

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of)
)
HAWAIIAN ELECTRIC COMPANY, INC. for)
)
Approval to commit funds in excess of)
\$500,000 for Item Y48500,)
East Oahu Transmission Project")
_____)

PUC Docket 03-0417

FILED
2008 FEB 11 P 3:53
PUBLIC UTILITIES
COMMISSION

LIFE OF THE LAND'S

REPLY to PUBLIC HEARING QUESTIONS

&

CERTIFICATE OF SERVICE

HENRY Q CURTIS
VICE PRESIDENT FOR CONSUMER ISSUES
LIFE OF THE LAND

76 North King Street, Suite 203
Honolulu, HI 96817
phone: 808-533-3454
life_of_the_land@hotmail.com

February 12, 2004

Aloha Commissioners,

On January 29, 2004, the Public Utilities Commission ("PUC") held a public hearing on Life of the Land's Motion to Intervene in PUC Docket No. 03-0417 re HECO's East Oahu Transmission Project. On February 10, 2004, Pacific Reporting Services provided an official transcript of that hearing. As noted in the transcript excerpt found below, Commissioners Kewalo and Kimura requested additional information from Life of the Land. The citations after each paragraph are in the form of (page:line)

(COMMISSIONER KAWELO) Q. So my question is, did the currently seated board authorize Life of the Land's intervention in this docket?
A. Yes (7:10-12)

Q. Okay. In your motion to Intervene, you referred to your energy policy goals and objectives. Were the policy goals and objectives referred to the current policy goals and objectives. A. Our energy policy goals and objectives were adopted by the board in 1979 and had periodically been re-supported by the board. (7:19-25)

Q. So -- and they haven't changed at all? A. Not substantially. Q. Okay. I wonder if we might get a copy of those, if those are available? A. Sure. COMMISSIONER KAWELO: And that ends my questions. Thank you. (8:1-7)

By COMMISSIONER KIMURA: Q. Along those lines, is Life of the Land registered as a tax-exempt organization? A. Yes, we are. Q. Okay. Could you kind of describe the decision-making process of the organization that led to this point where you've decided -- the organization decided to intervene? A. Energy is a very hot issue. Global warming has the potential of ending life as we know it on this planet. Further reliance on fossil fuels is not a win-win situation for any species, and the board recognizes that. Q. So getting back to my question, what was the decision-making process for the board to establish this position to intervene? A. Somebody on the board makes a motion, there's a discussion, and there's a vote. Q. Are there minutes of that meeting that we could look at. A. Sure. COMMISSIONER KIMURA: I'd appreciate it, Mr. Chair, if we could request a copy of those minutes from Life of the Land. COMMISSIONER CALIBOSO: That's been requested. COMMISSIONER KIMURA: Thank you. That's all the questions I have. (8:9 - 9:8)

MR. CURTIS: I'm just -- Henry Curtis, Life of the Land. I'm just curious why when we look at the Puna transmission line fight, when we look at the Wa`ahila transmission line fight, and when we look at the Kamoku Pukele East Oahu Transmission Project, of all the intervenors, we were the only ones asked about minutes from our board, and I was just curious why we had that special honor? (11:10-16)

At the public hearing we asked why Life of the Land had the "special honor". Upon reflection we realized that the question asked of Life of the Land by the Commissioners were almost identical to questions asked of us by HECO last fall. In addition, in meetings with the Division of Consumer Advocacy, we have been asked similar questions about our general approach.

Upon reflection, the questions seem natural and reasonable. Life of the Land has a greater presence at the PUC than any other public interest group. We visit the PUC office on a weekly basis to track new dockets, tariffs, and Decision and Orders, for our own needs and in order to be able to send alerts out to the greater community. Life of the Land had the world's first website with downloadable Hawaii PUC Decision and Orders involving major transmission, generation, and substation projects. Life of the Land has testified on more utility bills and resolutions before the State Legislature over the past 8 years than any other public interest group. So it is only natural that the PUC, HECO and the Consumer Advocate are curious about us and our decision-making process.

In light of the above, we came to the conclusion that a more thoughtful and comprehensive answer would benefit everyone, and that our reply to this PUC-mandated reply is the appropriate vehicle to transmit the relevant information. Furthermore, if the PUC wishes additional information, we will seek to provide it.

Life of the Land did not accidentally stumble into the East Oahu Transmission Project, nor did Life of the Land's Energy Policy develop within a vacuum. Rather, Life of the Land has developed its Energy Policy over a 34-year period. With the exception of the Life of the Land minutes, all of the following records are publicly available. Hawaii print media have cited Life of the Land's energy advocacy in over 300 articles and editorials, including 100 citations for HECO's proposed Kamoku-Pukele / East Oahu Transmission Project. The City and County of Honolulu's Neighborhood Board Website also has a large number of citations.

Life of the Land was founded in February 1970 and Incorporated in December 1970. Life of the Land's Petition and Charter of Incorporation and Grant of Charter, filed with the Department of Commerce and Consumer Affairs, is dated December 16, 1970. The document states in part: "The organization is organized for the following purposes: "... G. To assure by representation of the public interest in administrative and legislative procedures that approval of governmental or private projects be based on complete consideration of the long term public good; H. To bring, finance, support, encourage, or otherwise intervene in legal matters as may be appropriate to promote the public health, safety and welfare, conserve resources, preserve or restore natural beauty or correct environmental abuse." (EXHIBIT 1)¹

Life of the Land filed its first Motion to Intervene with the PUC in 1971. Life of the Land sought to intervene in HECO's 1971 rate case (the docket number was also 1971). Our Motion to Intervene was denied. We were allowed to ask questions through the PUC staff (the separate Division of Consumer Advocacy had not yet been created). We wrote about this in several Life of the Land's Newsletters (which were called reports

¹The document is on file with the Department of Commerce and Consumer Affairs

in the early 1970s), and which are publicly available in the Hawaii Reference Collection, Hamilton Library at the University of Hawai`i, Manoa.² Life of the Land sought to intervene in several PUC dockets. All of Life of the Land's filings can be found at the PUC, and some of them at the State Archives. The minutes of the PUC hearings (PUC Special Quorum Meeting, et al) can be found at the State Archives. The PUC Decision & Orders can be found at the PUC, in the basement of the Supreme Court Library, and at the Richardson Law School Library.³ Life of the Land also wrote a book on the energy crisis in 1973.⁴ Life of the Land sought to establish the idea that energy policy is closely tied to environmental policy.⁵ The PUC staff agreed with us in 1971 that promotional activity by the utilities should not be passed on the ratepayers

²Life of the Land Report July 1971: "Hawaiian Electric, the sole supplier of electricity on the island of Oahu, has requested a rate increase which we would like to hold down and make contingent on the implementation of pollution control devices. An amendment to the existing rules of the Public Utilities Commission specifically banning all advertising and promotional expenses by public utilities is being prepared; this amendment, if accepted for incorporation into the PUC rules, would cut down on the expenses of Hawaiian Electric, thereby partly precluding the necessity for the requested rate increase."

Life of the Land Report August 1971: "Two petitions have been filed with the Public Utilities Commission. The first asks the PUC to adopt proposed rules which would prohibit all advertising and other promotional expenses by gas and electric utilities. The PUC must act on this petition by Sept. 5. The second petition asks that LOL be allowed to intervene in Hawaiian Electric's rate case and asks that the hearings be continued pending determination on the advertising petition. ... The Hawaiian Electric projects overlap with several other ongoing projects. We have accumulated water pollution data ... We are exploring HECO's land use"

Life of the Land Report September-October 1971: "Utilities: On Sept. 21 the Public Utilities Commission denied the petition filed with them by LOL asking that all promotion by gas and electric utilities be stopped."

³PUC Special Quorum Meeting. 9/21/71 3:30 p.m. Sheet #2: The Public Utilities Commission opened Docket Number 2012 to update the rules and regulations covering electric and gas utilities. "The Petitioners [Life of the Land] concerns in seeking to effect a clean and healthy environment are shared by many segments of the community, including the Public Utilities Commission and the staff of the Department of Regulatory Affairs."

⁴"The Energy Crisis, The Hawaiian Electric Company and Life of the Land" is available at Hamilton Library, University of Hawaii.

⁵PUC Quorum Meeting. March 28, 1974. 2:55 p.m. Sheet #3: Life of the Land wrote a letter to the Public Utilities Commission "requesting the Commission to hold public hearings on HECO's Master Plan for future power plant and power line facilities." The Public Utilities Commission stated that "Although the Commission is concerned with environmental matters, its primary responsibility is with rates and charges; and, therefore, it is not the Commission's intention to hold hearings on the Hawaiian Electric Company's master plan for future power plants and power line facilities."

as part of their electric bill. The PUC Commissioners overrode the staff. We appealed. The PUC Commission argued that since we were not interveners we could not appeal. The Hawaii Supreme Court ruled (In Re Application of Hawaiian Electric Company, Ltd., 56 Haw. 260) in 1975 that since we had sought to intervene, we had a right to appeal, and that ratepayers should not pay for advertisement to encourage them to increase their use of electricity.

During the 1977-80 era, Life of the Land solidified its Energy Policies. Three documents from that era are all publicly available:

(a) LOL Newsletter May-June 1977: "**LOL Formulates Goals and Objectives**: As part of our efforts to clarify LOL directions, LOL has formulated a list of goals and objectives. ... Energy: To meet Hawaii's energy needs through conservation, development of new energy resources, and reduction of dependence on imported oil. LOL has recently taken action against Hawaiian Electric to stop the construction of a proposed giant oil-burning electric generator at Kahe Point (*see article in this issue on Kahe*). Other objectives here are to promote energy-efficiency urban design, encourage mass transportation, and increase public awareness of energy issues." (EXHIBIT 2:)⁶

(b) **Life of the Land Goals: Energy**: "Means: ... Litigate generator and transmission site construction." A handwritten note appears at the top of the Land Use page: "Dee, Here are the goals of LOL as adopted April 14, 1977. I believe that all of LOL's activities are, coincidentally or otherwise, well within the parameters of these goals."

⁶Hawaii Reserve Collection, Hamilton Library

FPB” (FPB is LOL’s Law Intern (Summer 1975) LOL’s General Counsel (1978-81), LOL Board Member (1981-) Attorney Fred Paul Benco) (EXHIBIT 3)⁷

(c) Life of the Land’s Energy Policy Goals and Objectives were updated and adopted at its Board Meeting on July 13, 1981: “Problem: Hawaii’s dependence on imported oil, increasingly expensive and in short supply, can and should be reduced. Goal: To meet the State’s energy needs through conservation and low-cost, non-polluting resources.”⁸

Life of the Land continued to support the move towards renewables.⁹ We held a three-day 78-speaker Conference on Jobs and the Environment in 1978. Several panels were devoted to energy. (EXHIBIT 4) LOL Newsletter July-August 1979: Life of the Land argued that money should be put into energy conservation and solar rather than oil generation plants. (EXHIBIT 5). Life of the Land wrote a series of articles on the alternatives to oil: OTEC¹⁰ (EXHIBIT 6); Wind¹¹ (EXHIBIT 7); Bagasse¹² (EXHIBIT 8); Solar¹³ (EXHIBIT 9)

⁷Adopted by the LOL Board on April 14, 1977. Document given to LOL Administrator Dee Dee Letts by LOL General Council Fred Benco, circa 1979

⁸This statement was part of Life of the Land’s Motion to Intervene (MTI) in PUC Docket 99-0004 (MECO IRP 2000-2020). Our MTI was accepted by the PUC. Our statement is part of the official PUC record in Docket 99-0004.

⁹E.I.S. Sought for New Power Plant. LOL Newsletter Sept-Oct 1977: “Life of the Land argues in the suit that HECO should examine alternatives such as solar power, biomass conversion, and the effects of energy conservation matters, through the preparation of an adequate E.I.S.”

¹⁰Alternative Energy: OTEC. The First Article in a Series on Alternative Energy. LOL Newsletter Mar-Apr 1980

¹¹Alternative Energy: Wind. The Second Article in a Series on Alternative Energy. LOL Newsletter July-Aug 1980: Hawaii is a good place to put wind machines to generate electricity. ... Wind systems are relatively decentralized, they have few ultimate environmental costs and their fuel is free. Questions still remain about their cost-effectiveness. But, compared to the usual alternatives, the prospects are good.”

¹²Alternative Energy: Bagasse. The Third Article in a Series on Alternative Energy. LOL Newsletter Sept-Oct 1980: “One of the most promising renewable energy resources for commercial use is ‘biomass’, developed from burning plant material.”

¹³Energy for the 80s. The Fourth Article in a Series on Alternative Energy. LOL Newsletter Jan-March

Life of the Land formally got involved in the Kamoku-Pukele fight in 1996. Meeting with the PUC (1996): Life of the Land and the Safe Power Action Network (SPAN) met with PUC Commissioners and staff in the PUC office currently occupied by Chairman Caliboso, on October 18, 1996 to discuss HECO's proposed Kamoku-Pukele project. This meeting served to alert the PUC about our views and concerns.¹⁴ We engaged in several high profile community forums, made presentations before dozens of Neighborhood Board meetings; appeared on the Price of Paradise radio show hosted by Randy Roth (July 6, 1997); and met with Ed Case, the Native Hawaiian Legal Corp, Historic Hawaii Foundation, `Ilio`ulaokalani Coalition; Engineers & Architects of Hawaii; and Governor Cayetano.

While this was occurring we were accepted as parties in several PUC Dockets: Investigation of Electric Industry Restructuring (96-0493); MECO Integrated Resource Planning 2000-2020 (99-0004); and HECO's Demand Side Management (00-0209). We offered comments on proposed rules for gas and electric utilities. Dennis Yamada, Chairman, Public Utilities Commission spoke at Life of the Land's Energy for the Millenium Conference: A Community Conference to Explore Renewable Energy options for Hawai`i nei held on Friday, November 5, 1999 & Saturday, November 6, 1999 at the Mamiya Theatre AKA St. Louis Center for the Arts At Chaminade University, Honolulu. (The Conference is cited on the DBEDT website: *Energy Resources Coordinator's Report* (1999)).¹⁵ Life of the Land participated in numerous workshops, panel discussions, and conferences.

1981: "Of all the alternate sources of energy, conservation is the cheapest, most immediate, and most effective method of reducing our near-term petroleum needs."

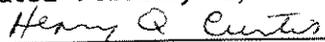
¹⁴This document is located at the PUC.

¹⁵Additional information on this can be found on the DBEDT website: www.hawaii.gov/dbedt/ert/erc/erc99.html

Life of the Land et al filed a lawsuit against the Department of Land and Natural Resources and HECO re the Adequacy of the Kamoku-Pukele Revised Final EIS (Civil No. 01-1-0218-01) (EXHIBIT 10). Regarding intervention before the PUC, the Life of the Land Board of Directors "encouraged Henry to continue working on these important energy issues and thanked him for his research and his initiative in taking on such complex matters.(September 22, 2000) (EXHIBIT 11) Life of the Land Board of Directors Meeting (March 21, 2001): The Board approved intervening in the BLNR Contested Case Hearing re OA-2801, HECO's proposed Kamoku-Pukele project. (EXHIBIT 12). The Board of Land and Natural Resources (BLNR) issued an uncontested Decision and Order in Contested Case OA-2801 re HECO's proposed 138-kV Transmission Line at Wa`ahila Ridge. Fact Number 5 in the BLNR's Findings of Fact. Conclusions of Law, Decision and Order June 28, 2002 states: "Intervenor Life of the Land ("LOL") is a nonprofit Hawai`i corporation founded in 1970 to preserve and protect the life of the land by promoting sustainable land use and energy policies and to promote open government through research, education, advocacy, and litigation.".¹⁶

The Life of the Land Board of Directors formally approved intervening administratively and legally to stop this bad project. We believe that the project is not needed, and if any need ever develops, it would be better served through renewable energy and distributed generation.

Dated February 12, 2004



Henry Q Curtis
VICE PRESIDENT FOR CONSUMER ISSUES

¹⁶See: Exhibit 1, Malama O Manoa's Motion to Intervene in PUC Docket 03-0417. This document is located at the PUC

Certificate of Service

I hereby certify that I have this date served a copy of the foregoing Motion to Intervene by Life of the Land, Docket Number 03-417, upon the following parties. The original and 8 copies to the PUC. Two copies to the Consumer Advocate. Three copies to HECO.

Carl Caliboso, Chair
Public Utilities Commission
465 S King St. Suite 103
Honolulu, HI 96813

Cheryl Kikuta, Acting Consumer Advocate
Office of the Consumer Advocate
Division of Consumer Advocacy, DCCA
P. O. Box 541
Honolulu, HI 96809

Thomas W. Williams, Jr., Esq.
Peter Y. Kikuta, Esq.
Goodsill Anderson Quinn & Stifel
Alii Place, Suite 1800
1099 Alakea Street
Honolulu, HI 96813

Bill Bonnett
Vice President - Government and Community Affairs
Hawaiian Electric Company
P.O. Box 2750
Honolulu, HI 96840-0001

Patsy H. Nanbu
Director - Regulatory Affairs
Hawaiian Electric Company
P.O. Box 2750
Honolulu, HI 96840-0001

Dated February 12, 2004



Henry Q Curtis
VICE PRESIDENT FOR CONSUMER ISSUES
LIFE OF THE LAND

DEPARTMENT OF REGULATORY AGENCIES

STATE OF HAWAII

IN THE MATTER OF THE INCORPORATION)

OF)

LIFE OF THE LAND,)
a proposed nonprofit corporation.)

3:50 P.M.
L. 13
JAN 13 1984

PETITION AND CHARTER OF INCORPORATION

AND

GRANT OF CHARTER

Michael E. Cleveland (317)
HENNER, MOEN & CLEVELAND
2115 Wells Street
Wailuku, Maui, Hawaii 96793
Phone: 211-8700

EXHIBIT 1

CHARTER OF INCORPORATION

I.

Name

The name of the corporation shall be "LIFE OF THE LAND".

II.

Office

The initial principal office of the corporation shall be located at 899 Waimanu Street, City and County of Honolulu, State of Hawaii.

III.

The corporation is organized for the following purposes:

- A. To protect and preserve the environment of the people of the State of Hawaii, the nation and the world;
- B. To promote the use of land, water, air and other resources most compatible with the public health, safety and welfare;
- C. To perform, encourage and support research into man's relationship with his environment, his abuse thereof, and the abatement of such abuse;
- D. To disseminate the results of study and research whether or not performed or supported by the corporation to the public, governmental agencies, and industry;
- E. To propose, support and encourage governmental

policies, projects and legislation which may promote the public health, safety and welfare, conserve valuable natural resources, preserve or restore natural beauty, or otherwise improve the quality of life;

F. To oppose public and private policies, projects and legislation which tend to endanger the public health, safety and welfare, waste valuable natural resources, impair or destroy natural beauty or otherwise degrade the environment;

G. To assure by representation of the public interest in administrative and legislative procedures that approval of governmental and private projects be based on complete consideration of the long term public good;

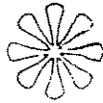
H. To bring, finance, support, encourage, or intervene in legal actions as may be appropriate to promote the public health, safety and welfare, conserve resources, preserve or restore natural beauty or correct environmental abuse;

I. To undertake, carry on and conduct any activities and acquire any assets necessary to accomplish the purposes set forth above.

IV.

The corporation shall commence at the time and from the date it is granted a charter in accordance with the laws of the State of Hawaii. Thereafter the life of the corporation shall be perpetual.

MAY - JUNE 1977



LOL FORMULATES GOALS AND OBJECTIVES

As part of our efforts to clarify LOL directions, and raise money from grants, LOL has formalized a list of goals and objectives. They bring together many of the issues to which LOL has devoted its efforts over the previous 7 years; and also introduce a few new directions:

ENERGY: To meet Hawaii's energy needs through conservation, development of new energy resources, and reduction of dependence on imported oil. LOL has recently taken action against Hawaiian Electric to stop the construction of a proposed giant oil-burning electric generator at Kahe Point (*see article this issue on Kahe*). Other objectives here are to promote energy-efficient urban design, encourage mass transportation, and increase public awareness of energy issues.

WATER: To preserve the fresh water systems in Hawaii. Water is perhaps the most important natural resource issue facing Hawaii and the nation. LOL wants to bring all fresh water in the state under government control, and promote public understanding of water's importance.

COMMUNITY DEVELOPMENT: The goal is to increase citizen involvement in community planning and zoning decisions, by building up community organization and power.

This will primarily be accomplished with our VISTA project, which has given LOL six salaried employees including two urban planners, two lawyers, and two community organizers.

JOBS AND THE ENVIRONMENT: To promote jobs that are in harmony with the environment. Environmentalists are often attacked for harming the economy by stopping "progress". This is utter nonsense because good ecology would create many more jobs than now found in our industrial machine-dominated economy. For examples: diversified agriculture; forestry; wood crafts; additional parks; enforcement of pollution laws; development of alternative energy resources; more diversified mass transit.

LAND USE: To encourage the wise use of land. This, of course, is Life of the Land. Some of our objectives are to continue opposing zoning practices that encourage urban sprawl, and reverse the trend with our community planning project. We want to preserve natural open spaces, develop well-planned urban spaces with interesting mixes of activities, save our forests, establish marine preserves, maintain our agricultural land and so on to promote the living environment.

These goals and objectives are flexible and interim, so we will not be completely bound to working in only these areas, but they are five directions of special concern for LOL.

LOL VICTORIOUS OVER LAND USE COMMISSION

Life of the Land recently won a lawsuit that prevents the destruction of a 150 acre eucalyptus forest near Hilo, and may lead to the rezoning of 6,000 acres from urban back to agriculture designation.

Judge Arthur Fong agreed with the LOL lawsuit which maintained the Land Use Commission violated due process by not properly informing adjacent property owners of the rezoning procedures during the Commission's 1974 five year boundary review.

"This decision could set a precedent that will cancel other Land Use Commission rezonings enacted during the review, which LOL is also challenging, such as the change from agriculture to urban of over 1,300 acres in Ewa and 500 acres in Makena, Maui", said Ed Brown, LOL attorney on the case.

The 150 acre eucalyptus forest near Hilo was rezoned from agriculture to urban by the Land Use Commission at the request of a developer who wanted to cut down the trees and build a subdivision of townhouses.

Adjoining property owners, led by Dr. Satya Sood, banded together with members of LOL and argued that destruction of the forest would cause severe flooding and wind damage, and ruin the aesthetic beauty of the natural forest.

In addition they argued that the Big Island already has an excess inventory of 100,000 empty subdivision lots with no immediate need for further subdividing.

LOL will continue to investigate the other rezoning cases as its pending lawsuits progress through the courts.

LOL SCORES ANOTHER VICTORY!

Last month LOL wrote to the governor, the Senate and the media, urging rejection of Arzadon from such a sensitive appointment as the Land Use Commission. Many residents of Kauai also wrote to the legislature about it, putting on a lot of grass-roots pressure. Ariyoshi replied that he was unaware of Arzadon's background, and a few days later Arzadon withdrew.

This double-billing was connected to a much larger scandal which resulted in a shake-up of the Kauai County government. One of those forced to resign was then-Police Chief Dewey Allen, who charged that "the approval of building plans (and) zoning variances. . . . could be obtained for a price" on Kauai.

Like many other cases pursued by LOL, this environmental victory was a direct result of our alert members notifying LOL about the issue. We need your eyes, ears and experience to help us monitor the many problems of our state. Please, contact LOL if you ever come across any "inside scoops". We can make the most of it. Mahalo.

LIFE OF THE LAND GOALS

ENERGY

- Goal:** To meet the State's energy needs through conservation and low-cost, non-polluting resources.
- Rationale:** Hawaii's dependence on mainland energy sources, increasingly expensive and in short supply, can be reduced by finding new sources and carefully using present resources.
- Objectives:**
- Increase public awareness of energy dependence.
 - Promote energy impact analysis.
 - Promote rate structure that increases rates for high energy users, but reduces rates to the general public.
 - Reduce environmental harm from production and transmission of energy.
 - Promote energy efficient urban design
 - Promote non-polluting and mass transportation
- Means:**
1. Intervention at PUC hearings to oppose rate increases.
 2. Introduction of legislation to reduce energy rates and promote energy conservation.
 3. Research feasibility of public ownership of utility.
 4. Research ways individuals can save energy and disseminate this information.
 5. Litigate generator and transmission site construction.

WATER

- Goal:** To preserve the fresh water systems in Hawaii.
- Rationale:** Water is an essential, limited and rapidly diminishing resource.
- Objectives:**
- Promote clearly defined governmental responsibility for safeguarding water quality and promoting water conservation.
 - Promote understanding of importance of water (ongoing).
 - Promote water conservation (ongoing).
 - Prevent further drain of present water sources (ongoing).
- Means:**
1. Request government agencies to assert authority over water resources.
 2. Introduce legislation to bring water under county or state control.
 3. Provide educational forum for discussion of importance of water.
 4. Give slide show presentations on water conservation methods.
 5. Litigate against major actions that jeopardize adequacy and/or quality of domestic and agricultural water supplies and/or result in degradation of natural water ecosystems.

Maple April 17, 77

See,

Here are the goals of LOL as adopted April 14, 77.

I believe that all of LOL's activities are, coincidentally or otherwise, well within the parameters of these goals.

FPB

LAND USE

- Goal:** Promote wise use of land.
- Rationale:** Land use has not been guided by management practices which conserve and fully utilize the land.
- Objectives:**
 - Establish and maintain natural area preserves wildlife preserves, forest reserves and marine preserves as well as unique ecological preserves.
 - Maintain an integrated system of state land use planning which coordinates the state and county general plans.
 - Establish, preserve and maintain scenic, historic, cultural park and recreation areas, including the shorelines, for public recreational and educational uses.
 - Promote open space in view of its natural beauty not only as a natural resource but as an ennobling, living environment for its people.
 - Continue opposition to land monopoly practices (ongoing).
 - Continue opposition to zoning practices that encourage and increase urban sprawl (ongoing)
- Means:**
 - 1. Litigation involving bad zoning decisions.
 - 2. Lobbying for more open space and increase of agricultural lands.

Preserving a clean environment.

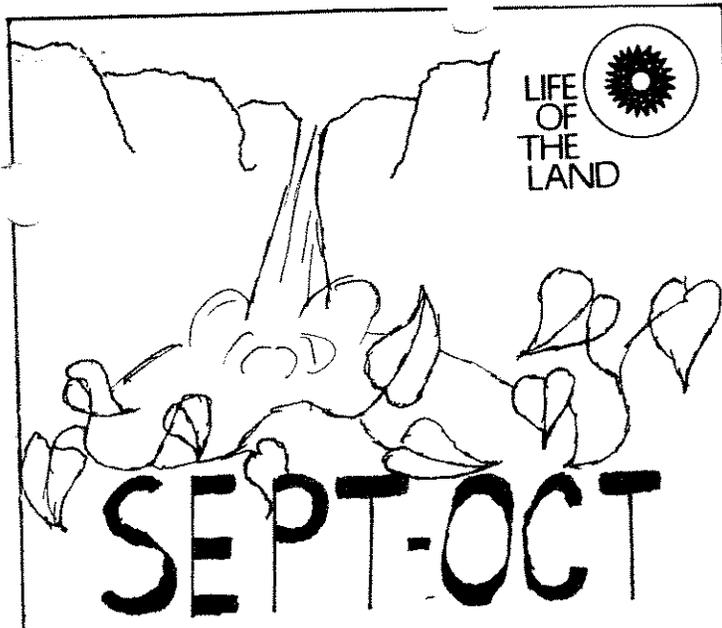
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COMMUNITY DEVELOPMENT

- Goal:** Increase community involvement in community planning.
- Rationale:** The trend toward preservation of life styles and fear of unchecked development, if properly guided, will result in environmentally sound community planning.
- Objectives:**
- Increase citizen participation in planning process (July 1978).
 - Develop lines of communication between community associations (ongoing).
 - Foster life styles compatible with the environment; preserve the variety of life styles traditional to Hawaii through the design and maintenance of neighborhoods which reflect the culture and more^s of the community.
 - Develop communities which provide a sense of identity and social satisfaction in harmony with the environment and provide internal opportunities for shopping, employment, education and recreation.
 - Encourage the reduction of environmental pollution which may degrade a community.
 - Foster safe, sanitary and decent homes.
 - Recognize community appearances as major economic and aesthetic assets of the county and the State; encourage green belts, plantings and landscape plans and designs in urban areas; and preserve and promote mountain to-ocean vistas.
- Means:**
1. Conduct workshops for scattered community groups on methods of organizing;
 2. Provide planning help or advice to communities;
 3. Keep communities informed of what other communities are doing.

JOBS IN THE ENVIRONMENT:

- Goal:** To promote jobs that are in harmony with the environment.
- Rationale:** The need to show that high employment and sound environmental policies are compatible.
- Objectives:** Demonstrate value to Hawaiian economy of:
- a) diversified agriculture
 - b) forestry
 - c) additional parks
 - d) development of alternative energy resources (July 1977)
 - e) demonstrate how jobs can be increased by enforcement of pollution laws (July 1977)
 - f) demonstrate how present industry can create income by being more compatible with environment (September 1977).
- Means:**
1. Research possible environmental controls that would create jobs.
 2. Research ways present industries can create more environmental jobs:
 - a) tourists in Hawaiian homes;
 - b) increase diversified agriculture;
 - c) develop renewable forest industry;
 - d) increase number of parks and recreation sources.
 3. Present educational program as a result of research.
 4. Focus media attention on issues.
 5. Work with unemployed associations in pushing for above changes.



LIFE
OF
THE
LAND

CONFERENCE ON JOBS AND THE ENVIRONMENT — AN UPDATE

LOL will hold our Conference on "Jobs and the Environment" in the Old Federal Building on Thursday evening, November 16th; All day Friday, November 17th; and Saturday morning, November 18th. There will be three keynote speeches, three panel discussions, and approximately eight workshop sessions.

The Conference will open with a keynote address given by William W. Winpisinger, president of the International Association of Machinists (IAM), and president of the new "Citizen Labor Energy Coalition", a lobby group representing 60 unions, consumer groups and environmental organizations across the country. This coalition is presently fighting for greater funding for decentralized solar energy in Carter's National Energy Plan.

We have received a tentative acceptance to our invitation to participate in the Conference from Dr. David Sternlight, Chief Economist with ARCO—Atlantic Richfield. Previously, Dr. Sternlight has been Deputy Director of the Secretary of Commerce's Office of Policy Development, and Director of Economic Planning for Litton Industries.

We have received firm acceptances from Richard Grossman, coordinator of Environmentalists for Full Employment; Dr Duane Chapman, Associate Professor of Resource Economics at Cornell University and Visiting Professor with the Energy and Resources Program at UC Berkeley; Lee Schipper of the Energy Resources Group at the Lawrence Berkeley Laboratories; David Morris, director of the Institute for Local Self-Reliance; and Peter Hayes, presently with the Energy Resources Group at LBL, and one of the founders of Friends of the Earth in Australia.

GENERAL
MEMBERSHIP
MEETING
December 13, 1978
McCully Moiliili Library
7:30 p.m.

If we receive most of the funding we have applied for, we will be able to have five mainland experts participating in the Conference, and interacting with local business, labor and government leaders in the panels and workshops.

We have been working up a tentative format for panels and workshop sessions in conjunction with three Conference Advisory Groups: a Labor Advisory Group, Energy Advisory Group and a University Advisory Group.

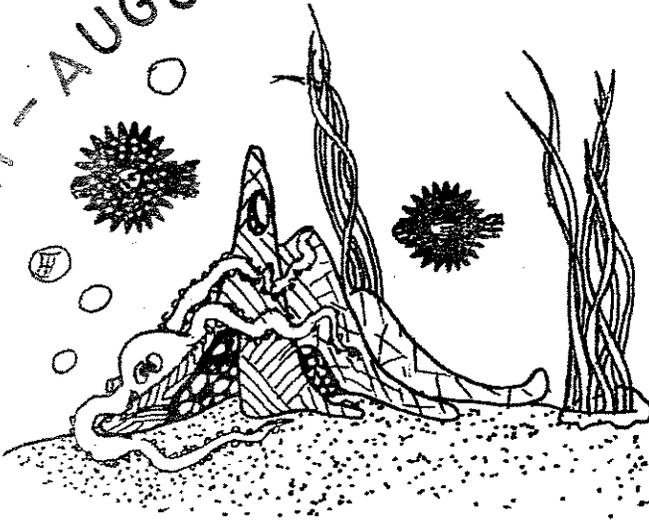
Tentative subjects for the panel discussions are: "Energy From Fossil Fuels or Energy from the Sun — Which is Better for the Economy?"; "Solar Energy and Strict Conservation — What is Holding Them Up and What is Helping Them?"; and "Barriers to Energy Conservation in Hawaii."

Tentative subjects for the workshop sessions are: "Construction: What Kind of Housing and for Whom? Can We Have a Well-Planned Environment, Jobs and Adequate Housing?"; "Will Saving Agricultural Lands Create More Jobs in the Long Run?"; "TH-3 —HART — BUSSES: What are the Trade-Offs for Jobs? What Are the Trade-Offs for the Environment?"; "Tourism: How Far Can It Grow? Does It Threaten Jobs In the Long Run?"; "OSHA Issues in Hawaii — What Are The Environmental Health Hazards on Various Jobs in Hawaii?"; "Recyclable Containers: What Would the Bottle Bill Mean for Jobs and the Environment?"; "Manganese Nodules and Aquaculture: What Are the Jobs and Environment Trade-Offs of These New Industries?"

We have been working hard to make sure that there will be a real dialogue on all of these issues, especially between environmentalists and union members, and we have received a lot of help with this conference from several important labor leaders in Hawaii.

We hope that many of you will come to the Conference. Look for announcements in the papers regarding the Conference as the time draws near.

JULY - AUGUST 1979



LIFE OF THE LAND

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ENERGY NEWS

Life of the Land recently made four sweeping energy conservation proposals in what is only the first increment in a package of comprehensive energy conservation measures that LOL will seek to have enacted.

LOL has requested all four counties to amend their building codes to require new buildings to have operable windows and to open those on existing buildings. Draft legislation has been introduced.

Low interest loans have been requested of banks to help modify existing buildings to that end.

The Public Utilities Commission has been requested to prohibit HECO from raising its rates if it should lose money from the reduced business which might result from the new Federal requirement that air conditioners be set no cooler than 78 degrees.

Finally, LOL has requested a reanalysis by the P.U.C. of HECO's present plans to build a sixth oil burning electrical plant for Oahu in light of President Carter's recent "State of the Nation Energy Address." The \$50,000,000 designated for construction of that plant should be invested in energy conservation and solar energy development, LOL has argued to the P.U.C.

LOL feels that the proposals, if all enacted, will make our lives that much more comfortable, conserve energy, help reduce our oil dependency, reduce electrical rates, and

LIFE OF THE LAND

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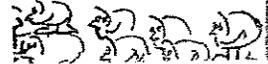
INITIATIVE EXISTS

Although it has never been used, initiative does exist in Honolulu for purposes of changing the city charter. We are presently exploring various ways to use initiative to increase citizen control over land use decisions, perhaps by giving Neighborhood Boards true zoning powers, and creating smaller City Council districts. Another desirable change would be to allow initiative for making general city ordinances.

The initiative process for changing the city charter requires about 25,000 signatures on petitions, and then holding a public election on the amendments.

To accomplish such a major campaign will require help from lots of concerned people like yourself. If you are interested in finding out more about this proposal, or if you would like to help, call the LOL office at 521-1300.

Dennis Callan.



Alternative Energy: OTEC

THE FIRST IN A SERIES OF ALTERNATE ENERGY ARTICLES

Ocean Thermal Energy Conversion (OTEC) is a system of obtaining electrical energy from the temperature differences existing in the ocean. OTEC uses warm water of about 75°–80°F (23.9°–25.7°C), which is present at the surface of the ocean, and cold water at 40°–45°F (4.4°–7.2°C) which is present at depths of 2,000 feet.

In the "closed-cycle" system, the warm surface water is used to vaporize ammonia (which has a boiling point of -27.4°F (-33°C), through a heat exchanger. The ammonia vapor will in turn drive a turbine to power a conventional electric generator. Cold bottom waters of the ocean are then used to cool and condense the ammonia, which is then recycled into the system.

Theoretical maximum efficiency rates from the OTEC system run at about 7%. However, due to thermal losses, energy losses in the turbine and generator, and the power required to pump the working fluid and large quantities of seawater for heating and cooling, actual net efficiency is calculated at about 2%. The OTEC fuel, however, is free and inexhaustible since it is a result of the sun's heat. Correspondingly, an OTEC plant may be economically feasible if capital and operating costs are kept down — especially as the price of fossil fuels increase. A low-efficiency system which utilizes free fuel can be as economical as a higher-efficiency system which utilizes expensive fuel.

Hawaii is the best place in the United States to build an OTEC site. The advantages our Hawaiian Islands possess — physical characteristics such as bathymetry and bathothermal profiles, nutrient quality of the water, nearly constant (year-

round) thermal differences of the Ocean (Approximately 36°F) — have been documented in studies conducted at Ke-ahole Point on the Big Island, and make OTEC a dependable and competitive energy source.

A further benefit of OTEC may result in what is termed an "open-cycle" system. In this type of system, warm surface water is drawn into an evaporator where it boils because of the very low pressure. Seawater not turned into steam is discharged back into the ocean, while steam is sent to turn a turbine which turns a generator and produces electricity. The steam existing in the turbine travels through the condenser is cooled by the deep ocean water. The condensate is a clean, desalted, potable water supply — fresh water — which may be as beneficial as the electricity produced.

It is imperative that OTEC be considered as an important step to Hawaii's goal of energy and economic self-sufficiency. However, there are important environmental concerns such as: the effects of thermal stress which would be introduced into the immediate area; the effect of additional nutrients to coastal waters (creating the possibility of biostimulation of marine life due to increased levels of food sources); and water quality standards as related to temperature and nutrient changes. Another environmental concern is ammonia leakage into the ocean due to corrosion in the heat exchange system. One way to assure that this does not happen is to design the plant with a rotating maintenance schedule; in other words, to allow for a portion of the plant to be shut down for maintenance and still maintain optimum capacity of the plant. Observation of existing data and conclusions show that with further studies and research, OTEC can become environmentally acceptable as an energy alternative for Hawaii.

Recently, funding for OTEC has been threatened by President Carter's proposed budget cuts. In addition, the petroleum and car manufacturing industries of this country have set off on a program of such intent, equivalent, in their words, to NASA's space program in the '60's of putting a man on the moon, in researching and producing synthetic fuels. The amount of money being poured into this field is staggering, and the projected environmental effects are many. It has been shown that three commercial OTEC plants could produce enough energy for all of Hawaii, yet this project is being threatened by further expenditure cuts. This country has always been guilty of short-sightedness in regards to our energy industry. Perhaps we will remain chained to our internal combustion engines and dependant upon rapidly deteriorating energy resources. Or perhaps we will move for long term, cost-effective, natural energy sources. The choice is ours. (Or is it?)

The deep ocean water that OTEC would pump up is rich in nutrients. This cool water can be used for agricultural/aquaculture food production systems. Products such as prawn, oyster, opihi, seaweed, algae and catfish could be farmed. Preliminary studies of the possibility of installing an aquaculture system at the OTEC Seacoast Test Facility at Ke-ahole Point are beginning.

BY JAN T.

Leg. Follies

There was a hard fight this session not to lose ground to developers. Several significant bills were defeated twice — once in the house as a House Bill and once again in the house as a Senate Bill; these bills concerned vested rights and the transfer of development rights. Throughout the session, the Senate seemed much more willing to court developers at the expense of planning and the public than the House.

A good example is the saga of H.B. 1775 which was introduced by Ken Kyabu. The intent of the bill was to replace and tighten the controls on the Land Use Commission which lapse this May. The bill was very definite in delineating what lands could be reclassified as opposed to what could not be. It mandated the Land Use Commission to consider water and other criteria in redistricting. Two House Drafts, one Senate Draft and one Conference Draft later, all that remains is a statement on the "unadvisability" of rezoning prime agricultural lands to urban. Even after all this gutting, the bill was killed on the Senate floor. Rumor has it that Alexander & Baldwin on Maui wants to rezone 1,000 acres of prime agricultural land for urban use. So ends another legislature session.

Alternative Energy: Wind

THE SECOND ARTICLE IN A SERIES ON ALTERNATIVE ENERGY

Hawaii is a good place to put wind machines to generate electricity. Winds in Hawaii are unusually consistent with prevailing Northeast trades blowing 70% of the year at an average rate of 10 to 25 miles an hour. A number of sites have been identified where sustained annual wind speeds average 17 to 25 miles an hour, which is much higher than the minimum average yearly wind speed of 12 to 14 mph that's required to make wind power work.

Wind research in Hawaii has been slow to start but it's rapidly accelerating. A number of projects have been planned for a variety of uses, primarily under the auspices of the Hawaii Natural Energy Institute (HNEI). HNEI recently proposed that more than 20 wind generators could be operating in Hawaii by the end of this year. These would include: a US DOE 200 kilowatt wind turbine generator in Kahuku; two federally funded "Small Wind Energy Conversion Systems" (SWECS), one on Molokai and one on Hawaii; a nitrate fertilizer generator powered by SWECS; and a 20 kilowatt demonstration project located at Kaneohe Marine Air Station. (This last one has been operating intermittently since 1978). Windfarms are planned for Oahu, Maui, Molokai and Hawaii. Several small machines are already operating on Maui. A 2 kilowatt machine is up at Kahuku with six 135 ft. vertical-axis turbines ordered for installation this year. Four machines are planned for installation on Molokai.

Many wind-powered water pumps are being used throughout the state. Kokokahi Church — as part of its world-hunger model project — has a windmill which will be used to pump water, thus making its farm more self-sufficient. A wind rotor on the roof of the home of George Lundberg on Hawaii facilitates aerobic decomposition for his composting toilet.

HNEI says wind energy "could conceivably fulfill the state's total electrical requirements by 1990". Wind systems are relatively decentralized, they have few ultimate environmental costs and their fuel is free. Questions still remain about their cost-effectiveness. But, compared to the usual alternatives, the prospects look good. It's been estimated that the wind-turbine generator — the single biggest cost of wind power — will turn out the energy that went into making it in 8 months. Large scale wind machines can go on line in less than a year. (Nuclear plants take 12 years to go on line; coal-fired plants take 7 years; and oil-fired plants take 3 years.) The installed cost of a small system (about 1 kilowatt capacity) runs from \$5000.00 to \$8000.00.

The biggest problem with wind systems is that their fuel isn't always available when it's needed. It's important to be able to store wind energy in the form of electricity, or to tie wind generators into a larger electrical network. In Oregon (where small-scale systems are more common), Portland General Electric allows customers to tie wind

small steam or geothermal power systems into the electrical grid. If the wind machine generates more than the home uses, the company pays for the surplus at the same rate that it sells it — effectively running the meter backwards. At this point, only a spartan household would be a supplier, but each machine eases demand on the utility.

HNEI is undertaking tests on connecting wind machines to a utility grid, and plans are underway to test wind energy battery storage systems on Molokai. Another storage option is hydroelectric pump storage. The wind is used to pump water to a higher reservoir, and the water is allowed to flow back down (running a turbine generator) when the power is needed.

Wind systems have other problems. They include visual and noise pollution, the effects of wind machines on wind currents, vulnerability to storms and high winds, possible bird kills, television and FM interference, and land availability. In Hawaii, the damp tropical climate and salty sea breezes add another problem: corrosion.

Since 1978, HNEI has had a Wind Energy Applications Network (WEAN) program that encourages applications of wind energy systems. In order to carry out its goal of removing barriers to wind energy commercialization, WEAN has conducted studies of wind characteristics and initiated educational programs on solar and wind data collection. WEAN recently acquired 20 wind data accumulators to help define the wind regimes at possible sites. By July, at least two of these accumulators will be available on each island for loan to individuals.**

Although some may be critical of the prediction that wind energy can supply all of Hawaii's electrical needs by 1990, it is, at the least, a valuable supplement source. Small scale applications have been economically feasible where electrical costs from traditional sources have been high or unavailable. And Hawaii could have several non-electrical applications, such as aquacultural pumping, irrigation and sewage treatment.

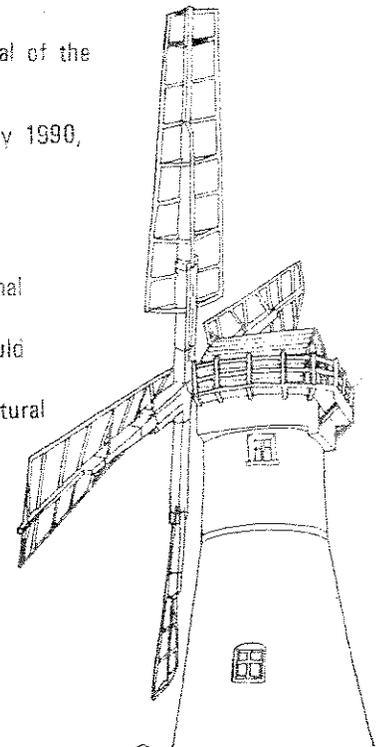


EXHIBIT 7

Alternative Energy: Bagasse

THE THIRD ARTICLE IN A SERIES ON ALTERNATIVE ENERGY

One of the most promising renewable energy resources for commercial use is "biomass", developed from burning plant material. In Hawaii, the most commonly used and most productive biomass resource is bagasse, a by-product of the juice extraction process from sugar cane.

Bagasse is nothing new to the Islands; it has been used for nearly three-quarters of a century by the local sugar industry to provide power for its factories and irrigation pumps, with the excess energy being sold to public utilities. It was not until recently, however, that sugar producers really looked at the commercial value of sugar for energy. This, according to the sugar companies, is because the utilities have considered the resource a "waste product", and not worth much economically. In 1978, however, Congress, passed what is known as the "Public Utilities Regulatory Policies Act", which ties the value of electricity generated from renewable resources to a percentage of the cost of oil for the equivalent amount of power. The public utilities are required to buy energy produced from renewable resources for as much as 80-90% of their equivalent oil value, depending on availability, dependability, and other factors. And, of course, as the cost of fuel oil increases, these alternatives become even more attractive economically.

As a result, the sugar industry is now taking a serious look at the prospects of growing cane more for its fiber for electrical energy in addition to — or even rather than — as a food source. In fact, several companies are currently expanding their bagasse operations and investing in better and more efficient methods of productions.

Environmentally, bagasse-fueled electricity plants produce fewer air pollutants than conventional oil-fueled plants. However, they still require regulation to assure that cleaner air standards are met.

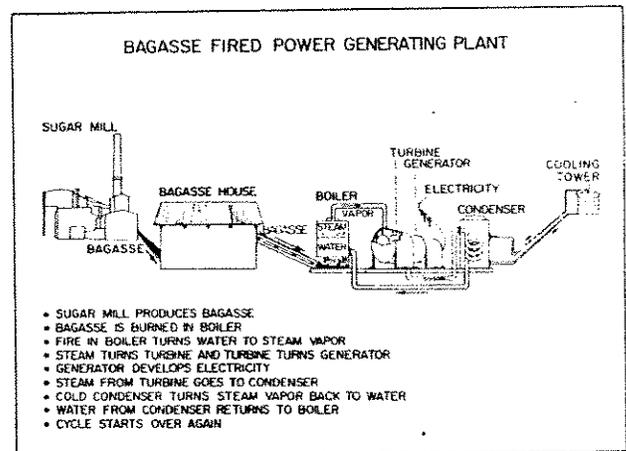
Bagasse, a fiber residue that resembles coarse sawdust, is stored in a bagasse house and then fed into a boiler and burned. As in an oil-fired plant, the resultant heat causes water to vaporize and the steam to turn a turbine which operates a generator and develops electricity. The steam passes from the turbine to a condenser, is cooled and converted to a liquid, returns to a boiler, and the cycle continues. (see diagram)

Typically bagasse will consist of 48% fibre, 50% moisture, and 2% soluble organic and inorganic matter. It is a low grade fuel which requires large furnaces because of the large volume of flue gases produced. At 50% moisture, a modern boiler using air pre-heated to 350-500 degrees fahrenheit has a maximum efficiency of around 62-65%.

The percent of moisture in the fuel has a very marked effect on boiler efficiency; even a decrease of a few percentage points below 50 % has a very significant impact on

the combustion. Also, if the cane is mechanically harvested, especially under wet conditions, combustion may become difficult, particularly if the moisture is above 50%.

To combat this problem, several of Hawaii's plantations boost efficiency by drying the bagasse. Using heat from the boiler stacks, the dried fiber produces more heat than normal bagasse. A reduction of moisture content from 48% to 35% could increase the boiler efficiency from 62% to 78%.



The Davies' Hamakua plant on the Big Island has recently announced plans to produce a pelletized bagasse, known as "Woodex". This process has been developed by the Bio-Solar Research and Development Corporation of Eugene, Oregon. First, the fibrous material must be dried to give the fibers a correct moisture content (somewhere between 20-24% is ideal). The fibers are then extruded under high pressures and temperatures, creating the "Woodex" pellets. These pellets are easier to transport and store, and burn more cleanly and efficiently. A ton of bagasse is equivalent to about one barrel of oil; however, a ton of bagasse pellets will be the equivalent of about two barrels of oil. Davies predicts that the amount of electric power supplied to the utility from this plant will replace 100,000 barrels of oil annually.

Another method of increasing efficiency is to burn the fiber in combination with wood chips. This could be supplied by haole koa or eucalyptus forests grown on marginal land. Several projects are now in the works to study the viability of wood grown for fuel in Hawaii.

In addition to electric power production, bagasse can be used to produce liquid fuels such as ammonia, ethanol, and methanol. Up to now the manufacture of ethanol for fuel has not been economically competitive. However, with rising petroleum costs and different combustion techniques, the practicality of using ethanol for automobile fuel becomes more feasible. Much more research is needed to increase efficiency and reduce costs.

continued on back page

Energy for the

THE FOURTH ARTICLE IN A SERIES ON ALTERNATIVE ENERGY

Of all the alternate sources of energy, conservation is the cheapest, most immediate, and most effective method of reducing our near-term petroleum needs. Conservation is, simply, the elimination of waste. Nationally, it is estimated that as much as 30–40% of the energy we use is being lost through inefficiency or just plain lack of interest. This estimate includes not only residential use but also business, industrial, and transportation uses as well. However, residents can contribute a significant amount to energy conservation.

Mainland standards for home heating and cooling needs do not necessarily apply to Hawaii. For one thing, it is much more humid here so the federal minimum temperature standard of 78 degrees is really not appropriate: 75–76 degrees is more comfortable for most people. However, in Hawaii there are fewer homes that utilize central heating/cooling systems, and, of course, we are blessed with nearly constant tradewinds.

HOUSING DESIGN

Jim Pearson and Cliff Terry, architects who specialize in energy-efficient tropical housing design, claim that in a properly designed house where energy consumption does not exceed a family's needs, waste can be reduced by as much as 50%. A properly designed house should minimize solar penetration and take advantage of the nearly-constant tradewinds. This can be done through adequate roofing, setting, and ventilation.

Approximately 70% of a building's heat gain comes through the roof at peak hours. The shape, overhang, and materials used in constructing the roof can have a great effect on the temperature inside. An ideal roof is sloped, double vented on top, and insulated with light-weight material so that warm air rising can escape through the top. A reflective, light-colored roof made of material which has little substance (mass) that absorbs and emits as little radiation as possible is best.

The proper setting is important with respect to solar control; however, many home and apartment residents do not have the luxury of choosing their site. Landscaping, hanging plants, and trees can help shield walls and openings from the sun. Protection can also be provided with awnings, shades, and horizontal overhangs. Special reflective glass or solar film can be used to reflect most of the sun's heat.

Ventilation needs to allow the breeze to pass through the house or apartment at body level to increase the rate of evaporative heat loss from the human body, and is also important for odor and moisture control. Only a small fraction of wind is required to keep us cool indoors. Cross ventilation can be provided by creating both an inlet and an outlet for air, and it is easy to design or modify places to pick up this small part of our tradewinds. Inside, louvered doors, louvers above the door, or ceiling vents allow this cross ventilation. Rooms parallel to the trades can coax the breeze through by using windows which

act as "scoops", or by adding a barrier on the outside wall. If the ceiling and roof allows warm air to flow through openings at the high point, the internal air will remain fresh even on a day with no wind.

HOME ENERGY USAGE

In addition to housing design, residents can accomplish a great amount of energy efficiency and eliminate waste by installing a variety of energy-saving devices and systems, and by changing behavior and using just plain common sense.

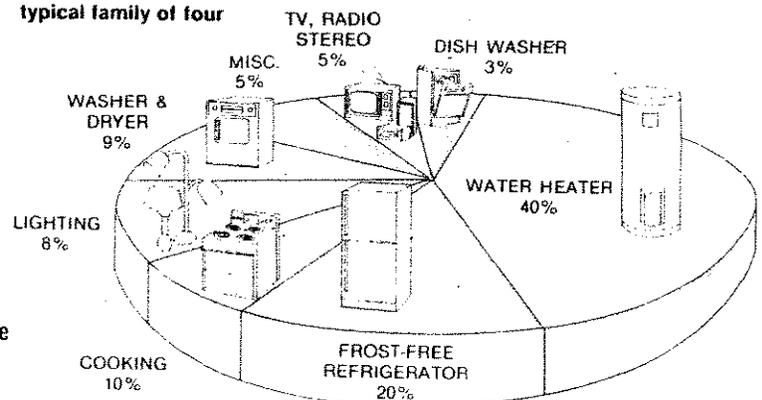
As far as home use, the largest energy user is the water heater, which amounts to nearly 40%. The next largest percentage goes to the refrigerator, about 20%. Lighting and electric range account for almost 10% each; an electric clothes dryer, 8%; and the rest to miscellaneous appliance use. Ruth Spargo, Residential Services Director for Hawaiian Electric Company, offered a variety of suggestions to help increase home energy savings. All estimates are based on a family of four, using an average of 1,000 kilowatt hours per month.

Water Heater

For the older model heater without insulation, a blanket is available for about \$35 which can save 3–5% or \$1.00–\$2.00 per month. In addition, 100% of its cost can be claimed for State tax credit.

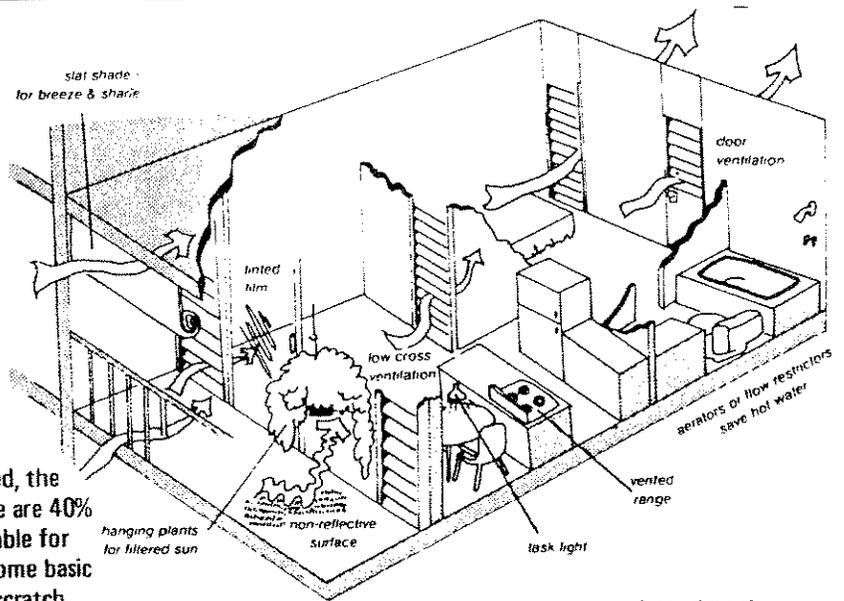
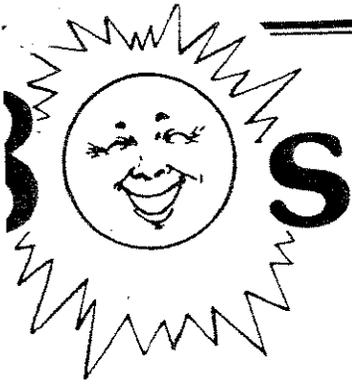
Lowering the water temperature 10 degrees could save a family \$2–\$4 a month, depending on hot water usage. If hot water washing is not needed for sanitation purposes, 120 degrees is

Energy used by a typical family of four



adequate, unless the heater is far from the place of use. In this case, 10 degrees must be added to accomplish the desired temperature.

As much as 80–85% savings can result from solar heating, if it is properly installed and in a sunny area. Although a solar sys-



A model environmental apartment.

tem for a family of four averages about \$3800 installed, the monthly savings can run up to \$35 a month, and there are 40% Federal and 10% State tax credits. Kits are also available for about \$2500, but this requires building permits and some basic expertise. It is possible, also, to build a system from scratch for as little as \$500, with a little bit of ingenuity and some scraping around.

An adequate system for those who cannot invest in or build a solar system is a heat pump. Basically, what it does is take heat from the air and uses it to heat the water. This system is approximately 60% efficient. At an initial cost of \$900-\$1200 the potential savings is \$26 a month. Currently there is no tax credit, but State legislation is pending. (Both HECO and Life of the Land support such legislation). Another benefit is that the heat pump can be moved, making it a good investment for renters.

Additional hints for reducing hot water waste offered by Spargo include:

- Repair leaking faucets. One drop per second can add up to 2500 gallons a year, or about \$44.
- A flow restrictor, which is a little attachment that fits on the faucet, will reduce water flow from 5-6 gallons to 3 gallons per minute.
- For most people, showers (3-7 minutes average) take less hot water than baths.
- Stop letting hot water run uselessly.
- Use cold water rinse to wash clothes. Warm water is rarely necessary.
- Use cold water wash if possible.
- Use the clothes washer water level selector.

Refrigerator

Although self-defrosting models use more energy than manual ones, a recent article in *Vandumrt Trpotyd*

Although self-defrosting models use more energy than manual ones, a recent article in *Consumer Reports* concluded that, under normal conditions, (meaning the freeze is not defrosted at optimum level, which is when ice is only 1/4-inch thick) there is not difference. Any frost over 1/4-inch adds greatly to energy use.

The condenser coils, usually underneath or behind the refrigerator, need to be cleaned every 2-3 months. Dirty coils can add up to 10% energy waste.

Behavior is important. Open the refrigerator door only when

necessary. Spargo pointed out that, "Thirty seconds open can mean a thirty minute cooldown."

Lighting

Using fluorescent lamps can save three times the energy of an incandescent bulb.

Energy-saving bulbs such as "watt misers" are available which consume 5-15% less energy.

Use lower watt bulbs where bright light is not necessary, but don't sacrifice safety.

Cooking

Self-cleaning ovens are generally better insulated for safety and consequently provide more effective day-to-day oven use.

Using a microwave oven can reduce power consumption by 75%.

Use flat pans that fit the size of the element.

Use a higher temperature for a shorter cooking period, if possible. Cover all pans with lids.

Ms. Spargo emphasized that the most important consideration in buying any appliance that uses energy should be *efficiency*, not initial cost. "The life cycle cost is what really counts," she said.

She was quick to add that HECO supports conservation efforts, and often works closely with the office of consumer protection, and the State and Federal Energy Departments, in analyzing new energy-saving "gadgets" and in research conservation legislation.

Although the number of HECO's residential customers is growing the average annual consumption per customer has gone down in recent years, from an average of 8,191 kilowatt hours per year in 1973 to 7,846 in 1979. The cost of oil and materials, however, continues to rise.

Even though alternatives such as OTEC, wind turbines, geothermal, solar thermal and photovoltaic systems may reduce our dependence on oil eventually, it is conservation that can have an *immediate* impact on the supply of oil available to us now. After all, saving a barrel of oil is as good as finding one underground.

FRED PAUL BENCO 2126
3409 Century Square
1188 Bishop Street
Honolulu, HI 96813
Tel: 523-5083

1ST CIRCUIT COURT
STATE OF HAWAII
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M.N. TANAKA
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Attorney for Plaintiffs

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT

STATE OF HAWAII

THE OUTDOOR CIRCLE, a)
registered Hawaii nonprofit)
corporation; `ILIO`ULAOKALANI)
COALITION, INC., a registered)
Hawaii nonprofit corporation;)
LIFE OF THE LAND, INC., a re-)
gistered Hawaii nonprofit)
corporation; and KARLA KRAL,)
Plaintiffs.)

CIVIL NO. 01-1-0218-01
(Declaratory Judgment)

COMPLAINT; SUMMONS

vs.)

THE DEPARTMENT OF LAND AND)
NATURAL RESOURCES, STATE OF)
HAWAII; HAWAIIAN ELECTRIC)
COMPANY, INC.;)
Defendants.)

COMPLAINT

1. Plaintiff `ILIO`ULAOKALANI COALITION, INC.
("Coalition") is a duly-registered Hawaii nonprofit corporation,
consisting of Native Hawaiian cultural practitioners. The
Coalition's members reside in (among other places) Manoa and
Palolo Valleys, it has deemed sacred and religious, and
otherwise honored and respected Wa`ahila Ridge and its immediate

environs, its members utilize electricity generated by Hawaii Electric Company, Inc. and the Coalition has submitted comments during the environmental impact statement process challenged herein. The Coalition is an aggrieved party herein.

2. Plaintiff LIFE OF THE LAND, INC., ("LOL") is a duly-registered Hawaii nonprofit corporation, with its principle place of business located in the City and County of Honolulu, State of Hawaii. LOL's members reside in (among other places) Manoa Valley, Palolo Valley, on, under and adjacent to the Kamoku to Pukele corridor, elsewhere on the Island of Oahu, on the Outer Islands of the State of Hawaii and also the Mainland U.S.A. LOL and its members utilize electricity generated by Defendant Hawaiian Electric Company, Inc. LOL has submitted numerous comments during the environmental impact statement process challenged herein. LOL is an aggrieved party.

3. Plaintiff THE OUTDOOR CIRCLE (herein "Outdoor Circle") is a duly organized and registered Hawaii non-profit corporation. Its members reside in (among other places) Manoa Valley, Palolo Valley, on, under and adjacent to the Kamoku to Pukele corridor, and elsewhere on the Island of Oahu. Outdoor Circle and its members utilize electricity generated by Defendant Hawaiian Electric Company, Inc. Outdoor Circle has submitted numerous comments during the environmental impact

statement process challenged herein. Outdoor Circle is an aggrieved party.

4. Plaintiff KARLA KRAL is a resident of Palolo Valley, on the Island Of Oahu, State of Hawaii, uses the electricity generated by Defendant Hawaiian Electric Company, Inc., has taken part in the EIS process which is described herein, and is therefore an "aggrieved party" as that term is used in the law.

5. Plaintiffs and their members are directly impacted and aggrieved by the legally-inadequate "Final Revised Environmental Impact Statement for the Kamoku to Pukele 138kV Transmission Line at Wa`ahila Ridge, Honolulu, Hawaii" (hereinafter called the "RFEIS") which was accepted by Defendant Department of Land and Natural Resources. The acceptance was published in the Office of Environmental Quality Control ("OEQC") bulletin on November 23, 2000. This Complaint/Appeal is therefore timely pursuant to Section 343-7, Hawaii Revised Statutes.

6. Defendant DEPARTMENT OF LAND AND NATURAL RESOURCES, STATE OF HAWAII ("DLNR") is the duly-constituted administrative agency within the State of Hawaii which was responsible for reviewing/rejecting/accepting the RFEIS pursuant to law. On or about November 23, 2000 the DLNR's acceptance of the RFEIS was published in the OEQC Bulletin pursuant to Chapter 343, H.R.S.

7. DEFENDANT HAWAIIAN ELECTRIC COMPANY, INC., ("HEI") is a duly-incorporated business entity within the State of Hawaii, Island Of Oahu responsible for providing energy to the public. HEI is the applicant for and proponent of the Kamoku-Pukele 138kV transmission line which is the subject of the RFEIS.

8. The RFEIS is wholly deficient and inadequate as a matter of fact and as a matter of law, in light of Chapters 343 and 344, H.R.S., and in light of Hawaii Administrative Rules 11-200 (setting forth content requirements) in that the RFEIS wholly fails to discuss or reasonably inform the decision-maker, or inadequately discusses and is meaningless in the following respects:

a. Available alternatives to the proposed plan are not discussed at all, and/or inadequately discussed, in violation of Section 11-200-17(f).

b. The RFEIS fails to discuss or to set forth facts substantiating, and rejects out of hand, alternatives on the basis of alleged cost in violation of H.A.R. Section 11-200-17(f).

c. The RFEIS knowingly assumes and uses erroneous, understated/overstated, outdated and/or result-oriented financial figures, and other numbers and calculations which

would not reasonably inform a decision-maker of the alternatives.

d. The RFEIS fails to discuss all consequences on the environment as required by H.A.R. Section 11-17-17(i), direct and indirect, and otherwise inadequately discusses all the consequences on the environment.

e. The RFEIS is segmented, fails to take into account the segmentation of the proposed action, and otherwise fails to account for all phases of the proposed development in violation of H.A.R. Section 11-200-17(i) and Section 11-200-7.

f. The RFEIS fails to discuss and adequately discuss the tradeoffs among short-term and long-term gains and losses, fails to inform as to which future options are foreclosed, or narrows the beneficial uses of the environment, and/or fails to discuss or inform long-term risks to health or safety in violation of H.A.R. Section 11-200-17(j).

g. The RFEIS fails to discuss and adequately discuss all irreversible and irretrievable commitments of resources, fails to identify unavoidable impacts and use of non-renewable resources during the phases of the action, in violation of H.A.R. Section 11-200-17(k).

h. The RFEIS fails to discuss and adequately discuss the possibility of environmental accidents resulting from this phase in violation of H.A.R. Section 11-200-17(k).

i. The RFEIS fails to address or discuss the extent to which countervailing benefits could be realized by following reasonable alternatives to the proposed action that would avoid some or all of the adverse environmental effects in violation of H.A.R. Section 11-200-17(l).

j. The RFEIS fails to discuss or adequately discuss to no-action or no-build alternative, in violation of H.A.R. Section 11-200-17(f).

k. The RFEIS fails to discuss or adequately discuss mitigating measures in violation of H.A.R. Section 11-200-17(m) and Section 344-3(1), H.R.S. The RFEIS fails to describe or adequately describe any mitigation measures to reduce the impacts to insignificant levels.

l. The RFEIS fails to adequately, succinctly and without reference to undue cross-reference discuss or inform the decision-maker in violation of H.A.R. Section 11-200-19.

9. Plaintiffs or some of them have addressed each and every one of the foregoing legal deficiencies during the EIS process which occurred prior to the acceptance by Defendant DLNR. Among the issues which demonstrate the RFEIS's

deficiencies, failures to discuss, and inadequate discussions are (were) the following: distributed generation; no-build alternative; temporary transmission line and effects; failure to comply with State Energy Plan; segmentation of the project (part of the Archer-Kewalo-Kamoku-Pukele project); failure to address cultural issues; failure to address cultural and archeological and environmental impacts at Pukele Substation; failure to address/account for endangered historic place designation; failure to address elepaio existence and endangered species act; reliability not a problem.

WHEREFORE, Plaintiffs pray:

1. That this Court would deem and declare that the RFEIS is inadequate as a matter of fact and/or law, and further, that the RFEIS is null and void;

2. That this Court would issue appropriate injunctive relief (temporary, preliminary, permanent), halting any construction, halting further applications for permits based on the RFEIS, and halting any further planning and/or public hearings and/or notices based upon the RFEIS;

3. That this Court would grant any and all other relief, both legal and equitable, which it deems just and proper under the circumstances;

4. That this Court would grant Plaintiffs their attorneys fees and costs for having to prosecute this action.

DATED: Honolulu, Hawaii January 21, 2001.


FRED PAUL BENCO
Attorney for Plaintiffs

Life of the Land
Minutes of Board of Directors Meeting
~ Friday, September 22, 2000 ~ 6:00 PM ~ LOL Office ~

Present: Bill Graham, Fred Benco, Art Mori, Kapua Sproat, Anne Sturgis,
Andrew Tomlinson, Lea Hong, Kim Ramos, Erinn Neelr

I INFORMAL CHAT WITH THE CONSUMER ADVOCATE

The first hour of the meeting was an informal chat with the newly appointed Consumer Advocate, Gregg Kinkley. Gregg introduced himself to the Board. He has a PhD. in Austro-Indonesian language and was an attorney with Goodsill Anderson and Quinn for 8 years. Before coming to Hawai'i, Gregg was a securities attorney with a Chicago law firm.

He explained that the Consumer Advocate's office, which is in the Department of Commerce and Consumer Affairs, usually has a staff of 18 but now has 15. The CA's office used to have a staff of 31, so they have been significantly downsized.

The Board asked questions and we had an informal, friendly chat. Gregg left and the Board meeting commenced.

II APPROVAL OF MINUTES

The minutes of the June 5, 2000 meeting were accepted and approved.

III ACTION ITEMS

b) SUPPORT FOR LOL'S INTERVENTION IN PUC DOCKETS

Henry reported that LOL has intervened in several Public Utility Commission dockets:

- * Maui Electric Company's Integrated Resource Plan docket
- * Hawaiian Electric Company's Demand-Side Management docket
- * HECO's Kaka'ako Undergrounding Initiative
- * Kauai Island Utility Cooperative to take over Kaua'i Electric

The Board asked what was entailed in the intervention process. Henry outlined the process and emphasized that in most cases, LOL was the ONLY community voice in this arena. The Board encouraged Henry to continue working on these important energy issues and thanked him for his research and his initiative in taking on such complex matters.

Life of the Land Board of Directors Meeting
Minutes of Wednesday, March 21, 2001 ~ 6:00 PM ~ LOL Office

Present: Malia Akutagawa (by phone), Fred Benco, David Henkin, Fred Madlener, Art Mori,
Kim Ramos, Kapua Sproat, Andy Tomlinson, Jessica Wooley, Kaya Wooley

Staff: Henry Curtis, Kat Brady (recorder)

IV HECO/DLNR LAWSUIT RE: KAMOKU-PUKELE ENVIRONMENTAL IMPACT STATEMENT

Jessica Wooley left the room during this agenda item discussion. Fred Benco filed suit against DLNR and HECO challenging the adequacy of this EIS on January 22nd. The parties are: 'Ilio'ulaokalani Coalition, Life of the Land, The Outdoor Circle, and Palolo resident, Karla Kral. Our filing and HECO's response were both "broad." No date has been set as yet.

Life of the Land et al is contending that HECO did not look at all feasible alternatives such as distributed generation, which would be a cheaper and more effective way to provide that extra megawatt of power that this line is intending to add to HECO's peak load. Our position is that an aggressive demand side management program, a real energy efficiency initiative, and rooftop solar could easily provide the power that HECO is saying it needs. This proposed line only further ties Hawai'i to imported fossil fuel in violation of the Hawai'i State Constitution, The Hawai'i State Plan, and Hawai'i's Energy Plan which all call for *reducing* our dependence on fossil fuel and *increasing* our use of indigenous resources such as wind and solar.

The Outdoor Circle has contributed \$5,000 to this effort, 'Ilio'ulaokalani Coalition is willing to have a fundraiser for this effort, and Malama o Manoa donated \$5,000 to support this court challenge, even though they chose not to participate. Malama's efforts are on the Conservation District Use application.

V CONSERVATION DISTRICT USE PERMIT FOR HECO'S PROPOSED WA'AHILA RIDGE LINE

Even though we believed that a lawsuit would stall the entire process for HECO's proposed Wa'ahila Ridge line, the DLNR has scheduled a public hearing for this project tomorrow, March 22, 2001. LOL, of course, will testify in opposition to this ill-conceived project, but we continue to organize and remind people that the line is not needed anywhere. In our view, the routing issue is premature. Need has never been established in the 30 years HECO has been trying to ram this project down the community's throats.

Henry advised that board that it would be wise for Life of the Land to ask for a contested case hearing, as other groups, such as Malama o Manoa and The Outdoor Circle were intending on doing the same. Malama o Manoa has retained an attorney, Cheryl Nicholson, to represent their interests in this process. Henry is willing to represent LOL in this administrative hearing since an attorney is not a requirement for intervention.

**David Henkin moved/Art Mori seconded LOL's Contested Case intervention
PASSED UNANIMOUSLY**

David mentioned that at the last Palolo Neighborhood Board meeting, Rep. Calvin Say presented a petition signed by residents of Palolo, many of whom lived in the Carlos Long area by the Pukele substation, saying that they did not want the line going through Palolo Valley. He found it interesting that the Speaker of the House of Representatives would present such a petition to the board. Kat and Henry will check it out and report back.