SUMMARY
Public Stakeholder Meeting
August 26, 2015

Planning models and access to big data were the featured topics of the 3rd public stakeholder of the Hawaii Clean Energy Initiative. Dawn Lippert welcomed the group and introduced Luis P. Salaveria, Director of the Hawaii Department of Business, Economic Development who opened with a brief address stressing the importance of participating in HCEI and how collaboration is necessary to solving the energy issues in our community and extending Hawaii's global leadership in the energy sector.

In his presentation, Chris Yunker, Program Manager, Energy Systems and Planning Branch of the Hawaii State Energy Office spoke of the growing importance of data transparency. Mr. Yunker demonstrated examples of how the Energy Office is building models of Hawaii's integrated energy eco-system with the following characteristics:

- Developing and Analyzing Scenarios that Reflect Fundamental Changes in Customer Needs and Energy Demands
- Use of Statistically Adjusted End Use Modeling & Quantifying Energy Transfers Between Sectors
- Identifying Potential Energy Scenarios that are both Cost-Effective and Resilient
- Identifying Infrastructure investment options across a variety of future scenarios to achieve one end state

In a question and answer period, stakeholders raised questions on whether the public would have access to the models and be offered an opportunity to comment in the assumptions employed. Mr. Yunker made it clear that the HSEO is still in the design phase of the model and intend to make it robust to allow for multitude of scenarios and modeling to build an optimal path towards achieving 100% renewable energy in the utility sector.

The State Energy Office later clarified that the purpose of the models under development is to make utility data open and transparent to aid decision making for future utility investments to optimally achieve the 100% renewable objectives at the lowest cost to ratepayers and maintain

grid system integrity and stability. Therefore, the public will have unfettered access to the models and the way they work.

In his presentation, Derek Stenclik, Manager, Power Systems Strategy, GE Energy Management provided an overview of a recently completed study in collaboration with the Hawaii Natural Energy Institute that focused on modeling the functional grid and assessing operational and grid stability impacts of high penetrations of renewable resources through:

- Identifying and evaluating potential mitigations in regard to both increased renewable integration and system reliability, and
- Estimating the costs and benefits associated with modified operating practices, storage, demand response, grid upgrades and other identified strategies.

This study will be extended and expanded in light of the new Renewable Portfolio Standard goals of 100% generation from renewable resources. HNEI is committed to ensuring that they have the right data for decision makers and need input on what is missing. With consideration to the challenges to compile information into a useable format, and protect confidentiality, it is the intention of the HSEO and HNEI to remain transparent.

During the breakouts, comments focused on the following themes –

- It is important to get the right data for input into the models
- It is important to engage stakeholders in the process
- It is important to know the audience in terms of engagement three levels were presented:
    - Policymakers and PUC
    - Engineers
    - Public
- Transparency is important in this process but translation of what is in the model and how it works is important too
- What should the models include for planning short term versus long term
- There is a lot of uncertainty in the future - models should not focus on exact numbers but how different scenarios will capture and measure sensitivity
- All strategies and technologies need to be quantified and evaluated in the planning process
- A need was identified to have follow up presentations, trainings and seminars to get the information out – how it will be presented is a question.
- How do different types of resources interact / fit into the model – baseload, flexible baseload, intermittent technology, storage, hydrogen, land use, pumped storage etc.

Next Steps:

- HSEO and HNEI will continue their modeling efforts
- HSEO will continue to reach out to stakeholders for feedback
- HNEI will decide best path forward in getting information out as they are recalibrating following the RPS changes.