recovery</b>	¢/kWh	15.199	14.545	76.00	72.73	-3.27
<b>Green Infrastructure Fee</b>	\$	1.35	1.17	1.35	1.17	-0.18
<b>Avg Residential Bill at 500 kWh</b>				163.47	160.95	

Increase / (Decrease -) -2.52  
 % Change -1.54%

	Rate		Charge (\$) at 600 kWh			
	6/1/2019	7/1/2019	6/1/2019	7/1/2019	Difference	
<b>Base Rates</b>	effective date:	01/01/19	01/01/19			
Base Fuel/Energy Charge	¢/kWh	-	-	0.00	0.00	0.00
Non-fuel Fuel Energy Charge						
First 350 kWhr per month	¢/kWh	10.6812	10.6812	37.38	37.38	0.00
Next 850 kWhr per month	¢/kWh	11.8347	11.8347	29.59	29.59	0.00
Customer Charge	\$	11.50	11.50	11.50	11.50	0.00
<b>Total Base Charges</b>				78.47	78.47	0.00
<b>Purchase Power Adjustment</b>	¢/kWh	2.4806	2.6543	14.88	15.93	1.05
<b>RBA Rate Adjustment</b>	¢/kWh	0.9376	0.9376	5.63	5.63	0.00
<b>DSM Adjustment</b>	¢/kWh	0.0133	0.0133	0.08	0.08	0.00
<b>Interim Rate Increase (TY 2017)</b>	% on base	0.000%	0.000%	0.00	0.00	0.00
<b>Refund of 2011 Interim</b>	% on base	0.000%	0.000%	0.00	0.00	0.00
<b>PBF Surcharge</b>	¢/kWh	0.4658	0.4775	2.79	2.87	0.08
<b>Renewable Energy Infrastructure Cost Recovery Provision</b>	¢/kWh	-	-	0.00	0.00	0.00
<b>SolarSaver Adjustment</b>	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
<b>Energy Cost Recovery</b>	¢/kWh	15.199	14.545	91.19	87.27	-3.92
<b>Green Infrastructure Fee</b>	\$	1.35	1.17	1.35	1.17	-0.18
<b>Avg Residential Bill at 600 kWh</b>				194.39	191.42	

Increase / (Decrease -) -2.97  
 % Change -1.53%