

JAN 24 2007

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# A BILL FOR AN ACT

RELATING TO ENERGY.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1           SECTION 1. The legislature finds that while ethanol can be  
2 used in cars, biodiesel or bio-jet fuel is needed for heavy  
3 transportation, ships, and jetliners. One means with excellent  
4 potential for producing biodiesel fuel is to extract it from  
5 algae, especially salt water or marine algae. Algae can produce  
6 vastly more biofuel oil per acre than any other source. For  
7 example, using current technology for producing marine algae,  
8 six thousand gallons per acre of biodiesel from algae is a  
9 realistic production target. This compares to a fuel yield of  
10 only fifteen hundred gallons per acre for sugarcane ethanol  
11 produced using the Brazilian method. Algae uses no fresh water  
12 and far less land than any other biofuel crop, and can be grown  
13 on any land that is near the ocean. Algae from sea water would  
14 have the added benefit of consuming excess carbon dioxide as an  
15 aid to algae growth, reducing a harmful greenhouse gas that  
16 contributes to global warming.



1 Hawaii's bio-scientists have developed the technology to  
2 make biodiesel cheaply, and sea water algae technology for a  
3 global industry could be expanded in Hawaii for replication in  
4 other jurisdictions. With potentially high yields per acre, the  
5 cost per gallon could prove far superior to Malaysian-style palm  
6 kernel oil grown in Hawaii.

7 The legislature further finds that Maui county has declared  
8 that its top priority in renewable energy and biodiesel  
9 production is a facility to house the concerted research and  
10 demonstration activities needed to effect a robust statewide  
11 work in feedstock development is a must. The facility would  
12 also be home to the development of supporting related  
13 technologies that will truly create in the State of Hawaii a  
14 sustainable biofuel industry. In addition to county funding, it  
15 is anticipated that federal funds will also be secured.

16 If Hawaii is to become independent from outside sources of  
17 vegetable oil for biodiesel production, a supply of Hawaii grown  
18 feedstock is required. In a recent news release, the Hawaii  
19 department of agriculture identified Oil Palm (*Elaeis guineensis*  
20 Jacq.) and Jatropha (*Jatropha curcas* L.) as the most promising  
21 crops for biodiesel feedstock development in the State. Due to  
22 their contrasting agronomic requirements, suitable lines have to



1 be selected for the many potential growing sites in the Big  
2 Island, Maui, Molokai, Lanai, Oahu, Kauai, and Niihau. With the  
3 decision by Hawaiian Electric Company to use biodiesel in its  
4 planned 100-megawatt power station in Oahu, and with a potential  
5 consumption of 71,000,000 gallons if all the company's  
6 subsidiaries (including Maui Electric Company and Hawaii  
7 Electric Light Company) are to convert to biodiesel, there is an  
8 urgent call for a rapid progress in coming up with suitable  
9 oilseed lines that would supply the anticipated feedstock  
10 requirement. It is envisioned that growing oilseed crops would  
11 result in a large scale boost for agriculture in Hawaii.

12 The purpose of this Act is to appropriate funds for  
13 renewable energy projects in Hawaii.

14 SECTION 2. There is appropriated out of the general  
15 revenues of the State of Hawaii the sum of \$3,000,000, or so  
16 much thereof as may be necessary for fiscal year 2007-2008, for  
17 the research and development of a five-acre pilot project, to be  
18 located at the natural energy laboratory of Hawaii, to produce  
19 biodiesel from marine algae.

20 The sum appropriated shall be expended by the University of  
21 Hawaii for the purposes of this Act.



1 SECTION 3. There is appropriated out of the general  
2 revenues of the State of Hawaii the sum of \$5,250,000, or so  
3 much thereof as may be necessary for fiscal year 2007-2008, for:

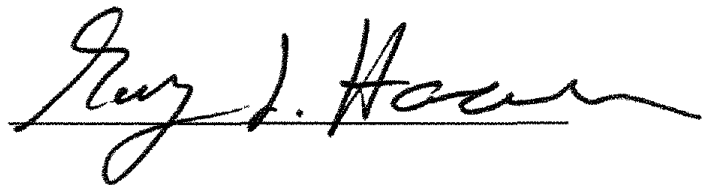
- 4 (1) \$2,000,000 to establish the Hawaii renewable energy  
5 and biofuel center to be located in Maui;
- 6 (2) \$2,000,000 for the University of Hawaii at Hilo  
7 college of agriculture, forestry and natural resources  
8 management for an oil and feedmill building to house  
9 existing equipment purchased by the Oceanic Institute,  
10 to be used in processing oilseeds; and
- 11 (3) \$1,250,000 for research and demonstration of a  
12 germplasm collection, selection and grow-out in each  
13 county

14 The sum appropriated shall be expended by the county of  
15 Maui for the purposes of this Act.

16 SECTION 4. This Act shall take effect on July 1, 2007.

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INTRODUCED BY:



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**Report Title:**

Energy; Renewable Energy Projects in Hawaii

**Description:**

Appropriates funds for various renewable energy projects in Hawaii.

