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July 31, 2018

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PUBLIC UTILITIES COMMISSION

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 of April 1, 2018 to June 30, 2018. This report fulfills the requirement for Quarterly Reports 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

State of Hawaii

Hawaii Green Infrastructure Authority

GREEN ENERGY MARKET SECURITIZATION PROGRAM

QUARTERLY REPORT:

April 1, 2018 – June 30, 2018

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

July 2018

Table of Contents

1. Introduction and Context 3
   1.1 Procedural History and Reporting Requirements 3
   1.2 Overview of Program Status and Market Outlook 4
2. Summary of Program Activities 5
   2.1 Administration 5
   2.2 Status of Programs: Residential Portfolio 6
      2.2.1 Residential PV – WECC 6
      2.2.2 Residential PV – Direct 6
      2.2.3 Residential PV – Consumer Leases 7
      2.2.4 Residential PV – On-Bill 7
      2.2.5 Residential EE – Direct 8
      2.2.6 Residential EE – On-Bill 8
   2.3 Status of Programs: Commercial Portfolio 9
      2.3.1 Commercial PV – Direct 9
      2.3.2 Commercial PV – On-Bill 10
      2.3.3 Commercial EE – On-Bill 10
      2.3.4 Commercial EE – Direct 11
   2.4 Status of Programs: Miscellaneous 13
   2.5 Status of Programs: Other Programs Under Development 13
   2.6 Additional Activities 13
3. Program Metrics
   3.1 Energy and Environment Impacts 14
   3.2 Economic Development Impacts 14
   3.3 Market Expansion Impacts 15
   3.4 Cost Savings Impacts 17
4. Financial Summary of Hawaii Green Infrastructure Authority 19
5. Additional Reporting Requirements 20
   5.1 Consumer Protection Policies 20
   5.2 Utility Scale Project Financing 20
   5.3 Utility Scale Cost Information Update 20

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 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. 32318[1] (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 Advocate[6] 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;

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[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.

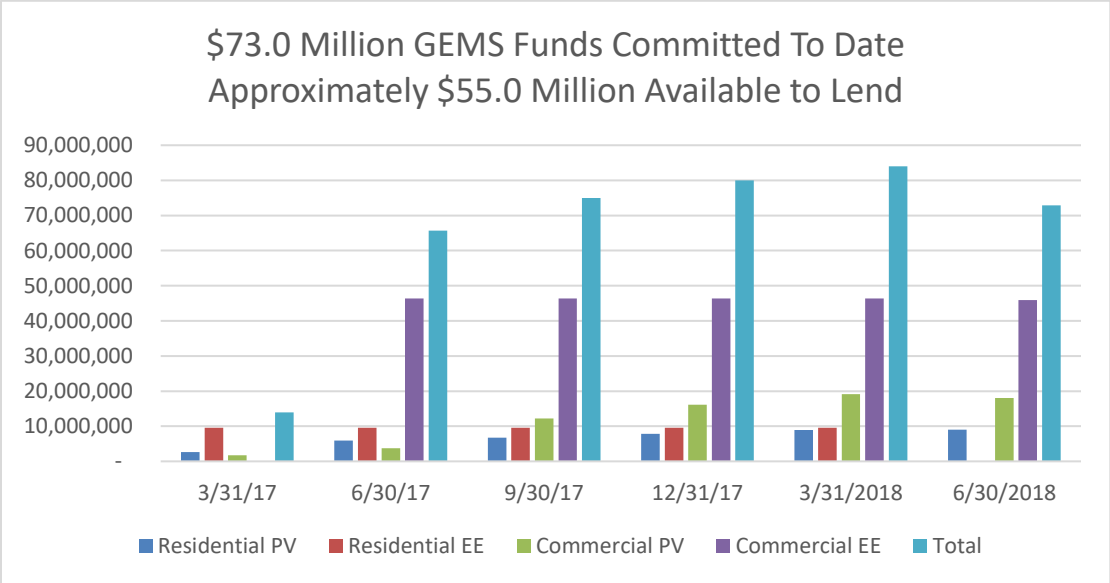
[7] See "Decision and Order No. 32318," filed in Docket No. 2014-0135 on September 30, 2014, at p. 93.

(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 Residential PV, Consumer PV Lease, Commercial PV and Commercial Energy Efficiency loan products. As of June 30, 2018, approximately $73.0 million or 50.0% of GEMS funds have been committed, leaving approximately $55.0 million available to lend. Please refer to Status of Programs, sections 2.2, 2.3 and 2.6 for additional information.



As noted in the graph above, the $9.6 million commitment towards residential energy efficiency installations has been cancelled with this amount once again included as "available to lend." Please refer to Section 2.2.6 Residential Energy Efficiency – On-Bill for more details.

[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.

Additionally, a $1.8 million commitment to a nonprofit to install solar PV has expired. This amount is once again included as "available to lend." Please refer to Section 2.3.1 Commercial PV – Direct for details.

For the twelve-month period ending June 30, 2018, the Authority posted Excess Revenues over Expenditures aggregating over $1.3 million. As per Order 34930 Amending Decision and Order No. 32318 By Changing the Priority Uses of GEMS Program Loan Repayments, the Authority shall transfer $646,729.03 to the Commission as a credit to the Public Benefits Fund. Please refer to the Financial Summary in Section 4 for more details.

With the recent approval of the Green Energy Money $aver On-Bill Program (GEM$), Program Notification No. 12 to finance commercial energy efficiency, Program Notification No. 13 to establish a $50.0 million revolving loan fund for state agencies, and other clean energy programs on the horizon, such as Community-Based Renewable Energy, coupled with the significant progress the GEMS Program has achieved to date, the future market outlook looks positive.

2 Summary of Program Activities

The following is a summary of the activities that have occurred between April 1, 2018 and June 30, 2018.

2.1 Administration

The following timeline of activities pertain to the administration of the GEMS Program:

- **Order No. 35375.** The Commission filed Order 35375 on April 2, 2018 in Docket No. 2014-0135 conditionally approving Program Notification No. 12. See Section 2.3.4 Commercial EE - Direct for more details.
- **K-Village**. HGIA filed an Interconnection Progress Report for Kahauiki Village on April 2, 2018 in Docket No. 2014-0135. See Section 2.3.1 Commercial PV - Direct for more details.
- **Joint Response**. A joint response to the Consumer Advocate's comments on the Green Energy Money $aver On-Bill Program was filed on April 13, 2018 in Docket No. 2014-0135.
- **Board Meeting**. The Authority held a board meeting on April 20, 2018, at which it approved HGIA's Quarterly Report for the period ended March 31, 2018.
- **Order No. 35415**. The Commission filed Order No. 35415 on April 20, 2018 in Docket No. 2014-0135 conditionally approving the establishment and implementation of an On-Bill repayment mechanism. See Sections 2.2.4 Residential PV – On-Bill and 2.3.2 Commercial PV – On-Bill, for more details.
- **Quarterly Report**. The Quarterly Report covering the period of January 1, 2018 to March 31, 2018 was filed with the Commission on April 25, 2018 in Docket No. 2014-0135.
- **Joint Filing.** The Authority and the Hawaiian Electric Companies submitted a Joint Filing Motion for Clarification of Order No. 35415 with the Commission on May 2, 2018 in Docket No. 2014-0135.
- **K-Village**. HGIA filed an Interconnection Progress Report for Kahauiki Village on May 7, 2018 in Docket No. 2014-0135.
- **Order No. 35438**. The Commission filed Order No. 35438 granting the Joint Filer's motion to clarify Order No. 35415 on May 9, 2018.

- **Program Notification No. 13.** Program Notification No. 13 ("PN#13") was filed in Docket No. 2014-0135 on May 9, 2018. See Section 2.3.4 Commercial EE - Direct for more details.
- **Order No. 35492.** The Commission filed Order No. 35492 conditionally approving PN#13 on May 30, 2018. See Section 2.3.4 Commercial EE - Direct for more details.
- **K-Village**. The Authority filed an Interconnection Progress Report for Kahauiki Village on June 4, 2018 in Docket No. 2014-0135.
- **Motion**. The Authority filed a motion to clarify Order No. 35492 with the Commission on June 12, 2018 in Docket No. 2014-0135.
- **Information Requests**. A request for information was filed by the Commission on June 19, 2018 in Docket No. 2014-0135.
- **K-Village**. The Authority filed a notice on June 21, 2018 in Docket No. 2014-0135 informing the Commission that the project is now grid-connected.
- **Order No. 35561**. The Commission filed Order No. 35561 granting the Authority's motion for clarification of Order No. 35492 on June 29, 2018.
- **HGIA's Response**. The Authority filed its response to the Commission's information requests on June 29, 2018 in Docket No. 2014-035.

2.2 Status of Programs: Residential Portfolio

2.2.1 Residential PV – WECC Originated

At a glance (as of 6/30/18) from program inception:

WECC Originated	Applications Received	In Process[10]	Committed[11]	Funded
# of loans	427	0	4	137
$ value of loans	n/a	n/a	$238,882	$4,650,324

During the quarter, the Authority purchased four loans that were previously withdrawn. With the termination of WECC's contract to outsource residential loan origination on December 31, 2017, there remains only 4 systems in the process of being installed for purchase. The Authority expects these loans to be funded before the end of this calendar year.

2.2.2 Residential PV – Direct

At a glance (as of 6/30/18) from November 9, 2017:

HGIA Originated (Effective 11/9/17)	Applications Received	In Process[12]	Committed[13]	Funded
# of loans	68	15	20.5	7.5
$ value of loans	n/a	n/a	$911,116	$222,608

[10] This category includes loan that being processed and/or pending additional information.
[11] Includes loans that have been approved with executed Loan Documents and solar systems in the process of being installed.
[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.

With the responsibility of business development, contractor outreach and loan origination being done locally by HGIA staff, loan volume has significantly increased.

2.2.3 2.2.3 Residential PV - Consumer Leases

At a glance (as of 6/30/18) from program inception:

Consumer Leases (PN #10)	**Applications Received**	**In Process**[14]	**Committed**[15]	**Funded**[16]
# of loans	65	11	44	31
$ value of loans	n/a	n/a	$819,272	$637,219
			$1,543,509[17]	

Activity under HGIA's Consumer Lease product continues with an additional 15 solar systems being funded during the quarter. Similar to the Commercial loans, whenever possible, the Authority is incorporating a capital stack consisting of GEMS funds, Bank funds and equity.

2.2.4 Residential PV - On-Bill

At a glance (as of 6/30/18) since program inception on 6/1/18:

Residential PV OBR	**Applications Received**	**In Process**[18]	**Committed**[19]	**Funded**
# of OBO	15	8	0	0
$ value of OBO	n/a	n/a	$0.00	$0.00

On April 20, 2018, the Commission issued Order No. 35415 conditionally approving the establishment and implementation of an on-bill repayment mechanism, known as GEM$ subject to the following conditions (related to the residential portfolio):

1. The GEM$ Residential On-Bill Loan Product (depicted as Exhibit B in the 2/28/18 filing) is approved excluding Energy Star refrigerators. The technology therein shall also be considered approved to receive GEMS financing;
2. The joint filers may begin implementing the GEM$ On-Bill Repayment program immediately; and
3. The joint filers shall file a final GEM$ Program Manual with the Commission, consistent with the conditions set forth in the Order, no later than 120 days from the date of the Order.

On June 1, 2018, the Authority began accepting GEM$ program applications.

[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.
[17] GEMS funds committed to four borrowers who are in the process of sourcing consumer PV leases.
[18] This category includes loans that are being processed and/or pending additional information.
[19] Includes loans that have been approved with executed Loan Documents and solar systems in the process of being installed.

While Authority continues to receive Residential PV loan applications under its various loan products, the long-term growth prospects of the program remain limited by the broader market environment without the ability to finance storage.

2.2.5 Residential EE – Direct

At a glance (as of 6/30/18) since program inception on 6/1/18:

Residential EE	Applications Received	In Process[20]	Committed[21]	Funded
# of loans	0	0	0	0
$ value of loans	n/a	n/a	$0.00	$0.00

While Order No. 35415 allows HGIA to provide direct financing for solar hot water heaters, to the extent possible, the Authority's preference is to qualify the applicant under the GEM$ on-bill program. If, however, the applicant is not eligible under the GEM$ program, the Authority will determine if it qualifies as a direct request.

2.2.6 Residential EE – On-Bill

At a glance (as of 6/30/18) since program inception on 6/1/18:

Residential EE OBR	Applications Received	In Process[22]	Committed[23]	Funded
# of OBO	0	0	0	0
$ value of OBO	n/a	n/a	$0.00	$0.00

In December 2016, a nonprofit on Molokai requested a commitment from GEMS to finance up to 1,200 solar hot water heaters for Molokai households utilizing the on-bill repayment mechanism. While admittedly premature, as the on-bill repayment request had not yet been submitted to the Commission for approval, with poverty levels almost double, and the average price of electricity almost three times that of the rest of the states, the Authority was eager to set aside these funds to help this underserved island. Based on an estimated cost of $8,000/system provided by our PBFA, the Authority approved a $9.6 million commitment towards this Molokai project.

However, in order to implement this project, the nonprofit requested/required grant funds to help defer its operational overhead costs. Unfortunately, as a loan fund, HGIA is not authorized to utilize GEMS program funds to provide grants. As such at the end of June 2018, the nonprofit informed the Authority of its decision to abandon this project. The Authority is hopeful that its partnerships with contractors and other grassroot organizations with ties to Molokai and other underserved

[20] This category includes loans that are being processed and/or pending additional information.
[21] Includes loans that have been approved with executed Loan Documents and solar systems in the process of being installed.
[22] This category includes loan that being processed and/or pending additional information.
[23] Includes loans that have been approved with executed Loan Documents and solar systems in the process of being installed.

communities will provide alternate venues to reach these households. These funds have been reclassified as available to lend.

Delinquent Status for the entire Residential Loan Portfolio as of June 30, 2018:

Loan Balance	Current	%	31 – 60 Days*	%	61 – 90 Days*	%	91+ Days	%
$4,405,069	$4,308,360	97.8%	0	0.0%	$72,644	1.6%	$24,065	0.6%
No.: 136	133	97.8%	0	0.0%	2	1.5%	1	0.7%

* HGIA's Loan Servicer provides collection services up to 60 days past due. The Authority has outsourced to a local collection agency for loans 61+ days past due.

2.3 Status of Programs: Commercial Portfolio

2.3.1 Commercial PV – Direct

At a glance (as of 6/30/18) from program inception:

Commercial PV	Applications Received	In Process[24]	Committed[25]	Funded[26]
# of loans	30	5	11	17
$ value of loans	n/a	n/a	$5,883,493	$12,119,147

As mentioned in Section 1.2, a $1.8 million loan commitment to finance the installation of solar PV for a nonprofit expired. This amount has been reclassified as available to lend. An important distinction between the Residential and Commercial loan portfolios is the commercial product leverages private investments (via conventional bank financing and/or borrower's equity). As of June 30, 2018, over $36.5 million in total projects for nonprofits, small businesses and multi-family rental projects were leveraged with $18.0 million in GEMS funds.

Kahauiki Village. On October 5, 2017, the Authority submitted a request for Commission approval to finance Kahauiki Village, an innovative solution to providing permanent housing for low-income families, even though the project may not be grid-tied, with the understanding that the project will eventually be connected to the grid.

On October 10, 2017, the Commission filed Order No. 34861 allowing the Authority to finance said project, upon proper underwriting and loan approvals. The Order further required the Authority to (1) file, within sixty (60) days of the filing date of the Order, the final, executed Utility Connection Agreement ("Agreement") between HGIA, Kahauiki Village Development LLC, and the Borrower; and (2) file a notification letter with the Commission when the Project is interconnected to HECO's grid. If HECO is unable to interconnect the Project by March 31, 2018, the Order further requires HGIA to file a report with the Commission, detailing the Project's interconnection progress, beginning Monday, April 2, 2018, and continuing on the first Monday of the month, until such time as the Project is

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

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

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

interconnected. During the quarter, the Authority filed three HECO interconnection progress reports (on April 2, 2018, May 7, 2018 and June 4, 2018).

Additionally, on June 21, 2018, the Authority filed a letter notifying the Commission that the Kahauiki Village project has been grid connected.

2.3.2 Commercial PV – On-Bill

At a glance (as of 6/30/18) since program inception on 6/1/18:

Commercial PV OBR	Applications Received	In Process[27]	Committed[28]	Funded
# of OBO	1	0	1	0
$ value of OBO	n/a	n/a	$700,000	$0.00

On April 20, 2018, the Commission issued order no. 35415 conditionally approving the establishment and implementation of an on-bill repayment mechanism, subject to the additional condition specific to the commercial portfolio:

1. The GEM$ Commercial On-Bill Loan Product, (depicted as Exhibit C in the 2/28/18 filing) is approved and the technology therein shall also be considered approved to receive GEMS financing.

Hawaii's first Green Energy Money $aver On-Bill loan was approved for a non-profit at the end of June 2018. Leveraging this non-traditional repayment mechanism enabled the Authority and its conventional co-lender to underwrite the project's financing in a manner that still met the needs of prudent lenders, while resulting in significant bill savings of approximately 49% for the off taker.

The Authority is excited about the possibilities of replicating this model to assist other nonprofits in the Hawaiian Electric Companies' service territory to convert to clean energy.

2.3.3 Commercial EE – On-Bill

At a glance (as of 6/30/18) since program inception on 6/1/18:

Commercial EE OBR	Applications Received	In Process[29]	Committed[30]	Funded
# of OBO	0	0	0	0
$ value of OBO	n/a	n/a	$0.00	$0.00

[27] This category includes loans that are being processed and/or pending additional information.
[28] Includes loans that have been approved with executed Loan Documents and solar systems in the process of being installed.
[29] This category includes loan that being processed and/or pending additional information.
[30] Includes loans that have been approved with executed Loan Documents and solar systems in the process of being installed.

Delinquent Status as of June 30, 2018:

Loan Balance	Current	%	31 – 60 Days	%	61 – 90 Days	%	91+ Days	%
$12,085,793	$12,085,793	100.0%	$0.00	0.0%	$0.00	0.0%	$0.00	0.0%
No.: 17	17	100.0%	0	0.0%	0	0.0%	0	0.0%

2.3.4 Commercial EE - Direct

At a glance (as of 6/30/18) from program inception:

	Applications Received	In Process	Committed[31]	Funded[32]
# of loans	1	0	1	1
$ value of loans	n/a	n/a	$39,864,627	$6,018,973

Department of Education. As approved by Act 057 (2017), a $46.4 million loan was made to finance energy efficiency measures for the state's Department of Education ("DOE"). Although the DOE initially planned to utilize the $46.4 million to only retrofit LED lights throughout the 241 DOE facilities eligible for GEMS funding, by adopting innovative strategies, the DOE will be able to implement deeper retrofits to include other energy efficiency measures, such as replacing old, inefficient air conditioners. While the project initially estimated that the DOE would reduce electricity costs by $8.0 million annually, new estimates indicate that the DOE's energy savings will exceed $10.5 million per year.

As of the June 30, 2018 deadline to execute energy efficiency contracts under this loan commitment, the DOE will be utilizing $45,883,600 of the funds. The unused amount of $516,400 shall be made available under the Revolving Loan Fund for State Agencies.

Delinquent Status as of June 30, 2018:

Loan Balance	Current	%	31 – 60 Days	%	61 – 90 Days	%	91+ Days	%
$6,018,973	$6,018,973	100.0%	$0.00	0.0%	$0.00	0.0%	$0.00	0.0%
No.: 1	1	100.0%	0	0.0%	0	0.0%	0	0.0%

Direct Commercial Energy Efficiency Financing. In alignment with its 2018 Annual Plan[33], the Authority filed Program Notification No. 12 in Docket No. 2014-0135 on March 9, 2018 to request approval to finance Commercial Energy Efficiency for nonprofits, small businesses and multi-family rental projects.

[31] Loan funds will be advanced based on achievement of milestone progress payment criteria by Contractors.
[32] Partially funded loan. The remaining amount(s) to be funded are in the "Committed" category.
[33] See Hawaii Green Infrastructure Fiscal 2018 Annual Plan submitted in Docket No. 2014-0135 on March 30, 2017, Attachments D and E for details.

On April 2, 2018, the Commission issued Order No. 35375 conditionally approving Program Notification No. 12, subject to the following conditions:

1. The Authority must clearly articulate valid and reasonable criteria for an underserved designation before designating any loan or project issued under PN12 as serving the underserved;
2. The Authority must inform potential borrowers and participants of possible reduced savings and or bill increases before they commit to becoming borrowers or participants; and
3. The Authority must make ongoing efforts to collaborate with Hawaii Energy to ensure that the savings associated with the GEMS commercial energy efficiency programs are clearly and accurately documented and reported by Hawaii Energy, and that savings are not double counted or under-reported.

Commercial Energy Efficiency Revolving Line of Credit for State Agencies. In alignment with H.B. No. 1508, HD2, SD2, CD1, Program Notification No. 13 ("PN#13") was filed in Docket No. 2014-0135 on May 9, 2018 requesting Commission approval to create a sub-fund within the Authority's green infrastructure special fund and convert $50.0 million of GEMS funds into a revolving line of credit for any state agency or department to finance cost-effective commercial energy efficiency measures, subject to fund availability, on an on-going basis. The Department of Education's outstanding loan balance and contract commitments as of June 30, 2018[34], shall be included under this revolving line of credit.

On May 30, 2018, the Commission issued Order No. 35492 conditionally approving PN#13 subject to the following conditions:

1. Provided the Governor enacts HB 1508;
2. The Authority shall apply any loan repayments made pursuant to PN#13 toward the replenishment of the reduced Public Benefits Fee collections before the payment of GEMS Program administrative costs;
3. The Authority shall not use interest earned on repayments made pursuant to PN#13 to replenish and/or grow the capital available under the revolving line of credit; and
4. The Authority shall not deploy any funds to state agencies under PN#13 in excess of the borrowing amounts authorized by the Legislature.

On June 12, 2018, the Authority filed a Motion for Clarification of Order No. 35492 to request clarification on whether the repaid principal will be required to replenish the Public Benefits Fee collections or if the repaid principal will be deposited back into the sub-fund to be re-loaned for future energy efficiency projects.

On June 29, 2018, the Commission filed Order No. 35561 granting the Authority's motion for clarification of Order No. 35492, permitting the Authority to deposit principal repaid pursuant to PN#13 into the revolving line of credit consistent with HB 1508, if/when it is enacted.

[34] As reflected under Section 2.3.4. on page 10, the DOE's commitments aggregate $45,883,600.

2.4 Status of Programs: Miscellaneous

Metrus Energy. Metrus Energy ("Metrus"), the Authority's approved capital partner for the Commercial Energy Efficiency Product, began marketing in July 2016. The sales cycle for these loans can be lengthy due to the considerable engineering work required on the part of the borrower and the size of the transaction(s). Additionally, while Metrus has been actively prospecting projects for GEMS financing, identifying eligible projects has been difficult due to a disconnect between Metrus' $1.0 million minimum project size requirement and GEMS financing restrictions that only authorizes the funds to be used for nonprofit or small business[35] participants. Metrus continues to seek financing opportunities that meet GEMS program requirements.

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. This is consistent with best practice by Green Banks and similar State entities and provides a consistent, transparent approach to sourcing opportunities for capital deployment. HGIA did not receive any requests during the quarter.

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").

The Authority believes that its ability to finance storage is critical, especially given the remaining interconnection options offered by the Hawaiian Electric Companies requiring energy storage. In alignment with its Annual Plan, the Authority will be submitting a Program Notification to request Commission approval to finance PV + Storage.

2.6 Additional Activities

The following are some of the activities that have occurred since the end of the quarter (June 30, 2018) and will be reported as activities in the next Quarterly Report:

- **Act 121.** The Governor signed Act 121 (SLH 2018) into law on July 5, 2018 to create a sub-fund within the Authority's green infrastructure special fund and convert $50.0 million of GEMS funds into a revolving line of credit for any state agency or department to finance cost-effective commercial energy efficiency measures, subject to fund availability, on an on-going basis.

[35] Small Businesses are defined by the U.S. Small Business Administration's Size Standards.

- **Loans Funded**. As of July 16, 2018, the Authority funded five additional Residential PV Loans aggregating $201,654 and three Commercial loan progress payments aggregating $210,881.

3. Program Metrics

As required by the Program Order, the following Program Metrics are being provided for the current quarter, fiscal year-to-date and since program inception.

3.1 Energy and Environment Impact			
Clean Energy Production of Projects Financed	**This Quarter: 4/1-6/30/18**	**FY 2018 To Date**	**Since Program Inception**
Installed Capacity (Actual kW)	488.6	4,166.7	5,934.1
Total Yr 1 Production (Estimated kWh)	659,035.6	6,363,806.2	9,039,470.2
Total Project Production Over Lifetime of Installed PV (Projected kWh) (including 0.50% degradation)	12,573,018.6	121,408,082.6	172,454,143.4
Electricity Reductions from Energy Efficiency Projects Financed			
Total Yr 1 kWh Reduction (Energy Efficiency)*	-	35,314,352	35,314,352
Total kWh Reduction Over Lifetime of Installed EE*	-	529,715,280	529,715,280
Petroleum Displaced by Clean Energy and Energy Efficiency Projects			
Total Petroleum Displaced/Saved Over Lifetime (Clean Energy and Energy Efficiency Projects (1)) (Estimated barrels)	7,722.0	399,903.8	431,255.0
Petroleum Displaced/Saved based on Yr 1 Clean Energy Generation (Estimated barrels)	404.8	3,908.5	5,551.8
Petroleum Displaced Over Lifetime of Installed PV (Projected barrels)	7,722.0	74,565.8	105,917.1
Cumulative Annual Petroleum saved from Yr 1 Efficiency Projects*	-	21,689.2	21,689.2
Petroleum Saved over Lifetime of Efficiency Projects*	-	325,338.0	325,338.0
Greenhouse Gas Avoided			
Total Greenhouse Gas Avoided (2) Over Lifetime (Clean Energy and Energy Efficiency Projects) (Est. metric tons CO2)	3,783.6	195,940.9	211,302.1
Greenhouse Gas Avoided from Clean Energy Yr 1 Production (Estimated metric tons CO_2)	198.3	1,915.0	2,720.2
Greenhouse Gas Avoided Over Lifetime of Installed PV (Projected metric tons CO_2)	3,783.6	36,535.0	51,896.2
Greenhouse Gas Avoided from Yr 1 Energy Efficiency*	-	10,627.1	10,627.1
Greenhouse Gas Avoided over Lifetime of Energy Efficiency Project*	-	159,405.9	159,405.9
(1) Reference unitjuggler.com for conversion metric.			
(2) Reference eia.gov for conversion metrics.			

3.2 Economic Development Impact			
GEMS Capital (Cash Basis)	**This Quarter: 4/1-6/30/18**	**FY 2018 To Date**	**Since Program Inception**
GEMS Revenues	$ 657,262	$ 2,174,996	$ 3,206,561
GEMS Administrative & Program Costs	$ 406,125	$ 843,914	$ 3,495,225
GEMS Loans Funded	$ 2,316,555	$ 18,164,531	$ 23,629,641
Indirect Economic Impact - Jobs Created/Retained (1)*	23.3	757.3	836.8
State of Hawaii Tax Revenues Generated*	$ 287,445	$ 9,344,131	$ 10,324,653
(1) Jobs created or retained was previously calculated utilizing the SBA's metric of $65,000/job. However, as a state program, we will be utilizing the State's metric of $97,922/job for 2018.			

Projects Financed According to Technology Type/Category			
Solar Photovoltaic Systems (1)	40	384	499
Energy Storage	0	0	0
Lighting Upgrades (2)*	-	965,000	965,000
HVAC Upgrades*	0	324	324
Mechanical Upgrades	0	0	0
Controls and Monitoring Devices	41	357	484
Energy/Water Nexus	0	0	0
Total No. of Projects	41	124	199
(1) Including advanced inverters and smart modules.			
(2) DOE Project: Interior and Exterior LEDs			

3.3 Market Expansion Impact

Residential PV Loan Program	This Quarter: 4/1-6/30/18	FY 2018 To Date	Since Program Inception
Total No. of GEMS Loans	19	76	145
Total No. of GEMS Leases	15	31	31
Total No. of GEM$ OBOs	0	0	0
Owner Occupied OBOs	0	0	0
Renter OBOs	0	0	0
No. Loans/Leases Serving Underserved Market (1)	31	86	143
% Loans/Leases Serving Underserved Market	91.2%	80.8%	81.5%
(1) See AMI Distribution			
Status of Applications (WECC):			
No. of Residential PV Applications Received	0	22	427
No. of Residential PV Applications In Process	0	N/A	N/A
No. of Residential PV Applications Declined	0	13	160
No. Residential PV Applications Withdrawn	(3)	30	126
No. of Residential PV Applications Loan Docs Accepted	4	N/A	N/A
Status of Applications (Direct):			
No. of Residential PV Applications Received	31	68	68
No. of Residential PV Applications In Process	15	N/A	N/A
No. of Residential PV Applications Declined	5	20	20
No. Residential PV Applications Withdrawn	2	5	5
No. of Residential PV Applications Loan Docs Accepted	3	N/A	N/A
Status of Applications (Leases):			
No. of Residential PV Applications Received	27	65	65
No. of Residential PV Applications In Process	11	N/A	N/A
No. of Residential PV Applications Declined	0	0	0
No. Residential PV Applications Withdrawn	0	2	2
No. of Residential PV Applications: Notice to Proceed	21	N/A	N/A
Status of Applications (GEM$ OBR):			
No. of Residential GEM$ Applications Received	15	15	15
No. of Residential GEM$ Applications in Process	8	N/A	N/A
No. of Residential GEM$ Applications Declined	6	6	6
No. of Residential GEM$ Applications Withdrawn	1	1	1
No. of Residential GEM$ Applications OBO Docs Accepted	0	N/A	N/A
Geographic Location			
No. of Loans on Oahu	34	104	159
No. of Loans on Maui	0	0	9
No. of Loans on Molokai	0	0	0
No. of Loans on Lanai	0	0	0
No. of Loans on Hawaii	0	3	8

Profile of Customers			
Number of Customers By Customer FICO Credit Score			
700 and above	20	64	90
675-699	6	19	36
650-674	6	13	23
620-649	2	7	18
600-619	0	4	9
Number of Customers By Income Distribution (self-reported by customers)			
Under $15,000	0	0	0
$15,000-$24,999	0	0	1
$25,000-$34,999	1	2	3
$35,000-$49,999	2	14	17
$50,000-$74,999	5	15	24
$75,000-$99,999	12	22	42
$100,000 and Above	14	54	89
Number of Customers by Area Median Income (1)			
<30% AMI (Extremely Low Income)	0	1	1
30% to <50% AMI (Very Low Income)	3	16	22
50% to <80% AMI (Low Income)	15	27	41
80% to <140% AMI (Moderate Income)	13	42	78
> 140% AMI	3	21	34

(1) Area Median Income as provided by the U.S. Department of Housing & Urban Development (HUD). <30% AMI - Extremely Low Income; 30% to <50% AMI = Very Low Income; 50% to <80% AMI - Low Income; 80% to <140% AMI = Moderate Income.

Commercial Loan Program	This Quarter: 4/1-6/30/18	FY 2018 To Date	Since Program Inception
Total Number of GEMS PV Loans	3	12	18
Total Number of GEMS EE Loans	-	1	1
Total Number of GEM$ OBOs			
Owner-User			
Commercial Tenant			
No. of Nonprofits Participating in GEMS	1	7	9
Status of Applications:			
No. of Commercial PV Applications Received	3	19	29
No. of Commercial PV Applications Approved	2	19	25
No. of Commercial PV Applications Declined	0	0	0
No. of Commercial PV Applications Withdrawn	1	1	1
No. of Commercial PV Applications Under Review	3	N/A	N/A
No. of Commercial EE Applications Received	0	0	1
No. of Commercial EE Applications Approved	0	0	1
No. of Commercial EE Applications Declined	0	0	0
No. of Commercial EE Applications Withdrawn	0	0	0
No. of Commercial EE Applications Under Review	0	0	0
No. of GEM$ Commercial Applications Received	1	1	1
No. of GEM$ Commercial Applications Approved	1	1	1
No. of GEM$ Commercial Applications Denied	0	0	0
No. of GEM$ Commercial Applications Withdrawn	0	0	0
No. of GEM$ Commercial Applications Under Review	0	0	0
Geographic Location (1)			
No. of Loans on Oahu	1	7	12
No. of Loans on Maui	0	2	2
No. of Loans on Molokai	0	0	0
No. of Loans on Lanai	0	0	0
No. of Loans on Hawaii	2	4	4

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

No. Small Businesses Participating in GEMS	2	4	4
No. Small Businesses by Gross Receipts*			
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	1	1	1
$500,000-$999,999	0	1	1
$1,000,000-$4,999,999	1	1	1
Above $5,000,000	0	0	0
Number of Small Businesses by Average Number of Employees*			
≤10 Employees	0	0	0
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	1	1
>1,000 Employees	0	0	0

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

Number of Rental Units Supported by GEMS	-	242	748
Marketing & Customer Service Activities			
GEM$ Marketing & Program Outreach**	45	45	45
Contractor Calls and Support	205	205	205
Potential Customer Calls and Support	50	50	50
Existing Customer Calls and Support	65	65	65
Complaint Calls and Support	1	1	1
Other Calls and Support	0	0	0

** Marketing and Program Outreach may include, but not be limited to program updates, prospecting new contractors, GEM$ education, nonprofit outreach, training, customer engagement, etc.

3.4 Cost Savings Impact

	This Quarter: 4/1-6/30/18	FY 2018 To Date	Since Program Inception
Aggregate Estimated **Gross** (1) Electricity Cost Savings from Energy Production and Reduction (life of system) ($)	$ 6,611,720	$ 214,534,126	$ 238,101,162
Aggregate Estimated **Gross** Electricity Cost Savings From Energy Production (life of system) ($) (Consumer)	$ 4,183,387	$ 12,901,844	$ 21,224,681
Aggregate Estimated **Gross** Electricity Cost Savings From Energy Production (life of system) ($) (Commercial)	$ 2,428,333	$ 42,717,692	$ 57,961,891
Aggregate Estimated **Gross** Electricity Cost Savings from Energy Efficiency (life of system)($)(Commercial)*	$ -	$ 158,914,590	$ 158,914,590
Average Estimated **Gross** Electricity Cost Savings From Energy Production (life of system) ($) (Consumer)	$ 123,041	$ 121,144	$ 120,938
Average Estimated **Gross** Electricity Cost Savings From Energy Production (life of system) ($) (Commercial)	$ 809,444	$ 3,559,808	$ 3,220,105
Average Estimated Gross Electricity Cost Savings from Energy Efficiency (life of system)($)(Commercial)*	$ -	$ 659,397	$ 659,397
Aggregate Estmated **Net** (2) Electricity Cost Savings From Energy Production (life of system) ($) (Consumer)	$ 2,548,623	$ 7,269,154	$ 13,030,460
Aggregate Estimated **Net** Electricity Cost Savings From Energy Production (life of system) ($) (Commercial)	$ 1,341,544	$ 14,537,090	$ 23,054,303
Aggregate Estimated **Net** Electricity Cost Savings From Energy Efficiency (life of system) ($) (Commercial)*	$ -	$ 112,514,590	$ 112,514,590
Average Estimated **Net** Electricity Cost Savings From Energy Production (life of system) ($) (Consumer)	$ 74,960	$ 68,255	$ 74,248

Average Estimated **Net** Electricity Cost Savings From Energy Production (life of system) ($) (Commercial)	$ 447,181	$ 1,211,424	$ 1,280,795
Average Estimated **Net** Electricity Cost Savings from Energy Efficiency ($)(Commercial)*	$ -	$ 466,866	$ 466,866
Average System Cost per Watt for All Consumers (PV) ($)	$ 4.25	$ 4.09	$ 3.22
Average System Cost per Watt for Underserved Consumers (PV) ($)	$ 4.24	$ 4.08	$ 4.03
Average System Size for All Consumers (PV) (kW)	9.2	8.9	8.7
Average System Size for Underserved Consumers (PV) (kW)	8.9	8.7	8.7
Project Cost per Watt for All Consumers – Energy Efficiency ($)	0	0	0
Average Project Size for All Consumers – Energy Efficiency (kW)	0	0	0
Project Cost per Watt for Underserved Consumers – Energy Efficiency ($)	0	0	0
Average Project Size for Underserved Consumers – Energy Efficiency (kW)	0	0	0

(1) Savings calculation assumes a historical utility rate increase of 5.72% annually.

(2) Savings calculations includes tax credits, assumes a historical utility rate increase of 5.72% annually and is net of loan payments required.

* Energy Efficiency metrics based on DOE's completed project plan. Hawaii Energy reports shall include GEMS/GEM$ energy efficiency metrics.

4. Financial Summary of Hawaii Green Infrastructure Authority

State of Hawaii		
Hawaii Green Infrastructure Authority		
Twelve Month Period Ended June 30, 2018		
BALANCE SHEET		
Assets		
Current Assets		
Cash in Bank	$	120,645,956
Cash in Treasury	$	1,737,270
Total Cash	$	122,383,226
Interest Receivable	$	714
Other Receivable		3,690
Total Current Assets	$	122,387,631
Noncurrent Assets		
GEMS Loans Receivable	$	23,147,054
Total Assets	**$**	**145,534,685**
Liabilities		
Deposits/Impounds	$	209
Total Liabilities	$	209
Fund Balance		
Fund Balance - State Treasury	$	1,737,270
Fund Balance - GEMS Program	$	143,797,206
Total Fund Balance	$	145,534,476
Total Liabilities & Fund Balance	**$**	**145,534,685**
STATEMENT OF REVENUES, EXPENDITURES & CHANGES IN FUND BALANCES		
Revenues		
Investment Dividend	$	1,412,317
Interest From Loans	$	459,064
Other Income	$	303,614
Total Revenues	$	2,174,996
Expenditures		
Salaries & Benefits	$	567,280
Office & Administrative Expenses	$	15,678
Program Expenses	$	260,955
Total Expenses	$	843,914
Excess Revenues Over Expenditures	$	1,331,082
Less: Repaid Principal from 10/26/17 to PUC	$	(276,026)
Less: Loan Interest from 10/26/17 to PUC	$	(370,703)
Total to PUC	$	(646,729)
Change in Fund Balance	$	684,353

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]omission with its quarterly reporting and Program Notifications"[36] 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]omission, 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".[37]

The GEMS Program submitted its consumer protection policies in a Program Notification to the Commission on July 1, 2015.[38]

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.[39] The Authority has not initiated any utility-scale projects during the quarter and there are no utility-scale projects that have been financed or are currently being discussed.

5.3 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."[40] 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."[41]

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 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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[36] See "Decision and Order No. 32318," filed in Docket No. 2014-0135 on September 30, 2014, at p. 66.
[37] See "Decision and Order No. 32318," filed in Docket No. 2014-0135 on September 30, 2014, at p. 66.
[38] 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.
[39] See "Decision and Order No. 32318," filed in Docket No. 2014-0135 on September 30, 2014, at p. 60.
[40] See "Decision and Order No. 32318," filed in Docket No. 2014-0135 on September 30, 2014, at p. 95.
[41] See "Division of Consumer Advocacy's Statement of Position," filed in Docket No. 2014-0135 on August 7, 2014, at p. 14.

SERVICE LIST

The original and eight (8) copies of the GEMS Program Quarterly Report have 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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Dated: Honolulu, Hawaii, July 31, 2018