

Environment



Hawai'i

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The Heat Is On

It may be a day late and a dollar short, but Hawai'i is finally awakening to the reality of global warming. Legislation enacted last year sets up a mechanism for attacking the problem that, if all goes according to plan, will bear fruit 12 years from now. Still, despite general consensus that something should be done, arriving at any agreement on what that should be will almost certainly be a slow and painful process.

In this issue, *Environment Hawai'i* provides an overview of some of the issues that the state must face as it embarks on the important task of developing a policy to curb Hawai'i's own contributions to the problem. We thank the Cooke Foundation for underwriting this work.

Greenhouse Gas Reduction Talks Focus On Cap-and-Trade System, Carbon Taxes

Climate change poses a serious threat to the economic well-being, public health, natural resources, and the environment of Hawai'i."

That statement, included in the preamble to Act 234, passed by the Legislature last year and signed by the governor on June 30, serves as a stark backdrop to the coping strategies that the law anticipates. Weaning Hawai'i off fossil fuels and moving it in the direction of more sustainable energy sources will doubtless play an important role in reducing the state's emissions of carbon dioxide, the gas that is largely responsible for climate change and global warming. But just as important, under Act 234, will be the development of regulations and incentives that curb such emissions. Without regulatory measures, the state has little chance of meeting the goal of reducing by 2020 statewide greenhouse gas

emissions to a level at or below that set in 1990.

In less than two years, by December 1, 2009, the Greenhouse Gas Emissions Reduction Task Force is to deliver to the Legislature a "work plan and regulatory scheme" to achieve these reductions. Among other things, the work plan is supposed to identify ways to reduce emissions directly as well as techniques of achieving the goal through market mechanisms and "potential monetary and non-monetary incentives."

By December 31, 2011, the Department of Health is to have rules in place, to take effect January 1, 2012, that will put the state on course to achieve the targeted reductions. The rules are to ensure that the emissions reductions achieved "are real, permanent, quantifiable, verifiable, and enforceable."

So what could a regulatory scheme to reduce emissions look like?

Capping versus Taxing

Elsewhere, governments grappling with this question have come up with two competing approaches: one involves development of a market in permitted emissions of greenhouse gases, the other involves development of financial disincentives (such as taxes) to curb such emissions.

Other approaches do exist, though. There are standards-driven approaches, such as the fleet efficiency standards for automobile manufacturers, or energy-efficiency standards for appliances. Carbon sequestration schemes effectively offset carbon dioxide emissions through reforestation efforts or the actual removal of offending gases from smokestacks through sophisticated scrubber technology. Drawbacks exist to these approaches, however. Requiring new appliances or vehicles to be energy efficient depends on market turnover to achieve the desired goals—and that can

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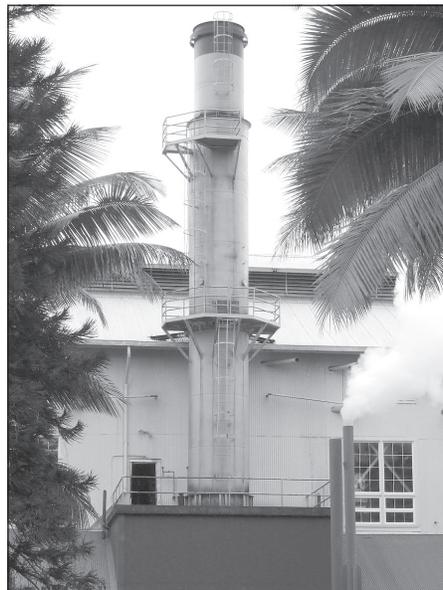
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Carbon dioxide emissions from power plants may not be visible, but they represent a major source of Hawai'i's contribution to global warming.

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NEW AND NOTEWORTHY

Tuna Little, Tuna Late? At last month's meeting of the Western and Central Pacific Fisheries Commission in Guam, the central issue on the table was how to conserve bigeye and yellowfin tuna stocks. And according to Paul Dalzell, senior scientist for the Western Pacific Fishery Management Council, headquartered in Honolulu, and head of the international commission's working group on the subject, "there was no conservation movement at all on yellowfin and bigeye."

"I was in the hot seat," Dalzell said. "We had a proposal that would have shut down purse-seining on FADs [fish aggregating devices] for three months, to reduce the catch of juveniles and also called for about a 25 percent reduction in catch of bigeye by longline fleets."

"Japan scuttled it," he continued. "Japan wanted a one-month closure, which was backed up by Chinese Taipei, China, and Korea. We

were doomed from the start."

But where political will has failed, economics may succeed, Dalzell suggested. "There's a good argument to suggest longline effort and catch has been declining anyway, since aging fleets and the high cost of fuel is making it less profitable to fish," he said. "Economics may turn out to be the savior of the fishery."

There were a few bright lights in the meeting, he said. "There's a commitment now to full conservation measures to be adopted in 2008," he said. "And we did get a win on a regional observer program and vessel monitoring systems. The observer program will start next year, aiming for 5 percent coverage of longline vessels, and 20 percent on purse seiners.

"You take your victories when you can."

The environmental group Greenpeace, which observed the meeting, denounced the agency for its failure to adopt conservation measures. The distant-water fishing nations (so-called because their fleets ply waters far from their own) "blatantly disregarded the advice given to them by their scientists pointing out the need to drastically reduce the catch or face the consequences of an impending fishery collapse," the group said in a press release.

Studying Hard: Last year, research was by far the most commonly permitted activity in the Northwestern Hawaiian Islands and Midway and French Frigate Shoals were the most visited, according to a recent update by the co-trustees of the Papahānaumokuākea Marine National Monument.

A 2007 summary of activities in the monument, which does not include fishing activities permitted by the Western Pacific Fishery Management Council, states that 36 of the 51 permits issued were for research. As for the rest, six permits were issued for conservation and management activities, five were for special ocean uses (Midway anniversary tours and filming/documentaries), two were for educational videos, one was for a native Hawaiian practice and one was for a historical/wildlife tour on Midway, the only NWHI atoll that allows recreational use. Of the 51 permits, 26 were for activities within state waters.

At a December briefing before the state Board of Land and Natural Resources, NOAA superintendent 'Aulani Wilhelm said she hopes to be able to provide the public with web-based monument activity reports by early 2008.

Blowing Up: If all goes as planned, UPC Wind, which co-owns and operates the 30-megawatt Kaheawa wind farm on Maui, will expand its operations to O'ahu and Kaua'i.

Last November, *Pacific Business News* reported that the Kaua'i Island Utility Cooperative expects to begin buying power from a 15-megawatt wind farm, built and run by UPC Kaua'i Wind Power, by July. Also, UPC representatives met with the Ko'olauloa Neighborhood Board late last year to discuss a proposed 12-turbine wind farm on lands the company owns at Kahuku, on O'ahu's north shore.

In the mid-1990s, a 15-turbine wind farm built by Hawaiian Electric Renewable Systems failed after a decade of operation. When asked by the board why its wind farm would succeed where the previous one had failed, UPC's Mike Goodman noted that "the materials are different, the company would be dedicated to run the project, and UPC actually owns the land that the farm sits on, so they are investing for the long run," the board's minutes state. When another board member noted that the old wind farm lit the entire sky, UPC's Wren Wescott stated that its turbines would only beam upwards and they would not all need to be lit.

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Quote of the Month

"The rate of [climate] change will affect economic impact, and it may not be a linear path. If we go over some tipping point with Antarctica or Greenland, our big economic model will be scuba gear."

— **Laurence Lau,**
Department of Health

EDITORIAL

As Temperatures Rise, An End to Easy Virtue

In comparison to other states, Hawai'i's total greenhouse gas emissions are low (43rd among 50 states and the District of Columbia). As measured in terms of per-capita emissions, it loses ground somewhat: still, at 18 tons of greenhouse gases a year attributable to each Hawai'i resident, the state comes in a respectable 32nd place.

But much of the credit for Hawai'i's relatively low contribution to greenhouse gas emissions (low with respect to other states, but still unconscionably high on a global

One could almost say that, when it comes to greenhouse gas emissions, if we're have any virtue at all, it's of the easy, accidental kind.

scale) is owing to its mild climate. Winters are warm enough so that most people do not need to heat their homes here. Summer temperatures in Hawai'i rarely hit the peaks that, in other states, make air conditioning a necessity.

One could almost say that, when it comes to greenhouse gas emissions, if we're have any virtue at all, it's of the easy, accidental kind.

When one looks at the problem more broadly, other aspects of the national emissions profile put Hawai'i figures in worse light.

Factories in industrialized cities produce the cars, trucks, and appliances sold in Hawai'i. Farms in the Midwest and California grow much of the food that ends up on island tables. Books, magazines, newspapers, paper goods, building materials, paints, varnishes, chemicals, pharmaceuticals – practically all of the consumer goods used in Hawai'i – are made elsewhere. And in all these instances (and thousands more), the emissions associated with the production of goods used in Hawai'i are added to the balance sheet of some other state or country.

If Hawai'i consumers paid a tax reflecting the actual carbon emissions generated in the production and transportation of the goods they purchased, the volume of emissions on which taxes would be due would be far in excess of 18 tons annually. How much more is anyone's guess – but probably it would be sufficient to cause Hawai'i to zoom up in the rankings.

Recognizing Limits

It may be that a universal – or at least a national – levy on emissions associated with consumer goods would end up being the most equitable

approach to devising a revenue stream that could begin to pay for the costs associated with global warming. Those costs – called externalities, since while they are real enough, they are wholly outside of the expenses that producers or consumers have been held accountable to pay – are mounting by the day, if not the hour. Coming up with a way to pay for mitigating them is one of the most vital, important tasks facing governments today, as witness the urgency expressed at the United Nations conference in Bali last month.

Such a broad-based tax would be difficult to impose at the state level. Yet, as the Hawai'i Greenhouse Gas Emissions Reduction Task Force gets down to work, it should not rule out a carbon tax that could serve both as a source of revenue to deal with the effects of global warming locally and as a means of gently guiding consumers onto a less carbon-intensive path.

Because so much of Hawai'i's economy depends on oil imports, a per-barrel tax might be the simplest approach and, by being as far “upstream” as possible (that is, as close as possible to the actual point of extraction), it is more likely to cascade into every sector relying on those imports: electricity generation, trans-

portation fuel, manufacturing. Alternatives might be to raise taxes on electricity and fuel; the advantage here is that consumers might have a greater awareness of what they are paying and take steps to curb their consumption accordingly. Other options could include revising the vehicle weight taxes at the state and county levels so that they are more in line with the fuel efficiency (and weight) of cars, trucks, and SUVs, or taxing motorists for actual miles driven (as has been proposed in Oregon).

The amount of the tax could be derived from calculating the budget that will be required to address the consequences of global warming in Hawai'i. The state's to-do list will

include, at a minimum, relocating and rebuilding many stretches of coastal highways and roads; repairing infrastructure (including sewer lines and water mains) damaged by increasing salinity in the water table; and restoring or defending high-value lands (such as Waikiki beach or the Honolulu airport) that are at risk should sea levels rise. A recent study of Florida's vulnerability to global warming found that that state's economy could suffer losses as high as \$345 billion a year within the next century if nothing is done to curb greenhouse gas emissions. The state would see its tourist facilities inundated, two nuclear power plants swamped, and three prisons washed away, among other findings reported by researchers at Tufts University. It would benefit Hawai'i to have a similar study undertaken of the vulnerabilities here – and to use it as a foundation to begin planning for future costs of mitigation.

Task Masters

It will be the job of the state Greenhouse Gas Emissions Reduction Task Force to weigh these and other measures to size down Hawai'i's sooty footprint. As it does so, rest assured that the sectors that have been given seats at the table will be aggressive in pursuing their interests, which may not always lie in the direction of increasing accountability for externalities or reducing the state's dependence on petroleum imports.

When it comes right down to it, the responsibility for ensuring that Hawai'i does its part in reducing global emissions of carbon dioxide rests with each one of us who call the islands home.

When it comes right down to it, the responsibility for ensuring that Hawai'i does its part in reducing global emissions of carbon dioxide rests with each one of us who call the islands home. Over and above individual action, however, we must, as a society, make informed decisions on policy. By attending task force meetings, keeping informed of its deliberations, and pushing it to make the hard, if unpopular, choices, members of the public have the opportunity to shape Hawai'i's response to this looming global crisis for years to come.

The next meeting will be January 3. Call DBEDT for details.

Future from page 1

be a long time coming. Corporate-average fuel economy (CAFE) standards are generally regarded as having been ineffective in putting fuel-efficient vehicles on the roads. Other standards require widespread adoption (at the federal level, generally) if they are to have any impact at all. In the case of reforestation, the actual amounts of carbon held by the new plantings can vary tremendously from one area to another, or from one year to another in the same area, making the actual value of the offset difficult to calculate. With respect to greenhouse gas scrubbers, no practical, economical technology yet exists that would give legs to this approach.

Without foreclosing the prospect of standards-based regulations, carbon offsets, or carbon sequestration, the most important policy decision facing the task force will probably be whether to go with a cap-and-trade system or a carbon tax.

The Carbon Market

A cap-and-trade system is generally the preference of economists. It is modeled on the stock market, and plugs easily into the system of trading that has developed in that sector. It works something like this:

Businesses or other major emitters are assigned a quota, or allowance, for carbon dioxide emissions. This is based usually on past history of emissions, although if the goal is to reduce emissions by a targeted amount, the quota may be set at a certain percentage of historic emission levels. This is the cap.

If the companies anticipate exceeding their emission allowances, they must purchase an allowance equal to the excess from another company that has not emitted their full allowance. This is the trade. Emitters thus have a real incentive to lower their emissions: not only do they save on fuel and achieve other economies resulting from more efficient operation, they can also use their excess emission allowances as a source of revenue. Affected businesses recover costs of the emissions they need to purchase by passing them onto the consumers of their products or services.

Critics of this system note that it has inherent inequities. It places new enterprises at a disadvantage, since they must purchase an allowance before they can start up operation. Should demand for allowances be high, companies with allowances can cut production, sell emission credits, and still reap windfall profits – which, in the end, consumers will be forced to pay.

In Europe, where the cap-and-trade system has been in effect since 2005, the emissions market has been blamed for a 7 percent rise in

electricity bills. Overall carbon dioxide emissions across the European Union rose between 1 and 1.5 percent over the same period, and, in England alone, the windfall profits to electric utility companies was estimated at 1.7 billion pounds. According to the group Energywatch, based in England, “consumers increasingly accept the need for reductions in carbon. However, they are paying the price and not seeing the benefits. The big generators are banking huge amounts of money and consumers aren’t benefiting.”

Point Carbon, a company that closely follows the trading in carbon emission allocations, conducted a study of the European market last year, in which it determined that when the system was established, the allotments granted to industries actually exceeded emissions by some 170 million tons. As reported in *The Guardian*, “In the early days, nobody realized quite how badly the European commission had miscalculated, and so the price of the EUAs [European Union allocations] was quite high... But individual companies, particularly energy companies, rapidly saw they had millions of tonnes of EUAs that they didn’t need, and so they sold their surplus, making huge profits.”

The Guardian cited another report, this one by Open Europe, which found that oil companies in the United Kingdom “were also poised to make a lot of free money: £10.2 million for Esso; £17.9 million for BP; and £20.7 million for Shell. And behind this profiteering, the environmental reality was that these major producers of carbon emissions were under no pressure from the scheme to cut emissions.”

“At the other end of this EU market,” *The Guardian* report said, “smaller organizations like UK hospitals and 18 universities, who had been given far fewer EUAs, were forced to go out and buy them – while the price was still high. So, for example, the University of Manchester spent £92,500 on EUAs. Now that the truth about the glut has been revealed, the university would be doing well if it managed to get £1,000 for the lot of them.”

Defenders of the cap-and-trade approach say the problems are just growing pains associated with the start-up of any new system. In an interview with *Environment Hawai'i*, Paul Brewbaker, chief economist with the Bank of Hawai'i, says, “the way my mind works as an economist, I don’t see a realistic way of getting there” – to the goal of lowered greenhouse gas emissions – “by just getting people

informed and relying on their good will.”

“We need to have a market for this stuff,” he continued. “When we make that market, and have a limit on how much we’re going to load, it’ll work... If you have the right price for carbon loading, it’s an even greater incentive for people who are coming up with alternatives – modes of transport, vehicle designs, even shopping mall locations. A whole range of choices will be made more efficiently.”



As sea levels rise, signs such as this will be posted more frequently along coastal roads in Hawai'i.

Several members of the state task force appear to share his views. Last October, at the panel’s first meeting, Mark Fox of the Nature Conservancy of Hawai'i, one of two appointed members representing the environmental community, noted that his organization

supported market-based approaches, such as carbon credits, cap-and-trade systems, and auctions of emission allowances. Frank Clouse of Tesoro, appointed as one of four members from affected business sectors, suggested looking into what other states are doing, especially with regard to carbon trading.

Tax and Spend

Citizens of Boulder, Colorado, have a different view. In November 2006, they approved a tax on electricity consumption that will be used to finance a Climate Action Plan, approved by the City Council five months earlier. The tax went into effect last April.

According to a press release issued by the city, “This energy tax is also referred to as a carbon tax since most of Boulder’s electricity comes from the burning of coal, which is directly related to carbon or greenhouse gas emissions.”

The average household’s electricity bill rose about \$1.33 a month, while the average bill for businesses rose on average \$3.80 a month (although the rate of tax is higher for households.) The city estimates that the tax will generate about \$1 million a year through 2012, when it is set to expire. The long-term savings in energy that are expected to occur as a result of the Climate Action Plan will come to about \$63 million, the city estimates.

Economist Charles Komanoff, who has monitored energy trends for decades, comes down squarely on the side of a carbon tax. To promote this, he has a website,

www.carbontax.org, that presents the pros and cons of a tax versus a trading system. He cites “five fundamental reasons” to prefer a tax:

- ▶ A tax will “lend predictability to energy prices,” while cap-and-trade systems do little to mitigate the price volatility that has historically discouraged investments in more efficient technologies;

- ▶ It is less cumbersome than cap-and-trade systems, which are subject to lengthy negotiations before they take effect – and “we do not have the luxury of waiting”;

- ▶ A tax is transparent and easily understood, whereas the cap-and-trade approach is opaque and difficult to understand;

- ▶ A tax is far less vulnerable to manipulation by special interests than is a cap-and-trade system, whose “complexity opens it up to exploitation by special interests . . . that can undermine public confidence and undercut its effectiveness;”

- ▶ A tax can be revenue neutral, where rebates can be distributed to the public through dividends or tax shifts, “while the costs of cap-and-trade systems are likely to become a hidden tax as dollars flow to market participants, lawyers, and consultants.”

Komanoff notes that the carbon content of every different type of fuel is precisely known, as is the amount of carbon dioxide released when the fuel is burned. “A carbon tax thus presents few if any problems of documentation or measurement,” he writes. Administration of such a tax should be simple, he says: “utilizing existing tax collection mechanisms, the tax would be paid far ‘upstream’ (e.g., at the point where fuels are extracted from the earth and put into the stream of commerce, or imported into the U.S.). Fuel suppliers and processors would pass along the cost of the tax to the extent that market conditions allow.”

While some politicians despair over the prospect of a new tax, even one that might be revenue neutral, New York City Mayor Michael Bloomberg has come out swinging for the idea. At a two-day conference on climate change attended by mayors from across the country, Bloomberg advanced the proposal. “As long as greenhouse gas pollution is free,” he said, “it will be abundant. If we want to reduce it, there has to be a cost for producing it.”

Bloomberg acknowledged that “cap-and-trade is an easier political sell because the costs are hidden – but they’re still there. And the payoff is more uncertain.”

Although the system is intended to give manufacturers and others incentives to invest in pollution-reducing technologies, “the price volatility for carbon credits can discourage investment, since an investment that might

A 12-Step Program to Overcome Oil Addiction

Act 234 itemizes 12 separate areas of concern or charges that the Greenhouse Gas Emissions Reduction Task Force is to report on in the work plan deliverable to the Legislature before December 1, 2009. They are:

- ◆ Consultation with all state agencies that have jurisdiction over sources of greenhouse gases (for example, the Public Utilities Commission) to ensure that the recommended reduction measures “are complementary, minimize duplication, and can be implemented in an efficient and cost-effective manner”;

- ◆ Identification of, and recommendations on, direct emission reduction measures, alternative compliance measures, market-based compliance measures, and financial or other incentives for reductions;

- ◆ Review of what is being done elsewhere to reduce greenhouse gas emissions;

- ◆ Investigation and development of analytical models useful for arriving at a cost-benefit analysis of the recommended plan for reducing Hawai'i's emissions;

- ◆ Consideration of the impact of regulations on small businesses, along with recommendations for a “threshold of greenhouse gas emissions below which emission reductions requirements shall not apply”;

- ◆ Identification of opportunities to reduce emissions through “verifiable and enforceable voluntary actions,” such as carbon sequestration projects or best-management practices;

- ◆ Examination of “market-based compliance mechanisms”;

- ◆ Development of suggested rules for a market-based compliance system along with mandatory emission reporting requirements;

- ◆ Development of suggested rules to “control mobile sources” of emissions;

- ◆ Recommendations of ways to minimize “leakage,” which occurs when emissions reductions are achieved locally at the cost of increased emissions elsewhere;

- ◆ Recommendations of a schedule of fees to be paid by greenhouse gas emission sources that are to be regulated; and

- ◆ Hosting of a series of public workshops providing for comment on the work plan (at least one workshop per county).

In addition, the task force is to continue its work (a 13th step), by reviewing and revising its work plan “at least once every five years,” to “achieve the maximum technologically feasible and cost-effective reductions of greenhouse gas emissions.”

make sense if carbon credits are trading at \$50 a ton may not make sense at \$30 a ton. This price volatility can also lead to real economic pain. For instance, if 100 companies release higher emissions than they had planned for, they all have to buy more credits, which can create a very expensive bidding war.”

In addition, he said, “a cap-and-trade system will only work if all the credits are distributed from the start – and all industries are covered. But this begs the question: if all industries are going to be affected, and the worst polluters are going to pay more, why not simplify matters for companies by charging a direct pollution fee? It’s like making one right turn instead of three left turns. You end up going in the same direction, but without going around in a circle first.”

In Hawai'i, Henry Curtis of the group Life of the Land, which closely monitors energy issues, favors a carbon tax: “By having a high carbon tax, and by encouraging conversion of gas stations to electric stations, where you can recharge vehicles, we can shift away from liquid fuel to renewable-based electricity,” he told *Environment Hawai'i*.

Rep. Mina Morita, chair of the House Committee on Energy and Environmental Protection, also favors underwriting energy initiatives through a tax on oil. “We need to look at our taxation policies carefully. . . . Our tax policies aren’t right. We went along with the governor’s plan to eliminate the excise tax on alcohol fuels, but nobody saw prices go down. That’s \$35 million out of the general fund — \$35 million you could be investing in clean technologies or schools, while people just burn up more gas in their gas-guzzling SUVs.”

Putting the state on a new, clean energy course “is kind of like education,” she continued. “Reforms aren’t going to happen overnight. You have to sustain the political will to get to your vision.

“We should be looking at a barrel tax on oil. Now, the barrel tax is primarily for environmental cleanup, but I think we should have the tax increased to specifically target energy initiatives. Even 5 cents a barrel – some ridiculous amount – would go far.”

— **Patricia Tummons**

Greenhouse Gas Emissions in Hawai'i Grew 7.5 Percent from 1992 to 2005

Maybe it's imprecise or flawed. But the report on greenhouse gas emissions in 1990 published by the Hawai'i Department of Business, Economic Development, and Tourism and the Department of Health still represents the best source of information on what, and how much, the various sectors of Hawai'i's economy contribute to atmospheric warming.

And it is this report, seven years in the making, that provides the basis for the target for future reductions in such emissions. Under Act 234, enacted by the Legislature last year, by 2020, Hawai'i's greenhouse gas emissions must be no higher than they were in that baseline year of 1990.

So how much will the state's emissions have to fall to meet that target?

It's too early to say, since over the coming year, DBEDT and DOH will be refining the figures in the report, using newer, more sophisticated algorithms and formulas. The reformulation (required under Act 234) is needed, says Maurice Kaya, head of DBEDT's strategic industries division, because the 1990 report is too imprecise to be used as a basis for eventual regulation.

But the 1990 figures and another preliminary accounting of greenhouse gases emitted by Hawai'i in 2005 can provide some order-of-magnitude ideas of just how

far Hawai'i will have to travel over the next 12 years if it is to meet the goals of Act 234.

So far, DBEDT has done a rough recalculation of the 1990 figures, using updated calculations of the carbon-dioxide equivalency of several important greenhouse gases. Carbon-dioxide equivalency is calculated by multiplying emissions of gases other than CO₂ by a factor that yields the same global-warming potential, or GWP, as CO₂. For example, the GWP for methane, CH₄, is 21, which means that a ton of methane in the atmosphere has the same consequences as 21 tons of CO₂. The GWP for nitrous oxide, N₂O, is even greater: a ton of nitrous oxide has the same GWP as 310 tons of CO₂.

According to John Tantlinger, who last month retired from his position as manager of DBEDT's energy policy and planning branch, those recalculated figures show that in 1990, Hawai'i generated 24.925 million tons of CO₂ equivalent. (The original report put the total at just under 17 million tons, using factors of 22 and 270 to arrive at the CO₂ equivalency of methane and nitrous oxide, respectively.)

By 2005, Tantlinger found, Hawai'i was generating 26.795 million tons of CO₂ equivalents, for an increase of 7.5 percent over 15 years.

The Sources

The information on 2005 emissions, found in an eight-slide presentation Tantlinger gave to a conference last June, is not presented in the same level of detail as the 1990 report (more than 100 pages long). Still, some sector-by-sector comparisons are possible.

Electricity generation: Looking at the figures for 2005, the single largest source of emissions is the electric utility sector, accounting for roughly a third of the total. Emissions in this sector rose by nearly 15 percent from 1990 to 2005.

Ground transportation: The second-largest single source is ground transportation, which in 2005 was responsible for 19 percent of Hawai'i's greenhouse gas emissions. Growth in that sector from 1990 to 2005 came to more than 28 percent; in 1990, ground transportation accounted for just over 15 percent of the total emissions.

Some part of the increase is attributable to diminished fuel efficiency of newer vehicles. The *Hawai'i Climate Change Action Plan*, released in 1998, noted that from 1990 to 1995, "the estimated average fuel economy of Hawai'i's vehicles declined an estimated 8 percent." This, the plan goes on to say, is despite the fact that nationally, Corporate Average Fuel Efficiency standards for newer vehicles increased over the same period, suggesting "that new vehicles registered in Hawai'i were, on average, less efficient than the CAFÉ standard."

Air transportation: This sector has shown improvement – not because the number of flights or passengers has dropped, but because aircraft have become much more fuel efficient. Act 234, however, exempts the airline industry from any eventual greenhouse gas regulations. According to Jeff Mikulina, director of the Sierra Club, Hawai'i Chapter and a member of the Greenhouse Gas Emissions Reduction Task Force set up by Act 234, during negotiations in the Legislature over the bill that eventually became Act 234, "we were told by the Attorney General that we couldn't touch airplanes, because of interstate commerce and federal supremacy."

Fellow task force member Robbie Alm, senior vice president for public affairs for Hawaiian Electric Co., said the exclusion "was done so we didn't burden the tourist industry in such a way as to drive away a portion of our economy, and therefore we exempted out aviation fuel."

The data are silent with respect to military uses of fossil fuels. To the extent that the electricity consumed by military facilities is taken from the grids of the various island

Estimates of Hawai'i's Greenhouse Gas Emissions (in million tons of Carbon-Dioxide Equivalent)

	1990	2005	Pct. Change
Residential, Commercial & Industrial Power Generation	1.039	2.272	118.7
Electric Utilities & Independent Power Producers	7.885	9.039	14.7
Ground Transportation	3.895	4.993	28.2
Domestic Aviation & Marine	3.881	3.717	-4.2
International Aviation & Marine	6.432	4.722	-26.6
Total Energy Sector	23.132	24.744	7.0
Industrial Processes; Refining	.00498	.00516	3.6
Cement Manufacturing	.109 (ceased 1995)		-100.
Municipal Solid Waste Management	1.161	1.701	46.5
Wastewater Treatment	.0216	.024	10.9
Domestic Animals	.274	.192	-29.9
Manure Management	.129	.057	-56.2
Sugarcane Burning	.032	.011	-66.2
Fertilizer Use	.061	.062	2.4
Total	24.925	26.796	7.5

(Note: Figures do not include emissions for military aviation fuel, exported fuels or fuels used overseas.)

UH Experts Say Greenhouse Task Force Needs More Time, Money to Meet Goals

Under a draft work plan for the Greenhouse Gas Emissions Reduction Task Force, the first order of business once funds are released is selecting a contractor to update the state's 1990 greenhouse gas emissions inventory and assist with other task force activities.

About \$400,000 – or the lion's share of the \$500,000 budget the task force has been given for its first year of work – is anticipated to be used for consultant activities. If all goes according to schedule, the contractor will be selected and should begin work by March, with the final inventory due to the Legislature by December 31, 2008.

At the task force's November 30 meeting, representatives from the University of Hawai'i presented some of their work on local energy issues. Some of that work is being done with the expectation that a large share of the work that will be farmed out to consultants will fall to them.

Mike Hamnett, of the UH Social Science Research Institute, said that once the Legislature passed Act 234 (which requires the state to reduce greenhouse gas emissions to 1990 levels by the year 2020), he pulled together a team of economists and engineers "to figure out options and assess their impact."

In addition to the university's Hawai'i Natural Energy Institute, which Hamnett said was already doing work on energy consumption and had the capacity to do greenhouse gas emission modeling, the university has assembled a core group of researchers from its Economic Research Organization (UHERO), which received \$200,000 from Hawai'i Electric Industries (parent company to three of the state's four major electric utilities) to begin the work.

According to Hamnett, the group has begun an "analytical and modeling support

utilities, the amount of greenhouse-gas emissions attributable to them can be determined. And, according to Tantlinger, "with respect to fuel use, we know what they acquire every year."

"They're very cooperative with us" in providing that information, Tantlinger told the Greenhouse Gas Emissions Reduction Task Force at its meeting last month. "On the other hand, we don't know how much of that [fuel] is used in Hawai'i or elsewhere, because where it's used, and for what, is classified." — *P.T.*

project" for the work of the task force. At the November meeting, Denise Konan presented some of the group's preliminary findings, building on the last comprehensive business inventory done by DBEDT, in 1997, and projecting forward from that, based on growth models.

Using economic models developed by UHERO, Konan said, by the year 2030, the group forecasts that "emissions will approach 45 million tons" of carbon dioxide or its equivalent, absent any significant changes in consumption patterns. Under the low-

growth scenario, emissions would be roughly 38 million tons – or 150 percent of present levels, using state Department of Business, Economic Development and Tourism calculations.

Konan presented several "next steps" for her group's work: modeling carbon policies (including regulation, cap-and-trade systems, and carbon taxes); developing models of how greenhouse gas policies interact with the tax structure and considering the impacts of this on public finance, income distribution, social welfare, and the like; and factoring in "petroleum price shocks, alternative tourism and military growth scenarios, population growth, and mitigation efforts."

Some on the task force were not overwhelmed by Konan's presentation. Larry Lau, deputy director of the Department of Health and task force co-chair, asked, "Is anything in your analysis going to be looking at the costs of non-action?" Referring to maps developed by a UH geologist showing the impact of rising sea levels on Hawai'i, especially in the tourist center of Waikiki, Lau continued: "If we look at Chip Fletcher's maps, we can kiss tourism goodbye... How much time do we have? The rate of change will affect economic impact, and it may not be a linear path. If we go over some tipping point with Antarctica or Greenland, our big economic model will be scuba gear."

Konan noted that her group's model "isn't set up to look at those issues now. It's a next step, an important policy question."

Maurice Kaya, head of DBEDT's strategic industries division, asked about the role rising oil prices played in developing the fore-

casts. "Are you looking at demand for oil? Price and policies affect demand. Have you factored those effects into your work?"

"No," answered Konan, saying that an analysis incorporating such issues would be "more complicated than this modeling... It gets expensive. The funding from the task force won't be sufficient to do everything."

Hamnett then told the task force members, "You're at least a year too short in what you've been given to do by the Legislature. And you're probably short by about half of the amount of money you need to do what you've been asked to do. We're prepared to raise additional private money to supplement this, but we do have to work out what it would take for us to tackle some of the questions the task force members have asked. We could easily spend \$1.2 or \$1.3 million, not counting the greenhouse gas in-

"You're at least a year too short... and you're probably short for about half of the amount of money you need."
— **Mike Hamnett**

ventory." (Later, Hamnett told *Environment Hawai'i* that the UH group is "not interested in working on the inventories. They are interested in doing emissions and economic modeling and policy analysis.")

Ted Liu, director of DBEDT and task force co-chair, responded by noting that even though resources were tight, "we need to forge ahead, show people what we can do [and] be creative in terms of funding, personnel resources."

"I agree with you," he told Hamnett, "that neither DBEDT nor DOH has the resources or position counts, but we don't want to wait" until they're available.

According to a handout distributed at the task force meeting, the university team "will compile existing economic and environmental data and provide descriptive analysis data needed to analyze policy options to reduce greenhouse gas emissions...[and] will adapt and use long-run comprehensive models developed by UHERO [to] analyze the economic and environmental impacts of alternative growth scenarios to provide estimates of economic impacts of alternative policy strategies."

Kaya insisted that there has been no commitment on the state's part to go with any contractor. "We have to understand our options, what's manageable with the money that we have. We have to run that type of evaluation first before we make any decisions."

The main purpose of the UH presentation, he continued, "was to give the task force members an idea of what the university people have been doing. No commitments have been made." — *P.T.*

As Hawai'i Moves to Renewable Fuels, New Controversies, Concerns Arise

In the search for alternatives to fossil fuels, Hawai'i has looked to a wide range of renewable energy sources, including geothermal, wind power, solar generating systems and solar water-heaters, hydroelectric power, wave energy, ocean thermal energy conversion, biofuels (ethanol and biodiesel), bagasse, and municipal solid waste.

The two largest energy-consuming (and greenhouse-gas emitting) sectors are electric utilities (and independent power producers) and ground transportation.

Options for reducing tailpipe contributions to the state's greenhouse-gas load are largely limited at this point to conservation measures: seeking alternative transportation means (bus, bicycle, or foot), driving fuel-efficient vehicles, and reducing the overall number of miles driven. The infusion of ethanol into the gasoline blends sold at pumps statewide has had little (or possibly negative) impact on fuel efficiency, so it is, at this point, difficult to say whether the requirement to sell ethanol blends has had any positive impact on the state's carbon footprint. Electric-powered cars have the potential of making a dent in greenhouse-gas emissions if the source of their power is renewable or comes from a generating plant where carbon dioxide emissions are sequestered – but the technological advances required for this are years distant.

That leaves the electrical generating sector as the area where Hawai'i may make the greatest headway in reducing its emissions of greenhouse gases.

According to the Department of Business, Economic Development, and Tourism, in 2005, nearly 90 percent of Hawai'i's power came from petroleum. The second largest source was another fossil fuel, coal, which accounted for roughly 5 percent of the total. All other sources made up the remainder (H-POWER, bagasse, and solar-water heating the three largest of them).

The state's renewable energy portfolio requires utilities to have no less than 20 percent of their net electricity sales generated by renewable resources by the year 2020. In addition, Act 234 of the 2007 Legislature requires that statewide greenhouse-gas emissions be reduced substantially by that same year.

Already utilities are planning with these goals in mind. In its strategic plan approved just last November, Kaua'i Island Utility Co-op committed to producing within 15 years 50 percent of its electricity from renewable, non-

fossil-fuel sources. HECO is planning to build a 110-megawatt biodiesel-fueled plant at Kalaeloa. Wind farms either have been built, refurbished, or are being planned on Maui, Hawai'i, O'ahu and Kaua'i. The City and County of Honolulu is planning an addition to its H-POWER plant, which will increase electrical generation from municipal solid waste on that island.

Yet, as HECO discovered when it unveiled its plans for the Kalaeloa plant, to be fueled with palm oil, putting the renewable label on a fuel does not inoculate it against controversy. Much of the world market in palm oil is supplied from plantations that have been established on what were once forested lands of Southeast Asia. HECO has promised to use its best efforts to ensure that its fuel will not come from freshly deforested lands, but with a burgeoning world market in the commodity, HECO's promise does nothing to stop deforestation.

(Not only does the clearing of tropical rainforests release the carbon in the vegetation once covering the land, it is followed with the burning and drying of peatlands. According to Greenpeace, some 1.8 billion tons a year of methane, a potent greenhouse gas, is released as forests are cleared to make way for oil palm plantations.)

Eventually, Hawai'i may be able to grow some of its own fuel to be used in island electric plants. William Steiner, dean of the University of Hawai'i-Hilo College of Agriculture, Forestry, and Natural Resource Management, has championed this notion and has obtained a lease on Big Island land to undertake a demonstration project to grow varieties of oil palm.

Yet the cultivation of biofuels locally may not be an unmixed blessing. There is the risk that an oil-rich plant (switchgrass, for example) could turn out to be invasive. Economically, it is uncertain whether locally produced biofuels could compete with imports, given relatively higher wages paid in the United States, compared with wages in developing countries. Not least, there is the concern that if Hawai'i produced enough biofuel crops to make a meaningful reduction in imports, it could drive down production of local produce.

Still, Mina Morita, chair of the House Energy and Environmental Protection Committee, harbors hopes for Hawai'i attaining a degree of energy self-sufficiency. "It's a very

Hawai'i Energy Facts

1. Ranking of residents of Hawai'i among all U.S. states in per-capita emissions of carbon dioxide in 2003: **32nd**
2. Per-capita annual carbon dioxide emissions for Hawai'i for that same year: **17.78 tons**
3. Ranking of Hawai'i in 2003 among all U.S. states in total annual emissions of carbon dioxide: **43rd**
4. Millions of metric tons of carbon dioxide Hawai'i emitted in 2003: **21.5**
5. Millions of metric tons emitted in 2003 by No. 1 ranked Texas and No. 50 ranked Vermont, respectively: **670.2, 6.5**
6. Countries with highest and lowest per-capita carbon dioxide emissions in 2004: **Qatar (69.2 metric tons per person), Chad (.01 metric ton)**
7. Ranking of U.S. per-capita carbon dioxide emissions among more than 200 nations in 2004: **10th** (20.4 tons per capita)
8. Ranking of Italy (7.69 tons per capita): **52nd**
9. Vehicle miles traveled annually per Hawai'i resident in 2005: **7,907**
10. Vehicle miles traveled annually per Hawai'i resident in 2000: **7,048**
11. Percent increase in Hawai'i per-capita vehicle miles traveled, 2000-2005: **12**
12. The "emission intensity" of Hawai'i's commercial fishing fleet (carbon dioxide emitted per million dollars revenue generated): **1.596 million tons**
13. The emission intensity of sightseeing buses in Hawai'i: **387.624 tons**

Sources: 1-5, U.S. DOE, Energy Information Administration; 6-8, DOE Carbon Dioxide Information Analysis Center; 9-11, State of Hawai'i Data Book; 12-13, University of Hawai'i Economic Research Organization

realistic goal because of the amount of renewables that we have," she told *Environment Hawai'i*. "We don't have to look at heating costs, we have minimal cooling costs – cooling is just a matter of good design, really. And for the distances that we travel, electric engines make good sense. We're not hamstrung by many of the challenges on the continent." — P.T.

BOARD TALK

Land Board Weighs Energy Proposals: Thumbs Up For Palm Oil; Albizia Plan Is Deferred

Imperium Renewables, LLC, a company based in Washington state, has been granted a 35-year lease at O'ahu's Kalaeloa Harbor, where it plans to produce some 100 million gallons of biodiesel each year. Once it completes its processing facility in 2009, Imperium plans to sell the fuel to Hawaiian Electric Company, which announced last year plans to wean its power plants off fossil fuels.

At public hearings held statewide, many environmentalists objected to HECO's choice of palm oil – which has a reputation for being unsustainable – as an initial source and were critical of the company's claims that its decision to use biofuels will jumpstart the industry in Hawai'i.

These same concerns were raised on November 16, when the state Board of Land and Natural Resources met to decide on Imperium's request for a lease. Representatives of Life of the Land and the Windward Ahupua'a Alliance opposed the lease in large part because Imperium plans to make its biodiesel from palm oil imported from Malaysia, where rainforests have been burned and indigenous people have been displaced for palm plantations.

Life of the Land executive director Henry Curtis had requested a contested case hearing on the lease in October, when the proposal first came to the board. At the November meeting, however, the board found that he did not have standing and was therefore not entitled to a contested case hearing.

Even so, Curtis discouraged the board from making any decision that would lead to Hawai'i becoming the first place in the world to use palm oil to produce electricity.

"It was proposed in Europe and after enormous community pressure and scientific analysis, the proposal was withdrawn... And palm oil, if you look at the *Wall Street Journal*, the UN, the FAO, the World Bank, OXFAM, all of them say there is a major problem with this," he said.

The Maui group of the Sierra Club of Hawai'i also expressed concerns over the use of imported palm oil. In testimony submitted on November 14, group members Karen Chun and Kallie Keith-Agaran wrote, "Imperium espouses the laudable goal of using palm oil certified by the Round Table on Sustainable Palm Oil (RSPO). In reading the RSPO guidelines, it is clear that this is an industry organi-

zation established to counter the worldwide criticism being directed at biodiesel generated from palm oil.

"For instance, the Wilmar Group, [an Imperium contractor] one of the largest growers and suppliers of RSPO palm oil... states that it does zero burning. However, they stand accused of continuing to fire-clear rainforest, of violating Indonesian environmental law, of not obtaining the required permits, and taking of indigenous people's land without their permission. All of these are practices that RSPO certification is supposed to prevent, but is clearly ineffective in doing so."

They also noted that Oregon has banned imported palm oil from being counted toward sustainability goals.

"It is likely that legislation in most states will soon follow Oregon's lead. The Hawai'i Legislature recently put a condition on a bond for the BlueEarth biodiesel plant in Maui, prohibiting it from the use of unsustainably produced palm oil as a feedstock. It is likely that the Legislature will soon prohibit any biodiesel plant in the state from relying on palm oil for meeting the goal of supplying 20% of our power from sustainable sources," they wrote.

Although he did not directly address criticisms about the efficacy and enforceability of the RSPO standards, Imperium chief operating officer David Leonard told the Land Board that his company would not buy any palm oil that was not RSPO-certified. He said the standards address sustainable agricultural practices, child labor issues, and indigenous people's rights, and he pointed out that the World Wildlife Fund and other environmental groups are members of the round table. In response to concerns that burning forests to grow palm generates huge amounts of greenhouse gas and threatens biodiversity, Leonard said that the RSPO "prohibits, with a very limited exception, burning to create land to grow palm."

Next Steps

In their testimonies before the Land Board, both Imperium and the Sierra Club acknowledged the need for more research on new feedstocks.

Citing the Hawai'i Biofuel Briefing Book of 2006, Chun and Keith-Agaran noted

that only 19,500 acres have been identified as potential bio-crop land on O'ahu (about 140,000 acres have been identified statewide). Based on yield estimates by the state Department of Agriculture, they calculated that 19,500 acres could produce only 750,000 gallons of feedstock a year using jatropha or kukui, less than one percent of the Imperium facility's capacity.

Unless the plant was downsized, "efficient plant operation would be dependent on the development of algae or other as yet unknown bio-crop technologies," they wrote.

They also asked the board to impose a schedule on Imperium to foster the transition from palm oil to more sustainable feedstock. They proposed that by the end of the third year of the lease, 10 percent of the biofuel should be generated from O'ahu-grown feedstock. Over the term of the lease, that percentage would increase every three years until, by the end of year 11, 90 percent of the fuel would come from O'ahu grown feedstock. Requiring the use of O'ahu feedstock would "help avoid the highly undesirable situation in which a plant located on a given island might compete with plants on another for feedstock generated on that island," they wrote.

Although Leonard defended the size of the proposed facility – noting that 100 million gallons of biodiesel a year is equivalent to less than five percent of what's produced by Hawai'i's Chevron and Tesoro refineries – he acknowledged that tests are continuing on what could be the ideal crops.

"The current generation is soy, canola, and palm... The next generation is jatropha [an inedible crop that has been grown in India to make biodiesel], and jatropha has great promise for Hawai'i to grow on marginal land with very little water... The third generation, the holy grail of the industry, is algae," he said, adding that ideally, an algae farm co-located next to a power plant would consume carbon dioxide and then be used to make biodiesel.

"We're trying to move as fast as possible to non-food, local feedstocks that are more sustainable than the current generation, but canola and soy and palm are what we have now," he said.

Land Board member Samuel Gon asked Leonard whether Imperium had a timetable to transition from imported palm oil to locally grown sources.

Leonard said that Imperium is working with the Hawai'i Agricultural Research Center on O'ahu and with Big Island groups that are growing jatropha and African oil palm, two species that have been identified as having good oil producing potential. He said that jatropha can start producing oil within two years and that African oil palms take five to eight years.

HARC has estimated that the entire state can produce a maximum of 150 million gallons of local feedstock a year, he added.

Pressed by Maui board member Jerry Edlao to provide more specifics on a transition schedule, Leonard kept it vague, saying it was difficult to predict what the world vegetable oil commodity market will be like when the plant begins running in 2009.

He said that generating enough local feedstock to meet the island's energy needs is a big job, and to help, Imperium recently donated a jatropha oil extraction machine to HARC. Also, U.S. Sen. Daniel Akaka recently gave a grant to the Hawai'i County Economic Development Council of \$677,000 for jatropha development, he said. Leonard added that in Imperium's contract with HECO, "there is a pricing preference for local feedstock."

Hawai'i island board member Rob Pacheco was still not satisfied. "I can't believe you don't have some kind of forecast, a best-case scenario," he said.

Finally, Leonard explained that because Imperium has recently filed for an IPO (initial public offering, where a private company first offers its stock to the public), he could only tell the board what has been made public in the company's Securities and Exchange Commission filings. He conceded that Imperium's research facility is working on second and third generation crops and has given a grant to UH-Hilo to experiment on Costa Rican hybrids of African oil palms. He added that research on algae seems promising but is still "very experimental."

Imperium is also working with HARC to assemble a working group of local agricultural researchers, landowners, and consumers of biodiesel to pool money for feedstock research, he said.

Conditions

With Imperium either unwilling or unable to suggest a time frame for switching from imported palm oil to local or non-food feedstock, the Land Board seemed inclined to set one itself. But when Gon suggested that the best way to ensure a transition would be to impose a time constraint on the lease – for example, a ten-year deadline to reach certain a target – Imperium's attorney Raymond Iwamoto argued against it.

Iwamoto explained that the facility will cost \$97 million to build and that if Imperium's lease requires the use of local sources by a certain deadline when there is no guarantee that the deadline can be met, the company may not be able to secure financing.

While Imperium's contract with HECO encourages the use of locally grown feedstock, it does not require it. Iwamoto said the contract states local feedstock must be used when it is available on a "cost-effective, market-driven basis." (The arrangement between HECO and Imperium must still be approved by the Public Utilities Commission, which has opened a docket on the matter.) Leonard also invoked the commerce clause in the U.S. Constitution, which he said would preclude a state from giving preference to its own production and supplies over another.

In the end, the Land Board approved the lease with two additional conditions requiring Imperium to 1) make "commercially reasonable best efforts" to use second or third generation or local feedstocks as they become available, with a goal of at least 10 percent local feedstock use by the end of the first decade, and 2) work with government and private entities to develop Hawai'i's feedstock supply and contribute no less than \$100,000 a year to research on local feedstocks.

Competition

Before the board's vote, U.S. Biodiesel Group II, LLC, a competitor of Imperium, asked the Land Board to auction the lease instead of issuing it directly to Imperium. U.S. Biodiesel attorney Gerald Sumida said that in early October the company had formally sought a seven- to eight-acre lease at Kalaeloa Harbor for its own processing facility, but was told by the Department of Transportation that nothing that size was available. Sumida argued that state law requires the board to auction the lease if there are two or more interested parties. State deputy attorney general Michael Lau disagreed, arguing that state law allows direct leases to be issued for a maritime-related use. He said Imperium's facility qualifies as such a use because the oil for the facility will arrive by ship. He added that U.S. Biodiesel requested land so much later than Imperium that it could not be considered a competitor.

DOT representative Mike Formby stated that his department has identified a 4.3-acre parcel for U.S. Biodiesel, but that the company wants the Imperium parcel. "It's not like we're trying to exclude anybody, but in the planning process, you have to make commitments, you have to proceed forward and do your best to accommodate everybody that you can," he said.



Board Defers On Plan to Grow Albizia for Fuel

A Kaua'i energy company's proposal to grow invasive trees to produce electricity seemed to many like a non-starter. But despite calls from farming groups and environmentalists to reject the project, the Land Board voted on November 16 to keep the project alive, although it deferred action on the request by Green Energy Team, LLC, for a revocable permit for 2,160 acres of former Lihue Plantation land in Wailua. Instead, the board decided to revisit the matter at its first meeting in January and directed the various parties involved to try to iron out their differences in the meantime.

According to the Department of Land and Natural Resources' Land Division, Green Energy's proposal to use wood chips to make electricity is in line with the state's efforts to increase renewable energy production to 20 percent by 2020. According to the division's report to the Land Board, the project has received support from various state and county officials, private executives, community leaders, and agricultural associations.

Under a 20-year power purchase agreement between Green Energy and the Kaua'i Island Utility Cooperative signed last March, Green Energy must start providing the utility with electricity by the end of 2008. While the company has its own land to build a 6.4 megawatt gasification plant to process the trees, it lacks sufficient acreage to grow them.

In early October, Green Energy unveiled its proposal to use a portion of a 6,700-acre state parcel known as Parcel 20 that is currently occupied by 13 farmers and ranchers informally organized as the Kalepa Coalition. The land is irrigated by the old East Kaua'i irrigation system, which is operated by the East Kaua'i Water Users' Cooperative under a revocable permit issued by the Land Board in 2002.

In 2005, the Department of Land and Natural Resources proposed transferring the parcel and the irrigation system to the state Agribusiness Development Corporation, which manages the Waiahole Ditch system on O'ahu and the Kekaha system in West Kaua'i. Although the Land Board never approved the transfer because of a contested case hearing request by the Office of Hawaiian Affairs and disputes over transferring portions of the water system, co-op members believed that the ADC would one day take over management of the lands and that

they would eventually receive long-term leases.

In an October 22 letter to Land Board chair Laura Thielen, co-op president Jerry Ornellas expressed his dismay at the proposal and his surprise at claims by Green Energy and DLNR staff that they were unaware the 6,700-acre parcel was already encumbered by several revocable permits.

"When Green Energy met with nearly the entire Kalepa Coalition on October 17, hardly ten days after anyone on Kaua'i first heard of the project, they were met with strenuous objections from the seven parcel holders [for the affected 2,100 acres] about to be evicted. ... I and dozens of East Kaua'i residents have worked for years to secure the water system and acquire the individual parcels of former sugar cane land. For the first time in nearly a century, decent, farmable land has become available to the ordinary person. Now the state is planning not only to take this land away from the ranchers and farmers and potentially ruin it with vast stands of abandoned albizia [sic], but to do so for a speculative project of unproven economic value," he wrote.

Despite their distaste for the project, the farmers collaborated with Green Energy at the October meeting on a draft proposal that would allow the current permittees and Green Energy's plantation to co-exist. Under the plan, permittees who gave up a portion of their parcels to tree production would be eligible for long-term leases under legislation proposed for the 2008 session. Those who chose not to would be kept on month-to-month revocable permits.

After meeting on their own to discuss the matter further, however, the farmers backed off from the proposal when some of them realized how difficult it would be to actually co-exist with a tree farm. The cattle ranchers in particular worried that the increased shade created by an albizia canopy would reduce the nutrient content of the grasses the cows graze on.

In letters submitted to the Land Board in November, the Hawai'i Farm Bureau, the ADC, the Kaua'i County Farm Bureau, the East Kaua'i Soil and Water Conservation District, and other farmers all denounced the use of prime agricultural lands for energy production.

In addition to the concerns raised by the agricultural community, environmentalists, as well as DLNR employees, criticized Green Energy's choice of albizia.

In his report to the Land Board, land agent Gary Martin acknowledged that albizia was an invasive tree, but stated that there are already 500 acres of albizia on the subject parcel and millions of trees on the island.

"By using the albizia as a biomass fuel and fertilizer, what is now an invasive species will become a product having commercial value and also create agricultural jobs for Kaua'i," Martin wrote.

Division of Forestry and Wildlife administrator Paul Conry, however, took a different view. In a November 16 letter to the Land Board, Conry warned that albizia is "a fast growing and emergent canopy tree that shades out and displaces understory species and modifies native forests." Although albizia is common in the area, Conry stated that "the use and planting of additional acreage of this species will potentially result in the expanded cultivation and spread of this species."

He wrote that DOFAW could support the harvesting of existing stands of albizia during the first ten years, but stated that any new plantings should be with a non-invasive species. He suggested that a Eucalyptus species or Ear Pod (*Enterlobium cyclocarpum*) would be comparable in quality to albizia.

Hawai'i Invasive Species Council coordinator Chris Buddenhagen, testifying as an individual, told the board that he would hate for the state to create a demand for an invasive species.

A number of Land Board members agreed and Kaua'i member Ron Agor all but ordered Green Energy to find another species to plant. Despite all the negative comments on the project, Land Board chair Thielen was not ready to reject the proposal and suggested that the Kalepa Coalition, Green Energy, the ADC and the state Department of Agriculture work together on a more agriculturally sound co-existence plan.

When the board finally voted to defer the matter until January, at-large member Tim

Johns suggested that in addition to working on a co-existence plan, the Land Division should revisit its decision to exempt the project from environmental review in light of the Hawai'i Supreme Court's recent decision overturning the Department of Transportation's decision to exempt harbor improvements to accommodate Hawai'i Superferry. The control of invasive species could be addressed in an environmental assessment, he said.



Board Quashes Proposal for Vacation Rentals on Kaua'i

To young Leah Suesen, the thought of her hometown becoming a "horizontal hotel" scares her. Suesen, one of more than 100 Ha'ena residents opposed to the proliferation of vacation rentals there, asked the Board of Land and Natural Resources last month to think about her generation and future generations before deciding whether to allow a handful of Ha'ena landowners to continue renting out their homes to tourists.

Over the last 40 years, the Land Board has issued 53 Conservation District Use Permits for single family residences in Ha'ena, located on Kaua'i's scenic north shore. In the process of acquiring those permits, many landowners agreed to conditions prohibiting them from renting or using their homes for commercial purposes. Even so, several permittees have chosen to market and rent their properties to visitors for \$1,000 to \$8,000 a week, according to a Department of Land and Natural Resources report.

Last year, the DLNR began taking steps to crack down on those permit holders who



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appeared to be using their Ha'ena homes as vacation rentals. Last March, the department sent 16 letters to landowners – at least half of whom reside on the mainland – asking them to cease unauthorized commercial use of their homes by June 30 or face fines of up to \$2,000 a day.

A month later, attorney Roy Vitousek, representing all but two of the landowners who had received letters, asked the DLNR to give them until January 15, 2008, to stop the rentals and also requested a contested case hearing. The DLNR responded on September 6 that it might allow a time extension if the landowners submitted affidavits stating that they would stop using their homes for rental or any other commercial purpose, and actually stop such uses on January 15, 2008. If they did not agree, the DLNR wrote that it would take enforcement action starting January 1.

Instead of agreeing to the DLNR's terms, Vitousek filed on September 10 a petition for a deviation from the CDUP conditions banning rentals and commercial use. Vitousek has argued that the condition is unreasonable and unenforceable and noted that there are "essentially identical properties in the adjoining area of Wainiha which are in the Urban District and zoned for residential use." (Urban District land uses are regulated by the county; Conservation District uses are regulated by the state DLNR.)

On October 26, the request for a deviation was brought to the Land Board. At that meeting, Sam Lemmo, administrator of DLNR's Office of Conservation and Coastal Lands, recommended that the board set aside the request and allow the office to complete its investigation of alleged permit violations.

"[W]e believe that this request... is premature. It would represent a digression from our efforts to enforce our conservation laws. We

have to keep in mind that these people... the people that have been the subject of the investigation have been aggressively marketing vacation rentals on internet sites, through marketing companies, through management companies and this is clearly, in our determination, at odds with the intent of the Conservation District and the specific conditions of those permits," Lemmo told the board

In the course of discussing how to proceed, deputy attorney general Colin Lau pointed out language in the DLNR's rules that OCCL staff had overlooked. Lau noted that the rules state that "failure to secure Board approval for deviation before such a deviation occurs constitutes cause for the permit revocation."

At Land Board chair Laura Thielen's prompting, Vitousek admitted that in seeking the deviation, he was acknowledging that his clients are involved in rental activity.

"It's not really fair, facing an enforcement proceeding, to ask counsel to make admissions on behalf of the client. But I believe there are owners here who are doing short-term vacation rentals," he said.

Despite Vitousek's admission and Lau's indication that the deviation request constituted grounds for revoking some of the permits, the Land Board chose to defer the matter until its December meeting to allow more time to consult with its counsel.

On December 7, Vitousek submitted a proposal to resolve the rental dispute. Under its terms, the permits would be amended to prohibit commercial uses, but allow rentals. Transient vacation rentals would be allowed only under certain conditions. The hui of landowners would also seek to create a special Ha'ena Hui conservation/residential subzone.

At the Land Board's December 14 meeting, Lemmo explained that in evaluating any deviation request, the Land Board must determine that the deviation: 1) is necessary because of the lack of practical alternatives; 2) shall not result in any substantial impacts to natural resources; 3) is not inconsistent with the public health, safety, and welfare; and 4) does not conflict with the objectives of the subzones.

The OCCL's staff report, prepared by planner Dawn Hegger, stated that the proposed deviation does not meet all of these criteria. Furthermore, Lemmo reminded the board that DLNR rules require a deviation request be made before a deviation occurs.

"Really, we should be sitting here talking about a revocation, perhaps, not a deviation," Lemmo said.

Lemmo said his division felt the landowners were essentially seeking a new use of the Conservation District. Without a new Conservation District Use Application, an environmental assessment, or any public hearings on this new use, "we have nothing before us that suggests this is an appropriate use of conservation lands," he said.

Several Ha'ena residents testified against the deviation and discussed how the explosion vacation rentals in the area has affected their daily lives. Suesen submitted a petition signed by 106 Ha'ena residents asking that the Land Board deny the deviation request.

Wendy Wichman, whose family has lived in Ha'ena for 60 years, suggested that the permit conditions prohibiting rentals and commercial uses may have been a response by the Land Board to the increasing impacts of tourism in the area.

She noted that the intent of the limited subzone is to limit use where "natural conditions suggest constraints on human activity."

"This is very true of Ha'ena... These homes are lucrative rentals for this very reason, that they exist in a limited subzone that's protected from excessive development. It seems wrong that a property owner can agree to conditions that make their property valuable in the first place and turn around and disregard those same restrictions," she said.

The Land Board seemed to agree and voted unanimously to deny the deviation request. With regard to Vitousek's earlier request for a contested case hearing, the Land Board determined after an executive session that one would not be allowed.

— Teresa Dawson

