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April 28, 2023

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

Dear Commissioners:

Subject: Docket No. 2014-0135 – GEMS Program Quarterly Report

The Hawaii Green Infrastructure Authority respectfully submits this Green Energy Market Securitization Program Quarterly Report for the period from January 1, 2023 to March 31, 2023. This report fulfills the requirement for the Quarterly Report as specified in Decision and Order No. 32318, filed on September 30, 2014 in Docket No. 2014-0135.

As always, should you have any questions or if I can be of assistance to you, please do not hesitate to contact me.

Sincerely,

Gwen S. Yamamoto Lau
Executive Director

Attachment

cc: Service List

SERVICE LIST

An electronic copy of the GEMS Quarterly Report for January 1, 2023 to March 31, 2023 has been filed in Docket No. 2014-0135, together with this Certificate of Service, in addition to the following, at the following addresses:

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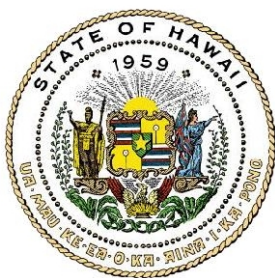
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Dated: April 28, 2023
Honolulu, Hawaii



**State of Hawaii
Hawaii Green Infrastructure Authority**

GREEN ENERGY MARKET SECURITIZATION PROGRAM

QUARTERLY REPORT:

January 1, 2023 – March 31, 2023

REPORT TO THE
STATE OF HAWAII
PUBLIC UTILITIES COMMISSION
Pursuant to
Decision and Order No. 32318 filed in Docket No. 2014-0135

April 2023

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1 Introduction and Context

The Green Infrastructure Loan Program (a.k.a. the “Green Energy Market Securitization Program,” “GEMS Program” or “Program”) leverages public-private capital to deploy clean energy infrastructure that will contribute towards Hawaii’s pursuit of its statutory 100% clean energy goals by 2045 while helping ratepayers lower their energy costs. The GEMS Program is the result of Act 211, Session Laws of Hawaii 2013 (“Act 211”), which created the framework for establishing the GEMS Program, including its oversight, governance, and reporting processes. The Program is governed by the Hawaii Green Infrastructure Authority which consists of five members: The Director of Business, Economic Development, and Tourism, the Director of Finance, the Chief Energy Officer (fka Energy Program Administrator), and two members appointed by the Governor with the advice and consent of the Hawaii State Senate.

1.1 Procedural History and Reporting Requirements

The State of Hawaii Public Utilities Commission (“Commission” or “PUC”) issued Decision and Order No. 32318¹ (the “Program Order”), which approved the “Application of the Department of Business, Economic Development, and Tourism for an Order Approving the Green Infrastructure Loan Program,”² (“Application”) for the Hawaii Green Infrastructure Authority (“Authority” or “HGIA”).³ The Application requested, and the Program Order approved, the use of funds deposited in the Green Infrastructure Special Fund to establish and institute the GEMS Program, subject to the modifications described within the Program Order.⁴ In addition to complying with reporting requirements mandated by Act 211, the Authority proposed providing the Commission with Quarterly Reports which offer a snapshot of program activities as a part of the Application.⁵ The Commission approved the quarterly reporting proposal made by the Authority, adding additional requirements that arose during the docket process, including one from the Consumer Advocate⁶ that included requirements concerning the financing of utility-scale projects, when applicable.⁷

The Commission’s approval of the Quarterly Report process, with modifications, stated that Quarterly Reports must provide information on the progress of the GEMS Program development and include, at a minimum:

- (1) All information proposed in [the] Application or as otherwise indicated by DBEDT in the course of this proceeding to be included in Quarterly Reports;

¹ Filed on September 30, 2014 in Docket No. 2014-0135

² Filed on June 6, 2014 in Docket No. 2014-0135

³ HRS §196-63 provides that until the Authority is duly constituted, the Department of Business, Economic Development, and Tourism of the State of Hawaii (DBEDT) may exercise all powers reserved to the Authority pursuant to HRS §196-64, and shall perform all responsibilities of the Authority. As the Authority has now been duly constituted, the Authority assumes in its own right, pursuant to statute, all of the functions, powers, and obligations, including responsive or informational submissions in this Docket, which had heretofore been assigned to DBEDT.

⁴ See “Decision and Order No. 32318,” filed in Docket No. 2014-0135 on September 30, 2014, at p. 1.

⁵ See “Application of Department of Business, Economic Development, and Tourism; Verification; Exhibits; and Certificate of Service,” filed in Docket No. 2014-0135 on June 6, 2014 at p. 17.

⁶ “Consumer Advocate” refers to the Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs of the State of Hawaii.

⁷ See “Decision and Order No. 32318,” filed in Docket No. 2014-0135 on September 30, 2014, at p. 93.

- (2) Summaries of all metrics approved pursuant to [the] Program Order, and as developed and approved through the metrics and data collection development process;
- (3) Accumulated year-to-date tallies of quantitative, and to the extent possible, non-quantitative metrics provided in preceding Quarterly Reports for the applicable annual reporting period;
- (4) Any additional information required by this Program Order to be included as part of one or more Quarterly Reports; and
- (5) Actuals to date as compared to the immediately preceding Annual Plan budget.⁸

In the Application, the Authority proposed Quarterly Reports to include a snapshot of program activities, provide a financial summary, and address adjustments planned or made to the GEMS Program to accommodate market changes.⁹ The Authority submitted its first Quarterly Report for the period of October 1, 2014 to December 31, 2014 on January 30, 2015. More information about the procedural background for the GEMS Program can be found in the various filings in Docket No. 2014-0135 on the Commission's website: <http://dms.puc.hawaii.gov/dms/>.

1.2 Overview of Program Status and Market Outlook

During the quarter, the Authority continued to approve, commit and deploy capital under its various loan programs. As of March 31, 2023, \$104.7 million of the GEMS loan funds have been committed, leaving approximately \$23.6 million available to lend. Of these remaining amounts, some \$11.1 million are available under the State Revolving Loan Fund and \$12.5 million are available for all other eligible segments.

Additional GEMS Program highlights, as of March 31, 2023, are as follows:

Excess Operational Revenues over Expenditures – YTD FY23 ¹⁰	\$2,009,615
Jobs Created / Retained Since Inception	1,380
State of Hawaii Tax Revenues Generated Since Inception	\$16,700,327
Economic Multiplier Impact	\$283,275,802
Total Estimated kWh Production / Reduction Over Lifetime Since Inception	954,779,857
Total Petroleum Displaced Over Lifetime (Estimated Barrels)	586,248
Total Greenhouse Gas Avoided Over Lifetime (Estimated Metric Tons CO2)	287,188
% Underserved Residential Households Served	85.0%

For the period ending March 31, 2023, net of excess revenue over expenditures for the Federal HI-CAP Program of \$9.0 million, the Authority posted Excess Operational Revenues over Operational Expenditures aggregating some \$2.0 million prior to the repayment of interest and

⁸ See "Decision and Order No. 32318," filed in Docket No. 2014-0135 on September 30, 2014, at p. 97.

⁹ See "Application of Department of Business, Economic Development, and Tourism; Verification; Exhibits; and Certificate of Service," filed in Docket No. 2014-0135 on June 6, 2014 at p. 17.

¹⁰ Excess Operational Revenue over Expenditures are before loan repayments returned to the PUC per Order No. 34930 Amending Decision and Order No. 32318 By Changing the Priority uses of GEMS Program Loan Repayments, bad debt expense and unrealized gains or losses on investments.

principal collected for the Commission, aggregating almost \$2.7 million. Please refer to the Financial Summary in Section 4 for details on the financial results for the current quarter.

2. Summary of Program Activities

The following is a summary of the activities that have occurred between January 1, 2023 and March 31, 2023.

2.1 Administration

The following timeline of activities pertain to the administration of HGIA's programs:

- **Board Meeting.** The Authority held a board meeting on January 30, 2023, during which it approved the Secretary's Certificate accepting the terms and conditions of the USDA RESP loan and approved HGIA's Quarterly Report for the period ended December 31, 2022.
- **Quarterly Report.** The Quarterly Report covering the period of October 1, 2022 to December 31, 2022 was filed with the Commission on January 31, 2023 in Docket No. 2014-0135.
- **Public Comment.** On March 10, 2023, Ho'ahu Energy Cooperative Molokai filed a letter in support of HGIA's request to finance community solar projects in Docket Number 2014-0135.
- **Public Comment.** On March 20, 2023, Ulupono Initiative filed a letter in support of HGIA's request to finance community solar projects in Docket Number 2014-0135.
- **Board Meeting.** The Authority held a board meeting on March 31, 2023, during which it provided the board an update on the safety and soundness of the financial institution holding the Authority's deposits and approved HGIA's Fiscal Year 2024 Annual Plan.
- **Annual Plan.** The Authority's Fiscal 2024 Annual Plan was filed with the Commission on March 31, 2023 in Docket No. 2014-0135.
- **Legislation.** Two bills of significant impact to the Authority are HB949, which proposes to establish a PV+Storage Loan Program for ALICE¹¹ households and HB300, HD1 which proposes to utilize \$300.0 million of the State's surplus to capitalize this new loan program.

HGIA's Executive Director participated in EFAB meetings in January 2023, during which, the EPA provided EFAB with a high level update on the Inflation Reduction Act's Greenhouse Gas Reduction Fund. EPA's CFO also provided an update on EPA's budget and the Office of Water provided a briefing on the State Revolving Fund and Creating Resilient Water Utilities Initiatives.

¹¹ Assets limited Income Constrained, Employed households represents 44% of all Hawaii households.

2.2 Status of Programs: Residential Portfolio

2.2.1 Residential PV – WECC Originated

WECC Originated (From 6/2015 to 11/2017)	Applications Received	In Process	Committed	Funded
# of loans	427	0	0	140
\$ value of loans	n/a	n/a	\$0	\$4,836,268

HGIA terminated its contract with WECC on December 31, 2017 and is no longer purchasing loans originated by WECC.

2.2.2 Residential PV – Direct

At a glance (as of 03/31/23):

HGIA Originated (Effective 11/9/17)	Applications Received	In Process¹²	Committed¹³	Funded
# of loans	155	0	0	58
\$ value of loans	n/a	n/a	\$0	\$1,995,477

No direct loan applications were received during the quarter.

2.2.3 Residential PV - Consumer Leases

At a glance (as of 03/31/23):

Consumer Leases (Effective 5/1/17)	Applications Received	In Process¹⁴	Committed¹⁵	Funded¹⁶
# of leases	128	0	0	64
\$ value of loans	n/a	n/a	\$0.00	\$1,823,464

Per Order No. 34368, the amount remaining under the cap slightly exceeds \$1.1 million.

No direct consumer lease applications were received during the quarter.

¹² This category includes loan that being processed and/or pending additional information.

¹³ Includes loans that have been approved with executed Loan Documents and solar systems in the process of being installed.

¹⁴ This category includes requests being processed and/or pending additional information.

¹⁵ Includes projects that have been approved and solar systems in the process of being installed. May include loans that are partially funded. The amount(s) funded are in the "Funded" category.

¹⁶ May include loans that are partially funded. The remaining amount(s) to be funded are in the "Committed" category.

2.2.4 Residential PV - On-Bill

At a glance (as of 03/31/23):

Residential PV OBR (Effective 6/1/18)	Applications Received	In Process ¹⁷	Committed ¹⁸	Funded ¹⁹
# of OBO	1,114	142	146.5	258.5
\$ value of OBO	n/a	n/a	\$4,403,228	\$6,992,027

During the quarter, twenty-six (26) new on-bill applications were received. There are currently two-hundred eighty-nine (289) applications in process.

2.2.5 Residential PV – On-Bill Lease Fund

At a glance (as of 03/31/23):

OBR Leases (Effective 6/1/18)	Applications Received	In Process ²⁰	Committed ²¹	Funded ²²
# of OBO	150	35	33.5	51.5
\$ value of loans	n/a	n/a	\$618,199	\$1,373,386
			\$6,906,122 ²³	

During the quarter fourteen (14) on-bill consumer lease applications were received. There are sixty-nine applications in process.

Residential EE – On-Bill

At a glance (as of 03/31/23):

Residential EE OBR (Effective 6/1/18)	Applications Received	In Process ²⁴	Committed ²⁵	Funded
# of OBO	170	8	3	17
\$ value of OBO	n/a	n/a	\$31,373	\$106,610

One new on-bill energy efficiency applications was received during the quarter. Eight applications are in process.

¹⁷ This category includes loans that are being processed and/or pending additional information.

¹⁸ Includes loans that have been approved with executed Loan Documents and solar systems in the process of being installed.

¹⁹ Partially funded loans are counted as Funded, however, the value of the loan only includes the funded portion of the loan. The unfunded portion is included in the Committed

²⁰ This category includes requests being processed and/or pending additional information.

²¹ Includes projects that have been approved and solar systems in the process of being installed. May include loans that are partially funded. The amount(s) funded are in the "Funded" category.

²² May include loans that are partially funded. The remaining amount(s) to be funded are in the "Committed" category.

²³ GEMS funds committed to borrowers in the process of originating consumer PV+ Storage leases. Two additional lease fund of \$10.0 million and \$2.5 million were approved during the quarter committing \$5.0 million and \$1.0 million of GEMS funds, respectively.

²⁴ This category includes loan that being processed and/or pending additional information.

²⁵ Includes loans that have been approved with executed Loan Documents and solar systems in the process of being installed.

Delinquent Status for the entire Residential Loan Portfolio as of March 31, 2023:

Loan Balance	Current	%	31 – 60 Days*	%	61 – 90 Days*	%	91+ Days	%
\$9,448,442	\$8,345,850	88.3%	\$650,393	6.9%	\$260,939	2.8%	\$191,261	2.0%
No.: 367	326	88.8%	23	6.3%	9	2.5%	9	2.5%

As of March 31, 2023, one residential direct billed loan was delinquent. The Authority is working with the Borrower to modify its loan to a manageable repayment schedule due to reduced household income.

For the remaining forty past due loans, all but seven loans or 1.9% of the portfolio made payments in March or April 2023, which means that while these accounts fell behind during the pandemic and have not caught up to become current, they are continuing to perform.

2.3 Status of Programs: Commercial Portfolio

2.3.1 Commercial PV – Direct

At a glance (as of 03/31/23):

Commercial PV (Effective 11/2016)	Applications Received²⁶	In Process²⁷	Committed²⁸	Funded²⁹
# of loans	50	2	4	40
\$ value of loans	n/a	n/a	\$969,382	\$19,983,624

No commercial direct applications were received during the quarter.

2.3.2 Commercial PV – On-Bill

At a glance (as of 03/31/23):

Commercial PV OBR (Effective 6/1/18)	Applications Received³⁰	In Process³¹	Committed³²	Funded³³
# of OBO	51	2	7	24
\$ value of OBO	n/a	n/a	\$1,095,065	\$7,106,087

²⁶ Includes applications for direct consumer leases, however funding and other metrics for said leases are reported under the Residential portfolio.

²⁷ The Authority is currently awaiting additional information from the applicant and/or underwriting the loan requested.

²⁸ These loans have been approved and are currently in the documentation process and/or the projects are currently under development.

²⁹ May include loans that are partially funded. The remaining amount(s) to be funded are in the "Committed" category.

³⁰ Includes applications for on-bill consumer leases, however funding and other metrics for said leases are reported under the Residential portfolio

³¹ This category includes loans that are being processed and/or pending additional information.

³² Includes loans that have been approved with executed Loan Documents and solar systems in the process of being installed.

³³ While not included in the Commercial EE – OBR counts so not to double count the applications, one solar PV project also included solar thermal.

One commercial on-bill application was received.

2.3.3 Commercial EE – On-Bill

At a glance (as of 03/31/23):

Commercial EE OBR (Effective 6/1/18)	Applications Received	In Process³⁴	Committed³⁵	Funded
# of OBO	4	1	0	0
\$ value of OBO	n/a	n/a	\$0.00	\$0.00

2.3.4 Commercial EE – Direct

At a glance (as of 03/31/23):

Commercial EE (Effective 4/2/18)	Applications Received	In Process	Committed³⁶	Funded^{37,38}
# of loans	6	1	1	0
\$ value of loans	n/a	n/a	\$55,000	\$0.00

One solar hot water application was received, approved and closed during the quarter for a nonprofit on Maui.

Delinquent Status as of March 31, 2023 for the entire commercial loan portfolio:

Loan Balance	Current	%	31 – 60 Days	%	61 – 90 Days	%	91+ Days	%
\$21,668,425	\$21,668,425	100.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
No.: 59 ³⁹	59	100.0%	0	0.0%	0	0.0%	0	0.0%

As of March 31, 2023, all commercial loans were being paid as agreed.

2.3.5 State Revolving Loan Fund

Per Commission Order No. 38001 issued on October 5, 2021, the Authority provides the following additional information regarding the State Revolving Loan Fund:

State Revolving Loan Fund as of March 31, 2023

# Loans	\$ Value Loans	Principal Repaid	Funds Available
4	\$49,012,102	\$(11,174,334)	\$11,050,591

³⁴ This category includes loan that being processed and/or pending additional information.

³⁵ Includes loans that have been approved with executed Loan Documents and solar systems in the process of being installed.

³⁶ Loan funds will be advanced based on achievement of milestone progress payment criteria by Contractors.

³⁷ Partially funded loan. The remaining amount(s) to be funded are in the “Committed” category.

³⁸ While not accounted for under Commercial EE - Direct so not to double count the applications, two solar PV projects also included solar thermal installations.

³⁹ Although individual metrics for consumer leases are reported under the Residential Portfolio, advances for consumer leases are actually commercial loans. As such, these loans are included in the Commercial Portfolio for delinquency reporting purposes.

UH cancelled \$1,600 of its loan with the final funding of its project. Some \$11.0 million under the State Revolving Loan fund are available to lend.

Energy Efficiency

	Applications Received	In Process	Committed ⁴⁰	Funded ⁴¹
# of loans	4	0	2	4
\$ value of loans	n/a	n/a	\$3,727,056	\$45,285,046

PPA Purchase Options

	Applications Received	In Process	Committed ⁴²	Funded ⁴³
# of loans	0	0	0	0
\$ value of loans	n/a	n/a	\$0.00	\$0.00

Electric Vehicle Charging Stations

	Applications Received	In Process	Committed ⁴⁴	Funded ⁴⁵
# of loans	0	0	0	0
\$ value of loans	n/a	n/a	\$0.00	\$0.00

# EV Charging Stations	# Ports	Manufacturer	Level (2 or 3)	Location

Electric Vehicles

	Applications Received	In Process	Committed ⁴⁶	Funded ⁴⁷
# of loans	0	0	0	0
\$ value of loans	n/a	n/a	\$0.00	\$0.00

# EVs	Manufacturer	Type (Battery EV; hybrid, etc.)

⁴⁰ Loan funds will be advanced based on achievement of milestone progress payment criteria by Contractors.

⁴¹ Partially funded loan. The remaining amount(s) to be funded are in the "Committed" category.

⁴² Loan funds will be advanced based on achievement of milestone progress payment criteria by Contractors.

⁴³ Partially funded loan. The remaining amount(s) to be funded are in the "Committed" category.

⁴⁴ Loan funds will be advanced based on achievement of milestone progress payment criteria by Contractors.

⁴⁵ Partially funded loan. The remaining amount(s) to be funded are in the "Committed" category.

⁴⁶ Loan funds will be advanced based on achievement of milestone progress payment criteria by Contractors.

⁴⁷ Partially funded loan. The remaining amount(s) to be funded are in the "Committed" category.

Delinquent Status as of March 31, 2023 for the State Revolving Loan Fund:

Loan Balance	Current	%	31 – 60 Days	%	61 – 90 Days	%	91+ Days	%
\$35,222,353	\$35,222,353	100.0%	\$0.00	0.0%	\$0.00	0.0%	\$0.00	0.0%
No.: 4	4	100.0%	0	0.0%	0	0.0%	0	0.0%

As of March 31, 2023, all state loans were being paid as agreed.

2.4 Status of Programs: Miscellaneous

Open Solicitation for Financing Arrangements. On July 14, 2016, the Authority established an Open Solicitation for Financing Arrangements process for proposals related to deployment of GEMS funds. While, to date, the Authority has not received any proposals, in partnership with sister agency, HTDC's SSBCI funds, Solicitations will again be requested, which may spur interest in potential clean energy projects.

2.5 Status of Programs: Other Programs Under Development

PV plus Storage Financing

The Authority filed Program Notification No. 7 with the Commission on July 22, 2016 regarding deployment of capital for consumer PV with battery. On August 2, 2016, the Consumer Advocate filed comments requesting the Authority to provide further information regarding (1) modifications made to the existing Consumer PV program and their impact on the types of customers likely to receive GEMS Program financing; (2) the "public benefit" associated with the proposed Consumer PV with Battery program and who is likely to benefit; and (3) how the proposed Consumer PV product will expand access to financing for customers, particularly those who are underserved. On August 12, 2016, the Commission suspended Program Notification No. 7 pending the Authority's response to comments from the Consumer Advocate ("CA").

USDA loan capital will allow HGIA to finance energy storage systems for solar projects located in rural communities.

2.6 Marketing and Customer Service Activities

The following table estimates the activities of the Authority's staff in marketing and customer service for the past quarter (since June 1, 2018).

	3/1/23 to 3/31/23	FY23 To Date	Since 6/1/18
Marketing and Program Outreach Events and Activities	16	38	135
Prospective Contractor Contacts	0	4	291
Prospective Residential Loan Contacts	179	515	6,686
Prospective Consumer Lease Contacts	46	109	1,221
Prospective Commercial Loan Contacts	2	5	1,159
Existing Contractor Calls and Support	352	979	2,810
Existing Residential Participant/Borrower Servicing	73	211	890

Existing Commercial Participant/Borrower Servicing	76	222	1,443
Contractor Complaint Resolution	0	0	1
Participant/Customer Complaint Resolution	0	0	6
Other-Deferral contacts	0	0	909

During the quarter, HGIA was featured in eight articles or publications including the following: (1) Stateline on 1/9/23 – *“Green Banks posed for Billions”*; (2) Renewable Energy Magazine and PBN on 1/13/23 and 1/17/23, respectively, on the Molokai Community Solar project; (3) 1/20/23 on *“Holu Hou Energy begins construction of solar and energy storage at Kunia Village”*; (4) 2/3/23 on Bondlink, *“Coalition for Green Capital Announces more new partnerships to bolster National Green Bank”*; (5) 2/23/23, *“A plan to deliver equitable financing for residential decarbonization to all Californians”*; (6) March 2023 in WestSide Stories on Solarize808; (7) 3/13/23 American Green Bank Consortium publishes *“Green Bank in the United States: 2022 U.S. Green Bank Annual Industry Report”*; and (8) 3/15/23, *“House majority moves forward state budget and priority legislation”*, including HB949 and HB300, HD1 with \$300.0 million for solar + storage loan fund for ALICE households.

HGIA participated also participated as a panelist in seven presentations as follows: (1) Rethinking Wastewater on 1/17/23 for the Ka Pili Kai Publication Launch; (2) HGIA’s Financing Programs on 1/18/23 for the City’s Office of Economic Development; (3) HGIA’s Financial Programs on 1/25/23 at the Federal Building sponsored by Hawaii Energy; (4) HGIA’s Financing Programs on 1/25/23 at the Waimanalo Research Center sponsored by the Oahu Agriculture & Conservation Assn; (5) HGIA’s Financing Programs on 1/26/23 at the Kunia Agriculture Coop sponsored by the Oahu Agriculture & Conservation Assn; (6) HGIA’s Financing Programs on 2/28/23 at SBA’s Energy Your Business Workshop; and (7) HGIA’s Financing Programs on 3/9/23 at the Energy Workshop sponsored by the Maui Economic Development Board.

The Authority participated as an Exhibitor at the Molokai Resource Fair sponsored by the Molokai Farmers Alliance on 3/18/23.

2.7 Additional Activities

The following are activities that have occurred since the end of the quarter March 31, 2023 and will be reported as activities in the next Quarterly Report:

- **Russian Business Leader Professional Fellow** – Between March 27, 2023 to April 14, 2023, HGIA has been hosting a professional fellow, an expert in the Circular Economy, under the Russian Business Leader Program sponsored by the U.S. Department of State American Council’s Program.
- **Grid Resilience & Innovation Partnership (GRIP) Grant** – Together with HSEO, Hawaii Energy, Strategen, and Enphase, HGIA is collaborating on a \$55.0 million application under the Department of Energy’s GRIP program to provide “free” batteries to LMI households.
- **Revolving Loan Fund Capitalization Grant Program** – On behalf of HSEO, HGIA is working with local lenders to design a loan loss reserve program to leverage with some \$750,000 Federal funds under the Department of Energy’s Loan Program Office.

3 Program Metrics

In accordance with the Program Order, the following Program Metrics are being provided for the current quarter, fiscal year-to-date and since program inception. For metrics related to program activities, please see Section 2 of this report.

3.1 Energy and Environment Impact

Clean Energy Production of Projects Financed	3/1/23 to 3/31/23	FY23 To Date	Since Program Inception
Installed Capacity (Actual kW)	375	1,393	14,174
Total Yr 1 Production (Estimated kWh)	567,386	2,029,581	21,526,700
Total Project Production over Lifetime of Installed PV (Projected kWh, including 0.05% degradation)	10,614,696	41,332,566	387,256,686

Electricity Reductions from Energy Efficiency Projects Financed

Total Yr 1 kWh Reduction (Energy Efficiency)	20,425	20,425	38,719,975
Total kWh Reduction Over Lifetime of Installed EE	389,666	389,666	567,523,171

Petroleum Displaced by Clean Energy and Energy Efficiency Projects (1)

Total Petroleum Displaced/Saved over Lifetime (Estimated barrels)	6,759	25,625	586,248
Petroleum Displaced based on Yr 1 Clean Energy Generation (Estimated barrels)	348	1,247	13,222
Petroleum Displaced Over Lifetime of Installed PV (Estimated barrels)	6,519	25,385	237,577
Cumulative Annual Petroleum Saved from Yr 1 Efficiency Projects	13	13	23,781
Petroleum Saved of Lifetime of Efficiency Projects	239	239	348,559

(1) Reference unitjuggler.com for conversion metric

Greenhouse Gas Avoided (2)

Total Greenhouse Gas Avoided (2) Over Lifetime (Clean Energy and Energy Efficiency Projects) (Est. metric tons CO ₂)	3,312	12,555	287,188
Greenhouse Gas Avoided from Clean Energy Yr 1 Production (Est. metric tons CO ₂)	171	611	6,480
Greenhouse Gas Avoided Over Lifetime of Installed PV (Projected metric tons CO ₂)	3,194	12,438	116,405
Greenhouse Gas Avoided from Yr 1 Energy Efficiency	6	6	11,652
Greenhouse Gas Avoided over lifetime of Energy Efficiency Project	117	117	170,783

(2) Reference eia.gov for conversion metrics

3.2 Economic Development Impact

	3/1/23 to 3/31/23	FY23 To Date	Since Program Inception
GEMS Revenues (Cash Basis)	\$ 1,056,118	\$ 11,689,462	\$ 27,401,708
GEMS Administrative & Program Costs (Cash Basis) (3)	\$ 256,176	\$ 698,057	\$ 7,952,984
GEMS Loans Funded	\$ 1,535,713	\$ 8,074,734	\$ 88,506,005
Indirect Economic Impact - Jobs Created/Retained (4)	\$ 20	\$ 86	\$ 1,380
State of Hawaii Tax Revenues Generated (5)	\$ 243,385	\$ 1,066,051	\$ 16,700,327
Economic Multiplier Impact (6)	\$ 4,732,490	\$ 20,446,101	\$ 283,275,802

(3) Does not include principal and interest repaid to the PUC.

(4) Jobs created or retained is calculated using the State's metric of \$88,165.25/job for 2015; \$91,345.19/job for 2016; \$94,633.63/job for 2017; \$98,034.06/job for 2018; \$101,550.09/job for 2019; \$105,185.44/job in 2020; \$92,044/job in 2021; and \$98,818/job in 2022.

(5) State taxes generated is calculated as \$0.126 per dollar of investment.

(6) Multiplier Impact calculated as \$2.11 per dollar of investment.

3.3 Market Expansion Impact

Projects Financed According to Technology Type/Category	3/1/23 to 3/31/23	FY23 To Date	Since Program Inception
Solar Photovoltaic (7)	29	91	904
Energy Storage	24	43	184
Lighting Upgrades (8)	0	0	965,037
HVAC Upgrades (8)	0	0	2,325
Mechanical Upgrades	0	0	1
Controls and Monitoring Devices	29	91	1,721
Energy/Water Nexus (9)	1	1	213
Total No. of Projects	83	226	970,385

(7) Including advanced inverters and smart modules

(8) State Energy Efficiency Projects

(9) Includes solar water heating

Residential Loan Program	3/1/23 to 3/31/23	FY23 To Date	Since Program Inception
Total Number of PV Loans, Direct	0	0	198
Total Number of PV Leases, Direct	0	0	64
Total Number of GEM\$ OBOs for PV (Loans)	17	58	259
Owner Occupied OBOs	17	58	258
Renter OBOs	0	0	1
Total Number of GEM\$ OBOs for PV (Leases)	11	21	54
Total Number of GEM\$ OBOs for EE (SWH)	0	0	17
Owner Occupied OBOs	0	0	17
Renter OBOs	0	0	0
Total Number of GEM\$ OBOs	28	79	330
Number PV Loans/Leases/OBOs Serving Underserved Market (10)	28	79	487

Number EE Loans/Leases/OBOs Serving Underserved Market (10)	0	0	15
% Loans/Leases Serving Underserved Market	100%	100%	85%

(10) See AMI Distribution

Status of Applications (WECC):

No. of Residential PV Applications Received	0	0	427
No. of Residential PV Applications in Process	0	N/A	N/A
No. of Residential PV Applications Declined	0	0	160
No. of Residential PV Applications Withdrawn/Expired	0	0	127
No. of Residential PV Loan Docs Accepted - NTP	0	N/A	N/A

Status of Applications (Direct):

No. of Residential PV Applications Received	0	0	155
No. of Residential PV Applications in Process	0	N/A	N/A
No. of Residential PV Applications Declined	0	0	58
No. of Residential PV Applications Withdrawn/Expired	0	0	37
No. of Residential PV Loan Docs Accepted - NTP	0	N/A	N/A

Status of Applications (Leases - all Leases):

No. of Residential PV Applications Received	14	31	278
No. of Residential PV Applications in Process	35	N/A	N/A
No. of Residential PV Applications Declined	0	0	9
No. of Residential PV Applications Withdrawn/Expired	14	19	104
No. of Residential PV - Notice to Proceed	9	N/A	N/A

Status of Applications (GEM\$ OBR-PV and EE):

No. of Residential GEM\$ Applications Received	27	147	1284
No. of Residential GEM\$ Applications in Process	150	N/A	N/A
No. of Residential GEM\$ Applications Declined	7	16	252
No. of Residential GEM\$ Applications Withdrawn/Expired	15	26	453
No. of Residential GEM\$ OBO Accepted - NTP	145	N/A	N/A

Geographic Location of Financing Products

Oahu	27	77	505
Maui	0	0	53
Molokai	0	0	2
Lanai	0	0	0
Hawaii	1	2	32

Profile of Customers Financed:

Number of Customers by Customer FICO Credit Score (11)

700 and above	0	0	149
675-699	0	0	50
650-674	0	0	32
620-649	0	0	18
600-619	0	0	9
Below 600	0	0	2

(11) Excludes on-bill applicants

Number of Customers by Income Distribution (self-reported by customers)

Under \$15,000	0	1	1
\$15,000-\$24,999	1	3	5
\$25,000-\$34,999	0	2	7
\$35,000-\$49,999	3	11	43
\$50,000-\$74,999	3	13	75
\$75,000-\$99,999	6	17	127
\$100,000 and above	15	32	334

Number of Customers by Area Median Income (12)

<30% AMI (Extremely Low Income)	1	8	17
30% to <50% AMI (Very Low Income)	4	13	61
50% to <80% AMI (Low Income)	9	26	153
80% to <140% AMI (Moderate Income)	14	32	270
>140% AMI	0	0	91

(12) Area Median Income as provided by the U.S. Department of Housing and Urban Development (HUD)

Commercial Loan Program	3/1/23 to 3/31/23	FY23 To Date	Since Program Inception
Total Number of GEMS Direct PV Loans	0	0	29
Total Number of GEMS Direct EE Loans	0	0	4
Total Number of GEM\$ OBOs, PV	1	5	18
Owner-User	1	5	18
Commercial Tenant	0	0	0
Total Number of GEM\$ OBOs, EE	1	1	1
Owner-User	1	1	1
Commercial Tenant	0	0	0
Number of Nonprofits Participating in GEMS	2	5	26
Number of Small Businesses Participating in GEMS	0	1	10
Number of Rental Units Supported by GEMS	7	238	1320

Geographic Location of Loans (13)

Oahu	0	3	34
Maui	2	3	9
Molokai	0	0	1
Lanai	0	0	0
Hawaii	0	0	8

(13) DOE loan benefits 241 public schools statewide (except Kauai)

Number of Small Businesses by Gross Receipts (14)

Up to \$9,999	0	0	0
\$10,000-\$24,999	0	0	0
\$25,000-\$99,999	0	0	0
\$100,000-\$499,999	0	0	1
\$500,000-\$999,999	0	0	2
\$1,000,000-\$4,999,999	0	0	2
Above \$5,000,000	0	0	1

Number of Small Businesses by Average Number of Employees (14)

10 Employees or less	0	1	1
11-50 Employees	0	0	0
51-100 Employees	0	0	0
101-250 Employees	0	0	0
251-500 Employees	0	0	0
501-1,000 Employees	0	0	2
>1,000 Employees	0	0	0

(14) Depending on the North American Industry Classification System (NAICS), the size determination is based on gross revenues or number of employees

3.4 Cost Savings Impact

Aggregate, Estimated, Gross (15) Electricity Cost Savings (\$)	3/1/23 to 3/31/23	FY23 To Date	Since Program Inception
from Energy Production and Reduction	\$ 6,157,336	\$ 18,139,533	\$ 349,091,606
from Energy Production (Consumer)	\$ 2,927,751	\$ 8,259,020	\$ 72,296,621
from Energy Production (Commercial)	\$ 2,997,113	\$ 9,648,041	\$ 105,608,287
from Energy Efficiency (Consumer)	\$ -	\$ -	\$ 334,295
from Energy Efficiency (Commercial)	\$ 232,472	\$ 232,472	\$ 170,852,403

Average, Estimated, Gross (15) Electricity Cost Savings (\$)

from Energy Production (Consumer)	\$ 104,563	\$ 104,545	\$ 141,481
from Energy Production (Commercial)	\$ 2,997,113	\$ 1,929,608	\$ 2,246,985
from Energy Efficiency (Consumer)	#DIV/0!	#DIV/0!	\$ 19,664
from Energy Efficiency (Commercial)	\$ 232,472	\$ 232,472	\$ 34,170,481

(15) Gross savings calculation for the life of the system assumes a historical utility rate increase per island

Aggregate, Estimated, Net (16) Electricity Cost Savings (\$)

from Energy Production (Consumer)	\$ 2,128,907	\$ 6,089,014	\$ 43,804,585
from Energy Production (Commercial)	\$ 1,626,845	\$ 3,623,228	\$ 54,238,909
from Energy Efficiency (Consumer)	\$ -	\$ -	\$ 178,317
from Energy Efficiency (Commercial)*	\$ 89,217	\$ 89,217	\$ 115,633,685

Average, Estimated, Net (16) Electricity Cost Savings (\$)

from Energy Production (Consumer)	\$ 76,032	\$ 77,076	\$ 85,723
from Energy Production (Commercial)	\$ 1,626,845	\$ 724,646	\$ 1,154,019
from Energy Efficiency (Consumer)	#DIV/0!	#DIV/0!	\$ 10,489
from Energy Efficiency (Commercial)	\$ 89,217	\$ 89,217	\$ 23,126,737

(16) Net savings calculations include tax credits, assume historical utility rate increase per island and are net of loan payments required

	3/1/23 to 3/31/23	FY23 To Date	Since Program Inception
Average System Cost per Watt for All Consumers (PV) (\$)	\$ 3.41	\$ 3.40	\$ 3.59
Average System Cost per Watt for Underserved Consumers (PV)	\$ 3.41	\$ 3.40	\$ 3.59
Average System Size for All Consumers (PV) (kW)	8.2	8.9	9.6
Average System Size for Underserved Consumers (PV) (kW)	8.2	8.9	9.6
Project Cost per kWh for All Consumers -- Energy Efficiency (\$) (17)	\$ -	\$ -	\$ 0.17
Average Project Size for All Consumers -- Energy Efficiency (kW)	n/a	n/a	n/a
Project Cost per kWh for Underserved Consumers -- Energy Efficiency (\$) (17)	\$ -	\$ -	\$ 0.17
Average Project Size for Underserved Consumers - Energy Efficiency (kW)	n/a	n/a	n/a

(17) Calculated for all projects regardless of island

4 Financial Summary of Hawaii Green Infrastructure Authority

Hawaii Green Infrastructure Authority Balance Sheet As of March 31, 2023

ASSETS

Current Assets

Cash in Bank Total	\$ 47,003,539
Cash in CDs	1,701,400
Cash in Treasury	1,235,191
Total Cash	\$ 49,940,130
Investments	32,727,121
Total Cash and Investments	\$ 82,667,251
Prepaid Expenses	720
Other Receivables	120,335
Total Current Assets	\$ 82,788,307

Noncurrent Assets

GEMS Loans Receivable	\$ 68,399,420
Allowance for Loan Losses	(147,100)
GEMS Loans Receivable - Treasury	-
Other Noncurrent Assets	(1,500)
Total Noncurrent Assets	\$ 68,250,819
Total Assets	\$ 151,039,126

LIABILITIES AND EQUITY

Current Liabilities

Accounts Payable	\$ -
Accounts Payable - PUC	2,690,109
Accrued Expenses	-
Other Current Liabilities	106,701
Total Current Liabilities	\$ 2,796,810

Total Noncurrent Liabilities	\$ -
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Total Liabilities	\$ 2,796,810
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Fund Balance, Beginning 12/31/22 (From last quarterly report)	\$ 147,965,732
Net Income (loss) for the Quarter 1/1/23-3/31/23	276,584
Fund Balance, Ending	\$ 148,242,316

Fund Balance, Beginning 7/1/22 Audited	\$ 139,960,053
Net Income (loss) fiscal year-to-date	8,282,263
Fund Balance, Ending	\$ 148,242,316
TOTAL LIABILITIES AND FUND BALANCE	\$ 151,039,126

Other Receivables are funds that have been recorded, but not yet transferred between accounts.

Other Noncurrent Assets are unfunded amounts borrowers have opted to reserve for future solar hot water maintenance costs.

Accounts Payable – PUC represents principal and interest repaid on loans.

Other Current Liabilities include funds for outside capital sources, unapplied cash (cash that is received by our Loan Servicer, but not yet applied to a loan payment), and contract obligations for specific purposes.

Hawaii Green Infrastructure Authority
Revenues and Expenditures
For the Quarter: January 1, 2023 to March 31, 2023

Revenues from Operations

Investment Interest	\$	650,332
Interest Income on Loans		389,022
Other Income		16,764
Total Revenues from Operations	\$	1,056,118

Operational Expenditures

Salaries and Benefits	\$	176,647
Office and Administrative Expenses		300
Bank Fees		12,924
Program Expenses		66,304
Total Operational Expenditures	\$	256,176

Revenues Over (Under) Expenditures	\$	799,942
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Payments to PUC/PBF

PUC Repayment - Principal	\$	409,843
PUC Repayment - Interest		389,022
Total PUC Repayment	\$	798,865

Bad Debt Expense	\$	114
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Unrealized Gains (Losses)	\$	275,621
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Net Change in Fund Balance		276,584
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Fund Balance

Beginning of Period, Unaudited	\$	147,965,732
End of Period	\$	148,242,316

Other Income consists of fees collected from various program activities.

Unrealized Gains (Losses) are point in time “gains” or “losses” based on the market value of the investment portfolio.

Bad debt expense is for future uncollectable accounts.

Hawaii Green Infrastructure Authority
Revenues and Expenditures
Fiscal Year to Date: July 1, 2022 to March 31, 2023

Revenues from Operations		
Investment Interest	\$	1,338,506
Interest Income on Loans		1,293,320
Other Income		57,635
HI-CAP Funding and Other Income		9,000,000
Total Revenues from Operations	\$	11,689,461
Operational Expenditures		
Salaries and Benefits	\$	369,414
Office and Administrative Expenses		2,793
Bank Fees		36,775
Program Expenses		254,480
Total Operational Expenditures	\$	663,463
Revenues Over (Under) Expenditures	\$	11,025,999
Payments to PUC/PBF		
PUC Repayment - Principal	\$	1,396,789
PUC Repayment - Interest		1,293,320
Total PUC Repayment	\$	2,690,109
Bad Debt Expense	\$	161
Unrealized Gains (Losses)	\$	(53,466)
Net Change in Fund Balance		8,282,263
Fund Balance		
Beginning of Period, Audited	\$	139,960,053
End of Period	\$	148,242,316

5. Additional Reporting Requirements

5.1 Consumer Protection Policies

The Program Order directed the Authority to “provide full details of the GEMS Program consumer protection policies it develops to the [C]ommission with its quarterly reporting and Program Notifications”⁴⁸ and to “report the details of any failure on the part of any Deployment Partner to comply with these consumer protection policies to the [C]ommission, including the number of complaints and the steps taken to address such complaints, as part of the GEMS Program’s quarterly reporting and Annual Plan submission process”.⁴⁹

The GEMS Program submitted its consumer protection policies in a Program Notification to the Commission on July 1, 2015.⁵⁰ No complaints have been received to date regarding GEMS Deployment Partners.

5.2 Utility-Scale Project Financing

The Program Order instructed the Authority to summarize and report information about utility-scale project financing during periods where utility-scale project financing is initiated and the project is operated.⁵¹

On August 12, 2022, the Authority filed Program Notification No. 15, which amongst other items, requested Commission approval to finance Community Based Renewable Energy Projects to assist Ho’ahu Energy Cooperative Molokai, as well as other community solar projects seeking financing. During the Technical Conference, the Authority requested the Commission to consider authorizing GEMS funds for CBRE financing.

Utility System Cost Information Update

The Program Order directed the Authority to “work with the HECO companies and the Consumer Advocate to determine the appropriate GEMS Program-related utility system cost information for reporting purposes, and to provide an update on the finalization of these utility system costs and impacts reporting requirements as part of DBEDT’s first Quarterly Report filing.”⁵² Though “utility system cost” was not defined in the Program Order, the Consumer Advocate refers to these costs as costs “incurred as result of [distributed generation] PV or other clean energy projects financed by the GEMS [P]rogram.”⁵³

Subsequent to the issuance of the Program Order, the Authority, HECO and the Consumer Advocate met to identify ways to integrate data that is currently available with data that will be obtained through monitoring and other means to quantify and analyze potential utility system

⁴⁸ See “Decision and Order No. 32318,” filed in Docket No. 2014-0135 on September 30, 2014, at p. 66.

⁴⁹ See “Decision and Order No. 32318,” filed in Docket No. 2014-0135 on September 30, 2014, at p. 66.

⁵⁰ See “Program Notification No. 4 for the Green Infrastructure Loan Program” filed in Docket No. 2014-0135 on July 1, 2015 at pp 4-5.

⁵¹ See “Decision and Order No. 32318,” filed in Docket No. 2014-0135 on September 30, 2014, at p. 60.

⁵² See “Decision and Order No. 32318,” filed in Docket No. 2014-0135 on September 30, 2014, at p. 95.

⁵³ See “Division of Consumer Advocacy’s Statement of Position,” filed in Docket No. 2014-0135 on August 7, 2014, at p. 14.

costs due to distributed generation. The Authority did not allocate any resources for this initiative over the last quarter. HGIA will update the Commission on utility system cost information should discussions resume.

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