

Exploring Policies and Regulations for Energy Storage

Mark Glick

Hawaii State Energy Administrator

Natural Energy Laboratory of Hawaii Authority

International Conference on Energy Storage Trends and Opportunities

September 12, 2016



EcoSystem Approach to Planning Will Help Optimize Investment

Striving for Cost-effective Deployment of Energy Storage

- Focus on high impact, cost-effective activities to achieve energy independence and resiliency.
- Apply quantitative and qualitative analysis and assess impacts of a host of optimum scenarios to achieve
 - Efficiency
 - Lower costs of energy
 - Reliability and energy security
- Enable and support high-value activities through demonstrations and programs, legislation and proceedings.
- Build a comprehensive energy strategy



Pricing Implications of Energy Storage



- Distributed Energy Resource (DER) technology has effectively unbundled the services that utilities provide.
- However, energy pricing has not kept up with technological innovation.
- Pricing reform needs to accelerate such that technology will be deployed and utilized to lower total costs for all customers.

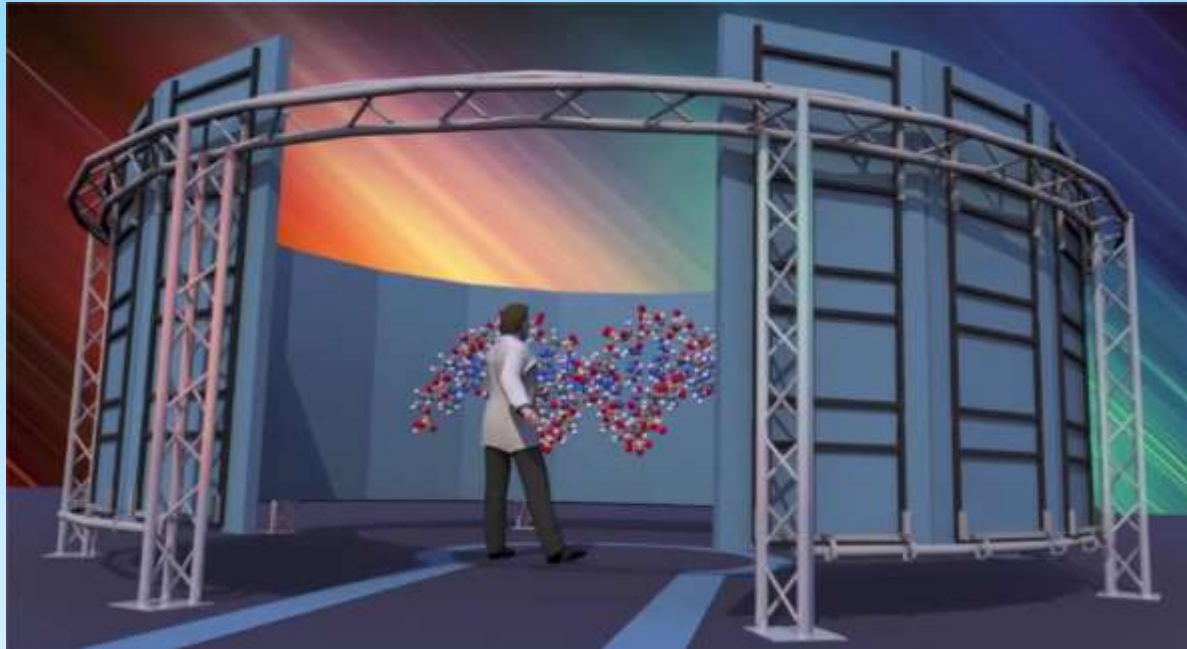


New PSIP to Evaluate Economics of Energy Storage

- HECO's Power Supply Improvement Plan charts 30-year course to 100% RPS featuring 5-year action plans for each of the five islands served by the utility.
- HECO says its December 2016 PSIP update will incorporate an evaluation of the economics of load shifting energy storage.
- Cost effectiveness of storage is dependent on the resource mix, cost of storage and cost of energy resources on system.
- The PSIP will guide PUC in its evaluation of specific HECO filings for approval of capital projects.
- PUC says PSIP must remain flexible to adapt to changes in technology, costs, customer demand and other factors.



Visualization Tool Brings Better Clarity to Energy Policy Choices



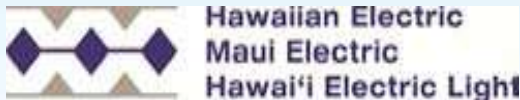
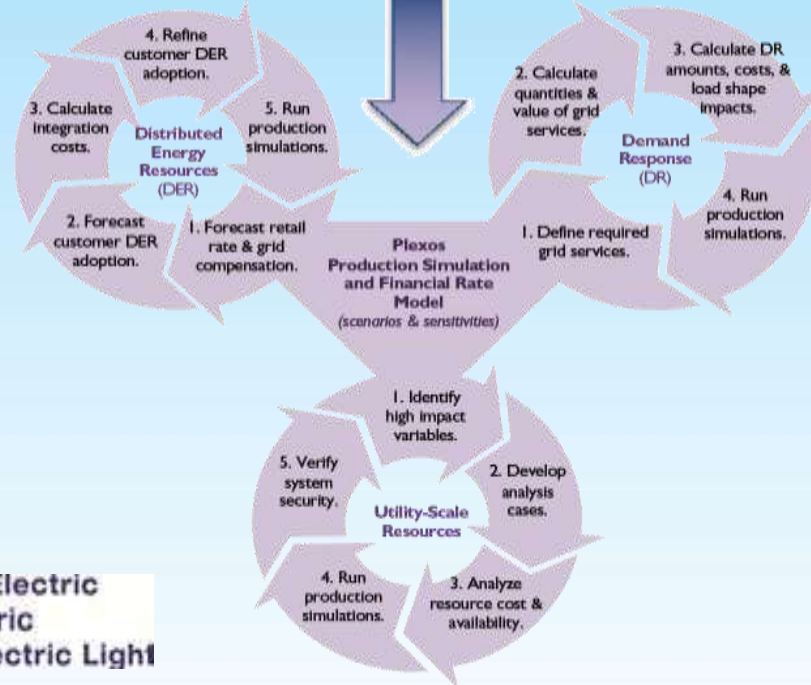
- Visualization improves understanding complex energy systems.
- HAVEN will provide for visual analysis of large amounts of data.
- Innovative approach will help with utility planning optimization.



New PSIP Work Plan Highlights Complexity of Data Sets



Optimal Resource Plans



Mahalo

***Clean Energy Innovation &
Deployment for a Better Hawaii!***



HAWAII STATE
Energy Office

energyoffice@dbedt.hawaii.gov
808-587-3807



HAWAII STATE
Energy Office