DAVID Y. IGE
GOVERNOR

DEPT. COMM. NO. 284

MIKE MCCARTNEY
DIRECTOR

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

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DEPUTY DIRECTOR

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December 26, 2020

The Honorable Ronald D. Kouchi,
President and Members
of the Senate
Thirty-First State Legislature
State Capitol, Room 409
Honolulu, Hawaii 96813

The Honorable Scott K. Saiki,
Speaker and Members of the
House of Representatives
Thirty-First State Legislature
State Capitol, Room 431
Honolulu, Hawaii 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

For your information and consideration, I am transmitting a copy of the Hawaii Green Infrastructure Authority's Annual Report, as required by Act 211, Session Laws of Hawaii 2013. In accordance with Section 93-16, Hawaii Revised Statutes, I am also informing you that the report may be viewed electronically at: http://dbedt.hawaii.gov/overview/annual-reports-reports-to-the-legislature/.

With aloha,

Mike McCartney

Enclosure

c: Legislative Reference Bureau

Hawaii Green Infrastructure Authority

Making green energy accessible and affordable for Hawaii's underserved ratepayers

2020 Annual Report to the Governor & Legislature

Department of Business, Economic Development & Tourism

Pursuant to Act 211, Session Laws of Hawaii 2013

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Message from the Chair

December 18, 2020

Aloha kākou,

The Hawaii Green Infrastructure Authority ("HGIA" or "Authority") was created by the Legislature to make clean energy investments accessible and affordable for Hawaii's ratepayers. HGIA was capitalized with the proceeds from the Green Energy Market Securitization ("GEMS") Bond, to advance the State's Energy Efficiency Portfolio Standards ("EEPS") and support efforts to achieve its 100% renewable portfolio standard ("RPS") goal in the electricity sector by 2045.

Like the rest of the state, nation and world, the COVID-19 pandemic disrupted HGIA's implementation of its 2020 goals and objectives. In spite of a number of commitments aggregating $11.1 million being cancelled during the year, the Authority accomplished the following:

- continued its focus on providing clean energy financing to underserved ratepayers by committing an additional $5.4 million in loan capital. Aggregate loan funds committed as of September 30, 2020 totaled $84.4 million, facilitating over $105.6 million in clean energy projects;
- recognized by the U.S. Department of Energy as a 2020 Goal Achiever for exceeding its fiscal 2020 $25.0 million funding goal;
- responded in a number of ways to the COVID-19 pandemic; and
- started its risk mitigation, automation and efficiency projects.

Thank you to the Governor, Legislature, Hawaii Public Utilities Commission, GEMS-Approved Contractors, energy stakeholders, and local banking industry for its continued support.

Mahalo nui,

Mike McCartney

Mike McCartney
HGIA Board Chair

Dashboard

Impacts

As of September 30, 2020

Cumulative Excess Revenues Over Expenses*: $5.6 Million

Jobs Created or Retained: 1,095

Hawaii Tax Revenues Generated: $13.3 Million

Est. kWh Produced/ Reduced over Lifetime: 807,485,440

Est. Barrels of Petro Displaced Over Lifetime: 495,784

Est. Metric Tons GHG Avoided over Lifetime: 242,863

* Excess Revenues over Expenses since inception is before some $4.65 million in "expenditures" for loan repayments transferred to the Public Utilities Commission.

Reporting Requirements

This document fulfills the statutory requirement to report on the status of the Authority's activities, including approved loan program description and uses; information and data on the implementation of the loan program; and analytical data relating to the deployment of clean energy technology. The Authority respectfully submits this status report outlining the steps that were taken to further design, develop and deploy GEMS capital in 2020 as well as plans for 2021.

Legislative Authorization

On April 30, 2013, the Legislature enacted, and on June 27, 2013, the Governor signed into law, Act 211, authorizing the establishment of a green infrastructure financing program, known as GEMS to deploy clean energy infrastructure to contribute towards Hawaii's aggressive pursuit of its statutory 100% clean energy goals by 2045 while helping ratepayers lower their energy costs.

Act 211 established a legal structure that enabled the Department of Business, Economic Development & Tourism ("DBEDT") to issue Green Energy Market Securitization bonds to capitalize the green infrastructure loan fund, leveraging public and private capital, to facilitate the achievement of the State of Hawaii's aggressive clean energy goals while providing opportunities for underserved ratepayers to invest in and save money from green infrastructure investments. The GEMS bonds are not an obligation of the State of Hawaii. Its sole obligor are the ratepayers of the Hawaiian Electric Companies' through a non-by-passable Green Infrastructure Fee on ratepayers' utility bills.

Key objectives of the GEMS program are to:

1. Address financing market barriers to increase the installation of clean energy projects and infrastructure to meet the State's clean energy goals, including the RPS and EEPS;
2. Democratize clean energy by expanding access and affordability of renewable energy and energy efficiency projects for identified underserved markets, while expanding the market generally;
3. Enable more ratepayers to reduce their energy use and energy costs by helping them finance clean energy improvements;
4. Partner with and support existing market entities in the clean energy and financing sector to ensure GEMS can bridge market gaps and facilitate a sustainable and efficient private sector market; and

5. Balance the aforementioned goals and objectives with repayment risk to achieve an appropriate rate of return and build a sustainable financing program.

Hawaii Public Utilities Commission (“PUC”)

To effectuate Act 211, the GEMS financing program required Commission approval of its Financing Order and Program Order Applications. The PUC approved the GEMS [Bond] Financing Order on September 4, 2014 and the GEMS [Loan] Program Order on September 30, 2014.

The regulatory Orders approved by the Commission established the general parameters and program processes for GEMS. With feedback and support from several interveners - including but not limited to the Consumer Advocate and the Hawaii Solar Energy Association, the PUC granted GEMS the flexibility to work with the market to provide financing programs to enable more of Hawaii’s consumers to invest in and benefit from clean energy.

Pursuant to HRS 269-162, the Financing Order provided regulatory approval for the issuance of low-cost Green Infrastructure Bonds (GEMS Bonds) to capitalize the GEMS Loan Fund. Pursuant to HRS 269-170, the Program Order provided approval for the deployment of funds from the issuance of the GEMS Bonds. Included in the Program Order were general program parameters and specific deployment strategies, outlining a clean energy financing program that was best thought to serve Hawaii’s consumers at that time.

On October 26, 2017, the Hawaii Public Utilities Commission issued Order No. 34930 ("Order”) to change the priority of uses of GEMS Program Loan Repayments. This Order amended the order of loan repayments received to be applied first towards the replenishment of the Public Benefits Fee before the payment of program administrative costs. This Order resulted in the conversion of a sustainable financing program (Key Objective No. 5 above) to a non-sustainable financing program. As of this report date, the Authority had transferred over $4.6 million to the PUC.

Hawaii Green Infrastructure Authority (“HGIA”)

The Hawaii Green Infrastructure Authority (HGIA) was constituted in November 2014 to democratize clean energy by making clean energy improvements affordable and accessible to a broader cross-section of Hawaii’s ratepayers, while advancing the State’s goal of achieving 100 percent renewable portfolio standard in the electricity sector by 2045.

HGIA is overseen by a five-person board of directors and is administratively attached to DBEDT. The Authority is tasked with administering and governing the GEMS Program, ensuring that capital is deployed effectively to achieve program objectives.

In June 2019, HGIA established a Permitted Interaction Group ("PIG") to investigate, engage stakeholder perspectives and make a recommendation regarding the allocation of the remaining GEMS funds available to lend. On August 15, 2019, HGIA's Board approved changes to the GEMS financing program, effective September 1, 2019. Recognizing that there is a tension and need for timely clean energy adoption in general, the Board agreed with the Permitted Interaction Group ("PIG") that while it will slow the pace of loan deployment, the real opportunity and objective of the GEMS program should be to provide access to capital for clean energy adoption to the underserved and hard to reach. As such, HGIA accepted all of the recommendations of the PIG, except for the proviso to exclude small businesses. The remaining GEMS loan funds will be used to finance eligible projects in the following segments:

Segment	% Allocation
Low and Moderate-Income Single-Family Residential Homeowners and Renters*	20%
Small Businesses (as defined by the U.S. Small Business Administration)	15%
Multi-Family Rental Projects	35%
Nonprofits	30%

* Occupants will be required to meet income qualifications only at the time of application.

The Authority has a suite of financing products available, providing low-cost, long-term, flexible financing to Hawaii's most vulnerable ratepayers defined above, to enable these underserved ratepayers to realize monthly energy cost savings while transitioning to clean energy, including:

- Green Energy Money $aver ("GEM$") On-bill Loan Program for homeowners and renters;
- Direct Residential Loans for homeowners;
- Consumer Lease for homeowners;
- GEM$ On-bill Loan Program for nonprofits, small businesses and multi-family rental projects;
- Direct Commercial Loans for small businesses and multi-family rental projects;
- Project Sponsor Commercial Loans for nonprofits, small businesses and multi-family rental projects; and
- HGIA also administers the State Revolving Loan Fund, providing flexible financing to assist state departments and agencies in lowering it energy costs.

Lastly, working in concert with the Hawaii Public Utilities Commission ("PUC") and the Hawaiian Electric Company, Inc., HGIA is responsible for the administration and oversight of the $150.0 million Green Energy Market Securitization Bond.

HGIA's financing programs fill market gaps, stimulates private investments and leverages innovative tools to mitigate risks and reach new markets.

2020 Activities

COVID-19 Response

HGIA's COVID-19 Responses included the following:

1. Loan Deferrals. In response to the Governor's Stay-At-Home order effective March 25, 2020 to prevent the spread of the virus, the Authority quickly shifting its focus from loan origination to loan servicing to help borrowers negatively impacted by the COVID-19 pandemic by offering loan deferrals for up to six months. Approximately 63% of HGIA's residential portfolio and 89% of its commercial portfolio opted in for the deferral.

From the Pacific Business News: https://www.bizjournals.com/pacific/news/2020/03/31/hawaii-green-infrastructure-authority-board.html

Hawaii Green Infrastructure Authority Board approves loan deferrals

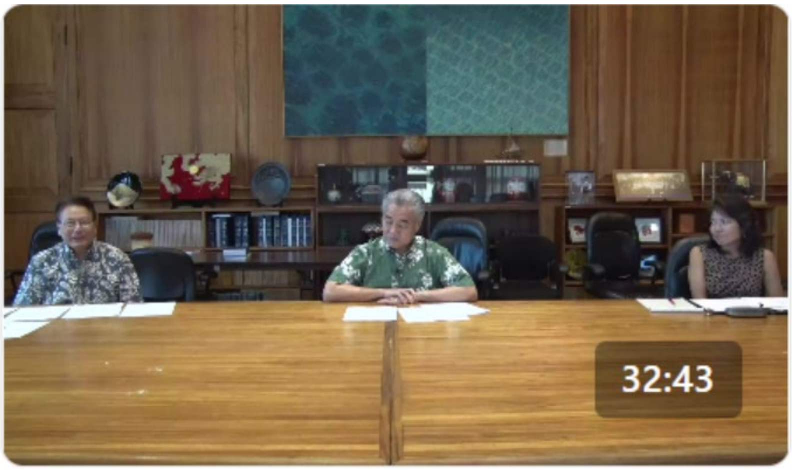
Mar 31, 2020, 12:56pm HST

In an effort to lessen the financial impact of the COVID-19 outbreak on residents and businesses in Hawaii, the board of directors of the Hawaii Green Infrastructure Authority (HGIA) approved an emergency postponement of direct loan and on-bill loan payments to the Green Energy Money Saver On-Bill Program last Friday.

Interested borrowers of loans under the GEMS Program can opt-in to defer payments for up to six months.

The Green Energy Money Saver program helps

2. SBA Paycheck Protection Program Outreach and Technical Assistance. As an agency attached to DBEDT, HGIA supported small businesses by participating in a number of community outreach efforts in April 2020, encouraging small businesses to apply for SBA's Paycheck Protection Program (PPP). Outreach included the Windward Business and Non-Profits Town Hall sponsored by Senators Laura Thielen and Jarrett Keohokalole; Representatives Chris Lee, Cynthia Thielen, Lisa Kitagawa and Scot Matayoshi; and Councilmember Ikaika Anderson on April 6, 2020; Governor Ige's Community Connection Broadcast on April 7, 2020 with Dennis Ling, which posted 12,600 views; at a Chinatown Small Business Technical Assistance Training sponsored by Congressman Ed Case and Councilmember Carol Fukunaga on April 16, 2020; and with Ryan and Yunji on April 27, 2020. Additionally, through the various ethnic Chambers, HGIA facilitated the translation of the SBA's PPP application into Chinese, Korean, Japanese, Tagalog, Thai and Vietnamese to assist our [English as a Second Language] small business owners.



Community Connection on Facebook live: Dennis Ling, DBEDT;
Governor David Ige; and Yamamoto Lau

3. Hawaii Restaurant Card. HGIA served as project lead for the Hawaii Restaurant Card, a public-private economic stimulus program to inject $75.0 million of Federal CARES Act funds into Hawaii's economy to immediately drive business to the struggling restaurant industry and stimulate economic activity for the state's entire food supply chain, including farmers, fishermen, ranchers and distributors, while providing direct assistance to unemployed residents who have been negatively impacted by the COVID-19 pandemic.

Alyssa Lee, Da Farm; Sherry Menor-McNamara, Chamber of Commerce Hawaii; Rich Wacker, American Savings Bank; Yamamoto Lau; and Governor David Ige (10/14/20)

Preliminary Hawaii Restaurant Card Economic Impacts as of December 15, 2020

Accounts Enrolled
146,576
Cards Activated
141,378 or 96.45%

Dollars Loaded
$ 74,288,000
Dollars Spent
$69,372,974 or 93.38%

Multiplier Output
$ 151,233,083

State Tax Revenue Generated
$ 8,858,929

Jobs Created/Retained
1,162

Data by County as of December 10, 2020

Cumulative to date	Hawaii	Honolulu	Kauai	Maui	Allocated to State	Statewide
Total amounts spent for period	$ 7,777,443	$34,021,372	$4,463,950	$11,791,646	$ 2,343,141	$60,397,552
Total transactions for period	208,496	1,049,290	122,774	327,459	62,707	1,770,726
Average transaction value for period	$ 37	$ 32	$ 36	$ 36	$ 37	$ 34
Total restaurant locations where cards redeemed	560	2,396	315	588	373	4,232
Average transaction value per restaurant for period	$ 13,888	$ 14,199	$ 14,171	$ 20,054	$ 6,282	$ 14,272
Transaction percentage by county	13%	59%	8%	20%		100%

Due to the success of the HRC Program, private industry banded together to purchase Hawaii Restaurant Card – Business Holiday Cards to continue to help and invest private capital into the struggling restaurant industry and food supply chain through the first quarter 2021.

Yamamoto Lau; Rich Wacker, American Savings Bank;
Steven Ai, City Mill; and Kim Gennaula, Iolani School (11/12/20)

Lending Activities

Focus on the Underserved. The Authority continued to originate, underwrite, approve and fund loans to underserved ratepayers during the year leveraging its on-bill repayment mechanism and making clean energy more accessible to previously hard to reach ratepayers.

Department of Energy Goal Achiever. The U.S. Department of Energy recognized the Hawaii Green Infrastructure Authority as a 2020 Goal Achiever for exceeding its $25.0 million funding goal this past fiscal year.

Program Visibility

During the year, HGIA's financing programs were featured in a number of local and national publications, including an editorial column in the Star Advertiser, "In a decade, Hawaii has made great progress on clean energy (https://www.staradvertiser.com/2019/12/31/editorial/island-voices/column-in-a-decade-hawaii-has-made-great-progress-on-clean-energy/); American Green Bank Consortium's "Green Banks in the United States 2020 U.S. Green Bank Annual Industry Report" (https://greenbankconsortium.org/annual-industry-report); Blue Planet Foundation's Waypoints Report for more sustainable Hawaii (https://www.bizjournals.com/pacific/news/2020/07/18/blue-planet-foundation-report-lays-out-waypoints.html); the Environmental and Energy Study Institute's "A Resilient Future for Coastal Communities, Federal Policy Recommendations from Solutions in Practice"; and the Rocky Mountain Institute's "State of Green Banks 2020."

The Authority also participated in the following Zoom presentations during the year:

- Congressional Briefing hosted by the Environmental and Energy Study Institute on March 20, 2020 for Federal policy makers and Congressional staffers;
- "Powering the Solar LMI Market with On-Bill Financing" panel on October 22, 2020 during Solar Power International's North America Smart Energy Week Virtual Education Micro-conference;
- "Climate Finance for Climate Justice: Green Banks at Work for Vulnerable Communities panel on November 19, 2020, hosted by the Coalition for Green Capital; and
- "Environmental Justice Panel" on December 8, 2020 during the Second Annual U.S. Green Bank Summit.

Expand Lending

The Authority had planned on expanding its lending activities during the year utilizing three multi-year tactics, as follows:

1. **Securing additional loan capital**. In early 2020, the US Department of Agriculture made its Rural Energy Savings Program, which previously offered 0.0% interest loans only to rural utilities, available to Green Banks nationwide. In order to access this capital source, HGIA needs a revision in its statute to allow debt from the Federal government. HB1844, which was introduced in January 2020, passed the Energy Committees in both the House and Senate. However, the bill was not heard before the session ended in July. The Authority is working with key Legislators to have the bill re-introduced in the upcoming session.

   Together with BDSD, the office of planning and the Hawaii Community Reinvestment Corporation, an application for $35.0 million in Opportunity Zone Investment Funds was submitted in November 2020. Said application has survived the first two of a four phase process. Due diligence continues with award announcements expected in early 2021.

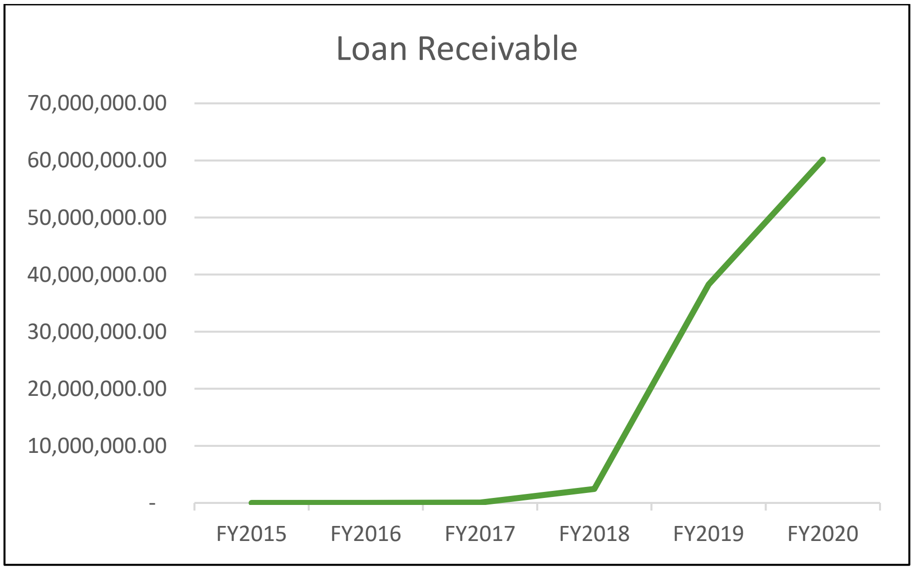
2. **Launch new loan products**. The Authority initially started the development of new loan products, however, when the Stay-At-Home order was issued to prevent the spread of the virus, essentially shutting down all non-essential businesses, the Authority quickly shifting its focus from new product development to helping borrowers impacted by COVID-19 by offering loan deferrals for up to six months. Approximately 63% of its residential portfolio and 89% of its commercial portfolio opted in for the deferral.

With many unemployed LMI households unable to pay their energy bill, underwriting modifications will be required to assist these ratepayers by lowering their energy cost after the moratorium on utility disconnections is lifted. The Authority will work with the PUC on this modification, as well as continue to develop new products to further help underserved ratepayers.

3. **Increase leverage of private capital**. Similarly, the Authority hoped to explore the opportunity and viability of increasing leverage of private capital from banks and credit unions during 2020. Unfortunately, the pandemic has decimated Hawaii's tourism industry and economy with temporary and permanent closure of businesses and the highest unemployment rate in the nation. This has also resulted in a shift in priorities for banks and credit unions from expansion in lending, to risk mitigation, debt restructuring and other loss prevention activities.

Operational Risk Mitigation

HGIA's loan portfolio had grown from $10,100 at fiscal year ended June 30, 2016 to $38.3 million at fiscal year ended June 30, 2019. As of June 30, 2020, HGIA's loan receivable was $60.1 million.



An important goal during the year has been mitigating operational risks and increasing efficiencies.

Operational risk mitigation included increasing redundancy in technical expertise, outsourcing accounting functions and leveraging software and technology. In addition to leveraging technology to increase efficiencies, the Authority also planned to engage a 3rd party to review all of HGIA's existing processes, procedures and workflow to recommend enhancements, as may be applicable, based on regulatory, lending and organizational best practices.

1. Outsource accounting functions. To increase redundancy and decrease operational risk, per its annual plan, HGIA outsourced its accounting function during the year. Project completed.

2. Leverage software & technology (multi-year initiative). To increase efficiencies and reporting accuracy, per its annual plan, HGIA is currently 60% complete on its development of an automated online underwriting portal, utilizing Salesforce as a data warehouse for increased accuracy and more robust reporting flexibility.

   The Authority also began transitioning its current manual commercial loan servicing process to a commercial loan servicing platform.

3. Engage 3rd party review of lending operations. On December 24, 2019, HGIA and the Division of Financial Institutions ("DFI") executed a Memorandum of Understanding for DFI to conduct a 3rd party review on the Authority's lending operations. The review was scheduled to start on March 30, 2020. However, due to the Governor's Stay at Home order, effective March 25, 2020, the review was cancelled.

Reporting Metrics

The following are FY21 year-to-date and since program inception Program Metrics:

Energy & Environment Impact

Clean Energy Production of Projects Financed	7/1-9/30/20	Since Program Inception
Installed Capacity (Actual kW)	206	10,292
Total Yr 1 Production (Estimated kWh)	294,088	15,649,412
Total Project Production over Lifetime of Installed PV (Projected kWh, including 0.05% degradation)	5,610,577	272,717,396
Electricity Reductions from Energy Efficiency Projects Financed		
Total Yr 1 kWh Reduction (Energy Efficiency)	1,414	35,607,501
Total kWh Reduction Over Lifetime of Installed EE	26,976	534,768,044
Petroleum Displaced by Clean Energy and Energy Efficiency Projects (1)		
Total Petroleum Displaced/Saved over Lifetime (Estimated barrels)	3,462	495,784
Petroleum Displaced based on Yr 1 Clean Energy Generation (Estimated barrels)	181	9,612
Petroleum Displaced Over Lifetime of Installed PV (Estimated barrels)	3,446	167,229
Cumulative Annual Petroleum Saved from Yr 1 Efficiency Projects	0.9	21,869
Petroleum Saved of Lifetime of Efficiency Projects	16.6	328,441
Greenhouse Gas Avoided		
Total Greenhouse Gas Avoided (2) Over Lifetime (Clean Energy and Energy Efficiency Projects) (Est. metric tons CO_2)	1,696	242,863
Greenhouse Gas Avoided from Clean Energy Yr 1 Production (Est. metric tons CO_2)	88	4,710
Greenhouse Gas Avoided Over Lifetime of Installed PV (Projected metric tons CO_2)	1,688	81,937
Greenhouse Gas Avoided from Yr 1 Energy Efficiency	0	10,715
Greenhouse Gas Avoided over lifetime of Energy Efficiency Project	8	160,926

(1) Reference unitjuggler.com for conversion metric

(2) Reference eia.gov for conversion metrics

Economic Development Impact

	7/1-9/30/20	Since Program Inception
GEMS Revenues (Cash Basis)	$ 430,940	$ 11,859,028
GEMS Administrative & Program Costs (Cash Basis)	$ 251,579	$ 5,800,060
GEMS Loans Funded	$ 3,097,644	$ 70,613,120
Indirect Economic Impact - Jobs Created/Retained (1)*	8	1,095
State of Hawaii Tax Revenues Generated*	$ 104,540	$ 13,317,224

(1) Jobs created or retained was previously calculated utilizing the SPA's metric of $65,000/job. However, as a state program, HGIA utilizes the State's metric of $105,185/job as of 2020.

Market Expansion Impact

Projects Financed According to Technology Type/Category	7/1-9/30/20	Since Program Inception
Solar Photovoltaic	26	686
Energy Storage	4	129
Lighting Upgrades (2)*	0	965,000
HVAC Upgrades*	0	324
Mechanical Upgrades	0	0
Controls and Monitoring Devices	26	1,480
Energy/Water Nexus (3)	1	208
Total No. of Projects	57	967,827

(1) Including advanced inverters and smart modules

(2) DOE Project: Interior and Exterior LEDs

(3) Includes solar water heating

Residential Loan Program	7/1-9/30/20	Since Program Inception
Total Number of PV Loans, Direct	1	195
Total Number of PV Leases, Direct	0	64
Total Number of GEM$ OBOs for PV (Loans)	25	100
Owner Occupied OBOs	24	99
Renter OBOs	1	1
Total Number of GEM$ OBOs for PV (Leases)	0	21
Total Number of GEM$ OBOs for EE (SWH)	1	13
Owner Occupied OBOs	1	13
Renter OBOs	0	0
Total Number of GEM$ OBOs	26	134
Number PV Loans/Leases/OBOs Serving Underserved Market (1)	22	295
Number EE Loans/Leases/OBOs Serving Underserved Market (1)	1	11
% Loans/Leases Serving Underserved Market	85%	78%

(1) See AMI Distribution

Status of Applications (WECC):

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

Status of Applications (Direct):	7/1-9/30/20	Since Program Inception
No. of Residential PV Applications Received	3	154
No. of Residential PV Applications in Process	0	N/A
No. of Residential PV Applications Declined	3	58
No. of Residential PV Applications Withdrawn/Expired	0	39
No. of Residential PV Applications Loan Docs Accepted	1	N/A

Status of Applications (Leases - all Leases):	7/1-9/30/20	Since Program Inception
No. of Residential PV Applications Received	0	175
No. of Residential PV Applications in Process	0	N/A
No. of Residential PV Applications Declined	0	3
No. of Residential PV Applications Withdrawn/Expired	0	81
No. of Residential PV Applications Notice to Proceed	1	N/A
Status of Applications (GEM$ OBR-PV and EE):		
No. of Residential GEM$ Applications Received	60	725
No. of Residential GEM$ Applications in Process	29	N/A
No. of Residential GEM$ Applications Declined	21	197
No. of Residential GEM$ Applications Withdrawn/Expired	12	332
No. of Residential GEM$ Applications OBO Accepted	22	N/A
Geographic Location of Financing Products		
Oahu	24	325
Maui	2	41
Molokai	0	2
Lanai	0	0
Hawaii	1	25
Profile of Customers Financed:		
Number of Customers by Customer FICO Credit Score (2)		
700 and above	1	148
675-699	0	49
650-674	1	31
620-649	0	18
600-619	0	9
Below 600	0	2

(2) Excludes on-bill applicants and 3 leases prepaid in full

	7/1-9/30/20	Since Program Inception
Number of Customers by Income Distribution (self-reported by customers)		
Under $15,000	0	0
$15,000-$24,999	0	1
$25,000-$34,999	0	4
$35,000-$49,999	1	24
$50,000-$74,999	4	46
$75,000-$99,999	8	88
$100,000 and above	14	230
Number of Customers by Area Median Income (1)		
<30% AMI (Extremely Low Income)	1	6
30% to <50% AMI (Very Low Income)	0	35
50% to <80% AMI (Low Income)	10	86
80% to <140% AMI (Moderate Income)	12	178
>140% AMI	4	88

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

Commercial Loan Program	**7/1-9/30/20**	**Since Program Inception**
Total Number of GEMS PV Loans	0	26
Total Number of GEMS EE Loans	0	2
Total Number of GEM$ OBOs, PV	0	6
Owner-User	0	2
Commercial Tenant	0	0
Total Number of GEM$ OBOs, EE	0	0
Owner-User	0	0
Commercial Tenant	0	0
Number of Nonprofits Participating in GEMS	0	17
Number of Small Businesses Participating in GEMS	0	8
Number of Rental Units Supported by GEMS	0	1074
Geographic Location of Loans (1)		
Oahu	0	20
Maui	0	5
Molokai	0	1
Lanai	0	0
Hawaii	0	6

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

Number of Small Businesses by Gross Receipts*	7/1-9/30/20	Since Program Inception
Up to $9,999	0	0
$10,000-$24,999	0	0
$25,000-$99,999	0	0
$100,000-$499,999	0	1
$500,000-$999,999	0	2
$1,000,000-$4,999,999	0	2
Above $5,000,000	0	0
Number of Small Businesses by Average Number of Employees*		
10 Employees or less	0	0
11-50 Employees	0	0
51-100 Employees	0	0
101-250 Employees	0	0
251-500 Employees	0	0
501-1,000 Employees	0	2
>1,000 Employees	0	0

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

Cost Savings Impact

Aggregate, Estimated, Gross* Electricity Cost Savings ($)	7/1-9/30/20	Since Program Inception
from Energy Production and Reduction	$ 2,433,870	$ 291,481,637
from Energy Production (Consumer)	$ 2,424,533	$ 46,572,211
from Energy Production (Commercial)	$ -	$ 84,207,217
from Energy Efficiency (Consumer)	$ 9,337	$ 253,981
from Energy Efficiency (Commercial)	$ -	$ 160,448,409

Average, Estimated, Gross* Electricity Cost Savings ($)	7/1-9/30/20	Since Program Inception
from Energy Production (Consumer)	$ 93,251	$ 112,234
from Energy Production (Commercial)	$ -	$ 2,476,683
from Energy Efficiency (Consumer)	$ 9,337	$ 19,537
from Energy Efficiency (Commercial)	$ -	$ 53,482,803

* Gross savings calculation for the life of the system assumes a historical utility rate increase of 5.72% annually

Aggregate, Estimated, Net** Electricity Cost Savings ($)	**7/1-9/30/20**	**Since Program Inception**
from Energy Production (Consumer)	$ 1,446,533	$ 24,585,356
from Energy Production (Commercial)	$ -	$ 46,300,753
from Energy Efficiency (Consumer)	$ 3,409	$ 125,300
from Energy Efficiency (Commercial)*	$ -	$ 113,683,871
Average, Estimated, Net** Electricity Cost Savings ($)		
from Energy Production (Consumer)	$ 55,636	$ 69,394
from Energy Production (Commercial)	$ -	$ 1,370,432
from Energy Efficiency (Consumer)	$ 3,409	$ 9,639
from Energy Efficiency (Commercial)	$ -	$ 37,894,624

**Net savings calculations include tax credits, assume historical utility rate increase of 5.72% annually and are net of loan payments required

Average System Cost per Watt for All Consumers (PV) ($)	$ 3.97	$ 3.94
Average System Cost per Watt for Underserved Consumers (PV)	$ 3.99	$ 4.01
Average System Size for All Consumers (PV) (kW)	7.9	8.9
Average System Size for Underserved Consumers (PV) (kW)	8.0	9.0
Project Cost per kWh for All Consumers -- Energy Efficiency ($)*	$ 0.24	$ 0.18
Average Project Size for All Consumers -- Energy Efficiency (kW)	n/a	n/a
Project Cost per kWh for Underserved Consumers -- Energy Efficiency ($)*	$ 0.24	$ 0.17
Average Project Size for Underserved Consumers -- Energy Efficiency (kW)	n/a	n/a

* Calculated for all projects regardless of island

Future Outlook

Leveraging additional public funds, in particular Federal funds, to attract private capital to facilitate clean energy adoption will remain a priority for the Authority and the State to achieve its clean energy goals, both in the electricity and transportation sectors. More importantly, while the Authority will remain committed to providing financing to the State's underserved ratepayers, with additional Federal (and or other) funding sources as loan capital, the Authority could also significantly contribute towards economic recovery by stimulating and facilitating investments in public clean energy infrastructure, which in turn, will create/retain jobs and generate state tax revenue.

According to DBEDT's Research and Economic Development department, investments aggregating approximately $15.3 billion in clean energy infrastructure will be required for the state to achieve its 100% clean energy goal. Further, EnerNoc Utility Solutions Consulting, Inc. prepared and presented the "State of Hawaii Energy Efficiency Potential Study, Project #1448" ("Study") to the Hawaii Public Utilities Commission in January 2014 . The Study categorized Hawaii's 2012 energy consumption into five sectors: residential (32%), military (11%), water/wastewater (4%), street lighting (.5%) and commercial (52%). According to the Study, the commercial sector, which includes government, consumes over half of statewide electricity use.

While the Authority will not have the capacity to finance all cost-effective energy efficiency retrofits and/or microgrids, as may be appropriate, across all state assets, the following is a matrix of potential economic impact the Authority could facilitate while helping the State decrease its energy cost over the life of the equipment installed, if it provided low-cost, non-State capital to sister agencies and departments, statewide:

Loan and Investment Amount	Jobs Created/Retained	State Tax Revenue Generated	Estimated Lifetime Energy Cost Savings
$25.0 Million	240	$3.2 million	$11.6 million
$50.0 Million	475	$6.3 million	$23.0 million
$75.0 Million	700	$9.5 million	$34.8 million
$100.0 Million	950	$12.6 million	$46.0 million

With sufficient loan capital, the Authority is poised to play a critical role in the transition by providing below-cost, flexible financing with public funds that can be re-used, re-cycled and re-loaned in a sustainable manner.

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