STATEMENT
OF
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BEFORE THE
HOUSE SUB-COMMITTEE ON INSULAR AFFAIRS
AND
HOUSE SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

ON
CHARTING A CLEAN ENERGY FUTURE FOR THE INSULAR AREAS

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Co-chairs and members of the Subcommittees on Insular Affairs and Energy and Mineral Resources, thank you for the opportunity to testify on *Charting a Clean Energy Future for the Insular Areas*. The Insular Areas include the United States territories of the United States Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands (CNMI); and the freely associated states of the Republic of the Marshall Islands, the Federated States of Micronesia (FSM), and the Republic of Palau.

In island communities, we see very little air pollution. The wind blows it away. What does not blow away is the escalating cost of fossil fuels. Most people in the islands would like to utilize clean energy. When faced with the need to purchase large-scale electric capacity, officials in the islands, however, have found it more economic to continue to rely on oil based fuel. Not any more. The high cost of oil means that alternative sources of energy are increasingly attractive from an economic point of view.

High energy prices are currently the greatest threat to all of the economies of the United States and affiliated insular areas. The high cost of electricity depletes the wallets of island residents and the finances of local governments and businesses. In those islands where the cost of electricity is subsidized by the local government, we are approaching a crisis. Increasingly substantial portions of the local government budgets are being siphoned off for fuel to run their electric power plants. In the CNMI, for example, where the annual budget is approximately $160 million, $80 million is spent on fuel for its power plants.

The rising price of oil has made alternative sources of power more economic. It has also highlighted the long-standing need for existing equipment to give us its best performance and efficiency.

Pursuant to the *Energy Policy Act of 2005*, the Department of the Interior published the *United States of America Insular Areas Energy Assessment Report* in 2006. Copies of the report were made available to the Congress. The report analyzes the energy situation in each United States territory and freely associated states, in detail. The report deals with both the supply and the demand sides of the energy equation.

ENERGY SUPPLY

On the supply side, some alternative technologies already have been proven to be commercially viable; others may be available in the future.

- **Solar.** Given current power costs, solar can be cost effective for small scale and individual residential use. Solar sets are already in use on isolated islands in the Pacific to power small scale activities such as dispensaries and offices. Residential customers everywhere in the insular areas could purchase solar sets to place on their homes or property and connected to the local power grid through a "net metering" system. The Virgin Islands and American Samoa have already begun exploring such systems.

- **Wind.** With constant wind, the islands hold a great deal of potential for wind generation of electricity. This is a proven technology that can be cost effective. There are, however, two issues that must be addressed before pursuing wind generation projects in the United States-affiliated insular areas. The first is a concern about tropical cyclones; all four United States territories experience these powerful storms, and careful consideration should be given to hardening any wind generation project against them. The second issue to consider is the need for detailed wind resource studies prior to embarking on any deployment of the technology. This is explained in the 2006 report.

- **Geothermal.** Geothermal is a technology that is coming of age for volcanic areas. The United States Navy uses geothermal power for some of its installations. Northern California, Iceland, and the Philippines all have major geothermal installations that are producing electricity. What California, Iceland

and the Philippines all have in common are active volcanoes that power their geothermal energy production. The CNMI, and possibly Guam, may be able to benefit from geothermal power over in the future. Feasibility studies are under way to quantify the geothermal resource in the region.

- **OTEC**. Ocean Thermal Energy Conversion (OTEC) is a technology that, in the future, may play a significant role in providing electricity on a large scale for our islands. Three of the four territories and parts of the freely associated states are in locations where the undersea topography is favorable for the development of such systems. This technology, however, has not been deployed on an industrial scale for power production. Until a commercial project is completed, questions remain about the costs associated with the development of these systems.

- **Biofuels and Biogas.** Although the islands lack the land area necessary for large-scale biomass production, several areas in the Pacific already use copra oil to fuel vehicles and machinery. The 2006 report also noted that there was some potential in certain areas for biogas recovery from solid waste and wastewater plants, and that recovery systems should be considered for inclusion in future upgrades and construction of these facilities.

- **Coal.** It has been over 100 years since the chiefs of Tutuila and Manu'ua ceded their islands to the United States, enabling the United States Navy to use

American Samoa as a coaling station. While the energy assessment did not focus on coal, it may be time to reconsider it.

- **Nuclear.** The generation of electricity in nuclear power plants is quite large scale but may not be cost effective for any of our islands with their small populations.

Besides the potential for alternatives to oil, a second avenue for energy improvement is a focus on the management and maintenance practices for existing electric generation facilities. Most of the insular areas have paid considerable attention to these issues in recent years.

Potential efficiencies could be gained by (1) improving operations and maintenance operations standards, (2) improving load balancing and distribution on the existing grids, and (3) replacing transformers and other distribution systems with more efficient models. The CNMI, for example, is in the midst of an overhaul of most of its generating base. When the overhaul is complete, CNMI officials estimate that they will save over $2 million a month in fuel and lubrication costs.

ENERGY DEMAND

The 2006 report identified a range of steps that can be taken by the insular areas to reduce overall consumption and create long-term savings for utility customers. These suggested steps include:

- Adoption and enforcement of building code provisions used by Guam and the Virgin Islands.
- Modification or institution of metered power rates that reward savings and lower usage.
- Promotion of the use of energy-efficient appliances and light bulbs, which collectively represent some of the largest sources of consumer usage.
- Promotion of the use of systems, such as solar water heaters, to replace electrically-heated systems, including the possible financing of bulk purchases of systems that electric utility customers could finance over time as they pay lower utility bills.
- Expansion of publicity for the Energy Star program to bring great savings to citizens in the insular areas because of the exceedingly high cost of electricity.

Outreach and education will be critical. Some may balk at the up-front costs associated with adopting alternative energy solutions, even if the longer-term savings far outweigh the up-front costs. We encourage the insular governments and utilities to explore new concepts that may alter energy consumption. For instance, local retailers and wholesalers could arrange bulk purchases of proven alternative systems with financing and repay loans through the utilities' billing processes.

INTERIOR SUPPORT FOR ENERGY INNOVATION

The Department of the Interior has long supported electricity producers in the islands in their efforts to build the capacity and improve the efficiencies that lead to lower costs and lower emissions for delivered electricity.

- Our Operations and Management Improvement Program (OMIP) has invested over $4.7 million in the last three years in the Pacific Lineman Training Program and the efforts of the Pacific Power Association to develop a cadre of knowledgeable, professional linemen that provide their communities with safe and efficient electricity transmission.
- Our Capital Improvement Program (CIP) has supported numerous power projects in the four United States territories. We are currently reprogramming unused CIP funds, a good deal of which will be used for power-related projects including the refurbishment of the generators in the CNMI.
- Under Compact II funding, the freely associated states of the Marshall Islands and the Federated States of Micronesia are eligible to spend infrastructure sector funds on power projects.
- Our Technical Assistance (TA) program has been a source of funding in the past for resource surveys similar to those outlined in the 2006 report. Early this year, CNMI Governor Benigno Fitial requested and received a TA grant (supported by the CNMI Washington Representative Pedro Tenorio) for $300,000 to continue research on fresh water production for agriculture by using the cold thermal properties of deep ocean water. In March, the CNMI submitted a $500,000 TA request to undertake assessment of geothermal resources on the islands of Pagan

and Saipan that could yield low-cost electricity and industrial potential for the territory.

FOLLOW-THROUGH

The *Energy Assessment Report* contains valuable data and ideas for addressing the energy challenges that we are currently experiencing. A sustained effort is now required to ensure that the options outlined in the study are more fully reviewed and the residents of the insular areas receive any potential benefit as quickly as possible.

In order to stretch the island energy dollar as far as possible, officials from the Office of Insular Affairs will visit each of the United States territories and freely associated states to discuss ways to implement the most promising energy options outlined in the *Energy Assessment Report*.

On Thursday, Secretary Kempthorne's Deputy Chief of Staff, Doug Domenech, and I met with Governor John P. de Jongh, Jr., in St. Thomas to present him with a $50,000 grant from the Office of Insular Affairs to aid investigation of realistic energy measures that will benefit the residents of the Virgin Islands. The grant was made in response to a request from the Governor. Our Interior team then met with other local government officials to discuss the *Insular Areas Energy Assessment Report* and promising technology. The Government of the Virgin Islands is to be praised for moving aggressively on the energy issue. Because of the initiative shown by the Governor and

his staff, we look forward to a good working relationship as we seek out practical energy solutions.

At the end of this month, staff and I fly to the CNMI to discuss the CNMI portion of the report. OIA officials will later visit Guam, American Samoa, and the freely associated states.

We believe that effort expended in the energy area can bring significant economic pay off in the form of lower utility costs for residents and businesses, and may possibly pave the way for new industry in some of the islands.

We appreciate the leadership the co-chairs have shown on this critical issue of energy. Thank you for your effort and your support. I would be happy to answer any questions you may have for me.