

**THE
CLEAN FUELS
AND ELECTRIC VEHICLES
REPORT**

ENERGY FUTURES, INC.

Comprehensive Coverage of Business, Government and Technology
Issues for Transportation Fuels and Electric Vehicles

Volume 22, No. 2

Published Continuously Since 1989

June 2010

General Transportation Issues

Natural Gas

Ethanol and Biofuels

Biodiesel

Reformulated Fuels

Hydrogen

Fuel Cell Vehicles

Hybrid Electric Vehicles

Battery Electric Vehicles

THE CLEAN FUELS AND ELECTRIC VEHICLES REPORT, Copyright 2010, is published by Energy Futures, Inc. (84-1459303). The report is intended for the sole use of our clients. Reproduction of any part of the report by any means whatsoever is strictly prohibited. No part of the report may be copied, stored in an electronic data retrieval system, or transmitted to third parties unless expressly authorized by Energy Futures, Inc.

Editorial Statement

THE CLEAN FUELS AND ELECTRIC VEHICLES REPORT was founded with the proposition that improvements to the conventional fuels and the development of advanced technologies are necessary to solve urban air pollution and energy security problems and to ensure vibrant economic development in the transportation sector. We are dedicated to improving communications in the complex and expanding field of advanced propulsion systems and the new fuels that power them. **THE CLEAN FUELS AND ELECTRIC VEHICLES REPORT** takes no position of advocacy for any specific fuel or technology. We believe that each fuel and technology candidate should be subjected to thorough technical, economic and environmental comparison with all other candidates.

James S. Cannon.....	Editor and Publisher
Jerry Sinor.....	Founding Editor
Jeffrey Georgeson.....	Technical Editor
Cheryl Stevenson.....	Contributing Editor
David Stevenson.....	Webmaster

We welcome your comments concerning **THE CLEAN FUELS AND ELECTRIC VEHICLES REPORT**. For information regarding subscriptions, including electronic subscriptions, or the consulting services that we offer, please contact:

THE CLEAN FUELS AND ELECTRIC VEHICLES REPORT

Post Office Box 4367
Boulder, Colorado 80306-4367 USA

Telephone (303) 541 0185
Facsimile (303) 541 0186
e-mail jscannon@energy-futures.com

Visit our Home Page on the Internet at:
<http://www.energy-futures.com>

THE CLEAN FUELS AND ELECTRIC VEHICLES REPORT, Volume 22, Number 2, (USPS 017-548, ISSN 1095-2691) is published by Energy Futures, Inc., 1460 Riverside Avenue, Boulder, Colorado, 80304-0839. Periodical Postage Rate is paid at Boulder, CO. The periodical is published 4 times each year (March, June, September, and December). Subscription rates: US\$475 per year; air mail delivery outside North America US\$525 per year. Discounts available for multiple subscriptions. No cancellation refunds.

POSTMASTER: Please send address changes to THE CLEAN FUELS AND ELECTRIC VEHICLES REPORT, P. O. Box 4367, Boulder, Colorado 80306-4367

TABLE OF CONTENTS

GENERAL TRANSPORTATION ISSUES

OUTLOOK AND FORECASTS

EIA Predicts Modest Growth in Oil Demand as World Economy Rebounds	1
Aviation and Marine Sectors Offer Big Potential Emissions Reductions	4

COMPANY ACTIVITIES

Ricardo Consortium Aims to Develop Low Carbon Marine Energy System	7
New “MyFord Touch” Coaches Drivers to Improve Fuel Efficiency	8

GOVERNMENT ACTIONS

EPA Releases 15th Annual <i>U.S. Greenhouse Gas Inventory</i>	9
European Nations Increasingly Levy Carbon Dioxide Taxes	10
CEC Unveils Three Alternative Fuel Financing Programs	12

ENVIRONMENTAL AFFAIRS

Air Pollution Linked to Progression of Atherosclerosis	12
NIEHS Cites Need to Study Climate Change and Human Health Impacts	13
Road Transportation Emerges as Key Driver of Warming in NASA Study	14
Carbon Dioxide Emissions Causing Unprecedented Ocean Acidification	15

ECONOMICS

Wide Variation in Costs of GHG Reductions Found in ITS Study	16
--	----

VEHICLES

Shell Eco-Marathon Features High Fuel Economy Vehicles in Houston	19
---	----

INDUSTRY ANALYSES

NRC Report Recommends Ways to Improve Fuel Economy of Trucks	20
Reducing Carbon Emissions Difficult, but Feasible, Study Finds	22

CONFERENCE CALENDAR

24

NATURAL GAS

OUTLOOK AND FORECASTS

Study Finds Natural Gas Can Fuel One-Third of U.S. Trucks by 2035	27
---	----

COMPANY ACTIVITIES

Clean Energy’s BAF Contracts to Convert 501 Verizon Vans to CNG	29
Westport Announces Global Carbon Finance Program for Vehicles	30
Peterbilt Launches Lineup of Natural Gas Powered Trucks	31
Navistar Pursues Natural Gas for Maxxforce 13 Engines	32

GOVERNMENT ACTIONS

Western Governors Urge Congress to Incentivize NGVs, Infrastructure	32
---	----

ENVIRONMENTAL AFFAIRS

Biogas Climate Benefit Greater than Previously Thought	34
Methane Releases from Arctic May Be Much Larger than Anticipated	35

MARKET DATA

Oil Producers to Be Key Markets for NGVs, Says Pike Research	36
--	----

FLEETS

Republic Services Adds 226 Natural Gas Refuse Trucks	37
Ryder Natural Gas Truck Rental and Leasing Project in California	38

FEEDSTOCKS

Waste Management Invests in Harvest Power	39
---	----

TABLE OF CONTENTS

ETHANOL AND BIOFUELS

COMPANY ACTIVITIES

- Virent and Shell Start World's First Biogasoline Production Plant 40
- Cobalt Creates Biobutanol Fuel from Beetle-Killed Pine 40

RESEARCH AND TECHNOLOGY

- "Green" Tires Made from Biomass with Process from Genencor 41
- UK Report Evaluates the Prospects for High Blend Biofuels 42

MARKET DATA

- Indirect Land Use Effects Found Not to Negate Benefits of EU Biofuel Use 45

BIODIESEL

COMPANY ACTIVITIES

- Neste Oil to Trial 100 Percent Biodiesel in Finland 49
- Uhde's PRENFLO Process in Joint BioTfuel Research Project in France 49

GOVERNMENT ACTIONS

- USDA and Navy to Promote Biofuel Use in U.S. Naval Fleet 50

ENVIRONMENTAL AFFAIRS

- LCA of Evogene Castor Biodiesel Shows Emissions Reduction 51

RESEARCH AND TECHNOLOGY

- Field Analysis Confirms Value of B20 Fuel in Transit Buses 52

FEEDSTOCKS

- GM Partners with DOE to Develop Jatropha Biodiesel Project in India 55

REFORMULATED FUELS

COMPANY ACTIVITIES

- GM to Invest \$890 Million to Build Cleaner, More Efficient Engines 56
- FEV Displays Extremely Downsized Engine at SAE World Congress 56
- USC Institute to Target Diesel Emissions from Marine Vessels 58

VEHICLES

- VW Premiere Touran TDI with BlueMotion Technology in Leipzig 58
- Mercedes and Infiniti Unveil New Advanced Engine Vehicles 59
- Hyundai Reveals New Blue Drive Vehicles and Technology 60

HYDROGEN

RESEARCH AND TECHNOLOGY

- MIT Researchers Harness Viruses to Split Water to Produce Hydrogen 62
- RPI Student Develops New Hydrogen Storage Technology 62
- Argon Circulated Hydrogen Engine Shows Dramatic Efficiency Gain 63

FLEETS

- Indian Gail Signs with Eden Energy to Test Hydrogen Enriched Natural Gas 66

FEEDSTOCKS

- Greenland's First Hydrogen Plant for Renewable Energy Inaugurated 67

FUEL CELL VEHICLES**COMPANY ACTIVITIES**

Ballard to Power SunLine Transit Agency Buses	69
Suzuki and Intelligent Energy Showcase Burgman Scooter	70

GOVERNMENT ACTIONS

Fuel Cells 2000 Reveals the Top 5 Fuel Cell States in New Report	71
--	----

ECONOMICS

LCA Compares Fuel Cell and Diesel Environmental Impacts and Costs	72
---	----

VEHICLES

F 800 Style Fuel Cell Research Vehicle Shown by Mercedes Benz	75
Hyundai Unveils Tucson IX35 Fuel Cell Electric Vehicle	77

FLEETS

CTTRANSIT Fuel Cell Bus Completes Third Year of Service in Hartford	78
---	----

INFRASTRUCTURE

New Oorja Protonics Methanol Battery Charger for Forklifts	80
--	----

HYBRID ELECTRIC VEHICLES**COMPANY ACTIVITIES**

Toyota Recalls 2010 Prius and All Lexus HS 250h HEVs	82
Mazda and Toyota Agree to Hybrid System Technology License	82
Velozzi to Integrate Capstone Microturbines into HEVs	83

GOVERNMENT ACTIONS

GSA to Double the Federal Hybrid Electric Fleet	84
---	----

RESEARCH AND TECHNOLOGY

Lexus RX 400h HEV Performs Well in Real World Tests in Portugal	85
---	----

MARKET DATA

ITS Asks Consumers If Batteries Are Ready for Plug-in Hybrid Buyers	87
Chinese Consumers Lead the World in PHEV Interest	89
Consumer Confidence Needed to Justify PHEV Purchases, Says Study	90

VEHICLES

Lincoln Introduces Its First HEV, the New MKZ Hybrid	92
Mercedes Benz Shows Its E 300 BlueTec Hybrid in Geneva	93
Infiniti Presents Its First HEV, the M35 Hybrid, at Geneva	95
Opel Fextreme GT/E Concept Premieres at the Geneva Motor Show	96
Ray Plug-in Hybrid Demonstrates Kia Motors' Ecodynamics Philosophy	97
Three New Hybrids from Porsche Debut in Geneva	98
Hyundai Sonata Hybrid Debuts at New York Auto Show	100
Lotus Engineering Displays Lotus Evora 414E Hybrid Concept	101
Audi A8 Hybrids Leads HEV Lineup in Geneva	103

FLEETS

Eaton Delivers 30 Hybrid Buses to Taiwan, Passes Service Milestone	104
--	-----

INFRASTRUCTURE

Impact of PHEVs on Electricity Costs Assessed in Vermont Study	105
Community Readiness for PHEVs Assessed in Wisconsin Analysis	107

TABLE OF CONTENTS

BATTERY ELECTRIC VEHICLES

COMPANY ACTIVITIES

GM Will Double Its Advanced Automotive Battery Lab in the U.S.	109
Enova Leads Recent BEV Headlines with New ZE Electric Vehicle Family	110
First Fedex All-Electric Trucks to Be Used in U.S. Parcel Delivery	112
GM Unveils EN-Vision for Future Urban Mobility in Shanghai	113

GOVERNMENT ACTIONS

NYSERDA Commits \$8 Million for Energy Storage Projects	114
---	-----

ENVIRONMENTAL AFFAIRS

Uncertainty in Emission Factors Could Confuse Electricity LCAs	115
--	-----

RESEARCH AND TECHNOLOGY

MIT Makes Significant Step Toward Lightweight Batteries	117
Self-Assembled Nanocomposites Boost Lithium Ion Battery Anodes	118
NREL Study Outlines Path to Cost Effective Vehicle Electrification	119

MARKET DATA

Frost & Sullivan Sees Eminent Boom for Lithium Ion Batteries	121
466 Million Electric Two-Wheelers Onroad by 2016, Says Pike Research	121
Automotive Battery Manufacturers Face Overcapacity, Study Finds	122

ECONOMICS

Study Finds Cheapest Electricity for EVs in West and Midwest	124
--	-----

VEHICLES

Ford Transit Connect Electric Shown in Chicago	126
Chrysler to Develop New Fiat 500 Electric Vehicle for the U.S. Market	127
Protoscar Unveils LAMPO2 Electric Sports Car in Geneva	127
Ford Extends Global Electric Vehicles Plan to Europe	128
Freightliner Electric Van Chassis Debuts at NTEA Work Truck Show	129

FLEETS

USPS Proposes Phase-in Deployment of Long-Life BEVs	130
---	-----

INFRASTRUCTURE

Batter Place Launches Switchable Battery Taxi Project in Tokyo	132
IFQC Report Sees Carbon Dioxide Reductions from EVs in Europe	133