

House Concurrent Resolution 195



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House Concurrent Resolution 195

▶ Purpose:

- “to encourage Hawaii’s landowners, investors, county governments, and regulated electric utilities to pursue the development of fuel crop and the conversion of fuel crops to generate electricity”

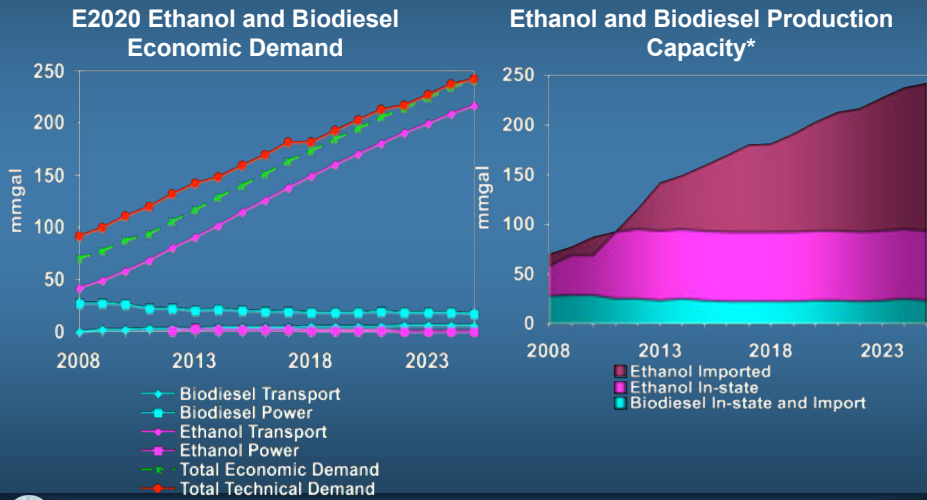
▶ Requests recommendations on:

- 1. Most suitable locations for biomass projects
- 2. Options for leasing state land for fuel crop development
- 3. Opportunities to secure federal grants
- 4. Feasibility of a revolving fund
- 5. Financial incentives that may be necessary



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The biofuels opportunity*

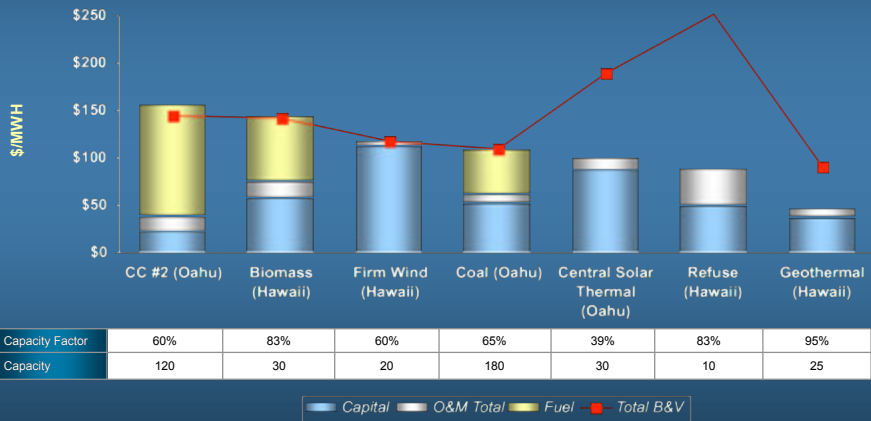


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*data shown for constrained supply scenario

The biomass opportunity*

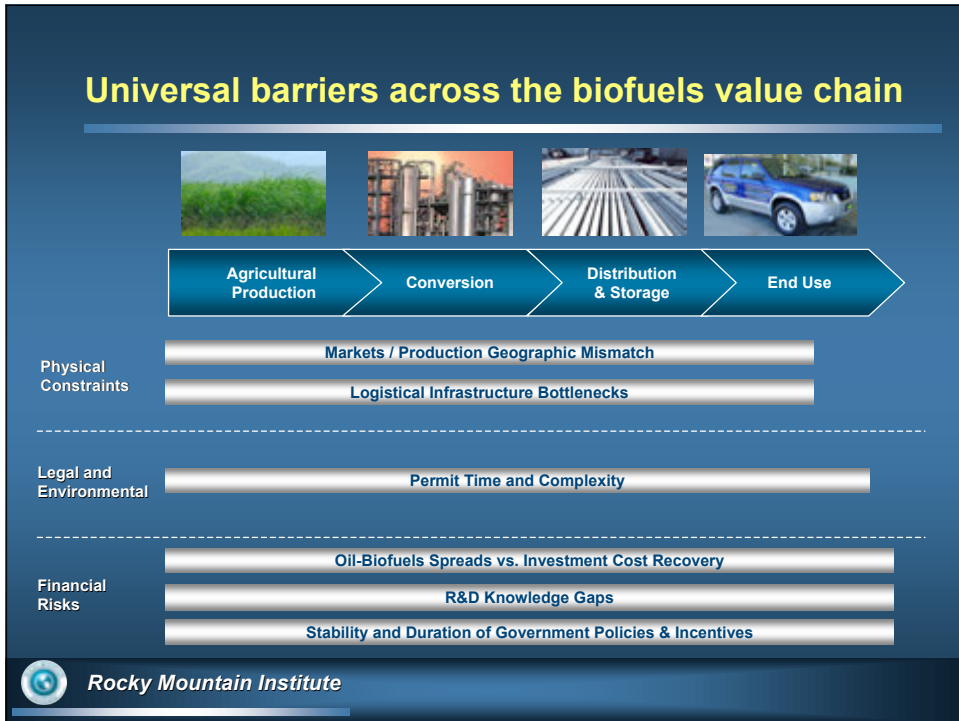
Costs to Run Power Plants Installed in 2012 on Oahu



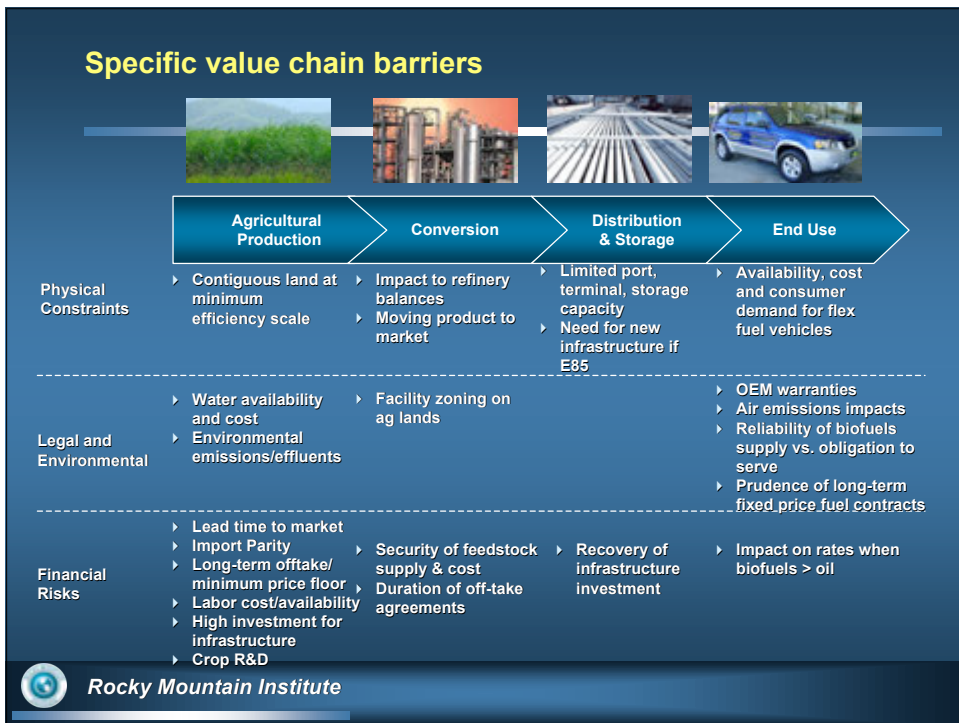
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*data shown for constrained supply scenario

Universal barriers across the biofuels value chain



Specific value chain barriers



Key potential solutions identified by Hawaii Biofuels Summit participants

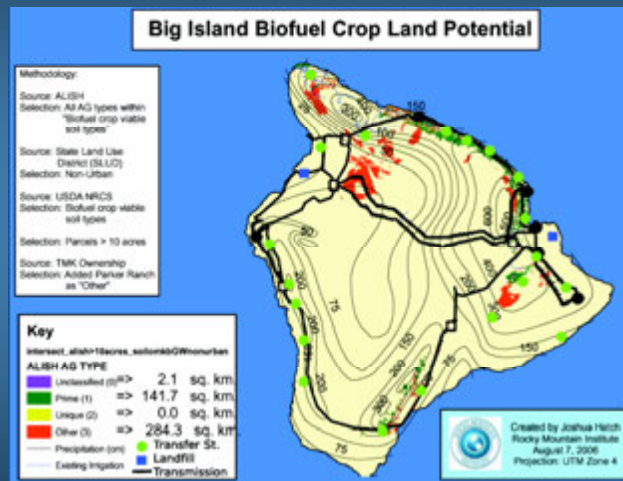
- ▶ Streamline permitting and secure county cooperation
- ▶ Bolster research & development
- ▶ Coordinate across the value chain
- ▶ Provide incentives for in-state production
- ▶ Clarify the water access issue
- ▶ Support infrastructure development



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HCR 195 Recommendations

1. Suitable locations for biomass projects



Siting factors

- Distance from feedstock
- Distance from load centers
- Transmission & distribution constraints
- Location of landfills/transfer stations



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2. Options for leasing state lands

- HI Department of Land and Natural Resources can:
 - Lease state land to renewable energy producers
 - 65 year lease duration
 - No public auction
- Biomass is included as renewable energy
- Process is case-by-case, with no published rent prices
- Should be expanded to include leasing land for biofuels/biomass infrastructure



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3. Federal grants

Agency	Type of Funding	Amount of Funding	Description
US DOE	Loan guarantee	\$2B for first solicitation	Projects include bioenergy and biofuels production, distribution, infrastructure
US DOE	Grant	\$36M for 360 awards	Grants for small businesses for use of cellulosic biomass to produce biofuels
US DOE	Cooperative agreement	\$250M for 2 awards	GTL bioenergy research centers
USDA	Grant & loan guarantee	\$177M for loan guarantees, \$11M for grants	Purchase of renewable energy systems and energy improvements for agricultural producers and small rural businesses
USDA	Grant	\$181M	Improvement/development of cellulosic feedstocks; improved production of high-value biobased products and biofuels



4. Revolving Fund

- ▶ Definition:
 - A fund established to carry out a specific activity that, in turn, generates payments to the fund for use in carrying out more of the same activities
- ▶ Lack of credit-worthiness often prevents financing for small or new producers
- ▶ Loan revolving fund could support agricultural cooperatives and biodiesel production
- ▶ Several examples from around the country, and in Hawaii



5. Financial incentives

- ▶ Based on input from biomass/biofuels producers, converters, distributors, and end users
- ▶ Needed financial incentives include:
 - Two-pronged sliding scale incentive to support in-state feedstock development and protect against potential drops in oil prices
 - Agricultural irrigation infrastructure investment incentive
 - Distribution infrastructure investment incentive
 - Research and development incentive



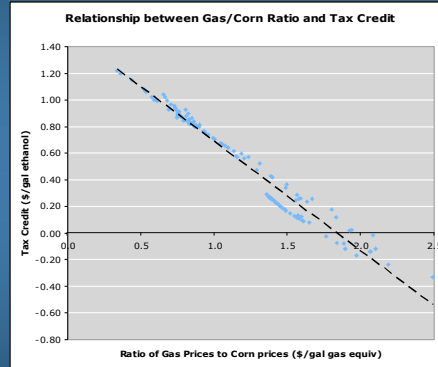
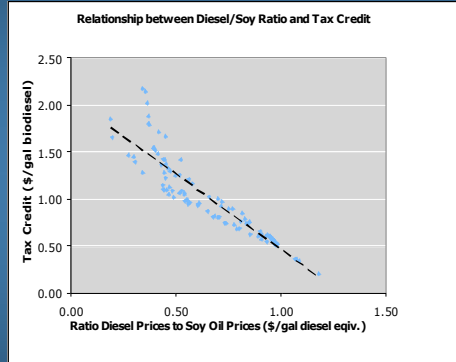
5a. Two-pronged sliding scale incentive: Prong 1

- ▶ Link fuel detaxation to percent of in-state feedstocks used
- ▶ Takes effect once there are 40 Mmgal of ethanol capacity and 4 Mmgal of biodiesel capacity
- ▶ Current state detaxation:
 - \$0.136/gal for ethanol
 - \$0.12/gal for biodiesel
- ▶ Detaxation directly proportional to percent of in-state feedstock
- ▶ As an example, a plant running on
 - 80% in-state feedstocks
 - 10% imported molasses
 - 10% imported ethanol from Brazil
- ▶ Detaxation = 80% * \$0.136/gal = \$0.109/gal



5a. Two-pronged sliding scale incentive: Prong 2*

- Protect biofuels against potential drops in fossil fuel prices



$$\text{Tax Credit} = \text{O\&M Cost} + \text{Feedstock Cost} + \text{Levelized CapEx} - \text{Biofuel Selling Price}$$



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*for illustrative purposes only; Hawaii application still under development

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5b. Agricultural irrigation infrastructure investment incentive

- Expensive upgrades needed to existing irrigation systems to provide reliable access to water

System	Total Cost	Potential acres served	\$/gal ethanol produced
Kokee Ditch	\$1,712,000	3519	\$0.05
Kekaha Ditch	\$6,790,000	6566	\$0.10
Molokai	\$17,776,000	9885	\$0.17
Waiahole Ditch	\$10,668,000	6270	\$0.17
East Kauai	\$10,387,000	5922	\$0.18
Lower Hamakua Ditch	\$9,586,000	4765	\$0.20
ML&P/Pioneer Mill	\$8,912,000	3533	\$0.25

- Incentive options:
 - Investment tax credit for to cover all or a portion of total investment
 - HDOA Important Ag Lands incentives to be announced this week
 - IAL incentive for ag infrastructure should be extended for all bioenergy needs



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5c. Distribution infrastructure investment incentive

- ▶ Distribution is a key constraint, but very different for ethanol/biodiesel and transportation/power
- ▶ Recommendations:
 - State-funded Biofuels/Biomass Logistics Master Plan
 - Investment tax credit for needed infrastructure
 - Make state lands available for bioenergy distribution infrastructure
 - Investment tax credit or grant for retail station installation/conversion to E85/B100



5d. Research and development funding

- ▶ Hawaii-specific R&D is needed on:
 - New crop cultivars (cellulosic and biodiesel feedstocks)
 - Improved sugarcane varieties
 - New harvesting techniques
 - Byproduct utilization
- ▶ State should provide funding and coordinate research organizations
- ▶ Possible funding mechanism: ~\$0.05/barrel tax on imported oil



Next Steps

Step	Deadline
Draft HCR 195 report sent to HEPF and DBEDT	Wednesday, October 25
HEPF and DBEDT comments submitted to RMI	Wednesday, November 1
Final report submitted to DBEDT for approval and submission to legislature	Wednesday, November 15

Submit comments to:
Sharon Miyashiro
sharonmi@hawaii.edu



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Thank you

▶ Questions?

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