

**STATEMENT OF
D. DREW BOND
ACTING DIRECTOR OF COMMERCIALIZATION AND DEPLOYMENT,
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY**

U.S. DEPARTMENT OF ENERGY

FIELD HEARING BEFORE THE

COMMITTEE ON NATURAL RESOURCES

**SUBCOMMITTEES ON INSULAR AFFAIRS
AND ENERGY AND MINERAL RESOURCES**

UNITED STATES HOUSE OF REPRESENTATIVES

APRIL 12, 2008

Madame Chairwoman, Mr. Chairman, Members of the Subcommittees; thank you for the opportunity to testify on behalf of the Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) regarding our efforts that contribute to *Charting a Clean Energy Future for the Insular Areas*.

First, let me give the Committee a brief explanation of the commercialization team that I lead in EERE. In 2006, Assistant Secretary Karsner assembled for the first time a team of individuals reporting directly to him that focuses on commercialization and deployment of our technologies as part of the Department's balanced approach achieving its goals and meeting its mission.

Briefly, what this means is that our program is targeted to help increase the pace, success rate, and scale at which renewable and efficient energy technologies move from R&D to market-changing products and processes. Among our many activities is a concerted effort to help expand the use of clean energy in island communities. My testimony today will discuss the Energy Policy Act of 2005 provisions relative to insular areas. In addition I will discuss the Department's recently established Hawaii Clean Energy Initiative. Although Hawaii is not an insular area, DOE believes this is an example of a type of focused effort that could be translated to help change the predominant source of energy in island territories, nations, and insular areas from oil to renewable or alternative energy sources.

As you know, Section 251 of the Energy Policy Act of 2005 (EPACT) required the Secretary of the Interior, in consultation with the Secretary of Energy and the head of government in each insular area, to update the 1982 Territorial Energy Assessment. The implementation of this EPACT requirement resulted in an updated report developed and made available by the

Department of the Interior in the fall of 2006. The report reaffirmed the original finding that insular areas face unique challenges in their reliance on imported energy as well as high fuel and energy prices. Islands coping with these problems stand to benefit from end-use efficiency measures and the expansion of renewable energy production. Territories can use the information from the Section 251 Assessment to develop an advanced energy plan, and use DOE State Energy Program (SEP) grant funds to act on the findings. SEP provides grants to the states and territories to design and carry out their own renewable energy and energy efficiency programs and to fund energy projects managed by state energy offices.

I would like to share with the Committee our work in Hawaii, which could serve as a possible example that could be translated for use in insular areas. The Department's work with the State of Hawaii is an example of a collaborative effort to combat the energy issues characteristic of insular areas. On January 28, 2008, The Department of Energy and the State of Hawaii signed a Memorandum of Understanding (MOU) that launched the Hawaii Clean Energy Initiative (HCEI) and put Hawaii on a pathway to supply 70 percent of its energy needs with renewable energy sources by 2030. Achieving this objective could reduce the State's crude oil consumption significantly. Though not legally binding, the HCEI significantly increases the commitment of Hawaii beyond the State's legal renewable portfolio standard requirement of 20 percent by 2020. Hawaii is uniquely positioned to achieve the accelerated goal and help demonstrate technologies that, once demonstrated in a fully integrated way, could be used elsewhere.

Pocketbook issues are foremost in making Hawaii the ideal test bed for a renewable energy economy. Islands are often hit the hardest by high oil prices. Oil supplies approximately 90 percent of Hawaii's total energy and approximately 84 percent of its electricity generation.¹ Hawaii also has some of the highest electricity prices in the nation, making it an apt proving ground for clean energy technologies that are not fully cost-competitive elsewhere in the country.

The Department of Energy's role in the HCEI is to provide expertise, third-party objectivity, and resources to the process. DOE provides expertise through Department staff, national labs, and private partners dedicated to R&D in renewable energy, energy efficiency, and electricity delivery; and most importantly, in the emerging area of system level integration of clean energy technologies. DOE expects that Hawaii will need to employ an integrated systems approach if it is to achieve the HCEI goals. The Department can also assist in convening and facilitating public/private sector collaborations that could help address barriers to renewable and efficiency technology advancement in the State.

DOE's approach to performing its HCEI roles is based on three areas: working groups, partnership projects, and clean energy transformation. First, the working groups are small, collaborative teams focused on long-term, intelligent energy solutions. Convened around topics of energy generation, energy delivery, transportation, and end-use efficiency, these groups strive to integrate the Department's technical and policy expertise with Hawaii-based knowledge and project resources. Second, partnership projects test and validate concepts laid out by the working groups, such as solving grid integration and financing challenges for wind, solar, geothermal, and ocean thermal energy sources. Third and concurrently, lessons learned through the working

¹ Sources: Energy Information Administration and State of Hawaii Strategic Industries Division.

groups and partnership projects are expected to help Hawaii in its consideration of potential changes to state-level regulations and laws, with the goal of promoting a clean energy transformation that could help incentivize intelligent investment by capital markets, energy suppliers, and energy consumers. These efforts are expected to help Hawaii progress toward increased use of cleaner energy as well as help demonstrate existing and new technology at scale, help stimulate new private sector investment to promote asset turnover, and help improve standards of service, energy service delivery, and energy security.

To put the HCEI into action, immediately following the MOU signing, DOE staff held meetings with utilities' and island co-ops' senior management, business leaders, military officials, and policy and regulatory leaders. These meetings were part of the effort to engage experts in clean energy technology development to help Hawaii launch several projects with public and private sector partners that target early opportunities and critical needs for Hawaii's transition to a cleaner energy economy, including:

- Designing cost-effective approaches for the exclusive use of renewable energy on smaller islands;
- Designing systems to improve stability of electric grids operating with variable generating sources, such as wind power plants on the islands of Hawaii, Kauai and Maui;
- Minimizing energy use while maximizing energy efficiency and renewable energy technologies at new large military housing developments;
- Expanding Hawaii's capability to use locally grown crops and byproducts for producing fuel and electricity; and

- Assisting in the development of comprehensive State energy regulatory and policy frameworks for promoting clean energy technology use.

DOE believes that underpinning all of these efforts is the need for the State of Hawaii to change its regulatory and policy framework to drive the necessary changes throughout its energy infrastructure. Current utility regulation and rules in Hawaii make it difficult for an investor-owned utility or a co-op to profit from non-utility generation, extensive renewable and distributed (customer-owned) generation development, and energy efficiency—all of which are critical to the success of the HCEI. Achieving HCEI goals will require not only reconsideration of how Hawaii’s electric system is regulated, but also a redesign of electricity and gas rates and tariffs, and changes in the state’s regulation and opportunities for electricity substitutes including energy efficiency, solar hot water heating, solar photovoltaics, and future grid-affecting technologies such as plug-in hybrid vehicles. Governor Lingle elevated the issue of advantageous regulatory and policy changes in her State of the State Address, and announced a separate cabinet agency to address Hawaii’s energy future.

Cooperation between the Department of Energy and Hawaii to achieve the objectives of the HCEI will mean that the many people who visit the State for the scenic beauty that only islands can provide will be able to see a functional renewable energy economy as well. Employing renewable technologies at scale, in an integrated manner is an important step toward attaining advanced energy goals. The HCEI takes a preliminary step in the pursuit of clean, sustainable energy solutions for an island setting. If successful, the HCEI could serve as an integrated example for insular areas, U.S. territories and other island communities globally.

Madame Chairwoman, Mr. Chairman – this concludes my prepared statement, and I am happy to answer any questions the Committee Members may have.