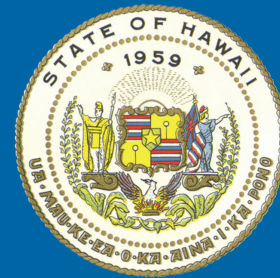


DBEDT ENERGY UPDATE

HAWAII'S CATALYST FOR A CLEAN ENERGY FUTURE | Edition 3, April 2012



DEPARTMENT OF BUSINESS
ECONOMIC DEVELOPMENT & TOURISM



The DBEDT Energy Update serves Hawaii's businesses and policy makers in making informed decisions about future investments, job creation, and policy decisions. The energy industry is a significant catalyst for economic development, now and in the future, to replace fossil fuel import expenditures with home-grown industries that pay business taxes and create jobs for Hawaii residents.

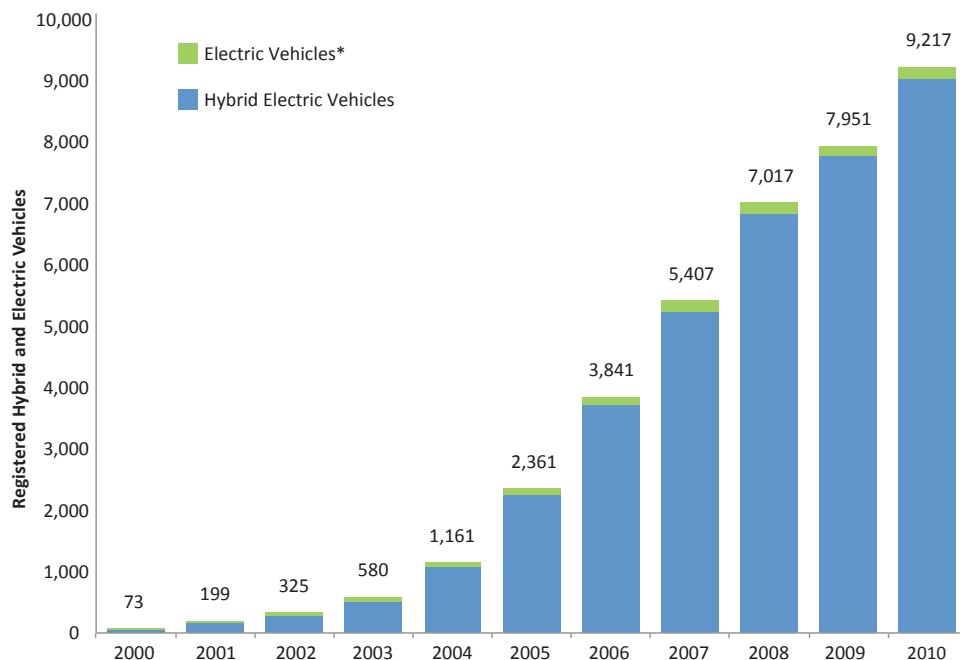
Richard Lim
Director, DBEDT

The emerging electric vehicle (EV) market will undoubtedly play an important role in achieving our state's mandate for 70% clean energy by 2030, as well as fuel overall economic growth. This issue of the DBEDT Energy Update will address the current status of EVs, the impetus behind the growth of the EV market, and the exciting road ahead.

HAWAII'S EMERGING ELECTRIC VEHICLE MARKET

Since 2000, Hawaii has witnessed an upward trend in the cumulative number of hybrid vehicles and electric vehicles registered in the state. Hybrid vehicles use gas from the pump to power electric engines under their hoods and electric vehicles are completely powered by electricity. From 2000 to 2010, hybrid and electric vehicles increased from 73 to 9,217. Today, there are 700 licensed plug-in electric vehicles in Hawaii and another 10,604 hybrids.

Hawaii Cumulative Hybrid and Electric Vehicles Registered 2000-2010

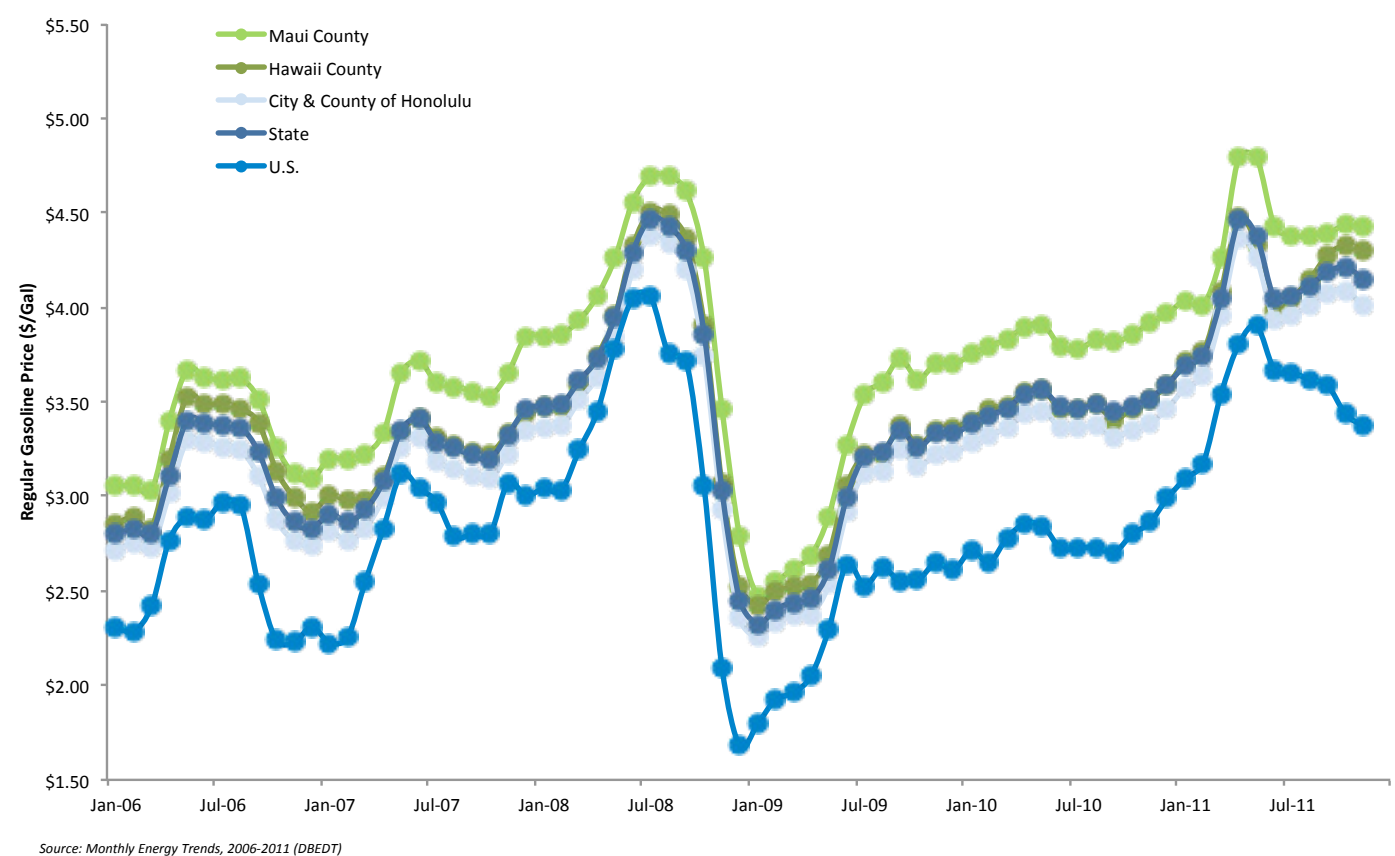


This chart shows an upward trend in the cumulative number of hybrid and electric vehicles registered in the State of Hawaii.

*Includes Neighborhood Electric Vehicles
Source: National Renewable Energy Laboratory, August 2011

Three factors have converged to make Hawaii one of the most attractive markets for electric vehicles in the United States: the highest gasoline prices in the nation, shorter driving distances, and public and private partnerships fueled by incentives for EVs and EV charging stations.

Average Monthly Regular Gasoline Price Hawaii vs U.S. 2006-2011



A key part of the state’s campaign to increase the number of energy-saving EVs on island roads is DBEDT’s Electric Vehicle Grant Program. In 2011, \$2.6 million in Recovery Act-funded grants were awarded to six organizations to promote, install, and deploy charging stations and EVs across the state of Hawaii. Backed by matching funds, program grants ranged from \$50,000 to \$820,000, to attract first-market-release of EVs, build local knowledge, and showcase Hawaii’s opportunities for clean energy through the deployment of EVs.

EV Ready Awardees Include:	
Better Place	For installation of charging stations across the state and the introduction of EVs to a rental car fleet
AeroVironment	For installation of charging stations across the state, conducting grid integration analysis, and accelerating EV introduction to dealerships and vehicle fleets
GreenCar Hawaii	To introduce EVs to car-sharing services within the hospitality industry
County of Kauai	For installation of charging stations across Kauai and the purchase EVs for the County fleet
City & County of Honolulu	For installation of charging stations on Oahu, purchase of EVs for City and County fleet, and streamlining City and County of Honolulu’s residential EV permitting process
Plug In America	To develop the Hawaii EV Ready Guidebook and conduct public education and outreach

The six contracts developed under the EV Ready Program has led to more than 200 charging stations installed at over 80 sites across all counties. Additionally, EVs are being introduced to several public and private fleets.

Hawaii's EV Grant Program Charging Network

Name of Location	Stalls	Address	City
OAHU			
Ewa Town Center	2	91-1401 Ft Weaver Rd	Ewa Beach
Fasi Civic Center Parking Structure	1	650 S. King Street	Honolulu
Central Pacific Plaza	4	220 S. King Street	Honolulu
Keola Lai Condominium	4	600 Queen St	Honolulu
Mark's Garage	2	22 S. Pauahi Street	Honolulu
TOPA Financial Center	4	700 Bishop Street	Honolulu
Neal Blaisdell Center Parking Structure	1	777 Ward Avenue	Honolulu
HMSA Center	2	818 Keeaumoku Street	Honolulu
Hokua Condominium	2	1288 Ala Moana Boulevard	Honolulu
DoubleTree	2	1956 Ala Moana Blvd.	Honolulu
Honolulu Zoo Parking Lot	1	151 Kapahulu Avenue	Honolulu
Aloha Stadium	2	99-500 Salt Lake Blvd.	Honolulu
Enterprise Rent-a-Car, Waikiki	2	151 Kaiulani Street	Honolulu
Hawaii Prince Hotel	4	100 Holomoana Street	Honolulu
Hilton Hawaiian Village	4	2003 Kalua Road	Honolulu
Smith-Beretania Parking Structure	1	1170 Nuuanu	Honolulu
Chinatown Gateway Plaza Parking Structure	1	1031 Nuuanu Ave	Honolulu
Hale Pauahi Parking Structure	1	155 N Beretania St.	Honolulu
Bishop Museum	4	1525 Bernice Street	Honolulu
Nimitz Center	2	1130 North Nimitz Highway	Honolulu
Stadium Marketplace	4	4561 Salt Lake Boulevard	Honolulu
Alamo Rent-a-Car, Nimitz	6	3055 N. Nimitz Hwy	Honolulu
Enterprise Rent-a-Car, Honolulu Airport	4	3255 Aolele Street	Honolulu
Univ of Hawaii Faculty Housing	2	3029 Lowrey Avenue	Honolulu
Univ of Hawaii Lower Campus Parking Garage	4	2500 Campus Road - Arena Parking	Honolulu
Ross Parking Garage	1	711 Keeaumoku Street	Honolulu
Waikiki Galleria	2	2222 Kalakaua Avenue	Honolulu
Marriott Waikiki Beach	2	2552 Kalakaua Avenue	Honolulu
Ohana East	2	2375 Kuhio Avenue	Honolulu
Outrigger Waikiki	2	2335 Kalakaua Avenue	Honolulu
Ohana Waikiki West	2	2330 Kuhio Avenue	Honolulu
Outrigger Reef	2	2169 Kalua Road	Honolulu
Ohana Waikiki Malia	2	2211 Kuhio Avenue	Honolulu
Ala Moana Hotel	2	410 Atkinson Honolulu	Honolulu
Embassy Suites Waikiki	2	201 Beach Walk Street	Honolulu
Holiday Inn Beachcomber	2	2300 Kalakaua Ave.	Honolulu
Waikiki Trade Center	2	2255 Kuhio Avenue	Honolulu
Kaimuki Shopping Center	1	3221 Waialae Avenue	Honolulu
USA Hawaii Credit Union	4	1226 College Walk	Honolulu
Best Western Plaza Hotel	2	3253 N. Nimitz Highway	Honolulu
Ohana Honolulu Airport	2	3401 N. Nimitz Hwy.	Honolulu
Moanalua Shopping Center	4	930 Valkenburgh Street	Honolulu
Kailua High Teacher of Year	1	451 Ulumanu Drive	Kailua
Turtle Bay Resort	6	57-091 Kamehameha Highway	Kahuku

Name of Location	Stalls	Address	City
Enterprise Rent-a-Car, Kaneohe	2	46-003 Alaloa Street	Kaneohe
Ace Hardware Kapolei (AKA Pioneer Contracting Company)	1	480 Kamokila	Kapolei
Kapolei Hale	1	1000 Ulu'Ohia Street	Kapolei
Kapolei Commons	2	4450 Kapolei Parkway	Kapolei
Kapolei Shopping Center	2	590 Farrington Highway	Kapolei
Laie Village Center	2	55-510 Kamehameha Highway	Laie
Polynesian Cultural Center	2	55-370 Kamehameha Highway	Laie
Town Center of Mililani	2	95-1249 Meheula Parkway	Mililani
Hilton Waikiki Prince	1	2500 Kuhio Avenue	Waikiki Beach
Times Royal Kunia Center	1	94-615 Kupuohi Street Waipahu	Waipahu
Waikale Center	2	94-849 Lumiaina Street	Waipahu
HAWAII (Big Island)			
HELCO	1	1200 Kilauea Ave.	Hilo
Hilton Waikoloa	4	69-425 Waikoloa Beach Drive	Waikoloa
West Hawaii Civic Center	6	74-5044 Ane Keohokalohe Hwy	Kailua-Kona
Four Seasons Resort Hualalai	2	72-100 Kaupulehu Drive	Kailua-Kona
Kona Commons Shopping Center	4	74-5450 Makala Boulevard	Kailua-Kona
National Car Rental, Kona Airport	2	Keahole International Airport	Kailua-Kona
Hapuna Beach Prince Hotel	4	62-100 Kauna'oa Drive	Kohala Coast
Mauna Kea Beach Resort	4	62-100 Mauna Kea Beach Drive	Kohala Coast
KAUAI			
Marriott Waiohai Beach Club	2	2249 Poipu Road	Koloa
Sheraton Kauai	2	2440 Hoonani Rd	Koloa
Lihue Civic Center - Piikoi Building	1	4444 Rice Street	Lihue
Lihue Civic Center - Adjacent to Kaua'i Museum	2	4444 Rice Street	Lihue
Historic County Building	2	4396 Rice Street	Lihue
Kauai Marriott Resort & Beach Club	2	3610 Rice Street	Lihue
Grand Hyatt Kauai	1	1571 Poipu Rd	Poipu
Westin Princeville Resort	4	3838 Wyllie Rd	Princeville
MAUI			
Kahana Gateway	4	4405 Honoapiilani Hwy	Kahana
Maui Electric Company Ltd. (MECO)	2	210 W Kamehameha Avenue	Kahului
Alamo/National Kahului Airport	4	905 Mokuea Place	Kahului
Sheraton Maui	4	2605 Ka'anapali Parkway	Lahaina
Westin Kaanapali Resort & Spa	4	2365 Ka'anapali Parkway	Lahaina
Kihei Town Center	2	1881 South Kihei Road	Kihei
Marriott Wailea Beach	8	3700 Wailea Alanui Drive	Wailea
Marriott Wailea Beach Key Fob Order	1	3700 Wailea Alanui Drive	Wailea
Four Seasons Maui	2	3900 Wailea Alanui	Wailea
Maui Memorial Medical Center	2	220 Mahalani Street	Wailuku

Source: DBEDT State Energy Office, March 2012

DBEDT also recently re-energized its EV Ready Rebate Program. Through November 1, 2012, an additional \$350,000 will fund a \$4,500 rebate on new electric or plug-in hybrid electric vehicle and up to \$500 for an electric vehicle home charger. Thus far, the program has yielded 618 rebates for 372 electric vehicles and 246 chargers. The growing demand for plug-in cars in Hawaii has led to a number of major automakers focusing on the Hawaii market. Last year, Nissan, Chevrolet and Mitsubishi made Hawaii one of the first locations to introduce new EV models. We also expect to see the Plug-in Prius made available later this year at a number of Hawaii's Toyota dealerships.

EVS ON THE MOVE

To date, Hawaii's progress in the EV market has contributed five percent towards the Hawaii Clean Energy Initiative transportation goal of 210,000 EVs on Hawaii's roads by 2030, the same year we hope to achieve a 70 percent reduction in fossil fuel consumption in Hawaii. EVs would make up one-fifth of that 70 percent figure by reducing 75 million gallons a year by 2030.

Hawaii's aggressive EV goals are part of the transformational change Governor Neil Abercrombie has envisioned to meet Hawaii's clean energy goals.



Governor Abercrombie unveils first EV charger at State Capitol Building, July 2011

Source: DBEDT State Energy Office, July 2011

There are indications that the focus on EVs is beginning to pay off. A national study, "Electric Vehicle Geographic Forecasts," published by Pike Research in the fall of 2011, ranked Hawaii as the top state in the country for EV penetration, with sales growing by 43 percent from 2011 to 2017. The study also estimated that EVs will make up 6.7 percent of the Hawaii car market by 2017.

With the recent growth in charging stations, Hawaii is the nation's leader for public EV charging ability on a per capita basis. The state now has one charging station for every 5,500 residents. "With charging stations situated across the State of Hawaii, it is no longer going to be inconvenient to own an electric vehicle," says Lieutenant Governor Brian Schatz. "Regular consumers can buy an electric vehicle and conveniently drive to work, to take their kids around, to do whatever they need to do."

The demand for EVs in Hawaii is creating a new market segment that is attracting significant private sector investment, seeded in part by DBEDT's targeted allocation of federal Recovery Act funds. In addition to EV rebates, the state is accelerating the deployment of charging locations, the EV equivalent of gas pumps, across the state. DBEDT has provided \$5 million in grants to businesses and state offices to build public electric vehicle charging locations throughout the state. DBEDT has also coordinated the purchase of EVs for motor pools, including that of the Department of Accounting and General Services.

Public and private EV charging stations are located throughout the state. For a complete listing, visit electricvehicle.hawaii.gov and click on the link, "Hawaii EV Charging Station Location Database".

The private sector is also playing a key role. Hawaiian Electric Company (HECO) is offering cheaper rates to charge EVs during off-peak hours and is taking a hard look on how it might contribute to building a robust fast-charger network. Car rental companies, such as Enterprise Rent-A-Car, are offering EVs for rent and making clean cars a part of their marketing campaigns.



Hawaiian Electric Company



State law now requires parking lots with at least 100 public parking stalls to set aside space for EVs. EVs can also drive on HOV lanes with a single occupant and take advantage of free metered parking at state and county locations.



MOVING FORWARD

Even though the sticker prices of EVs are higher than comparable gasoline-fueled cars, the \$7,500 federal tax credit and \$4,500 state rebate make EV pricing competitive. The better news is that EVs cost far less to operate than conventionally fueled vehicles. With the cost of gas persisting at \$4 a gallon, the average vehicle powered by gasoline costs about 20 cents a mile to operate. EVs cost about 11 cents a mile.

Please visit energy.hawaii.gov for more information on Hawaii's progress in and plans for developing the EV sector of the clean energy economy.

