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Public Comment to Economic Development, Energy, Agrigulture, & Recreation Committee on Maui's Energy Future 8-30-16

Aloha Chair Guzman,
Aloha Vize Chair Cochran,
Aloha Committee Members,

Thank you for giving me the opportunity to comment on Maui's Energy future. I apologize that I cannot deliver this in person, since I am traveling.

I am a private energy analyst and have been researching and promoting ways for Maui to achieve 100% renewable energy since 1992. I have presented my research to County and State government as well as Meco/Heco and was an intervenor before the PUC for the FIT and NextEra dockets.

The discussion below includes rough figures, because I think it is important to know what is at stake financially – and as an engineer I tend to think in numbers. I believe the numbers to be fundamentally correct, but they represent estimates and guesses.

We are at a watershed moment in which Maui's energy future will be decided. Will it be the 100% renewable future envisioned by State government, or the largely fuel-based future that Meco presents in the Power Supply Improvement Plans?

If a 40 MW power plant based on fuels (diesel, gas, off-island biofuels) is built, it will operate for the next 20-40 years and therefore define future cost and composition of electricity on Maui.

Here is what it means for Maui's electricity customers:

Investment: $100 million
Fuel cost over 30 years: $1,500 million

Total cost over 30 years: $1.6 billion

The same amount of energy can be produced by a solar power system, which (in the near future) can be installed for $300 million, even without subsidies. To firm up this power, energy storage is needed. But even if storage costs the same as the solar, there is a $1 billion benefit to the customers and the elimination of fuel price risk.

Solar Power System: $300 million
Elec Storage System: $300 million

Total cost over 30 years: $600 million

Difference: $1,000 million ($1 billion)

This does not mean, that Meco would go that route. In fact, this option is not even mentioned in the Power Supply Improvement Plans. The reason is, that a private electric company compares a $100 million investment with a $600 million investment and chooses the former one. Fuel costs are 100% paid by the customer and any risk of price increases or availability is borne by the customer.

Whether to go for a high investment option without fuel costs or a low investment with annual fuel costs, is essentially a financial decision and the important factors are interest rates and credit availability.

As a public company, Meco calculates investments with high interest rates to benefit shareholders. Whereas a mortgage now costs 2.5%, Meco calculates at 8-10%. KIUC pays interest rates as low as 1.5%.

Home owners can see that the cost of solar plus storage is plunging below electricity prices and will soon have options to purchase solar-plus-storage systems that allow them to exit the utility. If the utility can understand this, and decides to move towards solar-plus-storage, it can keep the customers and avoid the infamous 'death spiral'.

Your question is whether Meco operates better as an investor owned utility or as a municipal or cooperative utility. Let me introduce another option.

I recently visited the Spanish island of El Hierro. They have built the first island system for wind-plus-storage and are widely regarded as a prime example for that technology. The mayor had the idea and it helped that he was also operating the electric plant.

The County and the electric utility created together a new company, which built the wind-plus-storage system. The County owns the majority, which allowed the company to apply for help from Spain and the European Union. The County told me, that they wished they had opted for an even higher percentage because they were able to find a lot of financial support. They hope that the system will be paid off in 10 years and will then produce electricity at close to zero cost. In Spain electricity prices are determined by government, which would lead to a huge income for the County.

Such a cooperative undertaking would be of great benefit to the County as well as to Meco and keep the utility from entering a death spiral. I believe it would be prudent to explore this option in more detail.

Kihei, August 29, 2016 Chris Mentzel chris@cleanenergymaui.com