

KA NU HOU

FROM THE CHAIR

OCTOBER 2009

Aloha Section Members:

I am pleased to present the first 2009 issue of Ka Nu Hou, the newsletter of the Real Property and Financial Services Section of the Hawaii State Bar Association. Much thanks to this year's editor and Vice Chair, Cynthia Ching, and to our featured author Everett Ohta, a third year law student at the William S. Richardson School of Law. Mr. Ohta was one of the two law students whose papers were selected for an award from the RPFSS.

The Section's Board and past chairs have been meeting monthly on the third Friday of the month, where we plan programs, continuing legal education, and conduct other Section business. Our meetings are open to any section member and we usually have interesting discussions of current issues pertaining to the real property and financial services practices, in addition to our more mundane Section business. If you would like more information, please do not hesitate to contact me or any of your Officers and Directors, who are listed at the back of this newsletter.

In 2009, the Section produced and/or sponsored several informative seminars, including presentations on the Land Court, Real Estate Auctions, the Hawaii Land Use Law seminar, an ALI/ABA Commercial Real Estate Financing Strategies for Changing Markets and Uncertain Times seminar, and the Legislative Update. In the remainder of 2009, the Board is considering other seminars, including one on Act 175 (Notary Law) and a Real Estate Update on recent Hawaii cases. The Board also worked closely with Mitchell Imanaka, Deb Chun and Mark Hazlett in an effort to assist with production of Volume II of the Hawaii Real Estate Manual. While this effort did not result in a collaboration in 2009, the Board continues to look at ways that the section members can benefit from the publication of this important and impressive resource in 2010 and 2011.

The Board has also been very involved with monitoring and participating in discussions with the HSBA leadership concerning the interplay between the HSBA and the sections. The HSBA is considering adopting policies that may greatly effect the relationship between the big bar and the sections. Our Section members can rest assured that the Board will continue to evaluate our options as the HSBA policies evolve, so that our Section members' interests will be protected and the Section can continue to provide its members with relevant

substantive content and programs.

Finally, the Section's Annual Meeting is set for Friday, December 4, 2009, at the Pacific Club. Our speaker will be Professor David Callies, who will discuss his soon-to-be published book, the updated *Regulating Paradise*. Ballots and RSVP forms will be sent out to Section members in the coming weeks.

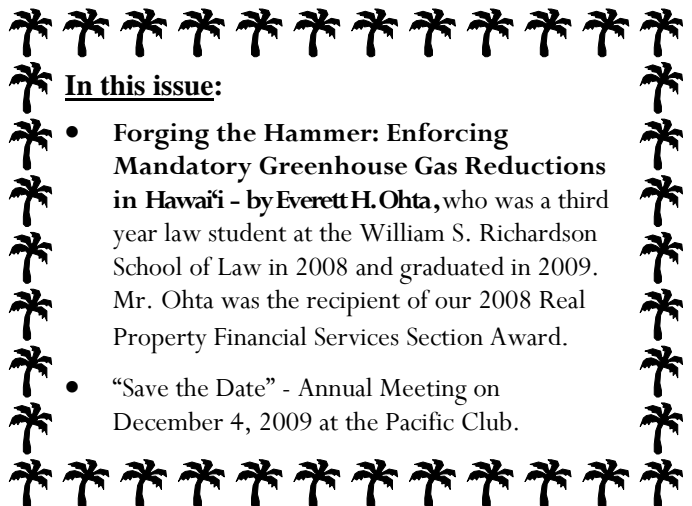
Aloha,
Greg Kugle, Chair

Pro Bono Real Estate Attorneys Needed to Assist Honolulu Habitat for Humanity:

Honolulu Habitat for Humanity (HHH) is a nonprofit organization, which works in partnership with corporate, individual and government support to build simple, decent homes for sale to those in need in the greater Honolulu area and financed with zero interest mortgage loans from HHH.

HHH is interested in having a resource of real estate attorneys willing to receive referrals to perform pro bono legal services for partner family applicants that need assistance resolving title issues that prevent such applicants from being eligible for the HHH construction program.

If you are interested in helping HHH and contributing your skills to a very worth cause, please contact Ms. Shaila Mirchandani, Chair of the HHH Family Selection Committee, at 741-7155 or via email at shaila@islandrealtorsllc.com.



In this issue:

- **Forging the Hammer: Enforcing Mandatory Greenhouse Gas Reductions in Hawai'i - by Everett H. Ohta**, who was a third year law student at the William S. Richardson School of Law in 2008 and graduated in 2009. Mr. Ohta was the recipient of our 2008 Real Property Financial Services Section Award.
- "Save the Date" - Annual Meeting on December 4, 2009 at the Pacific Club.

Forging the Hammer: Enforcing Mandatory Greenhouse Gas Reductions in Hawai'i

by *Everett H. Ohta**

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* J.D. 2009, William S. Richardson School of Law, University of Hawai'i, with Certificate in Environmental Law. The author would like to thank Professor Denise Antolini for her invaluable guidance and help throughout the writing process. The author would also like to thank Tracey Kubota for her incredible level of support during the waning days of the Spring 2008 semester. Last but not least, the author would like to thank the Real Property and Financial Services Section of the HSBA for the 2008 Section prize and the opportunity to publish in the Section's newsletter. Thank you all for your continued support of student academic writing.

Author's Note: This seminar paper was written in Spring 2008, as part of the Second Year Seminar course at the William S. Richardson School of Law. Although the paper now contains a few editorial changes made in preparation for publication, this paper remains substantively the same as when it was completed in 2008. As to be expected, both Hawai'i and California have progressed through each states' respective framework for reducing greenhouse gas emissions. On December 31, 2008, Hawai'i completed the first stage of the framework when DBEDT and DOH published the updated version of the 1997 Emissions Report, available at <http://hawaii.gov/dbedt/info/energy/greenhouse>.

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I. INTRODUCTION

Imagine most of the world-famous Waikiki Beach—underwater. The prediction comes from scientists at the University of Hawai'i at Mānoa who believe that a one-meter rise in sea level may impact Hawai'i within the next century.¹ Although Hawai'i is particularly vulnerable to the effects of climate change,² greenhouse gas emissions affect the global environment. According to the Intergovernmental Panel on Climate Change, “[w]arming to the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.”³ Despite growing public concern over the effects of anthropogenic activities on Earth's climate systems, regulation of greenhouse gases has remained largely absent.⁴ Until recently, the Environmental Protection Agency (“EPA”) refused to regulate greenhouse gas emissions under the Clean Air Act, despite a rulemaking petition to regulate emissions from twelve states and a number of private organizations across the country.⁵

In 2007, the Hawai'i State Legislature passed Act 234, making Hawai'i the second state to impose a statewide cap on greenhouse gas emissions.⁶ Act 234 adopted the approach taken by the California Legislature a year earlier when it passed the Global Warming Solutions Act of 2006 (“GWSA”).⁷ Both Act 234 and the GWSA mandate that by the year 2020, statewide greenhouse gas emissions must be reduced to levels at or below 1990 greenhouse gas emission estimates.⁸ As the second state to pass a statewide greenhouse gas cap, Hawai'i's actions pursuant to Act 234 “will serve as an example to other states, the federal government, and other countries [of how] to protect our fragile environment.”⁹

Given the innovative nature of Act 234, Hawai'i must address reporting, compliance, and enforcement issues unlike those addressed by other states or the federal government. Although California will be the first state to implement regulations toward a statewide emissions cap, the one-year lag time for implementing Act 234 will not allow Hawai'i officials to simply observe the effects of regulation in California and selectively adopt proven strategies. Rather, Hawai'i officials must make informed decisions about how to best implement reduction strategies in a manner that addresses Hawai'i's unique physical and social environment.

This paper examines the newly enacted Act 234, focusing primarily on the implementation of a greenhouse gas cap. Part II of this paper describes the different regulatory schemes involved in regulating air pollution, in particular the regulatory approach of California. Part III examines the enforcement provisions of Hawai'i's current air pollution laws. Part IV discusses the focus and limitations of this paper. Part V examines three of the main sectors of greenhouse gas emitters and how reduction measures could be implemented to lower greenhouse gas emissions produced by each sector. Part VI briefly discusses some of the practical limitations of introducing a large regulatory system without providing adequate support to the agencies tasked with implementation. Part VII concludes that

¹Diana Leone, *The Drowning of Hawai'i*, HONOLULU STAR-BULLETIN, Sept. 23, 2007, at A1.

²Act of June 30, 2007, No. 234, § 1, 2007 Haw. Sess. Laws 697, 697-98 (2007).

³Lenny Bernstein, et al., *Intergovernmental Panel on Climate Change, Climate Change 2007: Synthesis Report, Summary for Policymakers* 1 (2007), available at <http://www.ipcc.ch/>.

⁴The federal government addressed climate change through voluntary measures such as: reductions in greenhouse gas intensity, promotion of biofuels and agricultural greenhouse gas sequestration, and through multilateral international agreements. See U.S. Department of State, Bureau of Oceans and International Environmental and Scientific Affairs, U.S. Actions to Address Energy Security, Clean Development and Climate Change, at 4 (2007) available at <http://www.state.gov/g/oes/climate/>.

⁵See *Massachusetts v. EPA*, 127 S.Ct. 1438, 1449-51 (2007).

⁶Act of June 30, 2007, No. 234, 2007 Haw. Sess. Laws 697 - 702 (2007).

⁷Cal. A.B. 32, 2006 Cal. Stat. Ch. 488.

⁸HAW. REV. STAT. § 342B-71 (2008); CAL. HEALTH & SAFETY CODE § 38560.5(c) (West 2007).

⁹Act of June 30, 2007, No. 234, § 2, 2007 Haw. Sess. Laws 697, 698 (2007).

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although Act 234 will soon introduce groundbreaking emissions cap, much of the needed reductions can be accomplished without a groundbreaking regulatory scheme. Rather, Hawai'i's success in lowering greenhouse gas emissions will be largely dependent on the ability of state agencies to work collaboratively and reduce emissions through technology implementation and existing regulations.

II. BACKGROUND: A NEW APPROACH TO REGULATING GREENHOUSE GAS EMISSIONS

Greenhouse gas reduction is a new area for air pollution control. When Congress passed the Clean Air Act ("CAA") in the early 1970s, there was still considerable uncertainty regarding the effects of air pollution on the Earth's climate systems.¹⁰ Times have changed, however, as both the federal government and the Supreme Court have recognized the significant impacts that greenhouse gas emissions have on climate change.¹¹ Despite an adverse ruling to its lax regulatory stance by the Supreme Court in 2007, the EPA has taken little action to regulate greenhouse gas emissions.¹²

Despite a lack of federal guidance on greenhouse gas regulations, proactive states such as California and Hawai'i chose to adopt reduction strategies that modify the earlier approach taken under the CAA. This paper takes a cursory view of the CAA regulatory system to provide context for the different approach adopted by California and Hawai'i.

A. AIR POLLUTANT PERMITTING UNDER THE CLEAN AIR ACT

States currently regulate air pollutants through federal standards enacted under the Clean Air Act of 1972. The CAA establishes federal floors for national, technology-based standards¹³ and sets national ambient air quality standards ("NAAQS") based on the adverse effects of air pollutants on human health.¹⁴ Under the CAA, only enumerated "criteria air pollutants" such as carbon monoxide, sulfur dioxide, and particulate matter are regulated.¹⁵ State agencies establish state ambient air quality standards through state implementation plans that designate maximum allowable concentrations of named pollutants.¹⁶ In addition to state ambient air standards, state agencies may also regulate individual air polluters through state permit programs that limit annual emissions from a specific source.¹⁷

Federal standards for air pollutants do not apply to greenhouse gas emissions. In *Massachusetts v. EPA*, the head of EPA refused to adopt national standards for the regulation of greenhouse gases.¹⁸ Despite the decision in *Massachusetts*, which held EPA had congressional authority to regulate greenhouse gases, the EPA continued to ignore calls for a national greenhouse gas emission standard.¹⁹ Even in light of recent Congressional action, a proposed rule for greenhouse gas reporting is not expected until the year 2009.²⁰

¹⁰*Massachusetts v. EPA*, 127 S.Ct 1438, 1447 (2007).

¹¹*Id.* at 1449-50.

¹²*But cf.* Consolidated Appropriations Act of 2008, Pub. L. No. 110-161, 110 Stat. 1161, 1254 (2007) (allocating the EPA \$3.5 million dollars "to develop and publish a rule requiring mandatory reporting of greenhouse gas emissions above appropriate thresholds in all sectors of the economy").

¹³See 42 U.S.C.A. § 7411 (West 2008).

¹⁴*Id.* § 7409.

¹⁵See *id.* § 7408.

¹⁶*Id.* § 7410. See *e.g.*, HAW. REV. STAT. § 342B-12 (2008).

¹⁷See *e.g.*, HAW. REV. STAT. § 342B-12 (2008).

¹⁸*Massachusetts v. EPA*, 127 S.Ct 1438, 1450 (2007).

¹⁹See *e.g.*, Press Release, California Attorney General's Office, Brown Takes EPA to Court for Ignoring Supreme Court Mandate (Apr. 2, 2008), <http://ag.ca.gov/newsalerts/release.php?id=1540>.

²⁰ENVIRONMENTAL PROTECTION AGENCY, MANDATORY GHG REPORTING RULEMAKING 8 (2008), http://www.epa.gov/climatechange/emissions/downloads/reporting_generic_briefing.pdf.

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EPA's refusal to regulate greenhouse gases left states without the federal guidance given to other regulated air pollutants. Rather than waiting for federal regulatory action, states turned to other standards of what are acceptable levels of greenhouse gases.

B. *A Step-Wise Framework For Achieving Statewide Emission Limits: California's Global Warming Solutions Act of 2006*

California's Global Warming Solutions Act of 2006 was the first state law in the U.S. to impose a mandatory, comprehensive cap on greenhouse gas emissions across an entire state.²¹ The California GWSA established a framework for reducing emissions of six greenhouse gases to 1990 estimated levels by the year 2020.²² Act 234 shares many features of the GWSA, particularly the statutory framework for reducing greenhouse gas emissions. Numerous other sections in Act 234 have analogous provisions in the GWSA.

California's GWSA outlines three main steps to achieve the 2020 emissions cap. First, the California Air Resources Board ("CARB"), the state agency tasked with GWSA compliance, must estimate 1990 statewide greenhouse gas emissions and create a mandatory greenhouse gas reporting scheme by January 1, 2008.²³ Second, CARB must create a scoping plan that identifies the "maximum technologically feasible and cost-effective reductions in greenhouse gas emissions from sources or categories of sources" to effect the 2020 emission limits by January 1, 2009.²⁴ Third, CARB must adopt "greenhouse gas emission limits" and "emission reduction measures" to achieve the statewide emission targets by January 1, 2011.²⁵

The following sections discuss each of the three steps in the regulatory process.

1. *Create an inventory that estimates 1990 and current greenhouse gas emissions for the entire state*

Without federal guidance over acceptable levels of greenhouse gases, the California GWSA chose a limit for emissions in the year 2020 to those levels less than or equal to 1990 estimates of statewide greenhouse gas emissions for California.²⁶ Because greenhouse gas emissions never needed to be reported and because greenhouse gases are produced from a wide range of diverse sources, actual emissions data are unavailable. Therefore, CARB must estimate statewide greenhouse emissions for 1990 based on "the best available scientific, technological, and economic information."²⁷ Following a comment period and public workshops, CARB must adopt a 1990 greenhouse gas emission estimate as the target for reductions under the GWSA.²⁸ The public comment period serves an important purpose because the 1990 estimate will remain in effect absent amendment or repeal by the California Legislature.²⁹ Whereas other regulations can be amended by CARB, the 1990 emission limit will remain constant and affect other actions taken pursuant to the mandates of the GWSA.³⁰

²¹Matthew Visick, Comment, *If Not Now, When? The California Global Warming Solutions Act of 2006*, 13 Hastings W.-N.W. J. Envtl. L. & Pol'y 249, 249 (2007).

²²CAL. HEALTH & SAFETY CODE § 38550 (West 2007).

²³*Id.* §§ 38550, 38530(a).

²⁴*Id.* § 38561(a).

²⁵*Id.* § 38562(a).

²⁶*Id.* § 38560.5(c).

²⁷*Id.* § 38550.

²⁸*Id.*

²⁹*Id.* § 38551(a).

³⁰See Visick, *supra* note 21, at 259-60.

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In addition to establishing the 1990 emission baseline, CARB must also promulgate regulations for reporting greenhouse gas emissions.³¹ The GWSA requires CARB to adopt a top-down approach when creating reporting requirements beginning in January 2008. Starting with “the sources or categories of sources that contribute the most to statewide emissions,” CARB must adopt reporting and verification procedures for measuring greenhouse gas emissions across all of California.³²

Although the GWSA imposes a new reporting requirement, CARB does not have to create a reporting system from scratch. In 2000, California established the California Climate Action Registry (the “Registry”), a non-profit entity responsible for a voluntary reporting program for greenhouse gas emissions.³³ Although the California state government no longer funds the Climate Registry, the GWSA allows businesses, organizations, and state agencies that registered with the Registry before 2007 to maintain their reporting procedures that were voluntarily adopted.³⁴ In addition, CARB is required, “where appropriate and to the maximum extent feasible” to incorporate the reporting procedures of greenhouse gas emitters enrolled in the Registry as reporting procedures for the mandatory reporting requirements for the GWSA.³⁵

2. Prepare a Scoping Plan to serve as a guide for regulations

After establishing California’s 1990 baseline, CARB must determine how to achieve the necessary emission reductions. The Scoping Plan acts as a roadmap for the future rulemaking process and is created after a consultation with other state agencies with concurrent jurisdiction over greenhouse gas emitters to ensure efficient and non-duplicative regulations.³⁶ The development of the Scoping Plan requires CARB to consider many aspects of greenhouse gas regulation, such as: the potential cost and benefits to the California economy, the possible use of market-based compliance mechanisms, the potential impact on small businesses, and the emissions reductions of other states and countries.³⁷ Before the January 2009 completion date for the Scoping Plan, CARB must consult with the public through a series of workshops, with special attention given to communities with minority and low-income populations.³⁸

3. Adopt regulations to reach emission targets and monitor progress

The final step in addressing greenhouse gas reductions is for CARB to enact final regulations to meet the reduction targets. These regulations must be in place before January 2011, leaving approximately nine years for the mandatory reduction measures to reduce statewide emissions to 1990 levels.³⁹

Given the large amount of greenhouse gas reductions needed to meet the requirements of the GWSA, the Act requires CARB to list “discrete early action greenhouse gas emission reduction measures” (“discrete early actions”) by June 2007.⁴⁰ The discrete early actions can be thought of as the low-hanging fruit of greenhouse gas reductions, which can be identified by CARB early in the regulatory process to help reduce greenhouse gas emissions.⁴¹ Although entities

³¹CAL. HEALTH & SAFETY CODE § 38530 (West 2007).

³²*Id.* § 38530(a), (b).

³³CAL. HEALTH & SAFETY CODE § 42800 (West 2007) (repealed 2008).

³⁴*Id.* § 38530(b)(3).

³⁵*Id.*

³⁶*Id.* § 38561.

³⁷*Id.*

³⁸*Id.* § 38561(e),(g).

³⁹*See id.* § 38562(a).

⁴⁰*Id.* § 38560.5.

⁴¹*Id.*

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may initially adopt discrete early actions voluntarily, the measures listed as discrete early actions become mandatory and enforceable in 2010.⁴²

4. *California's status in the Global Warming Solutions Act process*

The timeline established by the GWSA is about a year ahead of the deadlines set under Hawai'i's Act 234. Although California has fallen slightly behind its schedule, CARB has completed many of the small steps necessary to comply with the GWSA and is well on its way to comprehensive greenhouse gas regulation.

On December 6, 2007, CARB finalized the greenhouse gas emissions limit for 1990.⁴³ CARB estimated that an amount of greenhouse gases equivalent to 427 million metric tons of CO₂ was released in 1990.⁴⁴ As required under the GWSA, the 427 million tons of CO₂ was adopted as the statewide emissions limit to be achieved by 2020.⁴⁵

On April 20, 2007, CARB released its list of discrete early actions for reducing greenhouse gases.⁴⁶ The list was later expanded in October 2007 and currently identifies nine discrete early actions and thirty-five early actions.⁴⁷ CARB estimates that adopting the forty-four enumerated early actions will result in twenty-five percent of the emissions reductions necessary to meet the 2020 emissions limit.⁴⁸

In addition to these completed actions, CARB is also working to complete other requirements under the GWSA. CARB received public comments for its reporting and verification regulations and will address the comments before its reporting regulations are released.⁴⁹ CARB drafted its Scoping Plan and began presenting its draft in public workshops beginning in November 2007.⁵⁰ The draft Scoping Plan is planned to be released for public review in June 2008 and will be set for approval in November 2008.⁵¹

C. *Hawai'i's Approach to Comprehensive Greenhouse Gas Regulation: Act 234*

Unlike California, Hawai'i is just beginning the process to regulate greenhouse gases. Act 234 generally follows the same stepwise process for greenhouse gas reductions as the GWSA: (1) create an inventory for statewide greenhouse gas emissions and 1990 estimates, (2) produce a work plan to serve as a roadmap for achieving the necessary greenhouse gas reductions, and (3) enact regulations to carry out the necessary greenhouse gas reductions.

Although Act 234 is largely based upon the GWSA, Hawai'i has a different regulatory scheme from California. Hawai'i has a population approximately three percent the size of California's population. In addition, there are a few key differences between Act 234 and the GWSA despite the shared goal of achieving 1990 statewide emission levels by the year 2020.

⁴²*Id.* § 38560.5(b).

⁴³California Air Resources Board, *California 1990 Greenhouse Gas Emissions Level and 2020 Limit*, <http://www.arb.ca.gov/cc/inventory/1990level/1990level.htm>, (last visited Apr. 30, 2008).

⁴⁴JAMESINE ROGERS ET AL., CALIFORNIA AIR RESOURCES BOARD, CALIFORNIA 1990 GREENHOUSE GAS EMISSIONS LEVEL AND 2020 EMISSIONS LIMIT 1 (2007), <http://www.arb.ca.gov/cc/inventory/1990level/1990level.htm>.

⁴⁵See CAL. HEALTH & SAFETY CODE § 38550 (West 2007).

⁴⁶See Climate Change Program, California Air Resources Board, *Early Action Staff Reports*, <http://www.arb.ca.gov/cc/ccea/reports/reports.htm>, (last visited Apr. 30, 2008).

⁴⁷CALIFORNIA AIR RESOURCES BOARD, EXPANDED LIST OF EARLY ACTION MEASURES TO REDUCE GREENHOUSE GAS EMISSIONS IN CALIFORNIA RECOMMENDED FOR BOARD CONSIDERATION 1 (2007), <http://www.arb.ca.gov/cc/ccea/reports/reports.htm>. [hereinafter CARB EARLY ACTIONS]

⁴⁸*Id.*

⁴⁹California Air Resources Board, *Mandatory Greenhouse Gas Emissions Reporting*, <http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep.htm> (last visited Apr. 30, 2008).

⁵⁰California Air Resources Board, *AB 32 Scoping Plan*, <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm> (last visited Apr. 30, 2008).

⁵¹*Id.*

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1. *Hawai'i has a different regulatory agency structure*

Unlike the GWSA, Act 234 will be administered by three agency bodies: the Department of Business, Economic Development, and Tourism, ("DBEDT"), the Department of Health ("DOH"), and the Greenhouse Gas Emissions Reduction Task Force ("Task Force").

The Task Force is an administrative body established for the sole purpose of facilitating the emissions reductions mandated by Act 234.⁵² The Task Force members represent a wide range of public and private interests affected by Act 234: four appointees from "affected business sectors,"⁵³ two appointees from "environmental organization[s]," two members of the University of Hawai'i at Mānoa Climate Change Commission, and the heads of DBEDT and DOH.⁵⁴ Under Act 234, the Task Force must create a "work plan and regulatory scheme" to reach statewide emission goals in a step that is analogous to the Scoping Plan required under the GWSA.⁵⁵ The Task Force is required to complete the work plan by December 1, 2009.⁵⁶

DBEDT and DOH share responsibilities for ensuring the completion of the remaining steps for the GWSA. By the end of 2008, DBEDT and DOH must complete "an updated inventory of emission sources or categories of emission sources" that estimates 1990 greenhouse gas emissions.⁵⁷ DOH is also responsible for enacting the rules that establish greenhouse gas emission limits and reporting standards to take effect on January 1, 2012.⁵⁸

By contrast, CARB is the sole agency responsible for implementing the mandates of the GWSA.⁵⁹ Although CARB is a single agency office within the California Environmental Protection Agency, CARB is significantly larger than DOH and DBEDT, employing over 1,100 employees in fields ranging from engineers to administrative analysts.⁶⁰ Additionally, California has a history of controlling greenhouse gas emissions through regulations promulgated by CARB. In 2002, the California Legislature passed Assembly Bill 1493, which required CARB to regulate greenhouse gas emissions from California vehicles.⁶¹ Automakers challenged the law in 2007 on grounds that such restrictions were preempted by the Energy Policy and Conservation Act and had violated the Dormant Commerce Clause.⁶² Although the automakers successfully challenged the vehicle emissions and won their lawsuit, California regulators gained valuable insight that can be put toward implementing the GWSA.

2. *Hawai'i relies heavily on a 1997 emissions inventory*

The greenhouse gas inventory is an integral part of both Act 234 and the GWSA. Like California, Hawai'i greenhouse gas reductions will be dependent on the first stage of the step-wise process: the 1990 emissions inventory.

Act 234, however, differs from the GWSA by specifically requiring DBEDT and DOH to perform an update to a specific 1997 report, "Inventory of Hawai'i Greenhouse Gas Emissions Estimates for 1990" ("1997 Emissions Report") rather than creating a new emissions inventory as provided for in the GWSA.⁶³ The 1997 Emissions

⁵²Act of June 30, 2007, No. 234, § 4, 2007 Haw. Sess. Laws 697, 699 (2007).

⁵³Act 234 defines "affected business sectors" as "electrical utilities, refinery operations, ground transportation industry or maritime industry." *Id.*

⁵⁴Robert B. McKinstry, et al., *Federal Climate Change Legislation as if the States Matter*, 22 NAT. RESOURCES & ENV'T 3, 6 (2008).

⁵⁵Act of June 30, 2007, No. 234, § 6, 2007 Haw. Sess. Laws 697, 699 (2007).

⁵⁶*Id.* § 5(a).

⁵⁷*Id.* § 3.

⁵⁸HAW. REV. STAT. § 342B-72 (2008).

⁵⁹CAL. HEALTH & SAFETY CODE § 38510 (West 2007).

⁶⁰California Air Resources Board, Join the ARB Team!, <http://www.arb.ca.gov/as/personnel/jobs/join/joinarb.htm> (last visited Apr. 30, 2008).

⁶¹Cal. A.B. 1493, 2002 Cal. Stat., ch. 200.

⁶²*Central Valley Chrysler-Jeep v. Witherspoon*, 456 F. Supp. 2d 1160, 1164 (E.D. Cal. 2006).

⁶³*See id.*

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Report⁶⁴ used 1990 as the baseline year for “a state-wide inventory of greenhouse gas emissions produced by anthropogenic activity in Hawai'i” as part of a national effort to satisfy international obligations owed by the United States as a signatory of the United Nations Framework Convention on Climate Change (“UNFCCC”).⁶⁵ The UNFCCC, a precursor to the Kyoto Protocol, called for signatory countries to voluntarily reduce their greenhouse gas emissions to 1990 levels by the year 2000.⁶⁶

The 1997 Emissions Report also identifies the relative contributions of various emission sources. The updated information can be useful to regulators when deciding how to allocate the needed greenhouse gas reductions between a wide variety of sources.

Under Hawai'i's new emissions regulations, the term “greenhouse gas” is not defined by statute or within the language of Act 234 itself. Instead, the 1997 Emissions Report and the subsequent update by the GHG Task Force name the compounds that qualify as greenhouse gases.⁶⁷ The 1997 Emissions Report, created by DBEDT and the Clean Air Branch of DOH, identifies only three greenhouse gases: carbon dioxide, methane, and nitrous oxide.⁶⁸ The 1997 Emissions Report also identifies three compounds called “greenhouse gas precursors,” which are: nitrogen oxides, carbon monoxide, and non-methane volatile organic compounds.⁶⁹ By contrast, the GWSA defines “greenhouse gases” as: “carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.”⁷⁰ These gases, known as the “Kyoto Six,” are the gases specified for reductions pursuant to the Kyoto Protocol.⁷¹ Although the Hawai'i 1997 Emissions Report identifies hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride as “powerful greenhouse gases,” the report does not examine the contribution of these compounds to statewide greenhouse emissions.⁷²

The reliance on the 1997 Emissions Report means that the report will have a pervasive effect on all aspects of greenhouse gas regulations under Act 234. Not only are the sources of greenhouse gas sources identified in the 1997 Emissions Report (*e.g.*, residual fuels, agricultural burning), but also the types of greenhouse gases are limited to the three enumerated greenhouse gases.

3. *Hawai'i does not stagger its regulation implementation*

The promulgation of regulations for greenhouse gas reduction is another key step in the requirements under Act 234. DOH faces a real challenge in issuing regulations because greenhouse gases have not been regulated before and are produced from a wide range of activities.

⁶⁴DEP'T. OF BUS., ECON. DEV., & TOURISM & CLEAN AIR BRANCH, DEP'T OF HEALTH, INVENTORY OF HAWAI'I GREENHOUSE GAS EMISSIONS ESTIMATES FOR 1990 (Steven C. Alber ed., 1997), available at <http://hawaii.gov/dbedt/info/energy/publications> [hereinafter 1997 EMISSIONS REPORT].

⁶⁵*Id.* at 9-10.

⁶⁶United Nations Framework Convention on Climate Change, May 29, 1992, U.N. Doc. A/AC.237/18 (1992), reprinted in 31 I.L.M. 849 (1992), available at <http://unfccc.int/resource/docs/convkp/conveng.pdf>.

⁶⁷Act of June 30, 2007, No. 234, § 2, 2007 Haw. Sess. Laws 697, 698 (2007) (“Declaration of policy. By January 1, 2020, the State of Hawai'i shall reduce statewide greenhouse gas emissions to levels at or below the best estimations and updates of the inventory of greenhouse gas estimates for 1990.”).

⁶⁸1997 EMISSIONS REPORT, *supra* note 64, at 1-3.

⁶⁹*Id.*

⁷⁰CAL. HEALTH & SAFETY CODE § 38505(g) (West 2007).

⁷¹United Nations Framework Convention on Climate Change annex A, Dec. 10, 1997, 37 I.L.M. 22 (entered into force Feb. 16, 2005) available at <http://unfccc.int/resource/docs/convkp/kpeng.pdf>. It should be noted that the 1997 Emissions Report, *supra* note 64, was published in July 1997, five months before the signing of the Kyoto Protocol.

⁷²See 1997 EMISSIONS REPORT, *supra* note 64, at 1-4.

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Act 234 provides that the director of DOH must adopt regulations before December 31, 2011.⁷³ These regulations must cover: (1) rules for “greenhouse gas emission limits applicable to sources or categories of sources,” (2) rules for “emission reduction measures to achieve the maximum practically and technically feasible and cost-effective reductions,” (3) rules for “reporting and verification of statewide greenhouse gas emissions,” and (4) rules “to monitor and enforce compliance” with the other rules adopted pursuant to the mandates of Act 234.⁷⁴

In comparison to the GWSA, Act 234 provides minimal guidance for the State’s acting agencies and establishes a questionable regulatory timeline. The California GWSA establishes a split system for enacting greenhouse gas regulations. First, CARB establishes a system for reporting and verifying greenhouse gas emissions that must be in place by 2008. Three years after establishing reporting regulations, CARB must adopt reduction measures to reach the 2020 emissions goal. The split system follows the California regulatory strategy taken from CARB’s work with the California Clean Air Act of first establishing an emissions inventory then identifying reduction strategies that yield quantifiable emission reductions.⁷⁵ The California system allows polluting entities to adjust to the new regulatory requirements gradually, rather than having emitters comply with a new regulatory scheme for reporting and reductions at one time.

Although all of the rules under Act 234 must be established by December 11, 2002, DOH should attempt to separate the enactment of its greenhouse gas regulations and provide a lead time between reporting rules and emission reduction rules.

D. Hawai'i's current status within the Act 234 framework

Given that different greenhouse gases are produced across the state, the 1990 Inventory utilized the global warming potential for the three to compare the relative contributions of different greenhouse gases on radiative forcing.⁷⁶ Carbon dioxide served as the baseline for global warming potential with methane and nitrous oxide expressed in terms in “tons of CO₂ equivalent.”⁷⁷ According to the 1990 Inventory, Hawai'i emitted 17.3 million tons of carbon dioxide in 1990.⁷⁸ Following changes to emission estimate methodologies, a 2007 revision, performed by DBEDT, estimated the 1990 greenhouse gas emissions for Hawai'i at 18.6 million tons of carbon dioxide.⁷⁹ By contrast, California recently adopted a greenhouse gas emissions limit of 427 million tons of carbon dioxide based on 1990 emissions estimates.⁸⁰

The 1990 Inventory categorizes emissions of the three greenhouse compounds according to five sectors: residential, commercial, industrial, electricity generation, and transportation.⁸¹ By far, the largest greenhouse gas contributions came from the transportation and electricity generation sectors, producing 7.9 and 7.6 million tons of

⁷³HAW. REV. STAT. § 342B-72 (2008).

⁷⁴*Id.* at § 342B-72.

⁷⁵Mary Ellen Hogan, *California Climate Change Initiatives Leading the West and the Nation*, 22 NAT. RESOURCES & ENV'T 14, 16 (2008).

⁷⁶Radiative forcing” is “[a] simple measure of the importance of a potential climate change mechanism. Radiative forcing is the perturbation to the energy balance of the Earth-atmosphere system (in watts per square meter [W/m²]). 1997 EMISSIONS REPORT, *supra* note 64, at 1-6.

⁷⁷*Id.* at 2-4. According to the 1990 Inventory, methane has twenty-two times the radiative forcing impact of carbon dioxide; nitrous oxide has 270 times the impact on radiative forcing compared to carbon dioxide. *Id.* at 2-3 to -4.

⁷⁸*Id.* at 2-4.

⁷⁹STEVEN C. ALBER, DEP'T OF BUS., ECON. DEV., & TOURISM, *Updating Hawai'i's Greenhouse Gas Emissions Inventory Under Act 234*, SLH 2007 8 (2007), http://hawaii.gov/dbedt/info/energy/greenhouse/Material/Encl_1E_Updating_HI_GHG_Inventory.pdf/file_view.

⁸⁰ROGERS ET AL., *supra* note 44, at 5.

⁸¹*See* 1997 EMISSIONS REPORT, *supra* note 64, at 1-15 to -16.

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carbon dioxide equivalent, respectively.⁸² The next largest contributor of greenhouse gases came from the municipal solid waste sector, which produced 1.4 million tons of carbon dioxide equivalent, mainly in the form of methane.⁸³ These three sources serve as a basis for analysis of reduction measures later in this paper.

III. ENFORCEMENT OF CURRENT HAWAI'I AIR POLLUTION LAWS

The enforcement of statewide greenhouse gas limits set Act 234 and the GWSA apart from previous forms of government-imposed reductions. Prior to the enactment of these two states' laws, states and the federal government relied almost entirely on voluntary measures to reduce greenhouse gas emissions or imposed greenhouse reductions on certain sources of greenhouse gas emissions.

The enforcement of Hawai'i's greenhouse gas reductions is key to reducing Hawai'i's contribution to global climate change. Enforcement of greenhouse gas reductions also ensures that no one party receives a competitive advantage through non-compliance and deters entities from violating the new greenhouse gas law.⁸⁴

Despite the differences in the regulatory approach between greenhouse gases and other regulated air pollutants, the codified sections of Act 234 were incorporated into the Air Pollution chapter of the Hawai'i Revised Statutes.⁸⁵ Accordingly, regulations adopted under Act 234 are enforced as a part of Hawai'i's air pollution laws.

A. Hawai'i's Air Pollution Regulatory Scheme

Unlike other air pollutants, greenhouse gases are not regulated under the Federal CAA. This subtle distinction distinguishes greenhouse gas regulation from other forms of emissions regulations under state law and necessitates regulation based on 1990 emission levels. Furthermore, SIPs under the CAA limit the emissions of criteria air pollutants to levels based on localized maximum concentrations.⁸⁶ Given the diffusion of greenhouse gases and the effect that these gases have on the global environment, regulation under Act 234 should be based on the total tonnage of CO₂ equivalent produced by a particular source.⁸⁷

Prior to the passage of Act 234, Hawai'i's air pollution law focused primarily on a permitting system administered by DOH.⁸⁸ The Hawai'i permitting system requires the owner or operator of a covered source to obtain an air permit from DOH before the "construction, modification, or relocation" of any covered source.⁸⁹ In addition to large-scale covered sources, DOH requires the owner or operator of a source to obtain a permit "prior to the construction, modification, relocation, operation, or continued operation" of an activity contributing to air pollution.⁹⁰

Application for an air pollution permit entails submitting information that may also be relevant to a greenhouse gases regulatory scheme. As part of the permit application, an air pollution permit applicant must submit a "compliance plan" that outlines the owner or operator's proposed plan to comply with all air pollutant laws and submit biannual progress reports in achieving air pollution standards.⁹¹ In addition to the permit application and compliance

⁸²*Id.* at 2-4.

⁸³*Id.*

⁸⁴See David Kimo Frankel, *Enforcement of Environmental Laws in Hawaii*, 16 U. HAW. L. REV. 85, 87-93 (1994).

⁸⁵HAW. REV. STAT. § 342B-1 to -73 (2008).

⁸⁶42 U.S.C.A. § 7409 (West 2008).

⁸⁷See McKinstry, et. al., *supra* note 54, at 6.

⁸⁸HAW. REV. STAT. § 342B-12(2) (2008).

⁸⁹*Id.* § 342B-22. "Covered source" is defined by statute to include any stationary source that emits more than one hundred tons per year of any regulated pollutant, a source that qualifies under the performance standards for new stationary sources, any source that is subject to hazardous air pollutants emissions standards, or any source category designated by DOH. *Id.* § 342B-1.

⁹⁰*Id.* § 342B-22.

⁹¹*Id.* § 342B-23.

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plan, DOH “may require . . . best available control technology analysis, and any other information necessary to identify the source, the air emissions, and the air quality impacts and to determine whether the proposed installation, modification, or operation will be in accord with applicable rules and standards.”⁹² As will be discussed later, the permitting process may be amended to incorporate greenhouse gas emission regulations.⁹³

B. Enforcement of Hawai'i Air Pollution Laws

Enforcement of Hawai'i's air pollution laws involves detection, correction, and punishment.⁹⁴ DOH can employ a number of detection options to identify potential violators such as: inspections of actual or suspected sources of non-compliance,⁹⁵ reviews of biannual emission reports or permit applications submitted to the department,⁹⁶ or the monitoring of ambient air quality at locations across the state.⁹⁷

In its duties of enforcement, DOH may seek to correct emitting activities or, alternately, punish emitters that refuse to obey air pollution laws and regulations. Before engaging in an enforcement action, DOH is required to give written notice of the alleged violation, which may include an order that specifies a reasonable time for compliance and requiring progress reports by the alleged violator.⁹⁸ Should a violation continue, DOH submits a second notice to the violator.⁹⁹ This second violation requires the violator to submit a written schedule that outlines the methods that will be undertaken for compliance and requires DOH to issue a cease and desist order until the director of DOH approves the written schedule.¹⁰⁰ Failure to abide by a written schedule results in mandatory penalties against the violator, paid into the clean air special fund.¹⁰¹ DOH may seek administrative penalties or an injunction from a state court against any entity that violates state air pollution laws or rules.¹⁰² DOH may also institute a civil action for injunctive relief or civil penalties against any person in violation of air pollution laws.¹⁰³

Unlike many other areas of Hawai'i state law, the air pollution chapter contains a citizen suit provision.¹⁰⁴ Citizen suit laws let members of the public sue violators of environmental laws without having to satisfy the particularized injury requirement under a common law nuisance action.¹⁰⁵

Hawai'i law allows any person to commence a civil action against any person “alleged to be in violation of [state air pollution laws], *including any emission standard or limitation*,” or against the Director of DOH for an alleged failure to perform a non-discretionary act or duty.¹⁰⁶ In the case of a stationary source of air pollution, the citizen suit statute allows a party to file suit in the circuit court where the source is located.¹⁰⁷ This provision allows a successful plaintiff to obtain injunctive relief, pursue civil penalties, and seek limited recovery of attorney's fees.¹⁰⁸

⁹²*Id.* § 342B-23(b).

⁹³See discussion *infra* Part V.C.

⁹⁴Frankel, *supra* note 84, at 93-95.

⁹⁵HAW. REV. STAT. § 342B-41 (2008).

⁹⁶*Id.* § 342B-21.

⁹⁷See Frankel, *supra* note 84, at n.41.

⁹⁸HAW. REV. STAT. § 342B-42(a)(1) (2008).

⁹⁹*Id.* § 342B-42(b).

¹⁰⁰*Id.*

¹⁰¹*Id.* § 342B-42(c); *Id.* § 342B-32(a).

¹⁰²*Id.* § 342B-44.

¹⁰³*Id.* Civil penalties for violations of air pollution laws or rules may not exceed \$25,000, but may be imposed for each day that a violation occurs. *Id.* § 342B-47(c).

¹⁰⁴*Id.* § 342B-56(a).

¹⁰⁵See Peter H. Lehner, *The Efficiency of Citizen Suits*, ALBANY ENVTL. OUTLOOK 4, 4 (1995).

¹⁰⁶HAW. REV. STAT. § 342B-56(a) (2008) (emphasis added).

¹⁰⁷*Id.* § 342B-56(b), (d).

¹⁰⁸*Id.* § 342B-56 (2008).

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C. Hawai'i Air Pollution Cases

Since the enactment of the air pollution chapter in 1992, no lawsuits are known to have been filed pursuant to the citizen suit provision.¹⁰⁹ A citizen suit may only be pursued after the plaintiff provides sixty-days notice to DOH and to an alleged violator.¹¹⁰ Furthermore, a citizen lawsuit can only proceed if DOH is not “diligently prosecuting” a civil action to require compliance by the named violator to air pollution standards or limitations.¹¹¹ These enforcement limitations are typical of other citizen suit provisions in Hawai'i.¹¹²

A major impediment to citizen suits is the cost involved in litigation.¹¹³ Plaintiffs face the high costs of expert witnesses and attorney's fees.¹¹⁴ Although Hawai'i law allows the recovery of attorney's fees, the courts have been reserved in allowing recovery under this provision.

IV. THE MISSING LINK: HOW WILL GREENHOUSE GAS EMISSIONS BE REGULATED?

Given the cutting-edge action being taken to cut statewide greenhouse gas emissions, this paper should arguably address the first two steps outlined by Act 234, namely the creation of a greenhouse gas inventory and regulations for reducing greenhouse gas emissions to 1990 emission levels.

The greenhouse gas inventory and reduction regulations are outside of the scope of this paper. The creation of the greenhouse gas inventory requires technical knowledge of the processes that lead to the release of greenhouse gases and the amount of greenhouse gases produced by a particular activity. The inventory also identifies sources of greenhouse gases across the state. The CARB report, released in late 2007, involved a cooperative effort between numerous state and federal agencies, public institutions, and private companies with special expertise in air emissions to arrive at the estimates for 1990 greenhouse gas emissions.¹¹⁵ This author does not purport to be familiar with these same analytical techniques and knowledge.

Furthermore, most of the work required under Act 234 will be contracted out by the State and therefore will be the primary responsibility of a private company. At the April 2008 meeting of the Task Force, representatives of DBEDT circulated a draft Request for Proposals (“RFP”) to solicit “professional and technical consultant services” to assist DBEDT with the demands of Act 234.¹¹⁶ As part of the scope of work, the RFP listed activities such as the update to the 1997 Emissions Report, the development of a greenhouse gas emissions estimate for 2007, and the development of three alternative work plans of “comprehensive statewide program[s] for [greenhouse gas] emissions reduction measures and regulatory scheme[s].”¹¹⁷

Instead of examining the early stages Act 234, the following sections of this paper will analyze potential reduction measures and how these measures can be enforced through existing state law.

¹⁰⁹Telephone Interview with Paul Achitoff, Managing Attorney, Earthjustice Mid-Pacific office (Mar. 4, 2008); Telephone Interview with David Kimo Frankel, Staff Attorney, Native Hawaiian Legal Corporation (Mar. 5, 2008); Interview with Steven J. Oppenheimer, Associate General Counsel, Hawaiian Electric Company, in Honolulu, Haw. (Mar. 5, 2008).

¹¹⁰HAW. REV. STAT. § 342B-56(c)(1)(A) (Supp. 2007).

¹¹¹*Id.* at § 342B-56(c)(1)(B) (Supp. 2007).

¹¹²*See e.g.*, 33 U.S.C.A. §1365(b) (West 2008); 42 U.S.C.A. §6972(b)(1) (West 2008).

¹¹³Lehner, *supra* note 105, at 8.

¹¹⁴*Id.*

¹¹⁵ROGERS et. al., *supra* note 44, at 2.

¹¹⁶Department of Business, Economic Development and Tourism, *Professional and Technical Consultant Services For the Hawaii Greenhouse Gas Emissions Reduction, Act 234 [draft]*, http://hawaii.gov/dbedt/info/energy/greenhouse/Material/ACT_234_REQUEST_FOR_INFORMATION.pdf/file_view.

¹¹⁷*Id.* at 1-3.

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V. EXAMPLE GREENHOUSE GAS REDUCTION STRATEGIES: CALIFORNIA'S DISCRETE EARLY ACTIONS AS A GUIDE

With the year 2011 quickly approaching, agency officials need to begin thinking about how the anticipated greenhouse gas regulations will be integrated into Hawai'i's regulatory system. In many ways, there are existing provisions that can handle the additional regulation of greenhouse gases. However, the volume of regulated sources may pose a problem for state regulators unless changes are made in Hawai'i administrative policy.

This section of the paper addresses three potential sectors for regulation under Act 234. The transportation, electrical utility, and municipal solid waste sectors are estimated to be the three largest contributors to anthropogenic greenhouse gas emissions in Hawai'i, according to the 1997 Emissions Report from DBEDT.¹¹⁸ Accordingly, these three sectors seem to be the most appropriate areas to examine the effects of new greenhouse gas reduction measures.

Although Hawai'i is in the early stages of actions under Act 234, the State can look to the work of CARB in identifying ways to reduce greenhouse gas emissions. On October 17, 2007, CARB released its modified list of nine discrete early actions—regulations that reduce greenhouse gas emissions that are adopted by CARB and become enforceable by starting in January 2010.¹¹⁹ The list also included thirty-five early action measures that may be regulatory or non-regulatory greenhouse gas reduction measures that will be initiated by CARB between 2007 and 2012.¹²⁰ Assuming a strong likelihood that Hawai'i will look to California's reduction measures for guidance, the early actions and discrete early actions could form the basis for an enforcement scheme under Act 234.

A. Transportation Sector: Individual Checks and Citations

The transportation sector is responsible for the second largest contribution to global warming potential within the state. A 1999 revision to the 1997 Emissions Report estimated that the transportation sector was the greatest contributor within Hawai'i but an increase in emissions estimates between the 1997 Emissions Report and the 1999 revision was largely attributed to a revised and increased estimate of emissions from civil aviation.¹²¹ The revised emissions estimates—a simple update in aviation data—resulted in an eleven percent increase in the estimated greenhouse gas emissions in 1990.¹²² Although the revisions show the large contribution of airplanes to greenhouse gas emissions, aircraft are explicitly exempted from Hawai'i's greenhouse gas emissions estimates.¹²³ The remainder of the transportation sector is comprised of motor vehicles and ocean vessels.

CARB recommends two discrete early actions relating to ground transportation regulations: tire pressure program and SmartWay truck efficiency.¹²⁴ Both of these measures address greenhouse gas reductions through increasing transportation fuel efficiency.

¹¹⁸See 1997 EMISSIONS REPORT, *supra* note 64, at 2-4.

¹¹⁹CARB EARLY ACTIONS, *supra* note 47.

¹²⁰*Id.* at preface.

¹²¹The contribution from civil aviation constituted a significant increase to greenhouse gas emissions estimates for the state, increasing the estimates from 16,913,901 tons of CO₂ equivalent in the 1997 Emissions Report to 18,784,299 tons of CO₂ equivalent in the 1999 revised Emissions Report. DEP'T. OF BUS., ECON. DEV., & TOURISM & CLEAN AIR BRANCH, DEP'T OF HEALTH, INVENTORY OF HAWAII GREENHOUSE GAS EMISSIONS ESTIMATES FOR 1990, 2-4 (Steven C. Alber ed., 1999), available at <http://hawaii.gov/dbedt/info/energy/publications> [hereinafter, 1999 EMISSIONS REPORT].

¹²²*Id.* at preface.

¹²³HAW. REV. STAT. § 342B-71 (2008).

¹²⁴CARB EARLY ACTIONS, *supra* note 47, at B-17 to -23

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1. *Tire inflation program*

The tire pressure program is a discrete early action directed at maintaining proper tire pressure in private vehicles. According to a study performed by the National Highway Traffic Safety Administration, seventy-four percent of all vehicles have at least one under inflated tire.¹²⁵ CARB estimates that a program to monitor and correct vehicle tire pressure would result in a savings of 61 million gallons of fuel annually.¹²⁶

There are two potential targets for regulation for a tire inflation program: vehicle service facilities and individual drivers. One potential strategy being considered by CARB would require vehicle service facilities to check and inflate tires. A study of labor costs estimated that the labor costs of a pressure check and inflation system would be approximately \$3.75 per vehicle.¹²⁷ Another potential program would involve an outreach campaign that would inform the public of the benefits of maintaining proper tire inflation and encourage drivers to maintain proper tire pressure.¹²⁸

A tire inflation program similar to the CARB proposal would require little in the way of enforcement measures here in Hawai'i. A public outreach program could be initiated by DOH without any additional rulemaking. Tire inflation checks could be incorporated into existing safety check procedures. The Hawai'i Department of Transportation ("DOT") sets standards for the operation of official state inspection stations that issue vehicle inspection certificates.¹²⁹ As part of the operations of a state inspection station, the Hawai'i DOT could require stations to inspect tire inflation and correct under-inflated tire pressure. Currently, Hawai'i law requires vehicles to be inspected every twelve months with the individual counties charged with responsibility for ensuring compliance and enforcement with safety inspection laws.¹³⁰

Alternatively, the responsibility for maintaining proper tire pressure could be placed on the individual car owner. Hawai'i law allows police officers to require an owner or driver to have a vehicle inspected or repaired if the vehicle is not "equipped as required by law."¹³¹ Citations could be issued on the basis that severely under-inflated tires make a vehicle unsafe to operate.

As seen in the tire inflation program, greenhouse gas emissions reductions do not necessarily involve highly technical solutions. With recent increases in gas prices, consumer behavior may be changed by an outreach campaign that shows the increased fuel economy from properly inflated tires. If DOT chooses to adopt regulations for gas stations, the new requirements can be instituted under the agency's existing authority under state law.

2. *SmartWay truck technologies*

The SmartWay truck system would require freight trucks to adopt best-available technology for reducing aerodynamic drag and rolling resistance. Originally created through a collaborative effort between the EPA and the freight industry, the voluntary SmartWay Transport Partnership "encourages trucking companies to improve fuel economy and reduce emissions."¹³² As a discrete early action, CARB recommends a regulatory scheme that would require trucks to be fitted with SmartWay Transport or other CARB approved devices that improve aerodynamics,

¹²⁵*Id.* at B-21 (citing U.S. Department of Transportation, NPRM on Tire Pressure Monitoring System FMVSS No. 138, 09/2004).

¹²⁶*Id.*

¹²⁷*Id.* at B-22 (citing California Inspection and Maintenance Review Committee, Review of the Smog Check Program, 11/2006).

¹²⁸*Id.* at B-21.

¹²⁹HAW. REV. STAT. § 286-27(a) (2008).

¹³⁰*Id.* § 286-26.

¹³¹*Id.* § 286-22.

¹³²CARB EARLY ACTIONS, *supra* note 47, at B-17, n.1.

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such as cab roof fairings, side skirts, and trailer tails. The SmartWay system also recommends that truck and trailers shift from double-wide wheelbases to newer and more efficient single wide-base tire and wheel system.¹³³

Both CARB and EPA admit that SmartWay modifications may not be an effective means of improving fuel economy for all types of freight trucks. Short haul trucks and older model trucks, for instance, are not expected to receive the full benefits of SmartWay improvements. CARB suggests that the SmartWay aerodynamic requirements only apply to "Class 8" trucks operating in California because older model trucks are considered "short haul" trucks that spend considerably less time at highway speeds, thus receiving fewer benefits from increased aerodynamics.¹³⁴ For older trucks, EPA recognizes that retrofitting double-wide wheelbase trucks with wide-base tires may not be cost-effective for truck companies and instead suggests that fleet owners consider purchasing wide-base trucks for their next truck and trailer purchases.¹³⁵ Although CARB recognized the voluntary status of the EPA SmartWay program, CARB has also recognized the burdens on fleet owners when adopted as a discrete early action. To reduce the burden on small businesses, the CARB report of early actions recommends that the agency evaluate the need for a financial assistance program to assist compliance by small businesses.

The Smartway discrete early action shows that Hawai'i cannot adopt the collective reduction measures adopted by CARB without individual considerations for the unique setting in Hawai'i. Although agency and industry officials view the SmartWay system as an effective greenhouse gas reduction measure, the system will likely be ineffective and inappropriate for implementation in Hawai'i. As an island state, Hawai'i lacks the long distance trucking network present on the continental U.S. Accordingly, the majority of Hawai'i freight transport falls outside of the contemplated target of the EPA system: long-distance freight trucks and trailers. When analyzing this reduction measure, the driving patterns and costs to Hawai'i's freight fleet should be given strong consideration.

B. Municipal Solid Waste: Proper Technology Installation

The municipal solid waste sector has the third largest effect on Hawai'i's global warming potential and is the greatest contributor of greenhouse gases from non-energy source. According to the 1997 Emissions Report, municipal solid waste management (*e.g.*, landfills) produced 147,098 tons of carbon dioxide and 74,871 tons of methane.¹³⁶

In comparison to the fuel combustion process that generates greenhouse gases in the transportation sector, greenhouse gases from municipal solid waste are harder to estimate. Carbon dioxide and methane are generated when organic wastes in landfills decompose in an oxygen free environment.¹³⁷ The amount of emissions from municipal solid waste depends on factors that affect the decomposition process.¹³⁸ Therefore, greenhouse gas emissions from landfills require calculations that use imprecise data inputs.

To reduce greenhouse gas emissions from landfills, CARB recommends enacting statewide standards for gas collection and control systems at municipal solid waste landfills.¹³⁹ Federal law currently requires gas collection

¹³³SmartWay Transport Partnership, *A Glance at Clean Freight Strategies Single Wide-Based Tires*, <http://epa.gov/smartway/documents/supersingles.pdf>.

¹³⁴Class 8 trucks are rated for gross vehicle ratings greater than 33,000 pounds and are considered long haul trucks. CARB EARLY ACTIONS, *supra* note 47, at B-1

¹³⁵SmartWay Transport Partnership, *supra* note 133.

¹³⁶1997 EMISSIONS REPORT, *supra* note 64, at 6-2.

¹³⁷*Id.* at 8-2.

¹³⁸For example, greenhouse gas emissions are dependent on the total amount of "waste in place" in landfills around the state. However, landfills only began documenting the amount of waste entering each landfill in 1993. The remaining landfill volume had to be collected from landfill and solid waste personnel from each county. 1999 EMISSIONS REPORT, *supra* note 121, at 8-2 to -3.

¹³⁹CARB EARLY ACTIONS, *supra* note 47, at B-9.

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systems for large landfills that reach a minimum capacity of 2.5 million metric tons.¹⁴⁰ The discrete early action proposed by CARB would expand gas control measures to smaller landfills and landfills that are currently not required to install emission controls.¹⁴¹ California landfills are subject to inconsistent regulation from local air district rules that apply federal standards for landfill emission standards.¹⁴² In addition, CARB and the California Integrated Waste Management Board are looking at ways to increase energy recovery from landfill methane.¹⁴³

DOH can take a similar approach to California that would require additional landfills to install methane capture technology. A number of Hawai'i landfills already employ flaring or burning procedures to generate electricity and dispose of methane generated on site. According to the 1997 Emissions Report, the Kapa'a Landfill in Kailua, Oahu generated electricity from an estimated 2,827 tons of methane.¹⁴⁴ Two closed landfills on Maui and one closed landfill on Kaua'i also flare methane produced by an estimated 653,400 tons of waste.¹⁴⁵ In 2005, the Waimanalo Gulch landfill in Wai'anae, Oahu installed a well-field methane gas capture system.¹⁴⁶

An expansion of landfills subject to methane capture requirements would need the involvement of the individual counties. The State of Hawai'i delegates the counties the responsibility to contract for the disposal of municipal solid waste.¹⁴⁷ Counties must submit an integrated solid waste management plan to the State that contains an assessment of waste streams and landfill characteristics.¹⁴⁸

The information gathered from the county solid waste management plans can be used to assess the applicability of methane-capture technology to individual landfills. Landfills identified as suitable for methane capture would be regulated by the counties, which would ensure that methane capture is implemented and maintained in working order.

C. Electrical Utilities: Modified Permitting System

Electrical utilities are the largest emitter of greenhouse gases under the reporting system of Act 234, producing 7,652,968 tons of CO₂ equivalent.¹⁴⁹ Although the 1999 Emissions Report showed that the transportation sector exceeded the emissions of the electric utility sector, this increase was due almost entirely to recalculations of the emissions from civil aviation.¹⁵⁰ Under Act 234, aviation emissions are exempted from the 1990 emissions inventory.¹⁵¹

Unlike its discrete early action measures for the transportation and municipal solid waste sectors, CARB only approved "early actions" for electricity generators.¹⁵² These reduction measures focused primarily on replacing outdated materials with materials that were more efficient and did not release greenhouse gases into the atmosphere. For instance, CARB recommended that the electric power industry could reduce greenhouse gas emissions by phasing out sulfur hexafluoride, a Kyoto Six compound regulated under the GWSA, as an insulator.¹⁵³

¹⁴⁰40 C.F.R. § 60.32c(c).

¹⁴¹CARB EARLY ACTIONS, *supra* note 47, at B-9.

¹⁴²*Id.* at B-10.

¹⁴³*Id.* at B-9.

¹⁴⁴1997 EMISSIONS REPORT, *supra* note 64, at 8-10.

¹⁴⁵*Id.* at 8-10.

¹⁴⁶Waste Management, Waimanalo Gulch Landfill, <http://www.keepingHawaiiClean.com/waimanalo.htm>.

¹⁴⁷HAW. REV. STAT. § 46-85 (2008).

¹⁴⁸*Id.* § 342G-25.

¹⁴⁹1997 EMISSIONS REPORT, *supra* note 64, at 2-4.

¹⁵⁰1999 EMISSIONS REPORT, *supra* note 121, at preface.

¹⁵¹HAW. REV. STAT. § 342B-71 (2008).

¹⁵²CARB EARLY ACTIONS, *supra* note 47, at C-60 to -61, D-16 to -19, D-29 to -34.

¹⁵³*Id.* at C-60.

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Other emission reduction measures targeted power plants that had been constructed prior to 1980.¹⁵⁴

Rather than focusing on only early action measures of CARB, the Task Force may apply a market-based regulatory system to the greenhouse gas emissions from electrical utilities. An air pollution permit system falls within the power of the director of DOH to administer¹⁵⁵ and the Task Force was specifically directed to consider “market-based compliance mechanisms” when drafting its Work Plan.¹⁵⁶

A greenhouse gas permit system could function much the same as the current permit system for criteria air pollutants regulated under the CAA. Emitters that release greenhouse gases above a certain threshold¹⁵⁷ would be required to obtain an air pollution permit from DOH.¹⁵⁸ As part of the application process, DOH can then require that an applicant submit greenhouse gas emissions data, best-available control technology analysis, and monitoring data.¹⁵⁹ DOH would then ensure compliance with permitted allowances through biannual reports and site inspections, as provided for under the current permitting system.¹⁶⁰ Faced with an emitter of greenhouse gases, DOH could use the same enforcement provisions used against past violators of Hawai'i air pollution laws.¹⁶¹

VI. OTHER REMARKS ON ACT 234:

ADDITIONAL RESOURCES NEED TO BE ALLOCATED TO STATE AGENCIES

DOH will likely be the lead agency for greenhouse gas reductions and will need additional support to carry out the mandates of Act 234. The wide-range of sources that are covered under the Act can be partially handled though the other entities, such as the Hawai'i DOT or individual counties in the proceeding examples. However, direct greenhouse gas emissions, now classified as “air pollutants,” are the sole responsibility of DOH unless such power is delegated.¹⁶² Given the wide-ranging effect of the activities subject to regulation under Act 234, additional resources need to be allocated to avoid a backlog in the administrative approval process. For example, DOH is statutorily required to take final action on an air permit application within eighteen months after the completion of the air permit application.¹⁶³ Should a significant number of new sources be required to file for air permits, the additional demand will drain the resources DOH has available for other projects.

Insufficient support for state agencies was previously identified as a problem in Hawai'i government. David K. Frankel discussed numerous examples of insufficient funding and inadequate staffing that contributed to compliance problems with Hawai'i environmental and land use laws.¹⁶⁴ The courts have also noted instances of lax agency involvement where “individuals were left to their own devices without adequate or sufficient government oversight.”¹⁶⁵ Coordination between Hawai'i agencies has also been a problem in the past.¹⁶⁶

Act 234 does provide some means to support a regulatory scheme for greenhouse gases. The Act grants DOH the authority to establish a fee schedule to be paid by those sources regulated under the new emission rules.¹⁶⁷ This

¹⁵⁴*Id.* at D-16.

¹⁵⁵HAW. REV. STAT. § 342B-12 (2008).

¹⁵⁶Act of June 30, 2007, No. 234, § 6(2), 2007 Haw. Sess. Laws 697, 700 (2007).

¹⁵⁷Minimum threshold for de minimis emissions would be determined by the Work Plan of the Task Force. *Id.* §6(5).

¹⁵⁸HAW. REV. STAT. § 342B-23 (2008).

¹⁵⁹*Id.* § 342B-23(b).

¹⁶⁰*Id.* § 342B-28.

¹⁶¹*See* discussion *supra* Part III.B.

¹⁶²*Id.* § 342B-2.

¹⁶³*Id.* § 342B-24.

¹⁶⁴*See* Frankel, *supra* note 84, at 109-13.

¹⁶⁵*Id.* at 110, (citing Andy Yamaguchi, *Pair get prison terms in sludge dumping case*, HONOLULU ADVERTISER, Feb. 5, 1992, A3).

¹⁶⁶*See id.* (citing Patricia Tumon, *Footdragging Agencies No Match for Runaway Boats*, ENV'T HAWAI'I, Sept. 1991, at 2).

¹⁶⁷HAW. REV. STAT. § 342B-73 (2008).

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provision closely resembles the fee provision from the Hawai'i Air Pollution Control Act that applies to sources that must obtain air permits from DOH. The revenues from both fee schemes are fed into the Clean Air Special Fund that is to be "used solely to pay for all reasonable direct and indirect costs" of a permit program, including the costs of:

- (1) Reviewing and acting upon any application for or renewal of a permit;
- . . .
- (3) Monitoring emissions and ambient air quality including resources to audit and inspect source-operated monitoring requirements at least once a year;
- (4) Preparing generally applicable rules or guidelines;
- (5) Performing or reviewing modeling, analyses, and demonstrations;
- (6) Preparing emissions inventories and tracking systems;¹⁶⁸

The statutory definition of the Clean Air Special Fund only allows money in the Fund to be used toward the administration of a "permit program."¹⁶⁹ While DOH will likely employ some permit program in its greenhouse gas regulations, reductions will probably be implemented through other means as well. Without other sources of funding for ensuring compliance and enforcement outside of the permitting scheme, DOH may find itself unable to handle its numerous obligations under Act 234.

VII. CONCLUSION

At first-glance, Act 234 appears to be a dramatic shift in air pollution law. Not based on federal standards, Act 234 adopts an independent standard for a previously unregulated set of compounds. With only one other state as a guide, Hawai'i appears to be heading down an uncertain path.

Hopefully, this paper has shown that regulations adopted pursuant to Act 234 can fall within the existing regulatory power of state and county agencies. In many reduction examples, there appears to be little need for new regulatory bodies to implement and enforce the new reduction measures. The final result of all these actions will show that Hawai'i is willing to take the steps necessary to help protect our fragile environment.

¹⁶⁸*Id.* § 342B-32.

¹⁶⁹*Id.* § 342B-32(a).


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