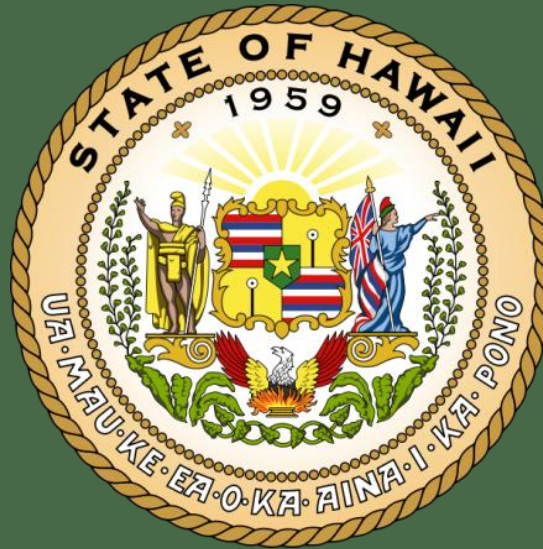


# Hawaii Public Utilities Commission



## Innovative Financing Solutions to Hawaii's Clean Energy Challenges

May 15, 2013

James Griffin, Ph.D.  
Chief of Research

# Presentation Overview

## Hawaii Energy Landscape

- Context
- Hawaii Clean Energy Goals

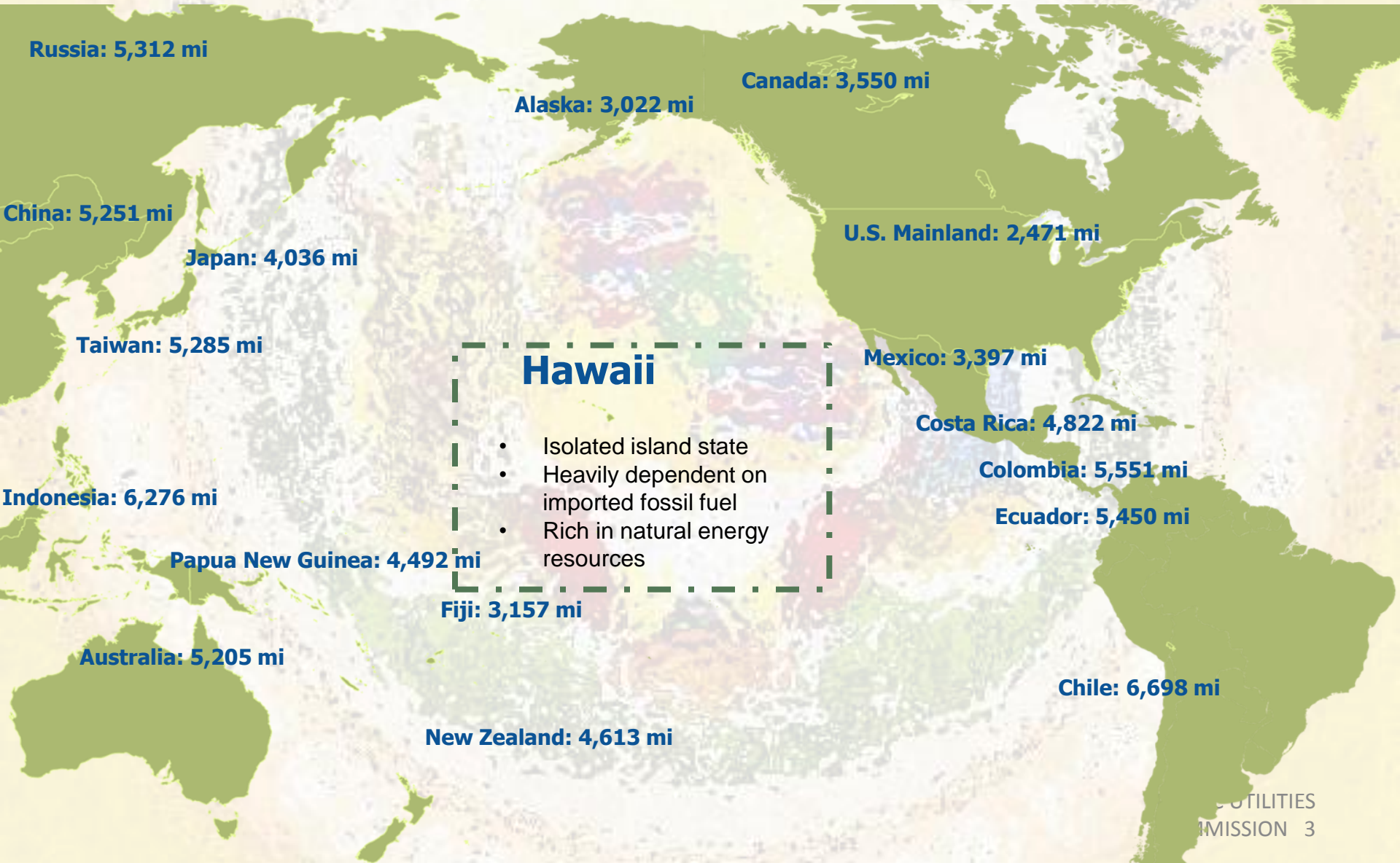
## On-Bill Financing (OBF) Basics

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

## Green Energy Market Securitization (GEMS)

- Program Overview
- Structure and Responsibilities
- Timeline

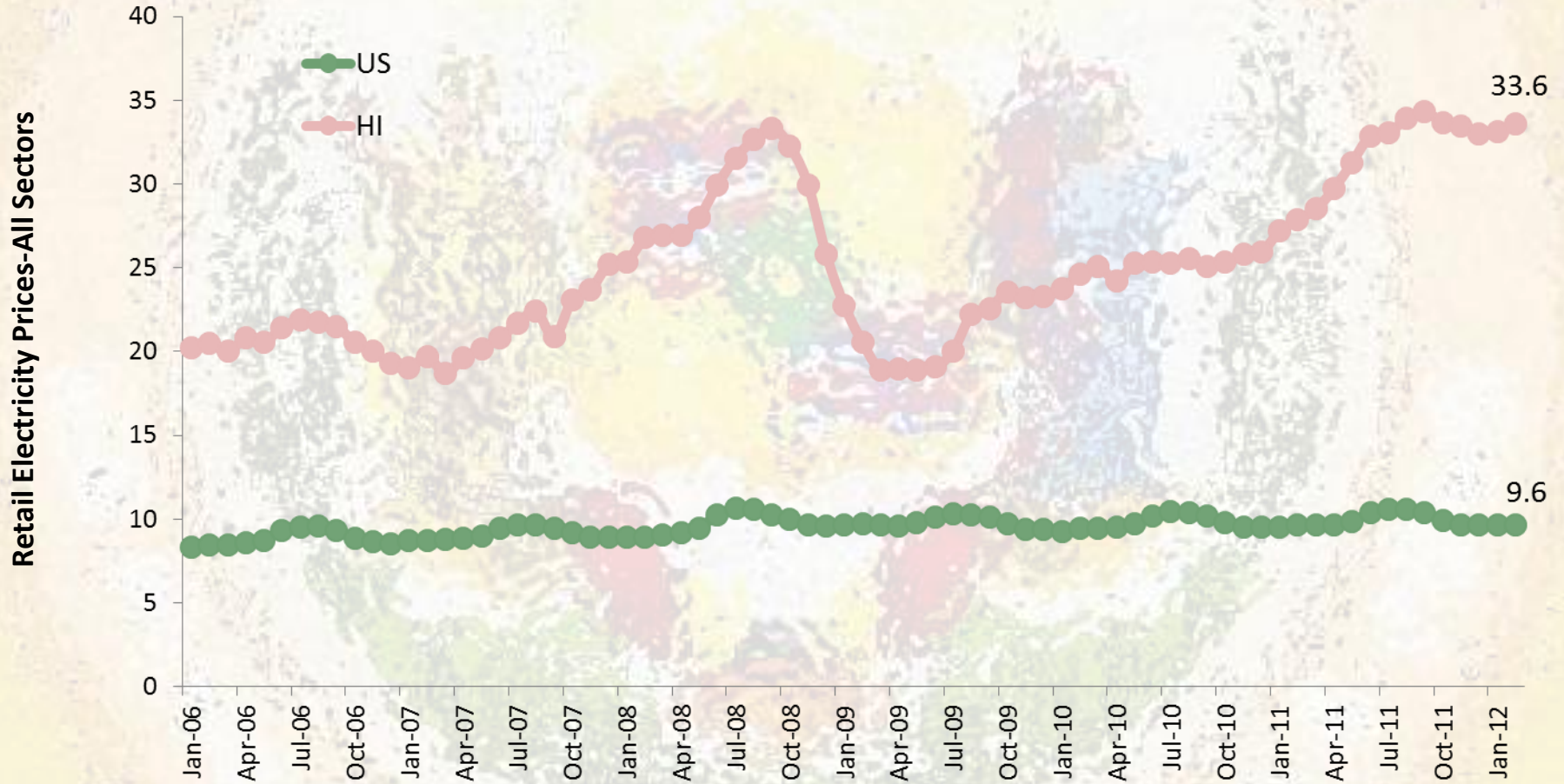
# Most Isolated Population Center on Earth





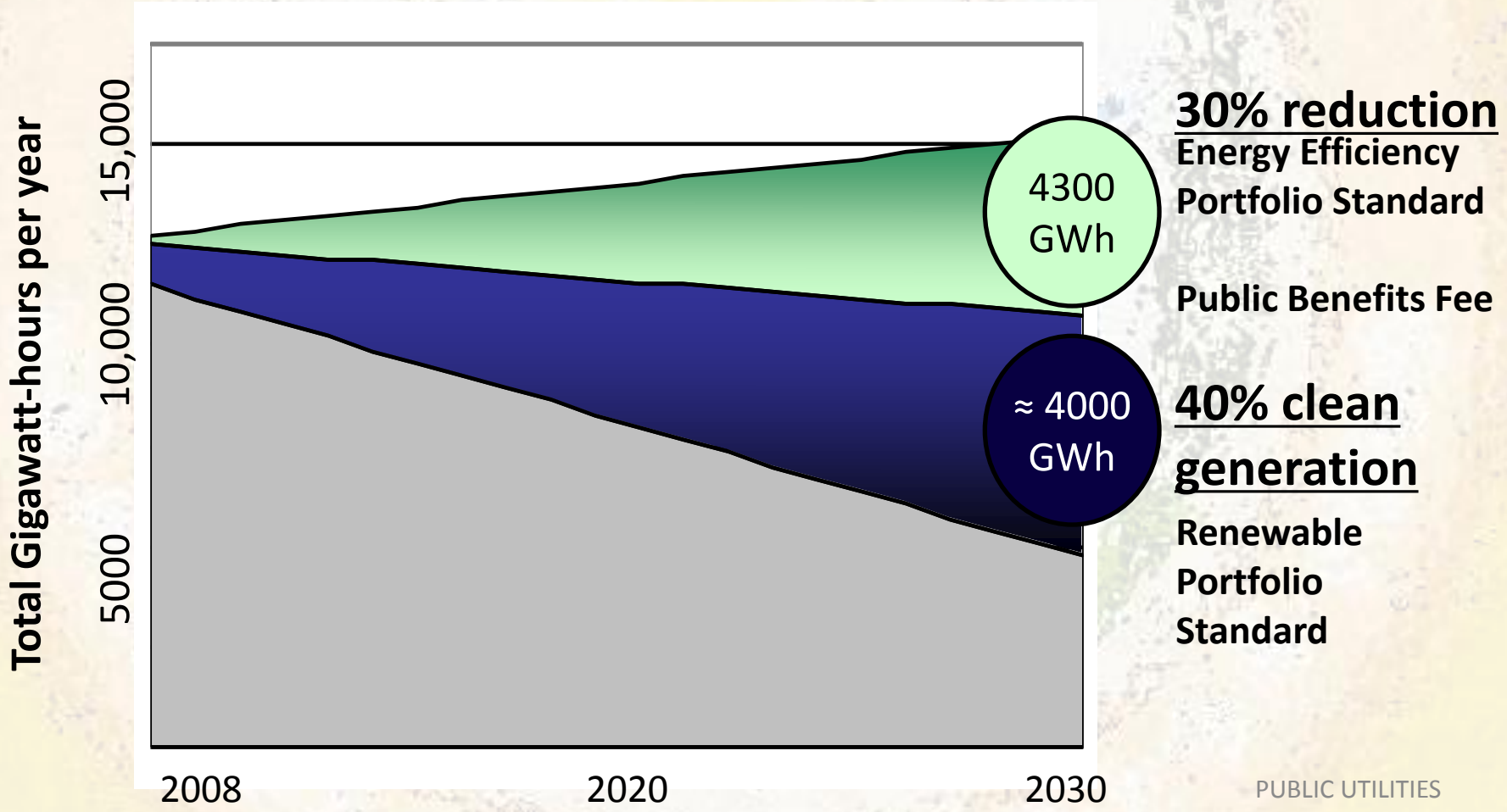
# U.S. vs Hawaii Electricity Prices

*State electricity prices are currently approximately 24 cents higher than US average*

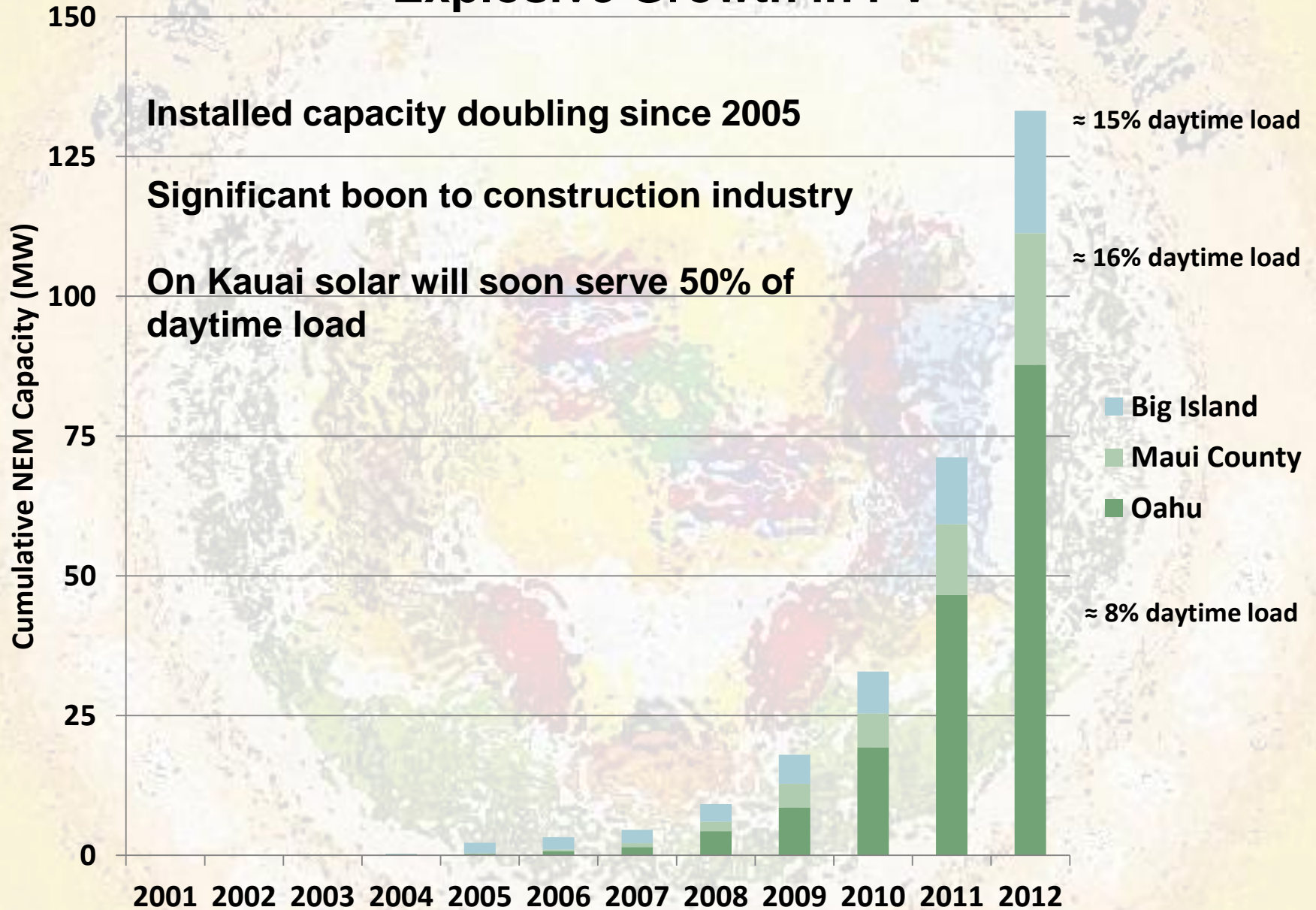


# Hawaii Clean Energy Initiative

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





# 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 is found to be viable

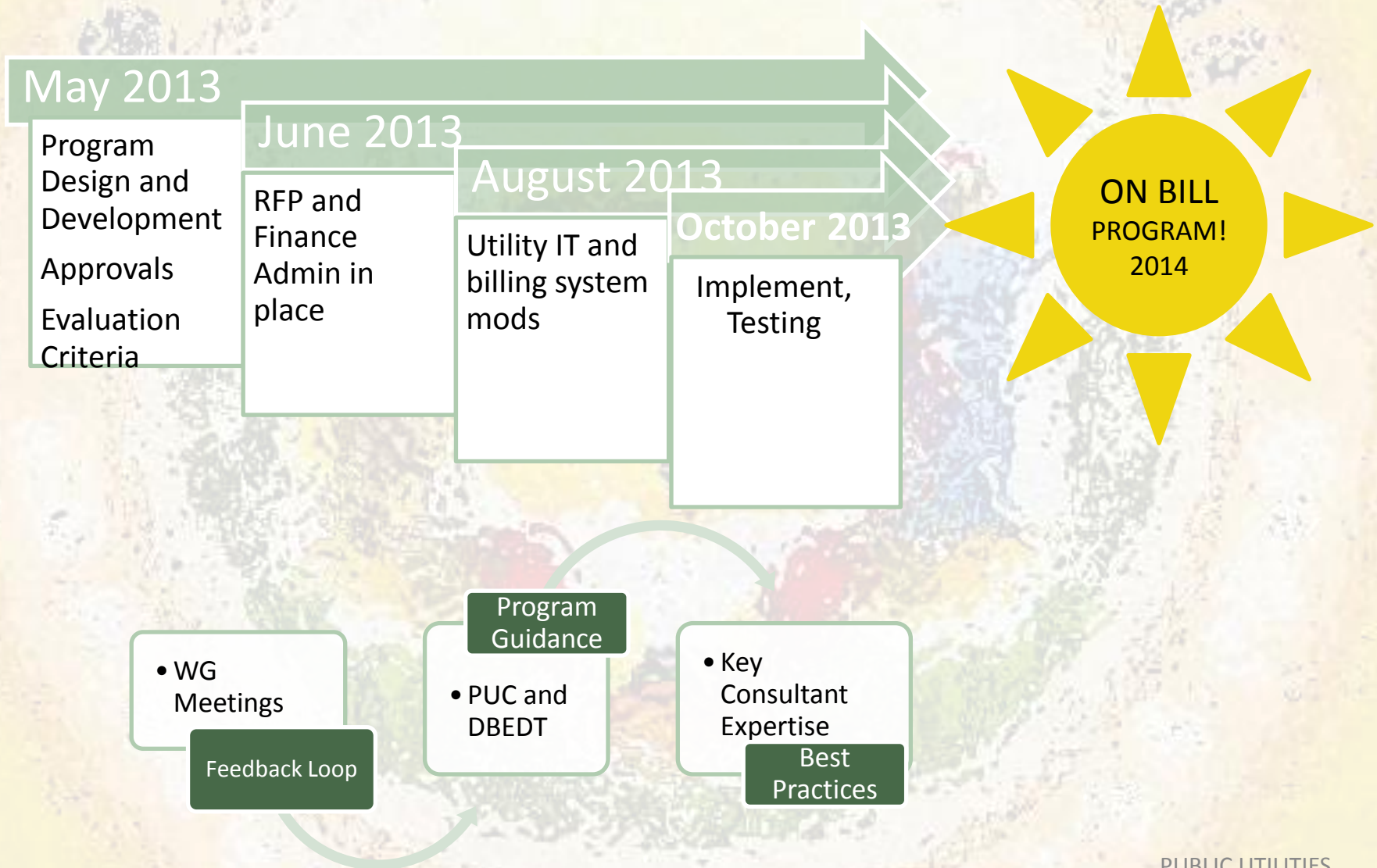


# Decision & Order No. 30974

February 1, 2013

- Found that an OBFP for Hawaii can be viable
- Established Working Group to help develop OBF 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





# 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

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Legislation	Bill passage		Gov signature											
Capital					Financing Order application and approval									
Program					Program Order application and approval									

- **“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!

Please contact  
[james.p.griffin@hawaii.gov](mailto:james.p.griffin@hawaii.gov)  
(808) 586-2022