



Oahu Programs at a Glance

Wondering what program may be right for you? It really depends on your individual situation and your short- and long-term goals. If you're trying to decide between available programs for private rooftop solar or other renewables, here are a few questions to help determine the best fit.

How do you currently use energy? How might that change in the future? What do you want to achieve through participating in one of our programs? Here's a quick comparison of the available programs.

This chart provides an example of a hypothetical total bill for each available program using the same amount of energy delivered and received. As with all examples, your result will vary depending your energy use. Please review the details for each program for additional information that will help you determine the program that's right for you.

OAHU	CGS	CGS Plus	CSS	Smart Export
Export Allowed	Yes	Yes	No	Yes
Export Restrictions	No	No	N/A	Solar Day
Reconciliation	Monthly	Annual	N/A	Annual
Minimum Bill	\$25	\$25	\$25	\$25
Credit rate (c/kWh)***	\$0.15	\$0.10	N/A	\$0.15
Program Cap	51.3 MW	35 MW	N/A	25 MW
Inverter Requirements	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.*	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.
Controls	N/A	Yes: Utility or Aggregator	Customer	Yes: Economic
Communications	N/A	N/A	Yes	N/A
Hypothetical Bill Comparison:**	\$93.28	\$118.38	\$169.09	\$93.79

* Prior to 3/10/2018 CGS Customers were required to program their advanced inverters to include TROV-2, Full ride-through and Fixed Power Factor. They must now be re-programmed to current requirements as noted in Rule 14H.

** Assumes a residential bill with Delivered (DEL) energy of 503 kWh, Received (REC) energy of 907 kWh, with a NET of 404 kWh and the application of the monthly bill credit for Oahu. Does not reflect any benefit from accrued credits. Calculation is based on rates effective October 2018. Some rates vary monthly. Non-residential customers subject to different rate schedules and higher minimum bill.

*** Credit rate shown is rounded to the nearest whole value. Standard retail rates applied for energy delivered/used when rooftop solar or other renewable system is not in use or exporting to the grid. Customers on rates other than retail should contact us to verify whether those options will apply in coordination with these programs.

Customer Grid-Supply remains open until installed capacity is reached. New applications are placed into queue for processing when space in the program becomes available. There is no guarantee that space will become available. New applications may be submitted via mail and are not supported in the Customer Interconnection Tool.

NEM and NEM Plus are not shown in this table. The NEM program is closed and NEM Plus is only available to customers already enrolled in the NEM program.



Hypothetical Oahu Bill and Credit Calculations

This chart shows how we calculated the hypothetical total bill for each program. Here are the key items to note:

- We used the same net kilowatt hour usage to demonstrate the impact of each rate.
- The dollar amount shown is derived from multiplying the usage by the rate in effect in October 2018. Just like usage, some rates adjust monthly too. So, please keep that in mind while studying this example.
- The credit calculation is an important difference with the program. Please refer to the charts below to see how those credits are determined.

Oahu	NET kWH	CGS Total	CGS Plus Total	CSS total	Smart Export Total
Customer Charge	Flat	11.5	11.5	11.5	11.5
Base Fuel Energy	404	51.45	51.45	51.45	51.45
Non Fuel Energy	404	55.49	55.49	55.49	55.49
Energy Cost Adjustment	404	20.16	20.16	20.16	20.16
IRP Cost Recovery	404	-0.03	-0.03	-0.03	-0.03
PBF Surcharge	404	2.34	2.34	2.34	2.34
Purchased Power Adjustment	404	21.76	21.76	21.76	21.76
RBA Rate Adjustment	404	5.21	5.21	5.21	5.21
Grid Supply Credit	404	-75.81	-50.71	N/A	-75.3
Green Infrastructure Fee	404	1.21	1.21	1.21	1.21
Total		93.28	118.38	169.09	93.79

The next two charts provide a look at how the bill credit is calculated. As with the previous example, we’ve kept the amount of delivered, received and net kilowatt hours the same for comparison purposes. However, we’ve demonstrated how the banked credit is applied by reversing the amount of delivered and received energy. Here are the key items to note:

- Credits are earned for each kilowatt hour you delivered to the grid each month multiplied by the rate for your chosen program.
- Smart Export and CGS Plus allow you to accrue and use credits over a one-year period. So, if the utility receives more energy from you than it delivers – you’ll be able to bank unused credits to use in other months when the situation is reversed.
- Each year, remaining credits in your bank will be applied to any eligible kilowatts that haven’t yet been credited during the previous 12 months. Credits that remain after the true-up are surrendered.
- Appropriately sizing your system is the most important consideration. Ideally, you want to have earned enough credits to offset each kilowatt hour of energy delivered to you throughout the year and end up (after the annual true-up) with very few, if any, banked credits remaining. However, make sure to consider future energy use plans such as home improvements (i.e. split A/C) or the purchase of electric vehicles when determining your overall system size.



**Hawaiian
Electric**

Oahu: When energy delivered to customer exceeds energy received from customer.						
Program	Rate/kWh	DEL	REC	NET	Monthly Total	Banked Credit
CGS	0.1507	907	503	404	\$75.80	N/A
CGS Plus	0.1008	907	503	404	\$50.70	0
CSS	N/A	907	503	404	N/A	N/A
Smart Export	0.1497	907	503	404	\$75.30	0

Oahu: When energy delivered to customer is less than energy received from customer.						
Program	Rate/kWh	DEL	REC	NET	Monthly Total	Banked Credit
CGS	0.1507	503	907	404	\$75.80	N/A
CGS Plus	0.1008	503	907	404	\$50.70	\$ 40.72
CSS	N/A	503	907	404	N/A	N/A
Smart Export	0.1497	503	907	404	\$75.30	\$ 60.48



Hawaii Island Programs at a Glance

Wondering what program may be right for you? It really depends on your individual situation and your short- and long-term goals. If you're trying to decide between available programs for private rooftop solar or other renewables, here are a few questions to help determine the best fit.

How do you currently use energy? How might that change in the future? What do you want to achieve through participating in one of our programs? Here's a quick comparison of the available programs.

This chart provides an example of a hypothetical total bill for each available program using the same amount of energy delivered and received. As with all examples, your result will vary depending your energy use. Please review the details for each program for additional information that will help you determine the program that's right for you.

HAWAII ISLAND	CGS	CGS Plus	CSS	Smart Export
Export Allowed	Yes	Yes	No	Yes
Export Restrictions	No	No	N/A	Solar Day
Reconciliation	Monthly	Annual	N/A	Annual
Minimum Bill	\$25	\$25	\$25	\$25
Credit rate (c/kWh)***	\$0.15	\$0.10	N/A	\$0.11
Program Cap	9.91 MW	7 MW	N/A	10 MW
Inverter Requirements	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.*	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.
Controls	N/A	Yes: Utility or Aggregator	Customer	Yes: Economic
Communications	N/A	N/A	Yes	N/A
Hypothetical Bill Comparison:**	\$119.20	\$142.29	\$195.36	\$140.03

* Prior to 3/10/2018 CGS Customers were required to program their advanced inverters to include TROV-2, Full ride-through and Fixed Power Factor. They must now be re-programmed to current requirements as noted in Rule 14H.

** Assumes a residential bill with Delivered (DEL) energy of 503 kWh, Received (REC) energy of 907 kWh, with a NET of 404 kWh and the application of the monthly bill credit for Hawaii Island. Does not reflect any benefit from accrued credits. Calculation is based on rates effective October 2018. Some rates vary monthly. Non-residential customers subject to different rate schedules and higher minimum bill.

*** Credit rate shown is rounded to the nearest whole value. Standard retail rates applied for energy delivered/used when rooftop solar or other renewable system is not in use or exporting to the grid. Customers on rates other than retail should contact us to verify whether those options will apply in coordination with these programs.

Customer Grid-Supply remains open until installed capacity is reached. New applications are placed into queue for processing when space in the program becomes available. There is no guarantee that space will become available. New applications may be submitted via mail and are not supported in the Customer Interconnection Tool.

NEM and NEM Plus are not shown in this table. The NEM program is closed and NEM Plus is only available to customers already enrolled in the NEM program.



Hypothetical Hawaii Island Bill and Credit Calculations

This chart shows how we calculated the hypothetical total bill for each program. Here are the key items to note:

- We used the same net kilowatt hour usage to demonstrate the impact of each rate.
- The dollar amount shown is derived from multiplying the usage by the rate in effect in October 2018. Just like usage, some rates adjust monthly too. So, please keep that in mind while studying this example.
- The credit calculation is an important difference with the program. Please refer to the charts below to see how those credits are determined.

Hawaii Island	NET kWH	CGS Total	CGS Plus Total	CSS total	Smart Export Total
Customer Charge	Flat	11.5	11.5	11.5	11.5
Base Fuel Energy	404	51.53	51.53	51.53	51.53
Non Fuel Energy	404	72.34	72.34	72.34	72.34
Energy Cost Adjustment	404	42.05	42.05	42.05	42.05
PBF Surcharge	404	2.34	2.34	2.34	2.34
Purchased Power Adjustment	404	9.36	9.36	9.36	9.36
RBA Rate Adjustment	404	5.03	5.03	5.03	5.03
Grid Supply Credit	404	-76.16	-53.07	N/A	-55.33
Green Infrastructure Fee	404	1.21	1.21	1.21	1.21
Total		119.2	142.29	195.36	140.03

The next two charts provide a look at how the bill credit is calculated. As with the previous example, we've kept the amount of delivered, received and net kilowatt hours the same for comparison purposes. However, we've demonstrated how the banked credit is applied by reversing the amount of delivered and received energy. Here are the key items to note:

- Credits are earned for each kilowatt hour you delivered to the grid each month multiplied by the rate for your chosen program.
- Smart Export and CGS Plus allow you to accrue and use credits over a one-year period. So, if the utility receives more energy from you than it delivers – you'll be able to bank unused credits to use in other months when the situation is reversed.
- Each year, remaining credits in your bank will be applied to any eligible kilowatts that haven't yet been credited during the previous 12 months. Credits that remain after the true-up are surrendered.
- Appropriately sizing your system is the most important consideration. Ideally, you want to have earned enough credits to offset each kilowatt hour of energy delivered to you throughout the year and end up (after the annual true-up) with very few, if any, banked credits remaining. However, make sure to consider future energy use plans such as home improvements (i.e. split A/C) or the purchase of electric vehicles when determining your overall system size.



**Hawaiian
Electric**

Hawaii Island: When energy delivered to customer exceeds energy received from customer.						
Program	Rate/kWh	DEL	REC	NET	Monthly Total	Banked Credit
CGS	0.1514	907	503	404	\$ 76.15	N/A
CGS Plus	0.1055	907	503	404	\$ 53.07	0
CSS	N/A	907	503	404	N/A	N/A
Smart Export	0.11	907	503	404	\$ 55.33	0

Hawaii Island: When energy delivered to customer is less than energy received from customer.						
Program	Rate/kWh	DEL	REC	NET	Monthly Total	Banked Credit
CGS	0.1514	503	907	404	\$ 76.15	N/A
CGS Plus	0.1055	503	907	404	\$ 53.07	\$ 42.62
CSS	N/A	503	907	404	N/A	N/A
Smart Export	0.11	503	907	404	\$ 55.33	\$ 44.44



Maui County Programs at a Glance

Wondering what program may be right for you? It really depends on your individual situation and your short- and long-term goals. If you're trying to decide between available programs for private rooftop solar or other renewables, here are a few questions to help determine the best fit.

How do you currently use energy? How might that change in the future? What do you want to achieve through participating in one of our programs? Here's a quick comparison of the available programs.

This chart provides an example of a hypothetical total bill for each available program using the same amount of energy delivered and received. As with all examples, your result will vary depending your energy use. Please review the details for each program for additional information that will help you determine the program that's right for you.

MAUI COUNTY	<u>CGS</u>	<u>CGS Plus</u>	<u>CSS</u>	<u>Smart Export</u>
Export Allowed	Yes	Yes	No	Yes
Export Restrictions	No	No	N/A	Solar Day
Reconciliation	Monthly	Annual	N/A	Annual
Minimum Bill	\$25	\$25	\$25	\$25
Credit rate (c/kWh)**	Lanai: \$0.28 Maui: \$0.17 Molokai: \$0.24	Lanai: \$0.21 Maui: \$0.12 Molokai: \$0.17	N/A	Lanai: \$0.21 Maui: \$0.14 Molokai: \$0.17
Program Cap[†]	14.12 MW	7 MW	N/A	5 MW
Inverter Requirements	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.*	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.	Advanced with Volt Var and Frequency Watt activated; Fixed Power Factor deactivated.
Controls	N/A	Yes: Utility or Aggregator	Customer	Yes: Economic
Communications	N/A	N/A	Yes	N/A
Hypothetical Bill Comparison:**	Lanai: \$70.07 Maui: \$89.62 Molokai: \$82.61	Lanai: \$105.68 Maui: \$114.72 Molokai: \$119.13	Lanai: \$210.30 Maui: \$175.94 Molokai: \$203.68	Lanai: \$105.73 Maui: \$103.46 Molokai: \$119.99

* Prior to 3/10/2018 CGS Customers were required to program their advanced inverters to include TROV-2, Full ride-through and Fixed Power Factor. They must now be re-programmed to current requirements as noted in Rule 14H.

** Assumes a residential bill with Delivered (DEL) energy of 503 kWh, Received (REC) energy of 907 kWh, with a NET of 404 kWh and the application of the monthly bill credit for each island. Does not reflect any benefit from accrued credits. Calculation is based on rates effective October 2018. Some rates vary monthly. Non-residential customers subject to different rate schedules and higher minimum bill.

*** Credit rate shown is rounded to the nearest whole value. Standard retail rates applied for energy delivered/used when rooftop solar or other renewable system is not in use or exporting to the grid. Customers on rates other than retail should contact us to verify whether those options will apply in coordination with these programs.

[†] Program cap applies to Maui County in total.



Customer Grid-Supply remains open until installed capacity is reached. New applications are placed into queue for processing when space in the program becomes available. There is no guarantee that space will become available. New applications may be submitted via mail and are not supported in the Customer Interconnection Tool.

NEM and NEM Plus are not shown in this table. The NEM program is closed and NEM Plus is only available to customers already enrolled in the NEM program.

Hypothetical Maui County Bill and Credit Calculations

This chart shows how we calculated the hypothetical total bill for each program by island. Here are the key items to note:

- We used the same net kilowatt hour usage to demonstrate the impact of each rate.
- The dollar amount shown is derived from multiplying the usage by the rate in effect in October 2018. Just like usage, some rates adjust monthly too. So, please keep that in mind while studying this example.
- The credit calculation is an important difference with the program. Please refer to the charts below to see how those credits are determined.

Maui	NET kWH	CGS Total	CGS Plus Total	CSS total	Smart Export Total
Customer Charge	Flat	8.5	8.5	8.5	8.5
Base Fuel Energy	404	115.7	115.7	115.7	115.7
Non Fuel Energy	404	50.44	50.44	50.44	50.44
Energy Cost Adjustment	404	-16.51	-16.51	-16.51	-16.51
PBF Surcharge	404	2.34	2.34	2.34	2.34
Purchased Power Adjustment	404	-0.3	-0.3	-0.3	-0.3
RBA Rate Adjustment	404	1.6	1.6	1.6	1.6
Interim Increase 2018	404	12.96	12.96	12.96	12.96
Grid Supply Credit	404	-86.32	-61.22	N/A	-72.48
Green Infrastructure Fee	404	1.21	1.21	1.21	1.21
Total		89.62	114.72	175.94	103.46

Molokai	NET kWH	CGS Total	CGS Plus Total	CSS total	Smart Export Total
Customer Charge	Flat	8.5	8.5	8.5	8.5
Base Fuel Energy	404	132.52	132.52	132.52	132.52
Non Fuel Energy	404	64.19	64.19	64.19	64.19
Energy Cost Adjustment	404	-20.39	-20.39	-20.39	-20.39
PBF Surcharge	404	2.34	2.34	2.34	2.34
RBA Rate Adjustment	404	1.6	1.6	1.6	1.6
Interim Increase 2018	404	13.71	13.71	13.71	13.71
Grid Supply Credit	404	-121.07	-84.35	N/A	-83.69
Green Infrastructure Fee	404	1.21	1.21	1.21	1.21
total		82.61	119.33	203.68	119.99



Lanai	NET kWH	CGS Total	CGS Plus Total	CSS total	Smart Export Total
Customer Charge	Flat	8.5	8.5	8.5	8.5
Base Fuel Energy	404	162.3	162.3	162.3	162.3
Non Fuel Energy	404	52.22	52.22	52.22	52.22
Energy Cost Adjustment	404	-32.05	-32.05	-32.05	-32.05
PBF Surcharge	404	2.34	2.34	2.34	2.34
RBA Rate Adjustment	404	1.6	1.6	1.6	1.6
Interim Increase 2017	404	14.18	14.18	14.18	14.18
Grid Supply Credit	404	-140.23	-104.62	N/A	-104.57
Green Infrastructure Fee	404	1.21	1.21	1.21	1.21
Total		70.07	105.68	210.3	105.73

The following charts provide a look at how the bill credit is calculated by island. As with the previous example, we've kept the amount of delivered, received and net kilowatt hours the same for comparison purposes. However, we've demonstrated how the banked credit is applied by reversing the amount of delivered and received energy. Here are the key items to note:

- Credits are earned for each kilowatt hour you delivered to the grid each month multiplied by the rate for your chosen program.
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Maui: When energy delivered to customer exceeds energy received from customer.						
Program	Rate/kWh	DEL	REC	NET	Monthly Total	Banked Credit
CGS	0.1716	907	503	404	\$ 86.31	N/A
CGS Plus	0.1217	907	503	404	\$ 61.22	0
CSS	N/A	907	503	404	N/A	N/A
Smart Export	0.1441	907	503	404	\$ 72.48	0

Maui: When energy delivered to customer is less than energy received from customer.						
Program	Rate/kWh	DEL	REC	NET	Monthly Total	Banked Credit
CGS	0.1716	503	907	404	\$ 86.31	N/A
CGS Plus	0.1217	503	907	404	\$ 61.22	\$ 49.17
CSS	N/A	503	907	404	N/A	N/A
Smart Export	0.1441	503	907	404	\$ 72.48	\$ 58.22



Molokai: When energy delivered to customer exceeds energy received from customer.						
Program	Rate/kWh	DEL	REC	NET	Monthly Total	Banked Credit
CGS	0.2407	907	503	404	\$ 121.07	N/A
CGS Plus	0.1677	907	503	404	\$ 84.35	0
CSS	N/A	907	503	404	N/A	N/A
Smart Export	0.1664	907	503	404	\$ 83.70	0

Molokai: When energy delivered to customer is less than energy received from customer.						
Program	Rate/kWh	DEL	REC	NET	Monthly Total	Banked Credit
CGS	0.2407	503	907	404	\$ 121.07	N/A
CGS Plus	0.1677	503	907	404	\$ 84.35	\$ 67.75
CSS	N/A	503	907	404	N/A	N/A
Smart Export	0.1664	503	907	404	\$ 83.70	\$ 67.23

Lanai: When energy delivered to customer exceeds energy received from customer.						
Program	Rate/kWh	DEL	REC	NET	Monthly Total	Banked Credit
CGS	0.2788	907	503	404	\$ 140.24	N/A
CGS Plus	0.208	907	503	404	\$ 104.62	0
CSS	N/A	907	503	404	N/A	N/A
Smart Export	0.2079	907	503	404	\$ 104.57	0

Lanai: When energy delivered to customer is less than energy received from customer.						
Program	Rate/kWh	DEL	REC	NET	Monthly Total	Banked Credit
CGS	0.2788	503	907	404	\$ 140.24	N/A
CGS Plus	0.208	503	907	404	\$ 104.62	\$ 84.03
CSS	N/A	503	907	404	N/A	N/A
Smart Export	0.2079	503	907	404	\$ 104.57	\$ 83.99