

COUNCIL OF THE COUNTY OF MAUI

# ENERGY AND ECONOMIC DEVELOPMENT COMMITTEE

November 5, 2004

Committee  
Report No.

04-193

Honorable Chair and Members  
of the County Council  
County of Maui  
Wailuku, Maui, Hawaii

Chair and Members:

Your Energy and Economic Development Committee, having met on June 19, 2003, July 28, 2003, February 23, 2004, March 1, 2004, June 14, 2004, August 16, 2004, and September 27, 2004, makes reference to County Communication No. 03-125, from Councilmember Charmaine Tavares, relating to the County of Maui's energy programs.

By correspondence dated June 5, 2003, the Chair of your Committee requested that the Energy Coordinator provide a presentation on the County's energy programs and related matters.

At its meeting of June 19, 2003, your Committee met with the Energy Coordinator, Department of Management; and a Deputy Corporation Counsel.

Your Committee deferred the matter pending further discussion.

At its meeting of July 28, 2003, your Committee met with the Director of Public Works and Environmental Management; the Energy Coordinator, Department of Management; and a Deputy Corporation Counsel.

The Chair of your Committee transmitted correspondence dated July 24, 2003, which she had received from a Legislative Analyst in the Office of Council Services, providing a review of the Hawaii Model Energy Code (HMEC) and stating the following:

The HMEC was developed over a two-year period by the Department of Business, Economic Development & Tourism (DBEDT), Eley Associates of San Francisco and a Building Code Task Force. The Building Code Task Force included Hawaii-based engineers and architects, building officials, professional groups, building owners and managers. The intent of the HMEC is to save

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energy in buildings and protect the environment by reducing energy consumption.

Your Committee also received documents entitled "Residential & Small Commercial Combined Heat and Power (Cogeneration) Systems" and "Emerging Ocean Energy and Bioenergy Technologies", respectively, from the Energy Coordinator.

There was no public testimony.

Your Committee received a presentation from the Energy Coordinator regarding the general conditions affecting the County's energy situation and specific energy programs.

The Energy Coordinator stated that the County is in a state of transition with new energy markets and emerging technologies. He provided a brief overview of emerging technologies in areas such as combined heat and power, ocean energy, and bioenergy. He expressed concern that the State Public Utilities Commission (PUC) has not evaluated the integrated resource planning process for Maui Electric Company, Limited. The integrated resource planning process is intended to help determine what energy resources the utility will pursue.

Your Committee also expressed concern that the PUC had not taken action on the integrated resource planning process. In addition, your Committee recognized that emerging technologies may not currently be cost effective; however, the County needs to pursue ways to ensure energy sustainability.

Your Committee deferred the matter pending further discussion.

By correspondence dated September 3, 2003, the Chair of your Committee requested that the Energy Coordinator provide a written summary of the overview presented at its July 28, 2003 meeting.

By correspondence dated September 4, 2003, the Chair of your Committee requested that the Director of Public Works and Environmental Management submit a proposed bill to incorporate the HMEC into the Maui County Building Code.

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By correspondence dated September 24, 2003, the Managing Director transmitted a document entitled "Energy Presentation Summary for the Energy and Economic Development Committee", providing an overview of the Energy Coordinator's presentation to your Committee on July 28, 2003.

By correspondence dated February 13, 2004, the Director of Public Works and Environmental Management transmitted a draft bill entitled "A BILL FOR AN ORDINANCE AMENDING TITLE 16, MAUI COUNTY CODE, PERTAINING TO THE UNIFORM BUILDING CODE". The purpose of the draft bill is to incorporate energy-efficient building standards into the Maui County Building Code, based on the HMEC, including a requirement for installing energy-efficient equipment and materials in new commercial buildings as well as roof or ceiling insulation in new homes.

By correspondence dated February 19, 2004, the Chair of your Committee transmitted a copy of a document dated July 1993, entitled "Hawaii Model Energy Code Energy Efficiency Standard for Buildings".

At its meeting of February 23, 2004, your Committee met with the Energy Coordinator, Department of Management; and the Development Services Administrator, Development Services Administration, Department of Public Works and Environmental Management.

Your Committee received written testimony dated February 23, 2004, from Earle Ifuku, Manager, Customer Services Department, Maui Electric Company, Limited (MECo), in support of the draft bill.

The Chair of your Committee transmitted a document dated January 15, 1999, entitled "Energy Code Compliance Study; Honolulu and Hawaii Counties", produced by DBEDT and Eley Associates.

Your Committee received public testimony in support of the draft bill from four people. Two testifiers expressed concerns regarding the enforcement of energy-efficiency standards. One testifier offered suggestions on providing incentives for energy-efficient construction. Another testifier, representing MECo, supported the draft bill and said it would increase energy-efficient construction.

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The Development Services Administrator stated that the draft bill would replace the current energy-efficiency standards in the Building Code, which are 15 years old. He also stated that the HMEC is based on the requirements of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE).

The Energy Coordinator stated that the draft bill requires compliance with minimum standards, but many buildings follow higher standards due to incentives offered by Meco's demand side management programs. He also stated that the passage of this bill would bring the County into compliance with State law.

Your Committee expressed concerns about adopting standards that may be outdated. Your Committee noted that it might want to consider higher standards than what is provided in the HMEC.

Your Committee deferred the matter pending further discussion.

At its meeting of March 1, 2004, your Committee met with the Development Services Administrator and an Electrical Engineer IV, Development Services Administration, Department of Public Works and Environmental Management; and Howard Wiig, Institutional Energy Analyst, State Department of Business, Economic Development & Tourism.

Your Committee received public testimony from three individuals. All testifiers supported incentives to encourage energy efficiency in residential homes. A testifier who installs solar water heaters provided written information on various types of incentives and a Leadership in Energy and Environmental Design booklet entitled "Green Building Rating System For New Construction & Major Renovations. Version 2.1".

Mr. Wiig stated that the HMEC, which is part of the draft bill, regulates both commercial and residential properties; however, the vast majority of the HMEC affects commercial buildings. He stated that the other counties have approved of legislation incorporating the HMEC with very little controversy. He also stated that the most controversial portion of the draft bill before your Committee is the requirement for ceiling insulation for residential construction.

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Mr. Wiig explained that when the City and County of Honolulu amended its Building Code to require ceiling insulation, developers were concerned about the added cost of constructing a home. He estimated that the cost for ceiling insulation for an average home costing \$220,000 would be a maximum of \$500.

Your Committee inquired whether any county in the State had required solar water heating for residential building construction.

Mr. Wiig stated that there have been no such requirements primarily because of the extensive opposition to the initial cost of installation.

Your Committee deferred the matter pending further discussion.

By correspondence dated June 4, 2004, the Chair of your Committee transmitted a copy of Senate Bill No. 2682, Senate Draft No. 2, entitled "A BILL FOR AN ACT RELATING TO ENERGY EFFICIENCY.". The purpose of the bill is to require energy-efficient water heating for new construction.

At its meeting of June 14, 2004, your Committee met with the Energy Coordinator, Department of Management; and the Development Services Administrator and an Electrical Engineer IV, Development Services Administration, Department of Public Works and Environmental Management.

Your Committee received public testimony from two individuals. One testifier, representing The Gas Company, said that his company supports incentives for solar water heaters, but would not support any legislation that mandates solar water heaters. Another testifier stated that energy codes have an important role to play, but they are not a panacea for energy problems.

The Energy Coordinator stated that residential construction in the County has been as energy efficient as any other county in the State. He stated that MECo's solar water heating program has created a significant increase in the installation of solar water heaters in residential construction. He also stated that the installation of combined heat and power systems in Maui hotels has kept energy efficiency in commercial construction on Maui at a high level.

Your Committee expressed concerns about mandating compliance through legislation, but questioned whether incentives alone could achieve the

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goal of energy-efficient construction. Your Committee also recognized the need for accurate statistics on energy-efficient construction in the County.

Your Committee deferred the matter pending further discussion.

By correspondence dated August 4, 2004, the Chair of your Committee invited Howard Wiig, Institutional Energy Analyst, DBEDT, to attend its August 16, 2004 meeting.

By correspondence dated August 10, 2004, the Director of Public Works and Environmental Management transmitted a document entitled "Proposed Solar Addendum to Hawaii Model Energy Code adoption bill" (solar addendum).

By correspondence dated August 13, 2004, Steven Golden, Director of External Affairs and Planning, The Gas Company, transmitted written testimony in opposition to the solar addendum.

By correspondence dated August 16, 2004, Howard Wiig, Institutional Energy Analyst, DBEDT, provided written testimony in support of the adoption of the HMEC.

At its meeting of August 16, 2004, your Committee met with the Energy Coordinator, Department of Management; the Development Services Administrator, Development Services Administration, Department of Public Works and Environmental Management; Howard Wiig, Institutional Energy Analyst, State Department of Business, Economic Development & Tourism; Joanne Ide, Supervisor, Integrated Resource Planning and Customer Efficiency Programs, and Walter Enomoto, Energy Efficiency Program Manager, Maui Electric Company, Limited; Steve Allen, President, Allen's Plumbing; Carl Freedman, Member, Maui Energy Efficiency Working Group; and Michael Conway, President, Silversword Engineering.

Your Committee received written testimony dated August 16, 2004, from Mr. Freedman expressing concerns regarding the solar addendum. Your Committee also received Hawaii Statewide Geographical Information Systems (GIS) solar radiation maps for Maui and Molokai from Mr. Wiig, and a pamphlet entitled "5 good reasons for Solar Water Heating" from Ms. Ide.

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Your Committee received public testimony from two individuals. Steven Golden, Director of External Affairs and Planning, The Gas Company, testified against the solar addendum. Another testifier suggested that there needs to be a process to ensure that energy-efficient systems are installed properly.

Your Committee received comments regarding the draft bill and solar addendum from a panel of experts in the field of energy efficiency.

Mr. Wiig stated that the draft bill, which incorporates the HMEC, removes the old energy-wasting equipment and replaces it with high-efficiency equipment that has been developed over the last 20 years. Every provision in the code is just an extension of that concept.

Mr. Wiig further stated that the draft bill requires that low-rise residential roofs have a heat-gain requirement equal to using insulation with a resistance level of 19, and provides five options for compliance. This will result in less heat transferring down into the living space and may eliminate the need for a homeowner to install air conditioning.

Mr. Wiig explained how to interpret the GIS solar radiation maps referred to in the solar addendum. He stated that it would be economically feasible to install solar water heaters in areas that receive at least 350 calories per centimeter per year.

Your Committee expressed concerns that there may be areas where it is not economically feasible to install solar water heaters. Mr. Wiig stated that there are not many areas that do not receive at least 350 calories per centimeter per year.

Ms. Ide stated that MECo supports adoption of the HMEC to ensure that all buildings are at least achieving some minimum level of energy efficiency. She stated that MECo estimates that installation of solar water heaters in new residential home construction has increased from 1.5 percent in 1996 to about 65 percent at the end of last year.

Your Committee expressed concerns that 35 percent of new single-family homes did not install solar water heaters and that the inventory of homes that are

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not energy efficient continues to grow. Your Committee recognized that the County and State need to increase their efforts in utilizing renewable energy sources in order to reduce this inventory.

Ms. Ide stated that post-installation inspections are needed to ensure the performance, reliability, and longevity of solar water heating systems.

Mr. Enomoto stated that the adoption of the HMEC may cause MECo to raise the qualification standards for its demand side management program incentives.

Mr. Allen stated that he cannot support the adoption of the solar addendum because it would eliminate the State Solar Tax Credit, and there is no requirement for post-installation inspections to assure proper installations.

Your Committee cautioned that the advantages and disadvantages of tax incentives must be carefully considered. Your Committee recognized that incentives and rebates, whether public or private, are paid for by taxpayers or utility ratepayers.

The Development Services Administrator stated that because the Development Services Administration (DSA) does not have enough electrical and mechanical engineers on staff, they will rely on the design professionals and the contractor to certify that the product being installed meets the Building Code. He stated that this is consistent with other counties' and DSA's current method of enforcement.

Mr. Wiig confirmed that other counties rely on this type of certification and they have achieved a high percentage of compliance.

The Development Services Administrator informed your Committee that he would submit a revised solar addendum to incorporate some of the ideas presented.

Your Committee deferred the matter pending further discussion.

By correspondence dated September 10, 2004, the Chair of your Committee requested that the Energy Coordinator provide written comments on



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the draft bill entitled "A BILL FOR AN ORDINANCE AMENDING TITLE 16, MAUI COUNTY CODE, PERTAINING TO THE UNIFORM BUILDING CODE" and the solar addendum.

By correspondence dated September 16, 2004, the Director of Public Works and Environmental Management transmitted a revised document entitled "Proposed Solar Addendum to Hawaii Model Energy Code adoption bill".

By correspondence dated September 20, 2004, the Chair of your Committee requested that the Department of the Corporation Counsel revise the draft bill to provide a more descriptive title.

By correspondence dated September 21, 2004, the Energy Coordinator provided written comments on the draft bill entitled "A BILL FOR AN ORDINANCE AMENDING TITLE 16, MAUI COUNTY CODE, PERTAINING TO THE UNIFORM BUILDING CODE" and the solar addendum.

By correspondence dated September 21, 2004, the Department of the Corporation Counsel transmitted a revised proposed bill entitled "A BILL FOR AN ORDINANCE AMENDING TITLE 16, MAUI COUNTY CODE, PERTAINING TO ENERGY EFFICIENCY STANDARDS FOR BUILDINGS".

At its meeting of September 27, 2004, your Committee met with the Deputy Director of Public Works and Environmental Management; an Electrical Engineer IV, Development Services Administration, Department of Public Works and Environmental Management; the Energy Coordinator, Department of Management; and a Deputy Corporation Counsel.

There was no public testimony.

Your Committee decided to limit its discussion to the revised proposed bill entitled "A BILL FOR AN ORDINANCE AMENDING TITLE 16, MAUI COUNTY CODE, PERTAINING TO ENERGY EFFICIENCY STANDARDS FOR BUILDINGS".

The Energy Coordinator stated that your Committee should consider including a statement of purpose to identify the legislation's benefits to the public welfare.

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Your Committee noted that there is a statement of purpose in the HMEC, which is incorporated in the revised proposed bill, and any additional statement of purpose could be added in subsequent amendments to Title 16 of the Maui County Code.

The Energy Coordinator suggested that your Committee consider market-based alternatives for encouraging energy-efficient building practices. He expressed concerns regarding using the County's "police powers" to mandate energy code provisions.

The Deputy Director of Public Works and Environmental Management stated that the proposed bill contains many valid energy savings provisions that would be beneficial for the County as a whole.

Your Committee expressed concerns about how the DSA would enforce the revised proposed bill. The Deputy Director explained that the method of enforcement would continue to be certification by design professionals. The Electrical Engineer IV stated that DSA personnel do field inspections; however, there may be a need for additional staffing in the future.

Your Committee recognized that the passage of the proposed bill would be an important first step towards meaningful energy-efficiency standards by requiring energy-efficient equipment and roof insulation in new building construction. Your Committee also recognized the need for future discussions before other energy-efficiency standards in areas such as solar water heating, high performance windows, and wall insulation are adopted.

Your Committee expressed its support for continuing the effort towards developing a County of Maui Energy Code that would exceed the standards set forth in the HMEC.

Your Committee voted to recommend passage of the revised proposed bill on first reading and filing of the communication.

Your Energy and Economic Development Committee **RECOMMENDS** the following:

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1. That Bill No. \_\_\_\_\_ (2004), attached hereto, entitled "A BILL FOR AN ORDINANCE AMENDING TITLE 16, MAUI COUNTY CODE, PERTAINING TO ENERGY EFFICIENCY STANDARDS FOR BUILDINGS", be PASSED ON FIRST READING and be ORDERED TO PRINT; and
2. That County Communication No. 03-125 be FILED.

Adoption of this report is respectfully requested.

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