

Clean Energy Law and Policy in Japan and Hawaii: A Comparative Analysis

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Douglas A. Codiga, Esq.

Schlack Ito LLC





Japan and Hawaii – Global Transition to Clean Energy

- * Renewable energy + energy efficiency = “clean energy”
- * Global transition from fossil fuel to clean energy
- * Japan and Hawaii are both actively developing and implementing clean energy law and policy
- * Japan and Hawaii differ in many important ways
 - * Geographical and population size and scale
 - * Economic power
 - * Nuclear generation
- * Some relevant commonalities (Japan and Hawaii)
 - * Highly dependent on imported fossil fuels
 - * Islands societies lacking indigenous fossil resources
 - * Potentially abundant renewable resources
 - * Advanced political and legal systems capable of using law and policy to promote social, economic and environmental change



Environmental Drivers

- * Legal requirements to reduce greenhouse gas (GHG) emissions GHG emissions contributing to climate change
- * Adverse and potentially costly climate impacts
 - * Severe weather events
 - * Sea level rise, coastal development, and infrastructure
 - * Impacts on agriculture, fresh water supplies
 - * Marine life and ocean acidification
- * Environmental compliance - legal requirements to reduce conventional pollutants from burning fossil fuels
- * In Japan, key driver is changes in nuclear generation





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2回目

東北関東大震災
福島第一原発

BREAKING NEWS

NHK WORLD

WATER SPRAYING OPERATION

NEWSLINE

Economic Drivers

- * High energy costs
 - * Impact on economic growth and development
 - * Commercial and residential electric utility customers
- * Potential new economic opportunities
 - * Large-scale commercial renewable energy project development
 - * Smart grid and efficiency implementation
 - * Export and licensing of clean energy technologies



Objective of Comparative Analysis

- * Develop a shared understanding and identify potential law and policy solutions to the challenges and opportunities confronting Japan and Hawaii in the transition to clean energy
 - * Identify key clean energy law and policy drivers in each jurisdiction
 - * Assess the successes and barriers to implementation
 - * Explore insights and observations concerning potentially mutually-supportive solutions
- * Sharpening the focus on shared legal strategies and approaches may generate mutually beneficial outcomes

Comparative Analysis - Three Step Process

- * Comparative investigation and evaluation
- * Focus not only in similarities but also key differences between Japan and Hawaii
- * Three steps
 - * Goal - “Where do we want to go?”
 - * Law and policy tools - “How can we use law and policy to get there?”
 - * Stakeholder processes - “How can we ensure the broadest level of support for necessary changes?”

Step 1: Clean Energy Goal

- * Establish the quantitative clean energy goal or targets
- * Comparative analysis – Japan and Hawaii
- * Renewable Portfolio Standard (RPS)
 - * Japan - “Special Measures Law on the Usage of New Energies by Electric Utilities” (June 7, 2002, effective April 1, 2003)
 - * Hawaii – “Renewable Portfolio Standards,” Haw. Rev. Stat. ch. 269, Part V
- * Energy Efficiency Portfolio (EEPS)
 - * Hawaii – “Energy Efficiency Portfolio Standards, Haw. Rev. Stat. § 269-96
- * Other law and policy mechanisms



Rooftop PV at Kona Commons



Step 2: Identify Law and Policy Tools

- * Identify and catalogue range and types of clean energy law and policy tools
- * Comparative analysis – Japan and Hawaii
- * Feed-in tariff programs
 - * Japan – “Act on Purchase of Renewable Energy Sourced Electricity by Electric Utilities” (eff. July 1, 2012)
 - * Hawaii – Hawaii Pub. Util. Comm’n Docket No. 2008-0273
- * Other renewable energy procurement mechanisms (utility-scale and distributed generation)
- * Key policies (e.g., Hawaii Clean Energy Initiative)

Feed-in Tariff: Japan and Hawaii

Japan

- * Start date: 2010
- * Technologies: Solar PV, Wind, Geothermal, Biomass
- * Rates: Moving the market
- * Contract: Per technology
- * Challenges: Stranded nuclear generation assets
- * Opportunities: Economic growth through innovating smart development

Hawaii

- * Start date: 2012
- * Technologies: Solar PV, Solar CSP, Wind, In-Line Hydro, Baseline
- * Rates: Moving the market
- * Contract: 20 years
- * Challenges: Grid integration
- * Opportunities: World model for transition to clean energy

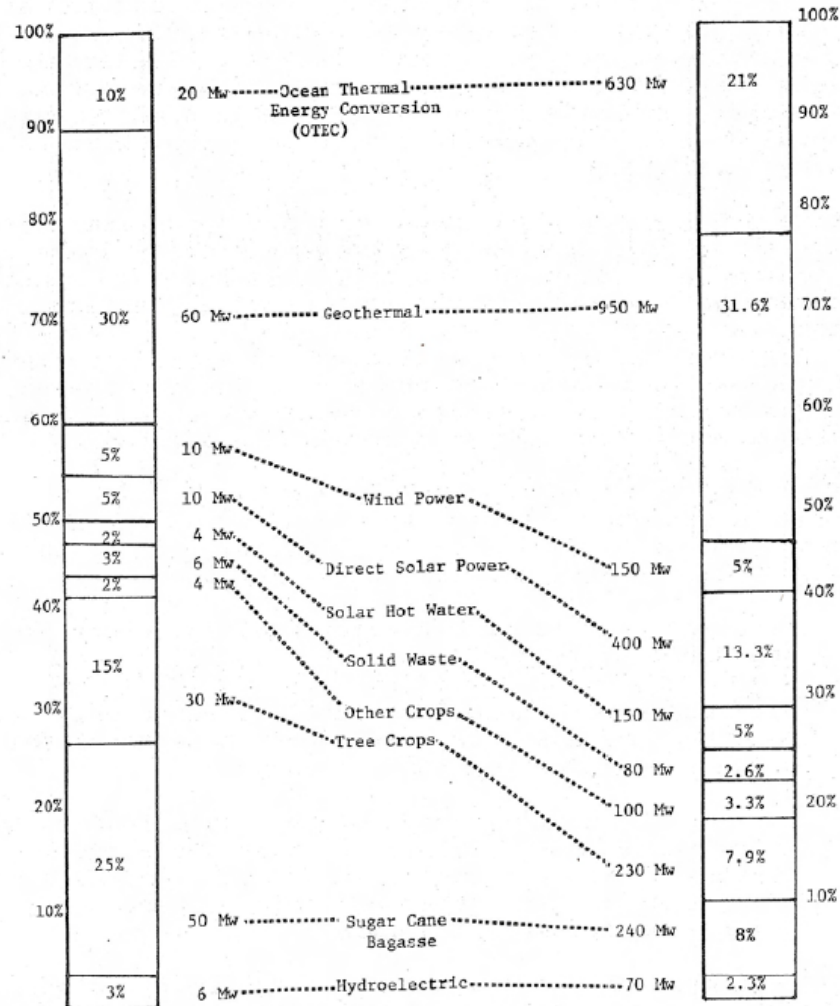
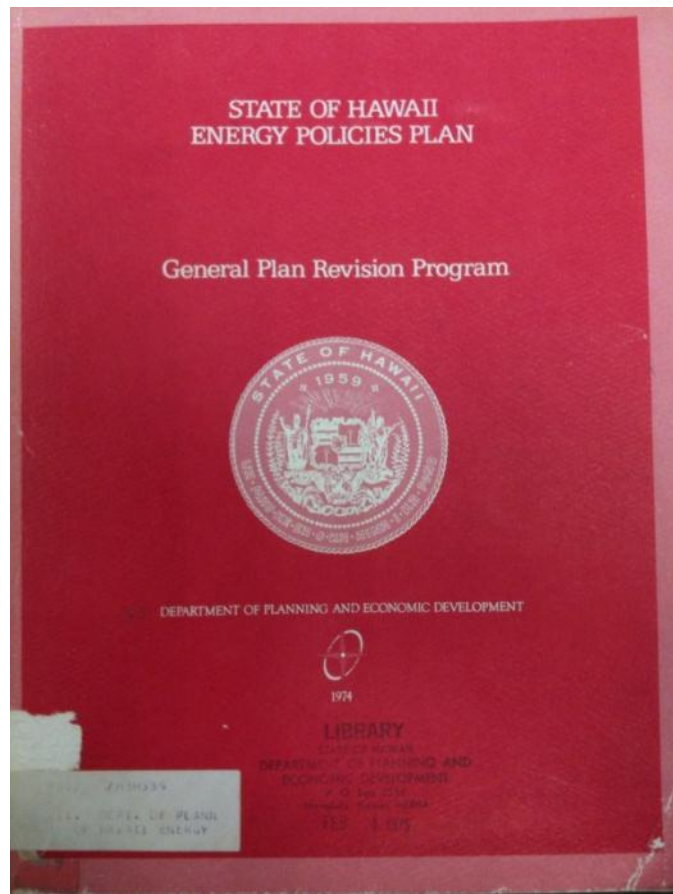
A MODEL FOR ENERGY SELF-SUFFICIENCY FOR HAWAII BY 2010, EXCEPT FOR AIRLINE FUEL*

Big Island - Self-Sufficiency by 1990

- Electrical Energy - 200 Mw
- Transportation - 30 million gal. corn-ethanol;
10 million gal. molasses-ethanol
- Electrical Energy sources as follows:

Statewide - Self-Sufficiency by 2010

- Electrical Energy - 3,000 Mw
- Transportation - 100 million gal. corn-ethanol;
30 million gal. molasses-ethanol
- Electrical Energy sources as follows:



Subgoals include the following:

- 100% solar hot water heating by 2010
- 100% ethanol or battery powered cars, trucks, and busses on all islands
- 100% utilization of available land suited for biomass energy crops
- development of alternative energy sources indicated above

Step 3: Innovative Stakeholder Processes to Ensure Broad Support

- * Catalyze leadership for change
- * Comparative analysis – Japan and Hawaii
- * Broaden regulatory and governmental decision-making processes governing electric utilities
- * Incorporate diverse range of stakeholders
 - * Technical and policy expertise
 - * Community perspectives
 - * Innovative, multi-party dispute resolution
 - * Improve current administrative law processes

Conclusions

- * Japan and Hawaii are actively engaged in clean energy law and policy development and implementation as part of global transition to clean energy
- * Shared challenges and opportunities merit comparative analysis (despite significant differences in size and scale)
- * Comparative analysis may focus on three areas
 - * 1 - Clean energy goals and objectives
 - * 2 - Law and policy tools to increase clean energy
 - * 3 – Leadership and support through innovative administrative law processes involving broad range of stakeholders







Thank You

Douglas A. Codiga, Esq.
Schlack Ito LLC



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