



## Hawai'i Clean Energy Initiative Summary January 2008 – August 2009

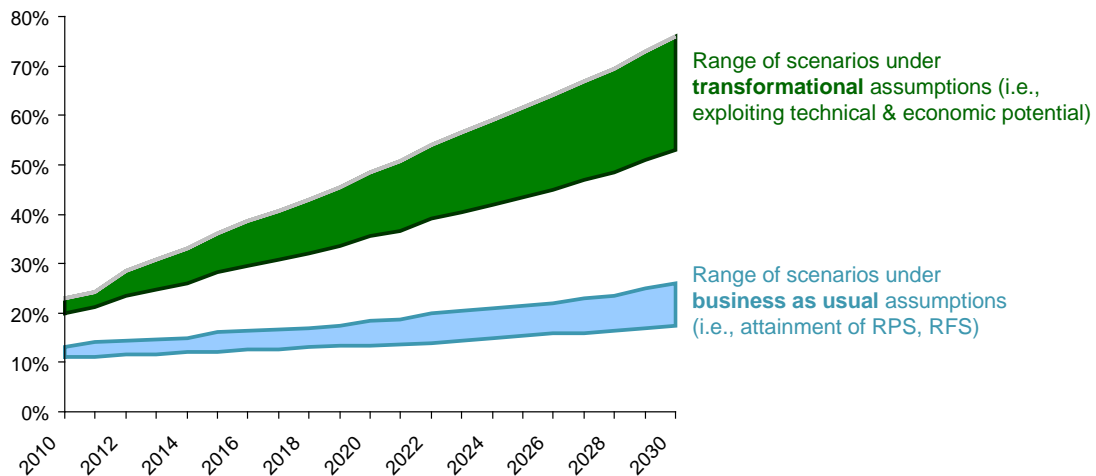
### Transformation

The State of Hawaii depends on imported oil to meet over 90% of its energy needs, leaving Hawaii vulnerable to supply disruptions and greatly impacted by volatile energy prices. The goal of HCEI is to achieve a 70% clean energy economy in Hawaii by 2030. HCEI establishes a long-term partnership between the State of Hawaii and the U.S. Department of Energy (DOE) that will result in a fundamental and sustained transformation of the financial, regulatory, legal, and institutional systems that govern energy planning and delivery. Key partners include the counties, DoD, Department of Hawaii Homelands, private companies, non-profits and many other entities.

### Opportunity

Economically and culturally sensitive use of natural resources can provide energy supply security and price stability for the people of Hawaii as well as significant environmental benefits and economic growth opportunities. The initiative is working on multiple fronts to accomplish a number of goals:

- ▶ Reduce energy demand 30% by 2030 through retro-fitting buildings, strengthening codes and standards, installing advanced controls, and building zero net energy homes and businesses
- ▶ Increase renewable energy to 40% by 2030 by using Hawaii's natural resources, including wind, sunshine, geothermal, biomass, municipal waste, hydro, and ocean sources — enabled by the development of a smart grid infrastructure, an undersea cable, energy storage, and electric vehicles
- ▶ Achieve 70% clean energy in transportation by growing biofuel feedstocks in conjunction with food and other needs and readying the island systems for electric vehicles and other advanced technologies



## Benefits for Hawaii

- ▶ *Create opportunities at all levels of society* that ensure widespread distribution of the benefits resulting from the transition to a clean, sustainable energy State
- ▶ *Demonstrate and foster innovation* in the use of clean energy technologies, financing, and enabling policies and regulations
- ▶ *Build the workforce of the future* to enable and support a clean energy economy
- ▶ *Establish an "open source" learning model* for others seeking to achieve similar goals

## Major Accomplishments and Lessons Learned Through August 2009

- **Integrated participation:** Over 100 stakeholders are engaged in developing analysis and building policy recommendations for HCEI, bringing together national experts, local Hawaii leaders, and investors – both local and national. The technical working groups meet quarterly, and various other forums have also been convened – including two sessions of regulatory training and an investor's roundtable, among others. Primary lessons learned have been the importance of frequent communication among various parts of the initiative, and the need to create platforms for an even broader cross-section of stakeholders to become involved in HCEI
- **Policy wins:** Legislative successes were achieved in 2009 (such as an increased RPS) to set the structure for a transformation of the energy economy, including institutional change and the framework agreement with the HECO companies that led to the opening of key dockets in the PUC. Primary lessons learned are the importance of early and focused outreach to policymakers and the establishment of a clear process that shows how HCEI fits into the state policy process. Additional policy proposals are currently being analyzed and developed for 2010

- **Federal commitment:** There is strong commitment from federal government, not only in policy design, but also in willingness to invest – through ARRA funds and federal support of other state programs. In addition, DOE has funded one Office of Electricity position and two National Renewable Energy Laboratory personnel to live in Honolulu full time to support the initiative
- **Outreach:** HCEI has launched a comprehensive website for the public, held a clean energy festival in July 2009, and is fully engaged in promoting HCEI in the media. The lesson of the past year is that additional efforts are needed on this front to ensure the initiative's success, and that focused outreach to other jurisdictions attempting similar programs is necessary to scale and replicate this initiative
- **Technical Projects:** The first round of partnership projects was launched in 2008 focusing on integrating renewable energy into island grids, constructing net zero energy buildings, and designing 100% clean energy microgrids. Primary lessons learned include the value of projects in making clean energy real for the community and the need to communicate the results of such projects to a broad range of stakeholders. The next round of projects is under consideration

### Major Near-term Thrusts and Opportunities

- **Renewable energy project development and regulation:** Key priorities are bringing investors into Hawaii to develop projects in the state, helping the PUC tackle complicated issues, making sure the clean energy resources are sustainable, and ensuring long term energy security
- **Undersea cable:** The key element is delivering clean energy resources to where the load is greatest; for that reason, an undersea cable is an important element for success. Developing the right state process, pursuing a realistic financing strategy, and understanding and resolving technical questions have been particular areas of focus
- **Energy efficiency implementation:** The primary focus points for energy efficiency are realizing the aggressive goals established by policy, implementing energy efficiency programs, coordinating building code development across the counties, and working with specific sectors (e.g., hospitality) to realize large-scale change
- **Progress on transportation:** Key priorities are understanding the biofuels potential and path forward for local bioenergy production, addressing transportation needs at the state policy level including electrification of vehicles, folding in marine and jet fuel to the HCEI program
- **Public outreach and acceptance:** The initiative is focused on building a broader understanding of these issues in the community and creating the demand for clean energy such that residents will understand the tradeoffs (e.g., economic, environmental) needed to make clean energy possible, and such that the leaders of Hawaii continue to drive these objectives forward