



**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**
KA 'OIHANA HO'OMOHALA PĀ'OIHANA, 'IMI WAIWAI
A HO'OMĀKA'IKAI

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DTS#202212231617S

December 28, 2022

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

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

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

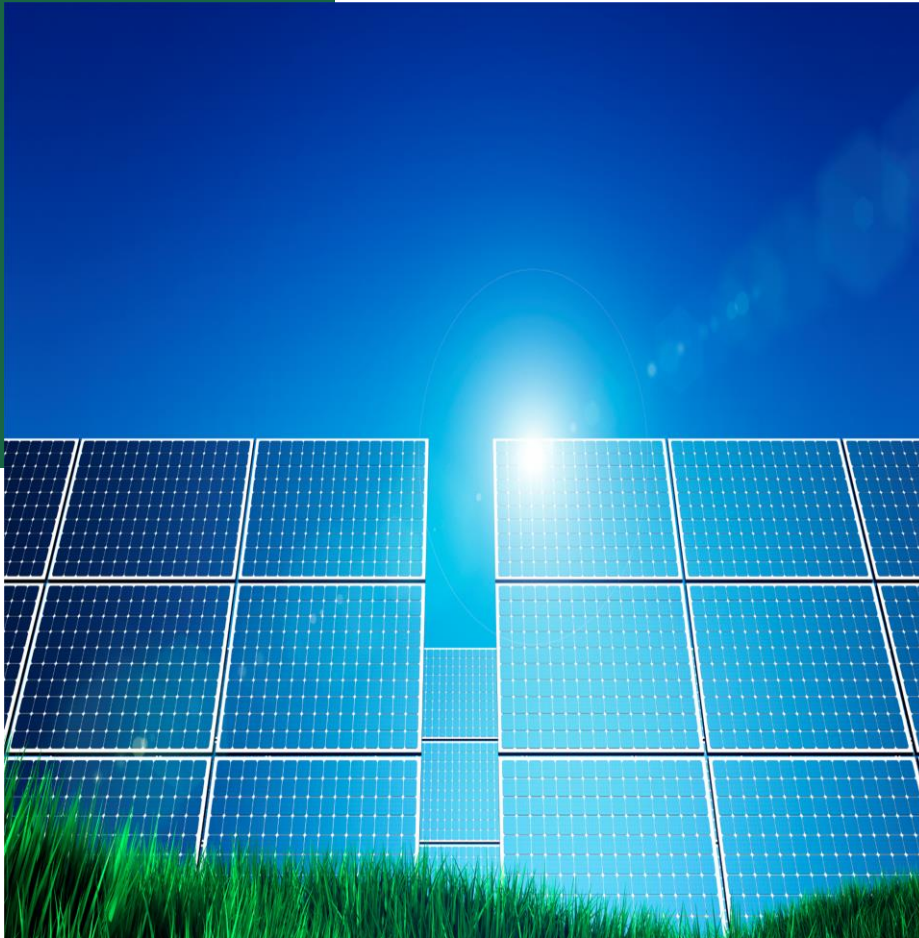
For your information and consideration, I am transmitting a copy of the Hawaii Green Infrastructure Authority's Annual Report, as required by Act 211, Session Laws of Hawaii 2013. In accordance with Section 93-16, Hawaii Revised Statutes, I am also informing you that the report may be viewed electronically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

Mahalo a e mālama pono,

Chris J. Sadayasu

Enclosure

c: Legislative Reference Bureau



2022 Annual Report to the Governor and Legislature

Hawaii Green Infrastructure Authority

Department of Business, Economic
Development & Tourism

Pursuant to Act 211, SLH 2013 & Act 107, SLH 2021

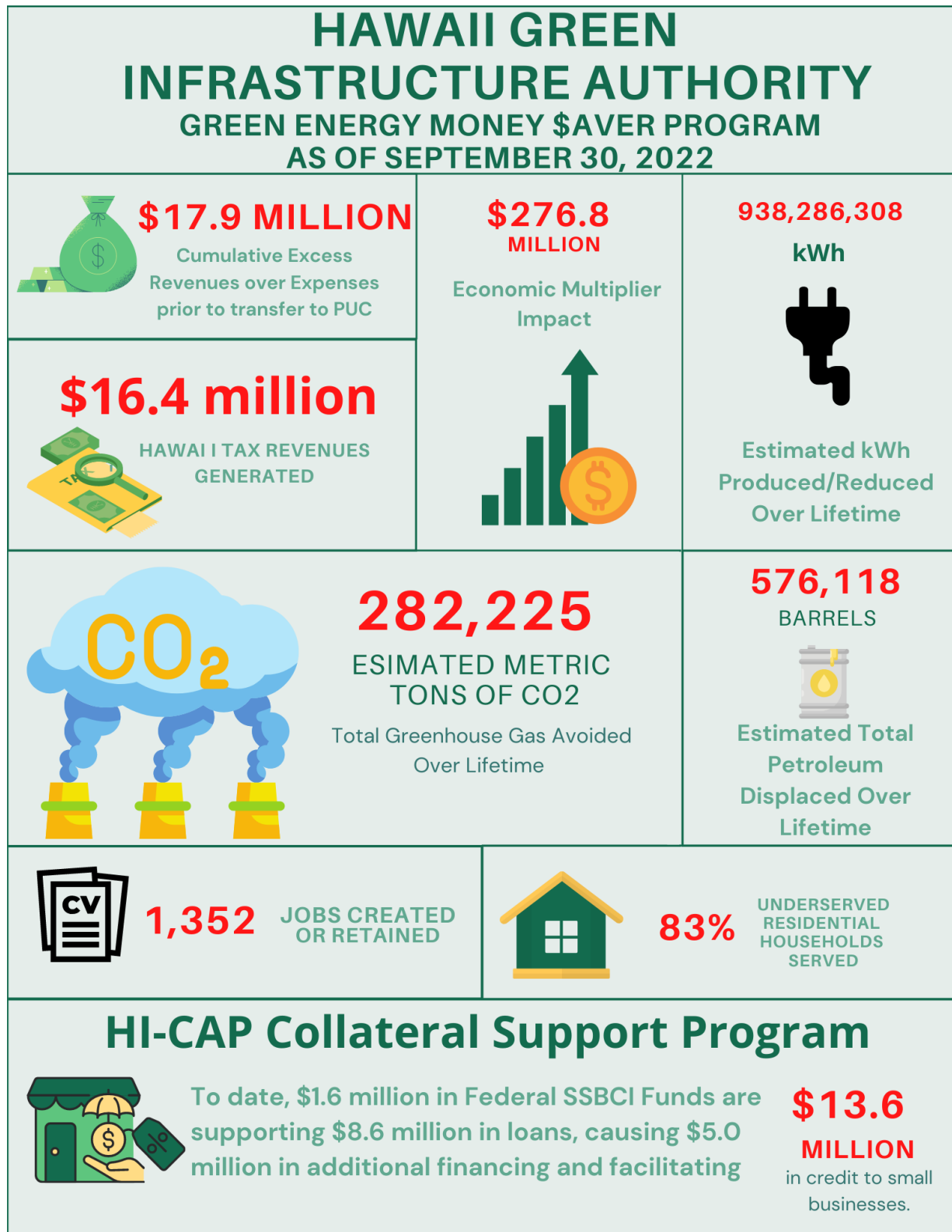


Table of Contents

Impacts.....	3
Reporting Requirements	4
Legislative Authorization.....	4
Hawaii Public Utilities Commission.....	5
Hawaii Green Infrastructure Authority	5
2022 Activities	7
Expanding Access to Capital	7
Green Energy Money Saver (GEM\$) On-Bill Financing Program	7
Community Solar	7
State Small Business Credit Initiative (SSBCI) – HI-CAP Programs	8
HI-CAP Collateral Support Program	8
HI-CAP CDFI Loan Pool Program	8
HI-CAP Loans Program	8
Commercial Property Assessed Financing	8
Energy Equity	9
Moldova – Hawaii Reciprocal Program.....	10
Solarize808.....	10
Federal Funds	10
USDA Rural Energy Savings Program	10
Environmental Protection Agency’s Environmental Financial Advisory Board	11
Inflation Reduction Act’s Greenhouse Gas Reduction Fund.....	11
Reporting Metrics.....	12
Energy & Environmental Impacts.....	12
Clean Energy Production of Projects Financed	12
Electricity Reductions from Energy Efficiency Projects Financed	12
Petroleum Displaced by Clean Energy and Energy Efficiency Projects.....	12
Greenhouse Gas Avoided	12
Clean Energy Production of Projects Financed	12
Economic Development Impacts.....	13
Market Expansion Impacts.....	13
Projects Financed According to Technology Type/Category	13

Residential Loan Program	13
Profile of Customers Financed	14
Commercial Loan Program.....	15
Cost Savings Impacts	16
Aggregate Estimated, Gross Electricity Cost Savings	16
Average Estimated Gross Electricity Cost Savings	16
Aggregate Estimated Net Electricity Cost Savings	16
Average Estimated Net Electricity Cost Savings	16
Future Outlook	17
Hawaii Green Infrastructure Authority Board	18

Impacts*



* Impacts reported are since inception. Cumulative excess revenues over expenses are before some \$12.2 million in “expenditures” for loan repayments transferred to the Public Utilities Commission’s Special Fund.

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 activities to further design, develop and deploy GEMS and other capital in 2022 as well as plans for 2023.

Legislative Authorization

On April 30, 2013, the Legislature enacted, and on June 27, 2013, the Governor signed into law, **Act 211 (SLH 2013)**, 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 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.

On April 27, 2021, the Legislature enacted, and on June 28, 2021, the Governor signed into law **Act 107 (SLH 2021)** authorizing the establishment of a Clean Energy and Energy Efficiency Revolving Loan Fund ("CEEERLF") under the administration of the Hawaii Green Infrastructure Authority. Two key components of this Act include but are not limited to providing HGIA, with the approval of the Governor, the authority to borrow funds from

Federal, County, private or other funding sources as well as implement and administer loan programs on behalf of other state departments or agencies.

On May 3, 2022, the Legislature enacted, and on June 27, 2022, the Governor signed into law **Act 183 (SLH 2022)** authorizing HGIA to design, implement and administer Hawaii's commercial property assessed financing program for commercial property owners to finance the installation of clean energy, energy efficiency, cesspool remediation, water conservation and resiliency measures via an innovative and risk mitigating financing mechanism *pari-passu* to property taxes.

Hawaii Public Utilities Commission

To effectuate Act 211, the GEMS financing program required Hawaii Public Utilities Commission ("Commission" or "PUC") 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 \$8.2 million to the PUC.

Hawaii Green Infrastructure Authority

The Authority, Hawaii's Green Bank, 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 to lower the energy burden of underserved ratepayers while advancing the State's goal of achieving 100 percent renewable portfolio standard in the electricity sector by 2045.

HGIA's loan fund was capitalized with the \$146.0 million net proceeds of a Green Energy Market Securitization ("GEMS") Bond issued in November 2014 and the Authority began accepting loan applications in July 2015.

HGIA is overseen by a five-person board of directors and is administratively attached to the Department of Business, Economic Development & Tourism. The Authority is tasked with administering and governing its financing Programs, while ensuring that capital is deployed effectively to achieve program objectives.

In April 2019, along with then Governor Ige, the Hawaii Public Utilities Commission, and the Hawaiian Electric Company, Inc., the Authority announced the official launch of its Green Energy Money Saver On-Bill Financing Program, with a risk mitigating loan repayment mechanism tied to the utility meter and paid through the Hawaiian Electric Companies' electric utility bill. This game-changing repayment mechanism enabled the Authority to abandon traditional credit underwriting and instead offer a more inclusive, non-traditional financing program that better serve disadvantaged communities and other underserved ratepayers.

With the GEM\$ on-bill repayment mechanism, the Authority strengthened its commitment to underserved ratepayers during its August 15, 2019 meeting by limiting the use of all remaining GEMS loan capital to only LMI homeowners and renters, nonprofits, small businesses¹ and multi-family rental projects.

The Authority offers a suite of financing products providing low-cost, long-term, flexible financing to Hawaii's most vulnerable ratepayers, enabling said ratepayers to realize monthly energy cost savings while transitioning to clean energy.

The Authority also offers financing to state departments ("Departments") to lower its energy costs by installing energy efficiency retrofits or by exercising its purchase options in existing solar PV Power Purchase Agreements. At the Department's option, it may utilize this newfound cash flow to finance the installation of electric vehicle ("EV") charging stations or EVs.

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

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.

¹ Small businesses are defined by the U.S. Small Business Administration's size standards.

2022 Activities

Expanding Access to Capital

Green Energy Money Saver (“GEM\$”) On-Bill Financing Program

Even before the White House’s Justice40 Initiative brought a heightened awareness of environmental justice nationwide, Hawaii’s policymakers already recognized the importance of providing a non-traditional financing option for underserved rate payers locked out of solar with the creation of HGIA and the implementation of the GEM\$ Program.

Often touted as one of the best in the green finance industry with unique program innovations, the Authority receives meeting requests on a regular basis from other Countries (e.g., Japan, Moldova, etc.) as well as across the United States (e.g., Alaska, California, Colorado, District of Columbia, North Carolina, Puerto Rico, U.S. Virgin Islands, etc.) from other green banks or financing authorities seeking to learn about GEM\$.

During the year, the Authority continued its residential and commercial clean energy financing for underserved ratepayers. Year to date², HGIA received 274 residential applications to install solar hot water or solar PV systems, a 5% increase from the previous year, from low and moderate-income homeowners and renters. However, as concluded by the Federal Reserve Bank³ that the path to recovery appears longer for LMI communities, coupled with the significant increase in electric utility rates (up 36%⁴), HGIA submitted a request in August 2022 seeking approval from the PUC to further increase inclusivity and expand access to capital for our most vulnerable ratepayers by allowing all eligible applicants access to GEM\$ financing, to help reduce their energy burden.

Community Solar

Financing community solar projects like Ho’ahu Energy Cooperative Molokai’s Community-Based Renewable Energy (CBRE) project is the essence of what the Authority believes policymakers envisioned when they created HGIA.

Having patient, subordinate GEMS funds as part of the capital stack will help the project attract private capital in the form of debt and/or equity. As such, in late 2021, the Authority set aside \$7.5 million, subject to PUC approval, for the Ho’ahu CBRE project.

Additionally, having the ability to leverage the on-bill repayment mechanism to service CBRE projects, with or without HGIA loan capital, will be a **game-changer**, opening new markets for underserved ratepayers. The PUC is expected to render a decision in early 2023.

² 4th quarter 2021 to 3rd quarter 2022.

³ “Gauging COVID-19’s Ongoing Impact on LMI Communities,” February 22, 2022, Federal Reserve Bank of St. Louis.

⁴ Comparing HECO mid-tier December 2022 Residential rates from December 2021.

State Small Business Credit Initiative (SSBCI) – HI-CAP Programs

On March 23, 2022, HGIA entered into a Memorandum of Agreement with sister agency, the Hawaii Technology Development Corporation (HTDC), to design, implement and administer the Federally funded HI-CAP Collateral Support Program, HI-CAP CDFI Loan Pool Program and HI-CAP Loans Program, with approximately \$41.0 million (66%) of total SSBCI program funds expected by the State.

HI-CAP Collateral Support Program. On July 12, 2022, the Authority launched this credit enhancement program designed to assist eligible small business and nonprofit organizations in obtaining financing by providing cash collateral to Participating Lenders to enhance the collateral coverage of its borrowers.



HI-CAP CDFI Loan Pool Program. On August 10, 2022, the Authority launched this program designed to provide non-depository Community Development Financial Institutions (CDFI) with low-cost loan capital to re-lend to eligible micro and small businesses in Hawaii.

HI-CAP Loans Program. On August 10, 2022, the Authority also launched the HI-CAP Loans Program designed to provide financing for businesses and organizations spearheading transformative projects which accelerate the State's economic development goals and provide significant impacts to small businesses within our communities.

Commercial Property Assessed Financing

On January 26, 2022, HB2088 Relating to Financing, was introduced as part of the Governor's bill package. The purpose of the bill was to enable property owners to finance qualifying improvements repaid through a voluntary assessment, *pari passu* to a real property tax. This innovative financing mechanism, which mitigates lender risks, will open new markets for long-term, below market private capital to help the state solve some of its environmental (e.g. cesspool mitigation) and other challenges (e.g., water

conservation, hurricane resiliency, flood mitigation, fire suppression systems, etc.), while achieving its clean energy goals. Although the residential program was removed from the bill during the legislative session, Act 183 was signed into law on June 27, 2022, authorizing Commercial Property Assessed Financing in Hawaii.

Hawaii Gov. David Ige signs legislation authorizing C-PACE financing

Aug 16, 2022, 7:10am HST Pacific Business News

Legislation signed recently by Gov. David Ige authorizes funding for commercial property owners through commercial property assessed financing and allows the Hawaii Green Infrastructure Authority to establish program guidelines and administer the soon-to-be available financing program.



From left, front row: Kanani Fu, Meridian Pacific, Ltd.; Yamamoto Lau, HGIA; Rep Kitagawa; Gov Ige; Rep Nicole Lowen; Dennis Wong, SBDC; and Nicola Hedge, back row: Scott Glenn, HSEO; Josh Stanbro, Elemental Excelsior; Billy Pieper, American Savings Bank; Stuart Coleman, WAI; and Matt Pennaz, Kobayashi Group

Better known as Commercial Property Assessed Clean Energy or C-PACE, Hawaii's program provides the City and Counties the option to authorize HGIA to design and administer the financing program on its behalf or enact its own program.

During its August 2, 2022 board meeting, the Authority established a Permitted Interaction Group (PIG) to design Hawaii's Commercial Property Assessed Clean Energy & Resiliency (C-PACER) program. Members of the PIG included two HGIA Board Members, an Executive Director from a State-Administered PACE Program; the Executive Directors of two leading PACE Industry Associations; a County Director of Finance; a local commercial bank; a C-PACE private capital provider; and a commercial bank C-PACE originator.

PACENation, a national nonprofit association for PACE financing, whose members enabled millions of American property owners to increase the efficiency and resilience of their homes and businesses, recognized the Authority with a PACESetter Award for Advocacy in August 2022.



Energy Equity

Moldova - Hawaii Reciprocal Program

Through a U.S. Department of State, American Councils Professional Fellows Program, in coordination with the U.S. Embassy, HGIA Executive Director Gwen Yamamoto Lau traveled to Moldova in May 2022 on an Outbound Project to meet with Moldovan officials, utility executives, energy stakeholders and engineering students on clean energy financing, with a focus on on-bill financing. Formerly Russian occupied, located between Ukraine and Romania and pre-war, dependent on Russian oil and gas, citizens of Moldova are experiencing unprecedented increases in their energy bill.

Yamamoto Lau met with the Ministry of Infrastructure, Assistant to the Prime Minister, Ministry of Finance, Energy Regulators, Executives of the Electric (Termoelectrica) and Gas (MoldovaGaz) Utility Companies, Agency for Energy Efficiency, participated in an Energy Conference and did a presentation, which was featured on JurnalTV, Moldova's National News, for the Energetics and Electrical Engineering Faculty and Students at the Technical University of Moldova. HGIA continues to assist Green City Lab, a Moldova nonprofit organization created under a United Nations Development program to implement demonstration projects of energy efficiency and sustainable development, in implementing an on-bill repayment mechanism for its electric and gas utilities.

Solarize808

Together with the Rocky Mountain Institute, Hawaii Energy, Hawaiian Electric Company, Inc., City and County of Honolulu's Office of Climate Change and Resiliency and the Hawaii State Energy Office, HGIA has been working with community leaders in the Waianae and Ko'olauloa communities to launch a Solarize808 campaign.

While rooftop solar has the potential to reduce the energy burden in disadvantaged communities, adoption is hindered by systemic barriers, such as lack of solar education and outreach, and financial challenges for lower income and lower credit score borrowers.

Solarize are community purchasing campaigns, where government partners with local community organizations, to reduce the cost of solar while increasing energy education and outreach. Solarize808 Waianae & Ko'olauloa are expected to launch in March 2023.

Federal Funds

USDA Rural Energy Savings Program

In response to the COVID-19 pandemic, in April 2020, the United States Department of Agriculture's (USDA) Rural Utilities Service (RUS) expanded eligible borrowers under its Rural Energy Savings Program (RESP), which previously only provided loans to rural utilities, to include Green Banks nationwide.

In order to submit an application, a change to the Authority's statute was required. On June 28, 2021, Governor Ige signed Act 107 (SLH 2021) into law, which enabled HGIA to submit its application to RUS. Per RUS procedures, the Authority submitted its Letter of Intent to apply for a \$20.0 million RESP loan on July 27, 2021.

On September 16, 2021, HGIA was notified that RUS would be willing to consider a RESP loan application from HGIA, which was submitted on December 13, 2021. On March 7, 2022, Governor Ige preliminarily approved the \$20.0 million loan, subject to USDA approval, and on May 19, 2022, HGIA became the first Green Bank in the nation to be approved for a United States Department of Agriculture Rural Energy Savings Program loan.

Upon completion of final review of the RESP loan documents, HGIA will request final loan approval from Governor Green in order to access this additional loan capital, to augment the remaining GEMS funds and assist ratepayers in rural communities.

Environmental Protection Agency's Environmental Financial Advisory Board

At the encouragement of the Coalition for Green Capital and with the support of Senator Brian Schatz, Gwen Yamamoto Lau was nominated for the Environmental Protection Agency's (EPA) Environmental Financial Advisory Board (EFAB) in January 2022. Representing Region 9 and together with twenty-nine other members nation-wide, Yamamoto Lau was appointed to serve on EFAB for a three-year term beginning June 21, 2022. EFAB provides advice to the EPA Administrator and the agency's programs and regional offices on innovative ways to lower costs while increasing investments in environmental and public health protection. A priority for the EFAB is to support the agency's investments through the Bipartisan Infrastructure Law to advance progress on key priorities, including uplifting underserved communities, tackling the climate crisis, and protecting public health.

Inflation Reduction Act's Greenhouse Gas Reduction Fund

The Inflation Reduction Act ("IRA") is described by the U.S. Department of Energy as "the single largest investment in climate and energy in American history," enabling America to tackle the climate crisis, advance environmental justice and put the U.S. on the pathway to achieving its climate goals, including a net-zero economy by 2050.

While there are a number of energy related funding opportunities in the IRA, HGIA's objective to democratize clean energy for underserved ratepayers is in alignment with the IRA's Greenhouse Gas Reduction Fund (GHGRF), with a \$7.0 billion carve out for State, Municipals and Tribal Nations, to benefit "Disadvantaged Communities".

While the EPA has not yet released its Notice of Funding Opportunity nor has any guidance regarding these funds focused on greenhouse gas reduction been released, HGIA is planning to apply for additional loan capital under the GHGRF.

Reporting Metrics

The following are Fiscal 2023, year-to-date and “Since Program Inception” metrics.

Energy & Environmental Impacts

Clean Energy Production of Projects Financed	7/1/22 - 9/30/22	Since Program Inception
Installed Capacity (Actual kW)	821	13,602
Total Yr 1 Production (Estimated kWh)	1,174,470	20,671,589
Total Project Production over Lifetime of Installed PV (Projected kWh, including 0.05% degradation)	25,228,683	371,152,803

Electricity Reductions from Energy Efficiency Projects Financed

Total Yr 1 kWh Reduction (Energy Efficiency)	0	38,699,550
Total kWh Reduction Over Lifetime of Installed EE	0	567,133,505

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

Total Petroleum Displaced/Saved over Lifetime (Estimated barrels)	15,495	576,118
Petroleum Displaced based on Yr 1 Clean Energy Generation (Estimated barrels)	721	12,696
Petroleum Displaced Over Lifetime of Installed PV (Estimated barrels)	15,495	227,687
Cumulative Annual Petroleum Saved from Yr 1 Efficiency Projects	0	23,768
Petroleum Saved of Lifetime of Efficiency Projects	0	348,320

(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)	7,592	282,225
Greenhouse Gas Avoided from Clean Energy Yr 1 Production (Est. metric tons CO ₂)	353	6,222
Greenhouse Gas Avoided Over Lifetime of Installed PV (Projected metric tons CO ₂)	7,592	111,559
Greenhouse Gas Avoided from Yr 1 Energy Efficiency	0	11,646
Greenhouse Gas Avoided over lifetime of Energy Efficiency Project	0	170,666

(2) Reference eia.gov for conversion metrics

Economic Development Impacts

	7/1/22 - 9/30/22	Since Program Inception
GEMS Revenues (Cash Basis)	\$ 9,644,971	\$25,357,217
GEMS Administrative & Program Costs (Cash Basis) (3)	\$ 178,528	\$ 7,433,455
GEMS Loans Funded	\$ 2,231,315	\$82,662,586
Indirect Economic Impact - Jobs Created/Retained (4)	\$ 58	\$ 1,352
State of Hawaii Tax Revenues Generated (5)	\$ 717,911	\$16,352,187
Economic Multiplier Impact (6)	\$ 13,959,373	\$276,789,074

(3) Excludes loan repayments transferred to the PUC.

(4) Jobs created or retained is calculated using the State's metric of \$88,165/job for 2015; \$91,345/job for 2016; \$94,633/job for 2017; \$98,034/job for 2018; \$101,550/job for 2019; \$105,185/job for 2020; \$92,044/job for 2021 and \$98,818/job in 2022.

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

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

Market Expansion Impacts

Projects Financed According to Technology Type/Category	7/1/22 - 9/30/22	Since Program Inception
Solar Photovoltaic (7)	37	850
Energy Storage	9	150
Lighting Upgrades (8)	0	965,037
HVAC Upgrades (8)	0	2,325
Mechanical Upgrades	0	1
Controls and Monitoring Devices	37	1,667
Energy/Water Nexus (9)	0	212
Total No. of Projects	83	970,242

(7) Including advanced inverters and smart modules

(8) State Energy Efficiency Projects

(9) Includes solar water heating

Residential Loan Program	7/1/22 - 9/30/22	Since Program Inception
Total Number of PV Loans, Direct	0	198
Total Number of PV Leases, Direct	0	64
Total Number of GEM\$ OBOs for PV (Loans)	25	226
Owner Occupied OBOs	25	225
Renter OBOs	0	1
Total Number of GEM\$ OBOs for PV (Leases)	1	34
Total Number of GEM\$ OBOs for EE (SWH)	0	17
Owner Occupied OBOs	0	17
Renter OBOs	0	0
Total Number of GEM\$ OBOs	26	277

Number PV Loans/Leases/OBOs Serving Underserved Market (10)	26	434
Number EE Loans/Leases/OBOs Serving Underserved Market (10)	0	15
% Loans/Leases Serving Underserved Market	100%	83%

(10) 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 Loan Docs Accepted - NTP	0	N/A

Status of Applications (Direct):

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

Status of Applications (Leases - all Leases):

No. of Residential PV Applications Received	13	260
No. of Residential PV Applications in Process	48	N/A
No. of Residential PV Applications Declined	0	9
No. of Residential PV Applications Withdrawn/Expired	5	90
No. of Residential PV - Notice to Proceed	13.5	N/A

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

No. of Residential GEM\$ Applications Received	51	1188
No. of Residential GEM\$ Applications in Process	140	N/A
No. of Residential GEM\$ Applications Declined	2	238
No. of Residential GEM\$ Applications Withdrawn/Expired	6	433
No. of Residential GEM\$ OBO Accepted - NTP	135	N/A

Geographic Location of Financing Products

Oahu	25	453
Maui	0	53
Molokai	0	2
Lanai	0	0
Hawaii	1	31

Profile of Customers Financed:**Number of Customers by Customer FICO Credit Score (11)**

700 and above	-	149
675-699	-	50
650-674	-	32
620-649	-	18

600-619	-	9
Below 600	-	2

(11) Excludes on-bill applicants

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

Under \$15,000	1	1
\$15,000-\$24,999	1	3
\$25,000-\$34,999	1	6
\$35,000-\$49,999	5	37
\$50,000-\$74,999	2	64
\$75,000-\$99,999	5	115
\$100,000 and above	11	313

Number of Customers by Area Median Income (12)

<30% AMI (Extremely Low Income)	5	14
30% to <50% AMI (Very Low Income)	3	51
50% to <80% AMI (Low Income)	7	134
80% to <140% AMI (Moderate Income)	11	249
>140% AMI	0	91

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

	7/1/22 - 9/30/22	Since Program Inception
Commercial Loan Program		
Total Number of GEMS PV Loans	0	29
Total Number of GEMS EE Loans	0	4
Total Number of GEM\$ OBOs, PV	4	17
Owner-User	4	17
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	3	24
Number of Small Businesses Participating in GEMS	1	10
Number of Rental Units Supported by GEMS	231	1313
Geographic Location of Loans (13)		
Oahu	3	34
Maui	1	7
Molokai	0	1
Lanai	0	0
Hawaii	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
\$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	1

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

10 Employees or less	1	1
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

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

Cost Savings Impacts

Aggregate , Estimated, Gross (15) Electricity Cost Savings (\$)	7/1/22 - 9/30/22	Since Program Inception
from Energy Production and Reduction	\$ 9,629,084	\$340,581,157
from Energy Production (Consumer)	\$ 2,978,156	\$ 67,015,757
from Energy Production (Commercial)	\$ 6,650,928	\$102,611,174
from Energy Efficiency (Consumer)	\$ -	\$ 334,295
from Energy Efficiency (Commercial)	\$ -	\$170,619,931

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

from Energy Production (Consumer)	\$ 114,544	\$ 146,323
from Energy Production (Commercial)	\$ 1,662,732	\$ 2,230,678
from Energy Efficiency (Consumer)	#DIV/0!	\$ 19,664
from Energy Efficiency (Commercial)	#DIV/0!	\$ 42,654,983

(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)	\$ 2,304,585	\$ 40,020,156
from Energy Production (Commercial)	\$ 1,996,383	\$ 52,612,064
from Energy Efficiency (Consumer)	\$ -	\$ 178,317
from Energy Efficiency (Commercial)*	\$ -	\$115,544,468

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

from Energy Production (Consumer)	\$ 88,638	\$ 87,380
from Energy Production (Commercial)	\$ 499,096	\$ 1,143,741
from Energy Efficiency (Consumer)	#DIV/0!	\$ 10,489
from Energy Efficiency (Commercial)	#DIV/0!	\$ 28,886,117

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

Average System Cost per Watt for All Consumers (PV) (\$)	\$ 3.44	\$ 3.74
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Average System Cost per Watt for Underserved Consumers (PV)	\$ 3.44	\$ 3.73
Average System Size for All Consumers (PV) (kW)	10.7	9.6
Average System Size for Underserved Consumers (PV) (kW)	10.7	9.7
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
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

(17) Calculated for all projects regardless of island

Future Outlook

The passage of Act 107 (SLH 2021) enabled HGIA to expand its scope from a singular purpose of lending GEMS loan capital to having the ability to access Federal loan capital and provide credit related services to other state agencies and departments. Act 183 (SLH 2022) will further diversify HGIA's revenue stream through fee income earned under the C-PACER financing program.

Having the ability to retain interest income on loans funded by the USDA RESP loan capital, along with fee income earned from its other financing programs will provide HGIA an opportunity to become the sustainable financing authority the legislature envisioned when it passed HGIA's enabling legislation.

As Hawaii's plan to achieve its 100% clean energy goal relies on 100% of all residential rooftops bearing solar, it is critical, from both an energy equity/justice lens as well as to achieve our state's goal, for Hawaii to facilitate rooftop solar for our underserved ratepayers. While not all are located in disadvantaged communities, there are over 300,000 residential rooftops in Hawaii without solar. With the increasing cost of energy creating undue burden on our underserved ratepayers, and with only \$22.0⁵ million in GEMS loan capital left to lend, accessing additional loan capital is becoming increasingly urgent for the Authority.

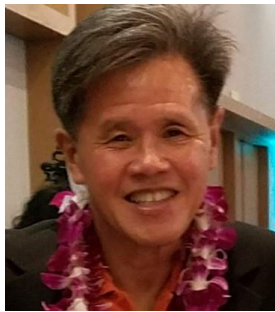
As a public financing agency, HGIA seeks to leverage public funds with private capital and as said funds are repaid, non-GEMS funds will be recycled, reinvested and re-lent to other underserved ratepayers statewide. With an injection of flexible loan capital, HGIA can help drive down the cost of energy for underserved ratepayers, while reducing greenhouse gas emissions and helping Hawaii advance towards its clean energy goals.

⁵ As of September 30, 2022.

Hawaii Green Infrastructure Authority Board



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