

Broader Diesel Impacts



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West Coast Collaborative Partners Meeting

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Public Health



- Increased Risk of Premature Death
- Hospital Admissions for Heart and Lung Disease
- Asthma Exacerbation
- Long-Term Exposure May Also Pose a Lung Cancer Hazard

- **Cleaner Fuels & Reduced Consumption
= Healthier Communities**

Preliminary Estimate of Hawaii's Greenhouse Gas Emissions in 1990 and 2005 Expressed as Global Warming Potential

Tons Carbon Dioxide Equivalent (Tons CO₂E)

ENERGY SECTOR	1990	2005	Percentage Change 1990- 2005
Residential Commercial Industrial	1,182,631	2,297,520	94.3%
Electric Utility	7,884,515	9,037,987	14.6%
Stationary Subtotal	9,067,146	11,335,507	25.0%
Domestic Transportation Subtotal	7,776,389	8,709,843	12.0%
International Transportation Subtotal	6,432,255	4,722,044	-26.6%
Military Aviation Fuel	677,100	832,815	23.0%
Transportation Subtotal	14,885,744	14,264,702	-4.2%
Energy TOTAL	23,952,890	25,600,209	6.9%
NON-ENERGY SECTOR	1990	2005	
Industrial Processes: Oil/Gas Transportation, Refining, Storage	4,977	5,157	3.6%
Industrial Processes: Cement Manufacturing	109,274	Ended 1995	
Industrial Processes Subtotal	114,251	5,157	-95.5%
MSW Management	1,161,291	1,701,100	46.5%
Wastewater Treatment	21,563	23,923	10.9%
Domestic Animals	273,879	192,119	-29.9%
Manure Management	129,768	56,774	-56.2%
Sugarcane Burning	31,958	10,797	-66.2%
Fertilizer Use	60,850	62,310	2.4%
Non-Energy TOTAL	1,793,559	2,052,180	14.4%
TOTAL	25,746,449	27,652,389	7.4%

Estimated June 2007

Preliminary Estimate of Hawaii Greenhouse Gas Emissions Global Warming Potential in Tons Carbon Dioxide Equivalent



ENERGY SECTOR	1990	2005
Residential Commercial Industrial	1,182,631	2,297,520
Electric Utility	7,884,515	9,037,987
Stationary Subtotal	9,067,146	11,335,507
Domestic Transportation	7,776,389	8,709,843
Mobile Subtotal	7,776,389	8,709,843
Energy TOTAL	16,843,535	20,045,350
NON-ENERGY SECTOR	1990	2005
Oil/Gas Industrial Processes	4,977	5,157
Cement Industry	109,274	-
Industrial Processes Subtotal	114,251	5,157
MSW Management	1,161,291	1,701,100
Wastewater Treatment	21,563	23,923
Domestic Animals	273,879	192,119
Manure Management	129,768	56,774
Sugarcane Burning	31,958	10,797
Fertilizer Use	60,850	62,310
Non-Energy TOTAL	1,793,559	2,052,180
TOTAL	18,637,094	22,097,530

Note: Emissions from International Transportation and Military use excluded

Greenhouse Gas Opportunities



- **Anti-Idling:**
 - Truck Stop Electrification
 - Auxiliary Power Units,
- **Fuel Efficiency**
 - Aerodynamic Improvements
 - Decreased Road Friction Technologies
- **Reductions of Vehicle Miles Traveled**

Greenhouse Gas Opportunities (cont)



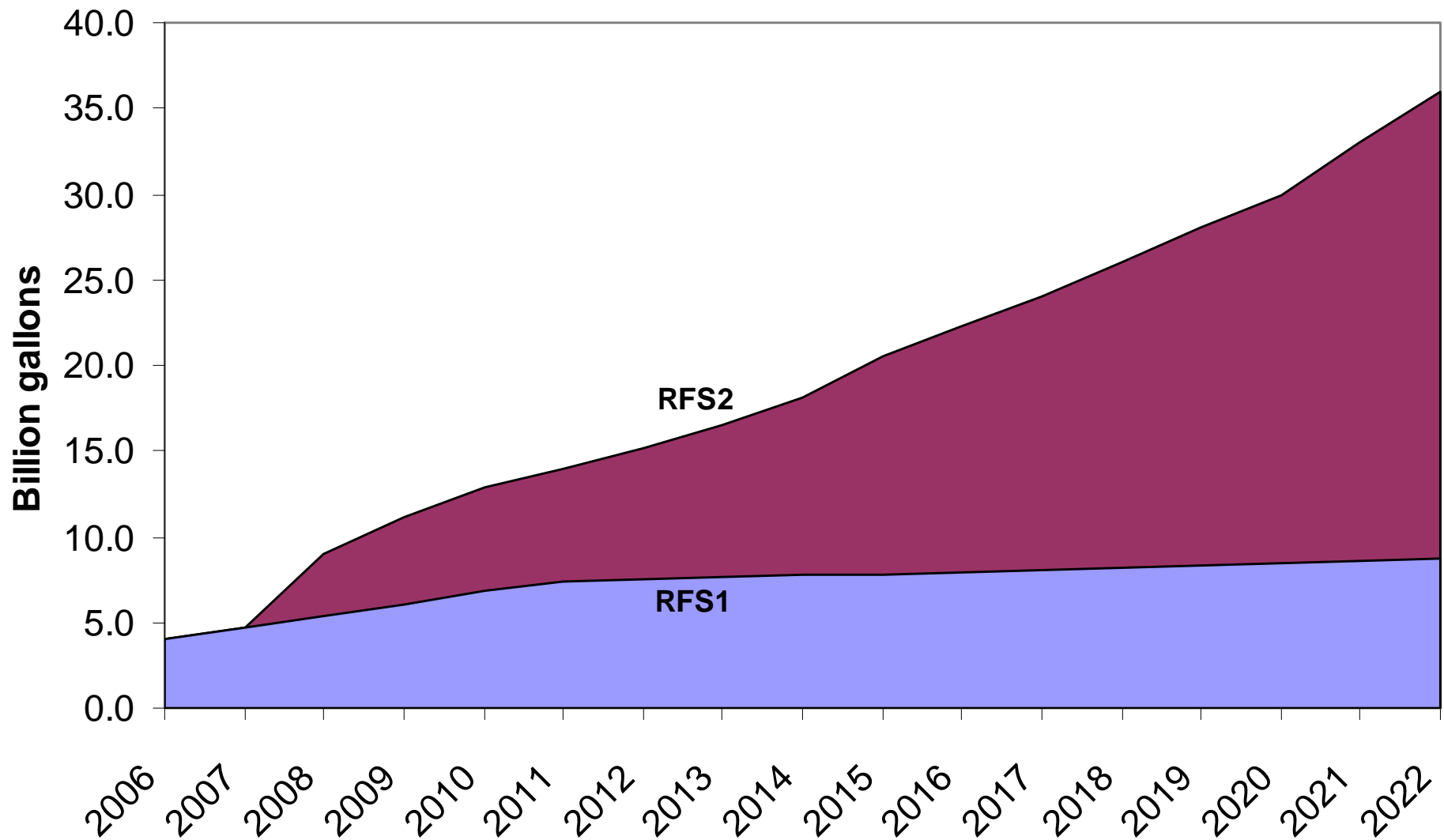
- Electric Vehicles
- Hybrid Technologies
- *Biofuels

New Renewable Fuel Standard



- **Tight Schedule**
 - Required by EISA December 19, 2007
 - Final rule: December 19, 2008
 - Effective date: January 1, 2009

RFS2: Much Higher Volumes



RFS2: Four Nested Standards



Total Renewable Fuel

Year	Total Advanced			(Billion Gallons)
	Biomass-Based Diesel	Cellulosic Biofuel	Biofuel	
2007				4.7
2008				9.0
2009	0.5		0.6	11.1
2010	0.65	0.1	0.95	12.95
2015	1.0	3.0	5.5	20.5
2020	1.0	10.5	15.0	30.0
2022	1.0	16.0	21.0	36.0

New RFS2 Elements



- “Existing cropland” criteria: renewable fuels must be from renewable biomass from “agricultural land cleared or cultivated” prior to EISA
- Lifecycle GHG criteria: renewable fuels must meet a 20% lifecycle GHG threshold relative to the fuel they displace

Other Considerations of Diesel Consumption



- **Energy Security**
 - Diversity of Feedstocks
 - Reduce Reliance on Importation
- **Economics**
 - Saving Fuel Saves Money!
 - Diverse Fuel Sources Increases Options
 - Promote Agriculture