



January 29, 2018

FILED

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

PUBLIC UTILITIES  
COMMISSION

Dear Commissioners:

Subject: Hawaiian Electric Energy Cost Adjustment Factor for February 2018

Hawaiian Electric Company Inc.'s ("Hawaiian Electric" or "Company") February 2018 energy cost adjustment factor is -0.261 cents per kilowatt-hour ("kWh"), an increase of 0.884 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$150.24, an increase of \$5.98 compared to rates effective January 1, 2018. The increase in the typical residential bill is due to an increase in the Energy Cost Adjustment factor (+\$4.42), and an increase in the Purchased Power Adjustment Clause rate (+\$1.56).

The Company's fuel composite cost of generation increased 57.82 cents per million BTU to 1,236.00 cents per million BTU. The Company's Distributed Generation ("DG") energy component decreased 0.003 cents per kWh to 0.006 cents per kWh. The composite cost of purchased energy increased 0.504 cents per kWh to 9.068 cents per kWh.

The attached sheets set forth the energy cost adjustment factor in cents per kWh for each rate schedule that is applicable for prorata use beginning February 1, 2018.

Very truly yours,

Dean K. Matsuura  
Manager, Regulatory Rate Proceedings

Attachments

cc: Division of Consumer Advocacy

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

	<u>Effective Dates</u>		<u>Change</u>
	<u>01/01/18</u>	<u>02/01/18</u>	
Composite Cost Of Generation, ¢/mmbtu	1,178.18	1,236.00	57.82
DG Energy Component, ¢/kWh	0.009	0.006	(0.003)
Composite Cost Of Purchased Energy, ¢/kWh	8.564	9.068	0.504
 <u>Residential, Schedule "R"</u>			
Energy Cost Adjustment, ¢/kWh	(1.145)	(0.261)	0.884
 <u>Others, Schedules "G,J,DS,P,F"</u>			
Energy Cost Adjustment, ¢/kWh	(1.145)	(0.261)	0.884
 <u>Residential Customer with:</u>			
500 kWh Consumption, \$/bill	144.26	150.24	5.98
600 kWh Consumption, \$/bill	171.84	179.01	7.17

Supersedes Sheet Effective:                      January 1, 2018

Hawaiian Electric Company, Inc.  
ENERGY COST ADJUSTMENT FILING

ENERGY COST ADJUSTMENT (ECA) FILING - February 1, 2018 (page 1 of 2)

<u>Line</u>		
1	<b>Effective Date</b>	- February 1, 2018
2	<b>Supersedes Factor</b>	- January 1, 2018

**GENERATION COMPONENT**

<b>CENTRAL STATION</b>						
FUEL PRICES, ¢/MBTU						
3	Honolulu		1,216.71			
4	Kahe		1,217.03			
5	Waiau-Steam		1,216.71			
6	Waiau-Diesel		1,499.14			
7	CIP-Diesel		N/A			
8	CIP-Biodiesel		2,858.40			
9	Other		0			
BTU MIX, %						
10	Honolulu		0.00			
11	Kahe		67.77			
12	Waiau-Steam		29.81			
13	Waiau-Diesel		1.52			
14	CIP-Diesel		N/A			
15	CIP-Biodiesel		0.90			
16	Other		0.00			
17	COMPOSITE COST OF GENERATION, CNTRL STN + OTHER ¢/mmbtu		1,236.00			
18	% Input to system kWh Mix		50.87			
EFFICIENCY FACTOR, mmbtu/kWh						
	(A)	(B)	(C)	(D)		
		Eff Factor	Percent of	Weighted		
	Fuel Type	mmbtu/kwh	Centrl Stn + Other	Eff Factor		
19	LSFO	<b>0.011079</b>	98.78	0.010944		
20	Diesel	<b>0.019721</b>	0.63	0.000124		
21	Biodiesel	<b>0.020169</b>	0.59	0.000119		
22	Other	<b>0.011143</b>	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))]			0.011187		
24	WGTD. COMPOSITE CNTRL STN + OTHER GEN COST, ¢/kWh (lines 17 x 18 x 23)			7.03386		
25	BASE CNTRL STN + OTHER GEN. COST, ¢/Mbtu			1,354.58		
26	Base % Input to System kWh Mix			57.59		
27	Efficiency Factor, Mbtu/kWh			0.011142		
28	WEIGHTED BASE CNTRL STN + OTHER GEN COST ¢/KWH (lines 25 x 26 x 27)			8.69190		
29	Cost Less Base (Line 24 - 28)			(1.65804)		
30	Revenue Tax Req Multiplier			1.0975		
31	CNTRL STN + OTHER GENERATION FACTOR, ¢/KWH (Line 29 x 30)			(1.81970)		
				<b>DG ENERGY COMPONENT</b>		
				32	COMPOSITE COST OF DG ENERGY, ¢/kWh	31.730
				33	% Input to System kWh Mix	0.02
				34	WTD COMP DG ENRGY COST, ¢/kWh (Lines 32 x 33)	0.00635
				35	BASE DG ENERGY COMP COST	0.000
				36	Base % Input to System kWh Mix	0.00
				37	WTD BASE DG ENERGY COST, ¢/kWh (Line 35 x 36)	0.00000
				38	Cost Less Base (Line 34 - 37)	0.00635
				39	Loss Factor	1.053
				40	Revenue Tax Req Multiplier	1.0975
				41	DG FACTOR, ¢/kWh (Line 38 x 39 x 40)	0.00734
				<b>SUMMARY OF TOTAL GENERATION FACTOR, ¢/kWh</b>		
				42	CNTRL STN + OTHER (line 31)	(1.81970)
				43	DG (line 41)	0.00734
				44	TOTAL GENERATION FACTOR, ¢/KWH (lines 42 + 43)	(1.81236)

Hawaiian Electric Company, Inc.  
ENERGY COST ADJUSTMENT FILING

ENERGY COST ADJUSTMENT (ECA) FILING - February 1, 2018 (page 2 of 2)

Line

1 **Effective Date** - February 1, 2018  
2 **Supersedes Factor** - January 1, 2018

Line	PURCHASED ENERGY COMPONENT			
	PURCHASED ENERGY PRICE - ¢/KWH			
45	PAR Hawaii	- On Peak		12.997
46	(f.k.a HIE/Tesoro)	- Off Peak		12.707
47	HRRV	- On Peak		17.19
48		- Off Peak		16.70
49	HRRV	- On Peak	(excess)	10.95
50		- Off Peak	(excess)	6.57
51	IES Downstream	- On Peak		12.997
52		- Off Peak		12.707
53	Kalaeloa			11.872
54	AES-HI			3.254
55	Kawailoa			22.064
56	Kahuku Wind			20.704
57	Waianaë Solar PV			14.500
58	As Available I			22.058
59	FIT			19.234
	PURCHASED ENERGY KWH MIX, %			
60	PAR Hawaii	- On Peak		0.27
61	(f.k.a HIE/Tesoro)	- Off Peak		0.20
62	HRRV	- On Peak		6.72
63		- Off Peak		2.98
64	HRRV	- On Peak	(excess)	0.00
65		- Off Peak	(excess)	1.49
66	IES Downstream	- On Peak		0.02
67	(f.k.a Chevron)	- Off Peak		0.01
68	Kalaeloa			30.52
69	AES-HI			47.22
70	Kawailoa			4.64
71	Kahuku Wind			1.22
72	Waianaë Solar PV			2.27
73	As Available I			0.66
74	FIT			1.78
				100.00
75	COMPOSITE COST OF PURCHASED ENERGY, ¢/KWH			9.068
76	% Input to System kWh Mix			49.11
77	WTD CMP PURCH ENRGY COST, ¢/KWH (lines 75 x 76)			4.45329
78	BASE PURCH ENERGY COMP COST			8.328
79	Base % Input to System kWh Mix			42.41
80	WEIGHTED COMP. PURCH. ENERGY COST, ¢/KWH (lines 78 x 79)			3.53190
81	Cost Less Base (Line 77 - 80)			0.92139
82	Loss Factor			1.053
83	Revenue Tax Req Multiplier			1.0975
84	PURCHASED ENERGY FACTOR, ¢/KWH (lines 81 x 82 x 83)			1.06482

Line

SYSTEM COMPOSITE

85 GEN AND PURCHASED ENERGY FACTOR, ¢/kWh (lines 44 + 84) (0.74754)  
86 Kahuku Wind D-VAR Adjustment, ¢/kWh 0.000  
87 ECA Reconciliation Adjustment 0.487  
88 ECA FACTOR, ¢/kWh (lines 85 + 86 + 87) (0.261)

**Hawaiian Electric Company, Inc.**  
**FUEL OIL INVENTORY PRICES FOR 02-01-18**

	<u>Honolulu</u>	<u>Kahe</u>	<u>Waiiau</u>
Average Low Sulfur Fuel Oil, ¢/Mbtu	1,216.71	1,216.71	1,216.71
Kahe Fuel Additive, ¢/Mbtu	-	0.32	-
Honolulu Trucking Cost, ¢/Mbtu	-	-	-
Low Sulfur Fuel Oil Prices Used For Filing, ¢/Mbtu	1,216.71	1,217.03	1,216.71

	<u>Waiiau</u>	<u>CIP</u>
Average Diesel / Biodiesel Oil, ¢/Mbtu	1,499.14	2,858.40
Thruput Charges, ¢/Mbtu	-	-
Diesel / Biodiesel Oil Prices Used for Filing, ¢/Mbtu	1,499.14	2,858.40

	<u>Honolulu</u>	<u>Kahe</u>	<u>Waiiau</u>
Average Low Sulfur Fuel Oil, \$/bbl	76.55	76.55	76.55
Kahe Fuel Additive, \$/bbl	-	0.02	-
Honolulu Trucking Cost, \$/bbl	-	-	-
Low Sulfur Fuel Oil Prices Used For Filing, \$/bbl	76.55	76.57	76.55

	<u>Waiiau</u>	<u>CIP</u>
Average Diesel / Biodiesel Oil, \$/bbl	85.83	151.83
Thruput Charges, ¢/Mbtu	-	-
Diesel / Biodiesel Oil Prices Used for Filing, \$/bbl	85.83	151.83

Distributed Generation Fuel Prices Used for Filing, ¢/kWh 31.730

**FOAC February 2018**

<b><u>LSFO</u></b>	<b><u>BARRELS</u></b>	<b><u>MBTU</u></b>	<b><u>AMOUNT</u></b>	<b><u>AVE \$/MBTU</u></b>
Per FOAC run	823,968	5,183,809.22	63,071,787.44	12.167073
Additional	-	-	-	-
Forecast Amt	823,968	5,183,809.22	63,071,787.44	12.167073
	-	6.20	-	ADD'L BBL
	5,183,809	823,968	6.2913	MBTU / BBL
	63,071,787	823,968	76.55	DOLLARS / BBL
<b><u>WAIKU DIESEL</u></b>	29,184	167,095.82	2,505,000.43	14.991401
	2,505,000	29,184	85.83	DOLLARS / BBL
<b><u>CIP BIODIESEL</u></b>	18,810	99,914.24	2,855,951.14	28.584025
	2,855,951	18,810	151.83	DOLLARS / BBL
<b>KAHE FUEL ADDITIVE *</b>				
Additional	-	-	-	0.003194
Forecast Amt	-	-	-	0.003194
\$ / BBL =		-	0.02	DOLLARS / BBL
<b>HONOLULU TRUCKING COST</b>				
Per FOAC run	-	-	-	-
Additional	-	-	-	-
Forecast Amt	-	-	-	-
\$ / BBL =	-	-	-	DOLLARS / BBL

\* Annualized amount per HECO T-4 in Docket No. 2010-0080

**Hawaiian Electric Company, Inc.**

**CONTRACT PRICES EFFECTIVE 1-1-18**

<u>TYPE OF OIL BURNED</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>
<b>LOW SULFUR FUEL OIL</b>		
Tax *	4.6280	74.65
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 *	5.6170	95.86
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 *	7.0652	134.63
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

<u>Line No.</u>		
L1	Estimated Distributed Generation Fuel Cost (\$/mbtu)	\$28.26
L2	Estimated Distributed Generation Fuel Transport Cost (\$/mbtu)	\$0.00
L3 = L1+ L2	Estimated Total Fuel and Transportation Cost (\$/mbtu)	\$28.26
L4	Estimated Mbtu Generation for month (February 2018)	1,078
L5 = L3 x L4	Estimated Distributed Generation Total Fuel Cost (\$)	\$30,464
L6	Estimated Distributed Generation kWh Produced (February 2018)	96,000
L7 = (L5 ÷ L6) x 100	Distributed Generation Fuel Prices Used for Filing, (¢/kWh)	<b>31.7300</b>



**Hawaiian Electric Company, Inc.**  
**ECA RECONCILIATION ADJUSTMENT**  
**February 2018**

1.	Amount to be collected	\$	6,640,300
2.	Monthly Amount (Line 1 x 1/3)	\$	2,213,433
3.	Revenue Tax Divisor		0.91115
4.	Total (Line 2 / Line 3)	\$	2,429,274
5.	Estimated MWh Sales (February 2018)		498,500
6.	ECA Reconciliation Adjustment, ¢/kWh (Line 4 ÷ Line 5)		<u><u>0.487</u></u>

**Hawaiian Electric Company, Inc.**  
**FUEL OIL ADJUSTMENT RECONCILIATION SUMMARY**  
**December 2017**  
**(Thousand \$)**

<u>Line</u>	<u>Description</u>	<b>Info Only</b>		<b>Basis for Recon</b>	
		W/O DeadBand December 2017 Cumulative <u>YTD Total</u>	collectn by company*	W/ DeadBand December 2017 Cumulative <u>YTD Total</u>	collectn by company*
ACTUAL COSTS:					
1	Generation	\$400,533.2		\$400,533.2	
2	Distributed Generation	\$159.6		\$159.6	
3	Purch Power	\$291,131.8		\$291,131.8	
4	TOTAL	\$691,824.6		\$691,824.6	
FUEL FILING COST					
5	Generation	\$399,731.2		\$401,349.2	
6	Distributed Generation	\$159.6		\$159.6	
7	Purch Power	\$291,131.8		\$291,131.8	
8	TOTAL	\$691,022.6		\$692,640.6	
BASE FUEL COST					
9	Generation	\$408,477.3		\$408,477.3	
10	Distributed Generation	\$82.9		\$82.9	
11	Purch Power	\$403,247.1		\$403,247.1	
12	TOTAL	\$811,807.2		\$811,807.2	
13	FUEL-BASE COST (Line 8-12)	-\$120,784.7		-\$119,166.6	
14	ACTUAL FOA LESS TAX	-\$121,889.7		-\$121,889.7	
15	Less: FOA reconciliation adj for prior year	\$4,246.9		\$4,246.9	
16	ADJUSTED FOA LESS TAX	-\$126,136.6		-\$126,136.6	
17	FOA-(FUEL-BASE) (Line 16-13)	-\$5,351.9	under	-\$6,970.0	under
ADJUSTMENTS:					
18	Current year FOA accrual reversal	-\$6,167.6		-\$6,167.6	
19	Other prior year FOA	\$0.0		\$0.0	
20	Other	\$0.0		\$0.0	
21	QUARTERLY FOA RECONCILIATION (Line 17+18+19+20)	-\$11,519.5	under	-\$13,137.6	under
22	3rd Quarter Reconciliation YTD Balance			-\$6,497.3	under
23	Amount to be collected			-\$6,640.3	

\* Over means an over-collection by the company.  
Under means an under-collection by the company.

**Hawaiian Electric Company, Inc.**  
**DEADBAND CALCULATION**  
**2017**

	Notes	YTD
<b>Industrial</b>		
Heat Rate Days		4,043,835
Industrial Efficiency Factor (per D&O), BTU/kWh*	f	11,079
Industrial Deadband Definition, +/- BTU/kWh	d	50
Industrial Portion of Recorded Sales, kWh	a	3,206,762,398
Industrial Consumption (Recorded), MMBTU	b	35,921,873
Industrial Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	11,202
Lower limit of Industrial Deadband, BTU/kWh	e = f-d	11,029
Higher limit of Industrial Deadband, BTU/kWh	g = f+d	11,129
Industrial Efficiency Factor for cost-recovery, BTU/kWh	h = c, e or g	<b>11,129</b>
<b>Diesel</b>		
Diesel Efficiency Factor (per D&O), BTU/kWh*	f	19,721
Diesel Deadband Definition, +/- BTU/kWh	d	<b>50</b>
Diesel Portion of Recorded Sales, MWh	a	36,467,977
Diesel Consumption (Recorded), MMBTU	b	725,074
Diesel Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	19,882
Lower limit of Diesel Deadband, BTU/kWh	e = f-d	19,671
Higher limit of Diesel Deadband, BTU/kWh	g = f+d	19,771
Diesel Efficiency Factor for cost-recovery, BTU/kWh	h = c, e or g	<b>19,771</b>
<b>Biodiesel</b>		
Biodiesel Efficiency Factor (per D&O), BTU/kWh*	f	20,169
Biodiesel Deadband Definition, +/- BTU/kWh	d	<b>50</b>
Biodiesel Portion of Recorded Sales, MWh	a	51,879,060
Biodiesel Consumption (Recorded), MMBTU	b	894,349
Biodiesel Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	17,239
Lower limit of Biodiesel Deadband, BTU/kWh	e = f-d	20,119
Higher limit of Biodiesel Deadband, BTU/kWh	g = f+d	20,219
Biodiesel Efficiency Factor for cost-recovery, BTU/kWh	h = c, e or g	<b>20,119</b>
<b>Hydro</b>		
Hydro Efficiency Factor (per D&O), BTU/kWh*	f	0
Hydro Deadband Definition, +/- BTU/kWh	d	<b>50</b>
Hydro Portion of Recorded Sales, MWh	a	0
Hydro Consumption (Recorded), MMBTU	b	0
Hydro Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	0
Lower limit of Hydro Deadband, BTU/kWh	e = f-d	-50
Higher limit of Hydro Deadband, BTU/kWh	g = f+d	50
Hydro Efficiency Factor for cost-recovery, BTU/kWh	h = c, e or g	<b>0</b>
<b>Other</b>		
Other Efficiency Factor (per D&O), BTU/kWh*	f	0
Other Deadband Definition, +/- BTU/kWh	d	<b>50</b>
Other Portion of Recorded Sales, MWh	a	0
Other Consumption (Recorded), MMBTU	b	0
Other Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	0
Lower limit of Other Deadband, BTU/kWh	e = f-d	-50
Higher limit of Other Deadband, BTU/kWh	g = f+d	50
Other Efficiency Factor for cost-recovery, BTU/kWh	h = c, e or g	<b>0</b>

\* YTD Efficiency Factor (per D&O) is actual YTD & projected to the end of the year weighted by calendar days in the year.

**HAWAIIAN ELECTRIC COMPANY, INC.**  
**GENERATION FUEL FILING COST AND GENERATION BASE FUEL COST,**  
**December 2017 Year-to-Date**

	<u>Without Deadband</u>	<u>With Deadband - As Filed</u>
<b><u>INDUSTRIAL FUEL FILING COST</u></b>		
LSFO Portion of Recorded Sales , MWH	3,206,762,398	3,206,762,398
LSFO Sales Efficiency Factor (mmbtu/kwh)	0.011079	0.011129
Mmbtu adjusted for Sales Efficiency Factor	35,527,720,607	35,688,058,727
\$/mmbtu	<u>\$10.3234</u>	<u>\$10.3234</u>
TOTAL LSFO \$ TO BE RECOVERED	\$366,765,639	\$368,420,868
<b><u>DIESEL FUEL FILING COST</u></b>		
Diesel Portion of Recorded Sales, MWH	36,467,977	36,467,977
Diesel Sales Efficiency Factor (mmbtu/kwh)	0.019721	0.019771
Mmbtu adjusted for Sales Efficiency Factor	719,184,974	721,008,373
\$/mmbtu	<u>\$12.3452</u>	<u>\$12.3452</u>
TOTAL DIESEL \$ TO BE RECOVERED	\$8,878,487	\$8,900,997
<b><u>BIODIESEL FUEL FILING COST</u></b>		
Biodiesel Portion of Recorded Sales , MWH	51,879,060	51,879,060
Biodiesel Sales Efficiency Factor (mmbtu/kwh)	0.020169	0.020119
Mmbtu adjusted for Sales Efficiency Factor	1,046,348,761	1,043,754,808
\$/mmbtu	<u>\$23.0201</u>	<u>\$23.0201</u>
TOTAL BIODIESEL \$ TO BE RECOVERED	\$24,087,075	\$24,027,362
<b><u>TOTAL GENERATION FUEL FILING COST</u></b>		
Generation Portion of Recorded Sales , MWH		
Sales Efficiency Factor (mmbtu/kwh)		
Mmbtu adjusted for Sales Efficiency Factor		
\$/mmbtu		
TOTAL GENERATION FUEL FILING COST \$	\$399,731,201	\$401,349,228
<b><u>GENERATION BASE FUEL COST</u></b>		
TOTAL GENERATION BASE FUEL COST	\$408,477,254	\$408,477,254
TOTAL GENERATION FUEL FILING COST \$ YTD	\$399,731,201	\$401,349,228
TOTAL GENERATION BASE FUEL COST YTD	\$408,477,254	\$408,477,254

**HAWAIIAN ELECTRIC COMPANY, INC.**  
**2018 Cumulative Reconciliation Balance**

	(1)		(2)	(3)	(4)	(5)	(6)
<u>Month</u>	<u>YTD FOA Reconciliation</u>	<u>Qtr</u>	<u>FOA Rec Adjust Variance</u>	<u>FOA Rec Less Variance</u>	<u>Try to Collect</u>	<u>Actual Collect</u>	<u>Month-end Cumulative Balance</u>
November '17	(988,400)	(3)	140,027	(1,128,427)	329,467	323,129	(663,027)
December					329,467	305,191	(357,836)
January '18					329,467		
February	(6,640,300)	(4)	(28,376)	(6,611,924)			

**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.**  
**FUEL OIL ADJUSTMENT FACTOR DATA**

<u>EFFECTIVE DATE</u>	FUEL FACTOR CENTS / KWH <u>RESIDENTIAL &amp; COMMERCIAL</u>	RESIDENTIAL BILL (\$)	
		<u>@ 500 KWH</u>	<u>@ 600 KWH</u>
January 1, 2016	-3.748	129.34	153.97
February 1, 2016	-4.637	127.47	151.74
March 1, 2016	-5.498	123.06	146.43
April 1, 2016	-5.393	123.34	146.76
May 1, 2016	-5.527	124.85	148.58
June 1, 2016	-4.651	129.34	153.95
July 1, 2016	-3.854	133.43	158.90
August 1, 2016	-3.176	134.73	160.45
September 1, 2016	-3.345	133.98	159.57
October 1, 2016	-3.964	130.77	155.71
November 1, 2016	-3.848	131.04	156.03
December 1, 2016	-3.578	132.32	157.56
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

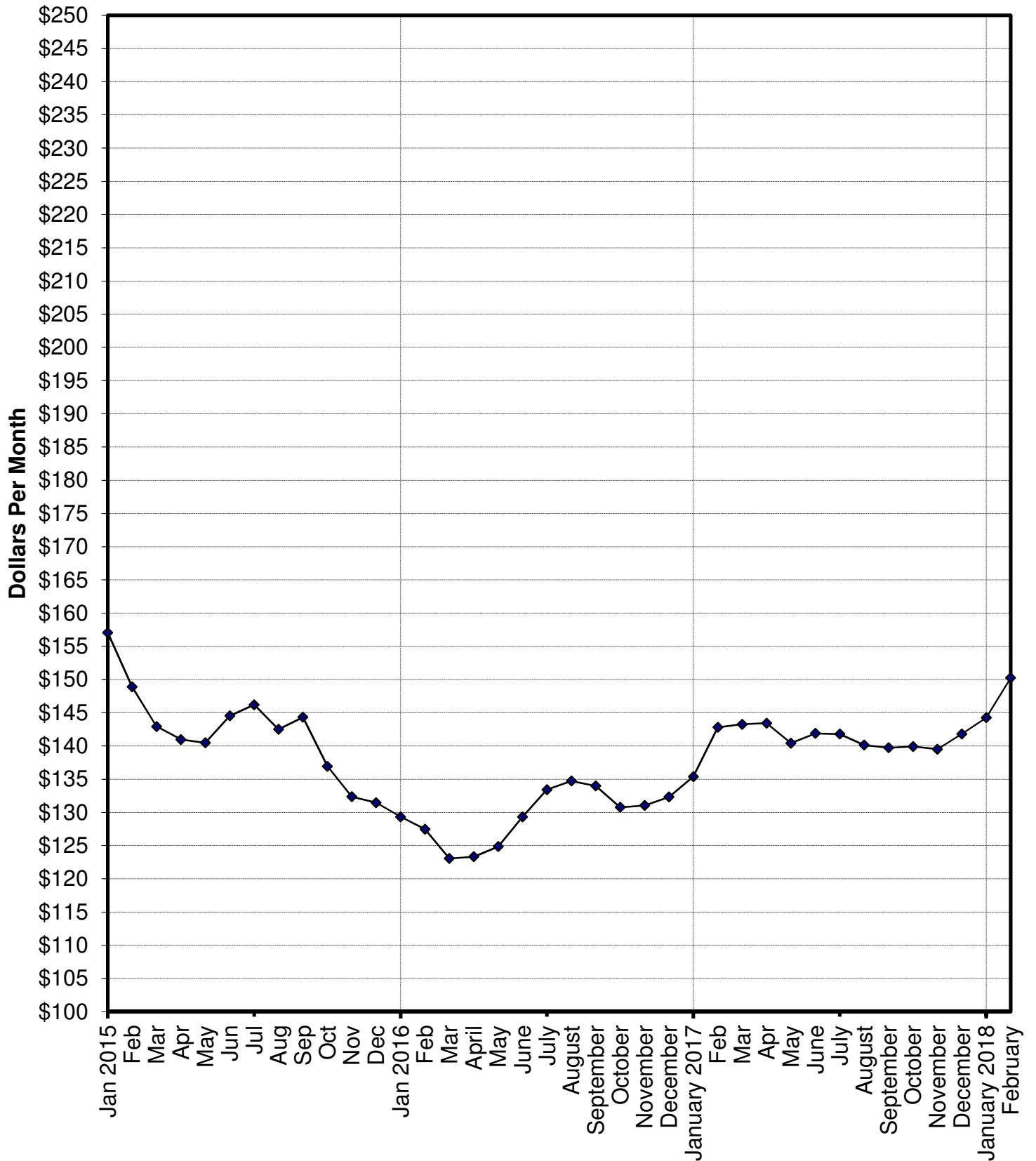
**Hawaiian Electric Company, Inc.**  
**RESIDENTIAL SURCHARGE DATA**

EFFECTIVE DATE	DESCRIPTION OF SURCHARGE	RATE
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	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
<b>4/1/2017</b>	<b>RESIDENTIAL DSM ADJUSTMENT</b>	<b>0.0774 CENTS/KWH</b>
4/1/2017 - 4/30/2017	SOLAR SAVER ADJUSTMENT	-0.1187 CENTS/KWH
<b>5/1/2017</b>	<b>SOLAR SAVER ADJUSTMENT</b>	<b>0.0000 CENTS/KWH</b>
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
<b>6/1/2017</b>	<b>REVENUE BALANCING ACCOUNT RATE ADJUSTMENT</b>	<b>2.2291 CENTS/KWH</b>
7/1/2017 - 12/31/2017	GREEN INFRASTRUCTURE FEE	1.1800 DOLLARS/MONTH
7/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5388 CENTS/KWH
<b>7/1/2017</b>	<b>RESID. PBF SURCHARGE ADJUSTMENT</b>	<b>0.4244 CENTS/KWH</b>
8/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.3840 CENTS/KWH
9/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.4128 CENTS/KWH
10/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.3748 CENTS/KWH
11/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.1890 CENTS/KWH
12/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.1709 CENTS/KWH
1/1/2018	PURCHASED POWER ADJUSTMENT CLAUSE	3.1422 CENTS/KWH
<b>1/1/2018</b>	<b>GREEN INFRASTRUCTURE FEE</b>	<b>1.3400 DOLLARS/MONTH</b>
<b>2/1/2018</b>	<b>PURCHASED POWER ADJUSTMENT CLAUSE</b>	<b>3.4536 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			
	1/1/2018	2/1/2018	1/1/2018	2/1/2018	Difference	
<b>Base Rates</b>	effective date:	09/01/12	09/01/12			
Base Fuel/Energy Charge	¢/kWh	13.6062	13.6062	68.03	68.03	0.00
Non-fuel Fuel Energy Charge						
First 350 kWhr per month	¢/kWh	8.1034	8.1034	28.36	28.36	0.00
Next 850 kWhr per month	¢/kWh	9.2569	9.2569	13.89	13.89	0.00
Customer Charge	\$	9.00	9.00	9.00	9.00	0.00
<b>Total Base Charges</b>				119.28	119.28	0.00
<b>Purchase Power Adjustment</b>	¢/kWh	3.1422	3.4536	15.71	17.27	1.56
<b>RBA Rate Adjustment</b>	¢/kWh	2.2291	2.2291	11.15	11.15	0.00
<b>DSM Adjustment</b>	¢/kWh	0.0774	0.0774	0.39	0.39	0.00
<b>Interim Rate Increase (TY 2011)</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	0.4244	0.4244	2.12	2.12	0.00
<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 Adjustment</b>	¢/kWh	-1.629	-0.261	-5.73	-1.31	4.42
<b>Green Infrastructure Fee</b>	\$	1.34	1.34	1.34	1.34	0.00
<b>Avg Residential Bill at 500 kWh</b>				144.26	150.24	

Increase / (Decrease -) 5.98  
% Change 4.15%

	Rate		Charge (\$) at 600 kWh			
	1/1/2018	2/1/2018	1/1/2018	2/1/2018	Difference	
<b>Base Rates</b>	effective date:	09/01/12	09/01/12			
Base Fuel/Energy Charge	¢/kWh	13.6062	13.6062	81.64	81.64	0.00
Non-fuel Fuel Energy Charge						
First 350 kWhr per month	¢/kWh	8.1034	8.1034	28.36	28.36	0.00
Next 850 kWhr per month	¢/kWh	9.2569	9.2569	23.14	23.14	0.00
Customer Charge	\$	9.00	9.00	9.00	9.00	0.00
<b>Total Base Charges</b>				142.14	142.14	0.00
<b>Purchase Power Adjustment</b>	¢/kWh	3.1422	3.4536	18.85	20.72	1.87
<b>RBA Rate Adjustment</b>	¢/kWh	2.2291	2.2291	13.37	13.37	0.00
<b>DSM Adjustment</b>	¢/kWh	0.0774	0.0774	0.46	0.46	0.00
<b>Interim Rate Increase (TY 2011)</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	0.4244	0.4244	2.55	2.55	0.00
<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 Adjustment</b>	¢/kWh	-1.629	-0.261	-6.87	-1.57	5.30
<b>Green Infrastructure Fee</b>	\$	1.34	1.34	1.34	1.34	0.00
<b>Avg Residential Bill at 600 kWh</b>				171.84	179.01	

Increase / (Decrease -) 7.17  
% Change 4.17%