



May 4, 2012

Darcy L. Endo-Omoto  
*Vice President*  
*Government & Community Affairs*

The Honorable Chair and Members of  
the Hawaii Public Utilities Commission  
465 South King Street  
Kekuanaoa Building, 1st Floor  
Honolulu, Hawaii 96813

Dear Commissioners:

Subject: Docket No. 2007-0008  
Renewable Portfolio Standards Law Examination

In accordance with Decision and Order No. 23912 and the Framework for Renewable Portfolio Standards, issued December 20, 2007, attached is the Renewable Portfolio Standard Status Report for the year ended December 31, 2011 for Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc. and Maui Electric Company, Limited.

Sincerely,

Attachment

cc: Division of Consumer Advocacy  
R. J. Hee/T. Blume  
H. Curtis  
W. S. Bollmeier II

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# **2011 Renewable Portfolio Standard Status Report**

**Hawaiian Electric Company, Inc.  
Hawaii Electric Light Company, Inc.  
Maui Electric Company, Limited**

**For the Year Ended December 31, 2011**

This report was prepared pursuant to the Framework for Renewable Portfolio Standards, which was adopted by the Hawaii Public Utilities Commission ("Commission") in Docket No. 2007-0008.<sup>1</sup>

Hawaiian Electric Company and its subsidiaries, Hawaii Electric Light Company and Maui Electric Company (collectively, the "Hawaiian Electric Companies"), have achieved a consolidated Renewable Portfolio Standard ("RPS") of 24.5% in 2011, including the electrical energy savings from energy efficiency and solar water heating technologies. This is an increase from the 20.7% achieved in 2010 and is primarily the result of the increased energy from renewable energy sources (biomass, geothermal, photovoltaic, hydro, wind, and biofuels), additional energy from customer-sited grid-connected technologies (primarily photovoltaic systems), additional energy efficiency demand-side management ("DSM") implemented in 2011, and increased installations of solar water heating systems.

New DSM program participants in 2011 contributed approximately 112,920 megawatt-hours of additional electrical energy savings.<sup>2</sup> Also, approximately 896,144 megawatt-hours of electrical energy savings in 2011 came from participants in the Hawaiian Electric Companies' and Public Benefits Fee Administrator's ("PBFA's") energy efficiency DSM programs from previous years that continue to save electricity. DSM continues to achieve significant energy conservation benefits.

This report shows that while the Hawaiian Electric Companies renewable generation percentage is increasing, it is still below the 2015 RPS compliance percentage of 15% required by Hawaii law. Achieving higher RPS percentages beyond 2012 remains challenging since the current RPS law, which became effective on July 1, 2009, will not allow the electrical energy savings from energy efficiency and solar water heating technologies to count towards the RPS from January 1, 2015 (the 2015 RPS target is 15%, the 2020 RPS target is 25% and the 2030 RPS target is 40%). Excluding electrical energy savings from energy efficiency and solar water heating technologies, the 2011 renewable generation percentage for the Hawaiian Electric Companies is 12.0% compared to the 24.5% stated above. This 12.0% renewable generation figure approximates how

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<sup>1</sup> The Framework for Renewable Portfolio Standards was adopted by Decision and Order No. 23912, issued December 20, 2007, and revised by the Commission on December 19, 2008 (Order Relating to RPS Penalties).

<sup>2</sup> On February 13, 2007, the Commission issued Decision and Order No. 23258 in the Energy Efficiency proceeding (Docket No. 05-0069). The Commission ordered that the administration of energy efficiency programs transition to a non-utility third-party administrator, funded through a public benefits fund surcharge, to become effective around January 2009. Effective July 1, 2009, the administration of the Hawaiian Electric Companies' energy efficiency DSM programs was transitioned to the Public Benefits Fee Administrator, Hawaii Energy (R. W. Beck / SAIC). Therefore, energy efficiency program impacts claimed in 2010 are based on the combination of the Hawaiian Electric Companies' records for customers who participated in the Hawaiian Electric Companies' programs prior to July 1, 2009 and impact estimates provided by Hawaii Energy (R. W. Beck / SAIC) following the transition.



the RPS will be calculated in 2015 when the RPS calculation will be based only on renewable energy generation and customer-sited, grid-connected renewable energy.<sup>3</sup>

In 2011, the Hawaiian Electric Companies continued to position themselves to increase their renewable energy portfolio. Net Energy Metering installations for the Hawaiian Electric Companies totaled 29.7 MW in 2011 (more than double the 11.5 MW total for 2010). The Hawaiian Electric Companies' feed-in tariffs for Tier 1 and Tier 2 ("Schedule FIT Tier 1 and 2") became effective October 22, 2010, and their feed-in tariffs for Tier 3 ("Schedule FIT Tier 3") became effective March 28, 2011, which will help to encourage the addition of more renewable energy projects in Hawaii. A new 1 MW PV plant on the island of Oahu went into commercial operation in 2011. Commission approvals were obtained in 2011 for a 69 MW wind plant, a 6.2 MW waste-to-energy project and a 5 MW PV project on Oahu, which are anticipated to begin commercial operation in 2012, 2013, and 2012, respectively. On Maui, Commission approvals were obtained in 2011 for two 21 MW wind projects both expected to be in service by the end of 2012. On the Big Island of Hawaii, Commission approval was obtained in 2011 for the 8 MW expansion of the geothermal power plant, which delivered more energy in 2011 than in 2010.<sup>4</sup> The Hawaiian Electric Companies also submitted for approval the power purchase agreements for two 5 MW PV projects on Oahu, and also filed several applications for Commission approval for new biofuel contracts that will grow the renewable energy portfolio.<sup>5</sup>

Integrating additional amounts of intermittent renewable generation, while preserving stable electric grids and converting existing fossil fuel generating units to biofuels, are essential elements of the Hawaiian Electric Companies' plans to meet future RPS requirements. Siting renewable energy facilities continues to be a challenge in many communities, and federal and state tax credits and incentives remain important in the development of renewable projects. Approvals and implementation of power purchase agreements, biofuel contracts, and other mechanisms for renewable energy projects such as a renewable energy surcharge provision will also play a key role. It will take a concerted effort by all stakeholders to meet the State's RPS requirements and achieve a clean energy future. The Hawaiian Electric Companies look forward to working together to help Hawaii achieve these important objectives.

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<sup>3</sup> On April 25, 2011, Act 010 (S.B. No. 1346 SD2) Relating to Renewable Portfolio Standards was signed into law. Act 010 amends the definition of "renewable electrical energy" to include, beginning January 1, 2015, customer-sited, grid-connected renewable energy generation (currently represented on the attached 2010 RPS Summary Report as "Photovoltaic Systems" under Renewable Displacement Technologies). The RPS value of 12.0% represents the electrical energy generated from Renewable Energy Sources and Photovoltaic Systems as a percentage of Total Sales.

<sup>4</sup> The 8 MW expansion achieved commercial operations in March 2012.

<sup>5</sup> Applications filed in 2011 (to-date) for Commission approval include IC Sunshine 5 MW photovoltaic (1/19/2011), Kalaheo Solar Two 5 MW photovoltaic (3/9/2011), Pacific Biodiesel biodiesel supply contract (11/30/2011), Hawaii BioEnergy biofuel supply contract (11/30/2011) and Renewable Energy Group Marketing and Logistics, LLC biodiesel supply contract (10/28/2011).



# 2011 Renewable Portfolio Standard Status Report

Hawaiian Electric Company, Inc. ("Hawaiian Electric")  
Hawaii Electric Light Company, Inc. ("HELCO")  
Maui Electric Company, Limited ("MECO")

For the Year Ended December 31, 2011  
(In Net Megawatt Hours)

2011 RPS Status Report (Net Megawatt Hours)

	2011				2010
	Hawaiian Electric	HELCO	MECO	TOTAL	TOTAL
<b>Electrical Energy Generated Using Renewable Energy Sources</b>					
Biomass (including municipal solid waste)	321,689		43,577	365,266	358,852
Geothermal		232,906		232,906	201,587
Photovoltaic <sup>1</sup>	202	76	1,891	2,169	1,787
Hydro <sup>1</sup>		45,300	6,206	51,506	35,890
Wind <sup>1</sup>	64,024	157,329	123,023	344,376	261,206
Biofuels	44,722		14,532	59,254	3,160
<b>Subtotal</b>	<b>430,637</b>	<b>435,611</b>	<b>189,229</b>	<b>1,055,477</b>	<b>862,482</b>
<b>Electrical Energy Savings Using Renewable Displacement Technologies</b>					
Customer-Sited, Grid-Connected <sup>2</sup>	54,189	17,738	13,041	84,968	48,509
Solar Water Heating <sup>3</sup>					
Utility	114,876	18,407	28,541	161,824	162,388
PBFA <sup>4</sup>	14,438	2,271	1,640	18,349	9,668
<b>Subtotal</b>	<b>183,503</b>	<b>38,416</b>	<b>43,222</b>	<b>265,141</b>	<b>220,565</b>
<b>Electrical Energy Savings Using Energy Efficiency Technologies<sup>5</sup></b>					
Pre-2011 Participants					
Utility	641,869	48,791	86,823	777,483	780,416
PBFA	93,379	13,501	11,781	118,661	7,830
2011 Participants (PBFA)	85,888	14,330	12,702	112,920	111,263
<b>Subtotal</b>	<b>821,136</b>	<b>76,622</b>	<b>111,306</b>	<b>1,009,064</b>	<b>899,509</b>
<b>TOTAL</b>	<b>1,435,276</b>	<b>550,649</b>	<b>343,757</b>	<b>2,329,682</b>	<b>1,982,556</b>
<b>TOTAL SALES</b>	<b>7,242,311</b>	<b>1,103,572</b>	<b>1,181,026</b>	<b>9,526,908</b>	<b>9,578,571</b>
<b>RPS PERCENTAGE</b>	<b>19.8%</b>	<b>49.9%</b>	<b>29.1%</b>	<b>24.5%</b>	<b>20.7%</b>
<b>RENEWABLE GENERATION</b>					
<b>(RPS Not Counting Energy Efficiency and Solar Water Heating)<sup>6</sup></b>					
Energy	484,826	453,349	202,270	1,140,445	910,991
Percentage	6.7%	41.1%	17.1%	12.0%	9.5%



<sup>1</sup> Renewable electrical energy generated by wind, hydro, and photovoltaic systems are based on recorded data of Independent Power Producers with power purchase agreements.

<sup>2</sup> Savings from photovoltaic systems are based on known system installations through 2011 including Net Energy Metering ("NEM") installations, non-NEM systems, and Sun Power for Schools installations. Recorded generation data was used when available. For systems where recorded data was not available, estimates were made based on reasonable performance assumptions for typical photovoltaic systems.

<sup>3</sup> Savings from solar water heating systems were based upon the number of rebates paid through the program and an estimated savings per system based on the periodic evaluation of the program. Utility Data is through June 2009, and Public Benefits Fee Administrator ("PBFA") Data is from July 2009 through 2011.

<sup>4</sup> The PBFA in 2009 through 2011 is Hawaii Energy (R. W. Beck / SAIC).

<sup>5</sup> Savings from the energy efficiency technologies are based upon the annualized system energy savings for all participants in the utility's demand-side management ("DSM") programs excluding solar water heating, which is listed under the Renewable Displacement Technologies. Utility Data is through June 2009, and PBFA Data is from July 2009 through 2011. The energy savings from the utility DSM programs were reported to the Public Utilities Commission ("Commission") and the Consumer Advocate and were verified by an independent consultant whose evaluation reports are also filed with the Commission and the Consumer Advocate. The energy savings from the PBFA for 2011 was based on raw data provided by Hawaii Energy (R. W. Beck / SAIC) and may not match reports filed with the Commission which are filed on a State fiscal year basis.

<sup>6</sup> Beginning January 1, 2015, electrical energy savings from Energy Efficiency and Solar Water Heating technologies shall not count toward RPS standards. On April 25, 2011, Act 010 (S.B. No. 1346 SD2) Relating to Renewable Portfolio Standards was signed into law. Act 010 amends the definition of "renewable electrical energy" to include, beginning January 1, 2015, customer-sited, grid-connected renewable energy generation (currently represented in this RPS Summary Report as "Customer-Sited, Grid-Connected" under Electrical Energy Savings Using Renewable Displacement Technologies). This RPS value represents the electrical energy generated from Renewable Energy Sources and Photovoltaic Systems as a percentage of Total Sales.

