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A NEW ENERGY STRATEGY

Tuesday, October 14, 2014

Key Elements

1. **Engage the Community in a discussion of Hawaii's energy future, particularly those on the Big Island who may be most affected.**

2. **Create a Department of Energy charged with developing and overseeing a new comprehensive energy strategy for Hawaii.**

3. **Reposition the PUC, expand its mandate, endorse a performance based rate structure and ensure it has the resources to do its job.**

4. **Conduct an Independent Review of Geothermal Energy, to evaluate the benefits and costs of developing a major geothermal facility and address health and safety concerns.**

5. **Evaluate the capacity of Hawaiian Electric Industries to lead us to a future where renewables are the core of our energy strategy.**

Overview

Hawaii has the highest electricity prices in the country. Electricity in Hawaii costs 38 cents per kilowatt-hour, compared to 13 cents on average on the mainland.

This is hurting families, businesses and the economy.

And it could get much worse.

We depend on oil and coal for 85% of our electricity generation. And the global demand for oil and coal is growing as China, India and many other countries industrialize. So as oil prices rise, so do our electricity prices.

In the last fifteen years, the price of a barrel of crude oil has increased eight fold, from $12.76 to $108.56 (1998 to 2013). What happens to electricity prices if in the next 15 years oil goes up another four or five times?

Families will leave in search of a better future, businesses will close and public finances will deteriorate, forcing more cuts and higher taxes.

This is not a risk we can afford to take.

There is also something very unsettling about an island people burning fossil fuels, pumping carbon into the atmosphere and contributing to global warming and rising sea levels.

As the Department of Business and Economic Development and Tourism (DBEDT), the agency currently charged with overseeing energy policy, accurately stated: "Hawaii cannot be a trailblazer in energy innovation by solving tomorrow's problems with yesterday's solution."

We therefore need a new energy strategy as a matter of urgency.

Economic Impact of High Energy Prices

We spend a staggering $7.8 billion a year on energy, of which $6 billion goes on oil.

Ever rising electricity prices are one of the main reasons the average family in Hawaii has not seen a rise in their standard of living in 30 years. Unfortunately, given the current situation things will not improve. While HEI's Board of Directors are community-minded people, they have a fiduciary responsibility to the shareholders of this publicly traded company. As we have seen, the decisions that are made as a result of this role are at times at odds with the needs of the customers.

High electricity prices mean we have less to spend on housing, food, education, clothes, travel and entertainment. This reduces the demand for goods and services throughout the economy and contributes to our low rate of growth.

High energy prices also make it hard for small businesses to grow and create more jobs. They struggle to meet their electric bills and know as every day passes they are becoming less and less competitive with mainland firms.

Clean Energy Initiative 2008

Governor Lingle and the Department of Energy established the "Hawaii Clean Energy Initiative" (CEI) in 2008, which envisaged a much greater role for renewable energy. Governor Abercrombie subsequently endorsed the plan.

There has been a welcome increase in solar and wind capacity in recent years. Some 40,000 people, for example, now generate their own power with solar panels and are off the grid. But overall progress has been slow. Six years on, oil and coal still account for 85% of our electricity generation.

We support all renewables and believe we can do more. Solar, wind and biomass are all important sources of energy. But only geothermal has the

potential to bring down electricity prices. Geothermal is inexhaustible, clean and safe. And it can be produced at a fraction of the cost of other energy sources.

Engage the Community

We will engage the community in a broad discussion on Hawaii's energy future. We want to fully understand their needs, concerns and preferences. We will ask about their desire to have more energy choices. And we will use all this information that as critical input in the development of a new energy strategy.

As we develop proposals we will consult the community and all those directly affected in an open and transparent manner and through a collaborative process.

We fully recognize the sensitivity of many aspects of this topic, not least the need to preserve our environment and to pay full respect to our cultural norms.

We also appreciate the paramount importance of ensuring there are no risks to public health and safety. We will insist that all Federal and State safety and maintenance requirements are rigorously applied and enforced.

Department of Energy

We need strong leadership from the Governor to resolve the critical energy challenges we face.

We will establish a new Department of Energy and task it to develop a new comprehensive energy policy for Hawaii. We need to take a more holistic view of our energy future, including electricity production, transportation and driving higher levels of energy efficiency. We need to establish clear goals with timelines and metrics, and we need to enforce new levels of accountability.

The Department will consult with the legislature, the PUC, the industry, NGOs and all stakeholders. It will produce an annual report on the State's energy strategy and progress against specific goals.

Public Utilities Commission (PUC)

The primary purpose of the PUC is to ensure that Hawaiian Electric Industries and other utilities provide their customers "with adequate and reliable services at just and reasonable rates" and to set rates. It has a number of long-term goals including the promotion of renewable energy resources, and it has asked a number of searching questions in this regard.

We will reposition the PUC to play a pro-active role in shaping the industry:

- **Support the creation of a competitive electricity market and the building of an inter-island smart grid.**

- **Incentivize the industry to lessen its dependence on fossil fuels and invest in renewable resources.**

- **Move from a cost plus model for rate setting to a performance based system, where the industry would need to perform on a broad range of parameters in order to secure the rate increases it seeks.**

We will ensure the PUC has the resources and the funding to do its job.

Geothermal Energy

A hundred years ago Italy produced the world's first electricity from geothermal power. Today geothermal power is online in 23 countries and 8 States. The international geothermal power market is booming, with 700 geothermal projects under development in 76 countries.

The technology is proven, safe, reliable, clean and cost effective.

We believe that under the right conditions, geothermal power can assure the energy security of Hawaii, stimulate economic growth, create jobs and relieve the cost of living pressure on working families. Booz Allen Hamilton estimates the potential of indigenous geothermal resources at over 6,000 Gigawatt hours annually, which would represent more than half of our current energy consumption. The cost of producing geothermal energy, once the initial capital investment has been recouped, is a fraction of the cost of energy produced from oil.

We will therefore conduct an Independent Review of Geothermal Energy to provide us with a rigorous evaluation of the potential for geothermal power and its benefits and costs. We will engage experts and learn from the experience of other States and countries. We will insist on the highest construction, maintenance and safety standards. We will hold preliminary talks with potential partners to gauge their interest. We will then lay the options before the public and engage in a full outreach program.

We will be sensitive to the views of all. We will ensure that any development conforms to our cultural norms and that our environment is protected. We also pledge that the benefits of this new energy source will be shared with all and that primary consideration, including a community benefits package, will be given to the residents of Puna should it be selected as the production site.

Public Private Partnerships

We will establish an Office of Public Private Partnerships (PPP) to promote, negotiate and implement PPPs for the State. Its remit would include PPPs for geothermal power, public hospitals, housing and other critical infrastructure projects. The Office will use an open and competitive process to source the best ideas and most attractive economic proposals.

The State cannot and should not try to build, finance and operate new power facilities by itself. A far better course is to seek the co-operation of private partners with deep experience in this field and the capacity to raise the necessary capital without recourse to taxpayers or additional public debt. There are many examples of such partnerships being used to build power systems as well as other large infrastructure projects in the United States and overseas.

Hawaiian Electric Industries (HEI)

DBEDT has recently expressed its frustration with Hawaiian Electric Industries' proposed "power supply improvement plans". DBEDT is seeking a fundamental review of HEI's vertically integrated business model, is critical of doubling down on Liquefied Natural Gas (LNG) and notes the assumption built into HEI's plans that the rate base will grow at an average 9% per year to 2030.

HEI is in a difficult position. It produces and distributes power but does so in the context of an inherently inefficient system of four utilities and six grids. It is beset by public criticism, and has little choice but to pass on higher oil prices in the form of higher electricity prices.

It may be that our expectations for HEI have been set too high. It is not evident that the company has the earnings power to make the large investments required to build an inter-island grid or a new geothermal plant. Three quarters of its earnings are paid out in dividends, leaving only modest funds to maintain its current plant and equipment. Nor can it take on much more debt without losing its credit rating.

We also need to recognize that there may be an embedded conflict in asking a fossil fuel company to develop new energy sources that will damage its primary business.

All of which reinforces the question posed by DBEDT as to whether the "vertical business model" of HEI, owning both production and the grid, should be recast. The alternative "horizontal model" would separate the ownership and management of the grid from power generation, and thereby introduce competition into the energy market.

These are strategic question bearing on the future of Hawaii's economy.

The Future

We have a choice.

To go on as we are, resigned to the same old, same old status quo. Making incremental changes, but at the end of the day, still an economy and society that is largely dependent on oil. And ten or fifteen years from now, when electricity prices have doubled or tripled, our children will say*:*

"Why didn't they do something?"

Or we can face the future, put renewables at the center of our energy strategy, and be open to the idea of geothermal energy driving electricity prices down.

Making the right decisions today will underpin Hawaii's prosperity for generations to come.

Only the people can decide such fundamental questions.

Leaders must pose the questions and present the options and do so through a community based planning process.

In particular, I believe it is the responsibility of a Governor to look out for the best interest of the people and to be willing to go to the mat doing so.

References

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National Renewable Energy Laboratory: www.nrel.gov

Oil Prices: http://www.eia.gov/dnav/pet/hist/

Public Utilities Commission: http://puc.hawaii.gov/