

# 100% Renewable Energy in Hawaii: It's No Longer A Matter of When

March 16 - 18, 2016 | Maui Arts & Cultural Center



*Presented By:*



# THE GUERNSEY REPORT:

## AN ANALYSIS OF ALTERNATIVE UTILITY MODELS FOR MAUI COUNTY

**JARED STIGGE**

Vice President, C.H. Guernsey & Company

**DISCUSSION AND Q&A FACILITATED BY**

**DAWN LIPPERT**

Co-Founder and Director, Energy Excelerator

**MARK WIGHT**

Managing Director Marketing & Strategy, GE  
Ventures





**guernsey**

ENGINEERS  
ARCHITECTS  
CONSULTANTS

**REALIZE** THE DIFFERENCE

# The Guernsey Report: An Analysis of Alternative Utility Models for Maui County

March 16<sup>th</sup> 2016

# Agenda

- Introduction to Guernsey
- Our Objectives
- Our Findings
  - Independent System Operator (ISO)
  - Municipal Ownership
  - Cooperative Ownership
- Potential Benefits
- Moving Forward

# Introduction to *Guernsey*



- Guernsey was established in 1928 as a civil engineering firm, working out of the owner's garage
- After the Rural Electrification Act of 1936, Guernsey power engineers helped to establish some of the first electric cooperatives bringing power to unserved areas
- Guernsey currently works for hundreds of municipal and cooperative utilities, including participation in RTOs
- Guernsey evolved into a full-service architecture, engineering and consulting firm, headquartered in Oklahoma but with projects throughout the US and internationally
- Guernsey established an office in Honolulu from 1999 to 2009

# Report *Objectives*



- Analyze alternatives to the *status quo* for provision of electric utility services to Maui County
  - Municipal utility
  - Cooperative utility
  - Independent System Operator
- Address energy security/resiliency, cost, and ability to integrate renewable energy to beat timeline to 100%
- Provide high-level conclusions and recommendations to enable County leadership to make go/no-go decision

# Report Findings: *ISO*

- Creation of an Independent System Operator is a (relatively) low-cost, high-impact step to achieve the stated objectives
- About 60% of US electrical supply is managed by Regional Transmission Organizations (RTOs)
- Application for Maui County presents challenges of scale; the ISO framework would have to be adapted to suit the unique strengths and challenges posed by the island environment



# Report Findings: *ISO*

- Why ISO?
  - Independence from market participants
  - Transmission tariff administration and design
  - Congestion management
  - Establish open-access, real-time pricing / information systems
  - Market Monitoring
  - Planning and expanding the transmission/distribution system
  - Provide non-discriminatory access to system

# Report Findings: *ISO*

- Key benefits:
  - Market transparency
    - Access
    - Pricing signals
  - Independence
    - Indifferent to source of generation
    - Planning and expanding/improving distribution system
  - Competition

# Report Findings: *Municipal*

- Key differences to *status quo*:
  - Not-for-profit entity: County would not require an operating profit
  - Non-taxed entity: County would not pay income tax
  - No access to equity markets: County would fund utility through utility rates, debt, or other County financial resources
  - Debt Service Coverage (DSC): requirement of rating agencies for the County to earn a multiple of its minimum cash flow requirements to service the debt

# Report Findings: *Cooperative*

- Substantially similar to Municipal alternative:
  - No profit/taxes, no access to equity markets, DSC requirements
- Conceptually more independent (non-governmental entity)
- More flexibility in use of DSC-related cash surplus
  - Funding system repairs, improvements or expansions
  - Returning surplus to customers via capital credits
- A cooperative would be financially independent from the County; cooperative indebtedness would not impact the County's sterling bond ratings

# Potential *Benefits*

- Municipal or cooperative ownership of utility assets would eliminate profit and income taxes, saving approximately 6%
- ISO establishes open, transparent and fair competition for power producers; Maui market would have to be studied, but mainland RTOs achieve savings in excess of 5%
  - Savings are dollars AND emissions
- System improvements are independently planned to maximize access, security and resiliency
- Longer-term goals: operational efficiencies, reduction of fossil fuel inventories

# Moving *Forward*



- Guernsey's analysis was the first step: a high-level survey to determine whether any of the alternatives have merit for the citizen ratepayers of Maui County
- Some questions were answered, more questions were raised
- More study is needed to inform a strategic decision to pursue an ISO, alternative system ownership or both

Thank *You!*