Innovative Financing Solutions to Hawaii’s Clean Energy Challenges

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Chief of Research
Presentation Overview

Hawaii Energy Landscape

• Context
• Hawaii Clean Energy Goals

On-Bill Financing (OBF) Basics

• Program Overview
• OBF Decision and Working Groups
• OBF Timeline

Green Energy Market Securitization (GEMS)

• Program Overview
• Structure and Responsibilities
• Timeline
Most Isolated Population Center on Earth

Hawaii: Isolated island state, heavily dependent on imported fossil fuel, rich in natural energy resources.

Distances:
- Alaska: 3,022 mi
- U.S. Mainland: 2,471 mi
- Mexico: 3,397 mi
- Costa Rica: 4,822 mi
- Colombia: 5,551 mi
- Ecuador: 5,450 mi
- Chile: 6,698 mi
- New Zealand: 4,613 mi
- Japan: 4,036 mi
- China: 5,251 mi
- Taiwan: 5,285 mi
- Indonesia: 6,276 mi
- Papua New Guinea: 4,492 mi
- Fiji: 3,157 mi
- Australia: 5,205 mi
- Russia: 5,312 mi
- Canada: 3,550 mi
- Nevada: 4,613 mi
State electricity prices are currently approximately 24 cents higher than US average.
Enacted in 2008, the Hawaii Clean Energy Initiative (HCEI) is leading the way in relieving our dependence on oil by setting goals and a roadmap to achieve 70% clean energy by 2030.
High Electricity Prices + Supportive Policy = Explosive Growth in PV

- Installed capacity doubling since 2005
- Significant boon to construction industry
- On Kauai solar will soon serve 50% of daytime load

Cumulative NEM Capacity (MW)

- ≈ 15% daytime load
- ≈ 16% daytime load
- ≈ 8% daytime load

- Big Island
- Maui County
- Oahu

Creating a Test Bed of Innovative Solutions

Technical: removing barriers of grid integration

• Facing significant technical challenges to integrate variable renewable energy

Innovative solutions:
• Renewable integration studies
• Battery energy storage
• Smart grid demonstrations
• Interisland cables
• Reliability Standards Working Group (RSWG)
• Hawaii Electric Reliability Authority (HERA)

Financing: removing barriers to access low-cost capital

• In order to achieve HCEI, over ~$15 billion in investment capital would be required
  • Minimizing the cost of capital is critical to managing cost impacts to ratepayers
• Clean energy infrastructure requires significant upfront capital investments
• Many of today’s clean energy financing products only serve those who can afford the large upfront costs or have the financial ability to access credit, creating an underserved market

On-Bill Financing & Green Infrastructure enabling legislation
On-Bill Financing Program

July 8, 2011 - HB1520, HD2, CD1 signed into law as Act 204

Act 204 directs PUC to investigate an on-bill financing program that:

– would allow an electric utility customer to purchase or otherwise acquire a renewable energy system or energy efficiency devices through an assessment on the customer’s electric bill

– authorizes the PUC to implement the program by decision and order or by rules if the on-bill program if found to be viable
Decision & Order No. 30974
February 1, 2013

• Found that an OBFP for Hawaii can be viable
• Established Working Group to help develop OBFP program
• Specified parameters of program components necessary for a viable program
  – Eligibility – residential and small business (initially – scale if successful)
  – Measures – PV and permanently installed energy efficiency measures
  – Bill Neutrality – Based on measure life and electricity rate at time of enrollment
  – Tariff/Service based, rather than loan
  – Transferable – payment obligation stays with meter, not customer
  – Non-Payment – procedures same as utility, including shut-off
  – Establish Hawaii Energy as Program Administrator
Proposed Timeline

May 2013
- Program Design and Development
- Approvals
- Evaluation Criteria

June 2013
- RFP and Finance Admin in place

August 2013
- Utility IT and billing system mods

October 2013
- Implement, Testing
- ON BILL PROGRAM! 2014

2014
- WG Meetings
- Program Guidance
- PUC and DBEDT
- Key Consultant Expertise
- Best Practices
- Feedback Loop
Green Energy Market Securitization (GEMS) Program

- Enabling legislation passed (SB 1087 “Green Infrastructure” bill)
- First of its kind model to bring together a traditionally industrial financing solution to directly serve and benefit consumers: creating a new asset class in the energy world

**GEMS Bond (RRB-structured bond)**

- Bond issuance structured based on traditional utility securitization model
- Bonds to be secured and repaid from utility customer surcharge
- Over $40 billion of bonds have been issued under this structure since 1997

**On-Bill Financing**

- Low-cost pool of bond proceeds to fund an on-bill financing program to enable consumers to invest in clean energy technology infrastructure
- Repayment for consumer energy saving installations done via customers’ utility bill
GEMS program overview

Initial Focus and Objective

- Increase solar penetration in underserved markets, particularly in areas such as low income segments, rental markets, and non-profits where low-cost credit is not accessible or affordable.

Program Description

- Bond issuance to obtain pool of low-cost private capital through securitization structure and will result in no additional cost to the State.
- Low-cost funds for on-bill program can dramatically increase clean energy and energy efficiency installations and lower customer bills.

Future Opportunities

- Program can be expanded to serve other markets and types of clean energy and energy efficiency deployment, driving down costs and making it affordable to all.
- Create self-sufficient program long-term.
# GEMS Program Processes

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- **“Green Infrastructure bill” enactment**
  - **Bill passage**: SB 1087 CD1 passed the Senate and House on April 30, 2013
  - **Governor signature**: bill enactment
    - Bill has been enrolled to the Governor as of May 7, 2013
    - Has until July 9, 2013 to sign, veto, or let a bill become law without his signature

- **Financing Order: DBEDT application, PUC approval required**
  - Financing Order application for regulatory approval for use of funds to secure GEMS bonds
  - 90-day statutory timeline

- **Program Order approval: Authority application, PUC approval required**
  - Program Order application for regulatory approval for use of GEMS bonds proceeds
Mahalo!

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