

# WORKING TOGETHER, WE CAN SWITCH FROM IMPORTED OIL TO HOME-GROWN BIOFUELS.

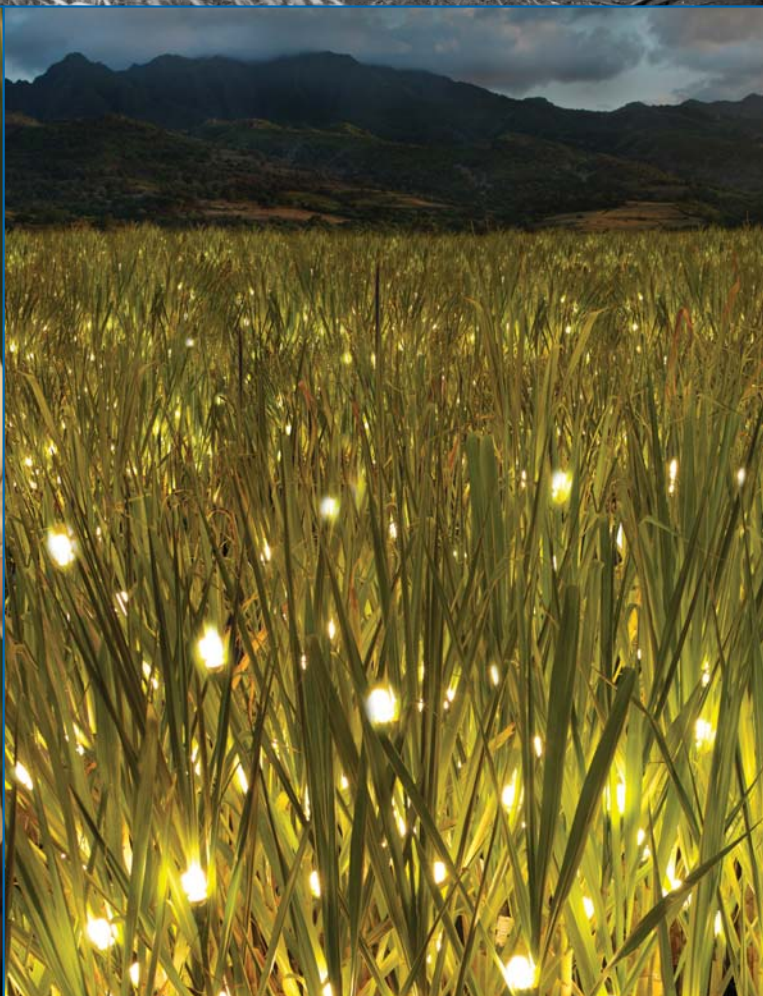
\$3 billion dollars a year leave Hawaii to pay for fossil fuels to power our cars, jet planes and boats, and to generate electricity.

We owe it to ourselves, to our children and grandchildren to make renewable, agricultural energy a major part of Hawaii's future.



## HOW DO WE POWER OUR FUTURE?

### BY EMBRACING HAWAII'S RICH AGRICULTURAL HERITAGE.



BY **GREENING** OUR FIELDS WITH ENERGY CROPS,

WE CAN CREATE **JOBS** IN AGRICULTURE AND MANUFACTURING,

KEEP MORE **MONEY** AT HOME AND

PROTECT OUR **ENVIRONMENT**.

### WHAT YOU CAN DO TO HELP.

Achieving a renewable future requires the cooperation and support of everyone...land owners, businesses, government, utilities and communities.

To learn more, visit [hawaiisenergyfuture.com](http://hawaiisenergyfuture.com).

#### BIOFUEL Q&A

##### DO WE HAVE BIOFUEL PLANTS IN HAWAII NOW?

On Maui, Pacific Biodiesel already produces clean-burning fuel from recycled restaurant cooking oil. It's used in MECO's generators and HECO and MECO's diesel truck fleets.

Six ethanol processing plants have been proposed for the islands of Oahu, Maui, Kauai and the Big Island. Three of Hawaii's biggest landowners – Maui Land & Pine, Kamehameha Schools and Grove Farm on Kauai – just formed Hawaii BioEnergy, a partnership to research the best crops and technology to make biofuels here.

By starting now and staying the course, home-grown biofuels can be an economic source of clean, local, renewable energy for generations to come.

##### DOESN'T ETHANOL TAKE MORE ENERGY TO MAKE THAN IT YIELDS?

Ethanol from corn has been criticized for using more energy to produce, but that's changing as technology improves. Sugar cane, sorghum and other plants are more efficient feed stocks for ethanol.

##### WON'T ENERGY FROM ETHANOL COST MORE?

Cost is important, but not the only consideration. Home-grown ethanol will increase our energy security, turn fallow fields green again, create jobs and keep more of what we spend on energy in Hawaii. Most people say they are willing to pay a bit more for clean, local, renewable energy.

##### IS HECO COMMITTED TO "GREENING" ITS PLANTS WITH ETHANOL?

Absolutely. Seven companies recently expressed an interest in supplying ethanol for HECO's proposed Campbell Industrial Park power plant. HECO is also investigating biofuels for existing generators on Oahu and the neighbor islands.

#### WHAT ARE BIOFUELS?

##### ETHANOL

Ethanol is made by fermenting and distilling energy crops such as sugar cane, sugar beets, sorghum, corn or grasses into clean-burning grain alcohol. Oahu's proposed new power plant can be powered by a mix of ethanol and naphtha (a cleaner fuel oil), making it the first in the world to use such a renewable blend.

##### BIODIESEL

Biodiesel is a renewable fuel made by a chemical reaction of alcohol and plant matter or animal fats. Biodiesel can be used in any diesel engine in pure form or blended with petroleum diesel at any level. On Maui, the Big Island and Oahu, biodiesel can be mixed with other fuels to generate electricity in existing power plants, reducing our need to import fossil fuels.



#### HERE'S WHAT WE CAN ACHIEVE TOGETHER.

##### RENEWABLE ENERGY SOURCES

100 MW **Wind Energy**

80 MW **Pumped Storage Hydro**

50 MW **ETHANOL IN NEW PLANT**

83 MW **ETHANOL OR BIO-DIESEL IN EXISTING PLANTS**

85 MW **Solar Energy**

40 MW **Garbage-to-Energy**

30 MW **Geothermal**

25 MW **Biomass**

7 MW **Landfill Gas**

Future Potential: Ocean Thermal Energy Conversion (OTEC), Wave Power, Hydrogen

**500 MW Total Clean, Renewable, LOCAL energy**



Hawaiian Electric Company