SPECIAL SECTIONS AUTOMOTIVE TRENDS: ALTERNATIVE FUELS & MARKET FORCES

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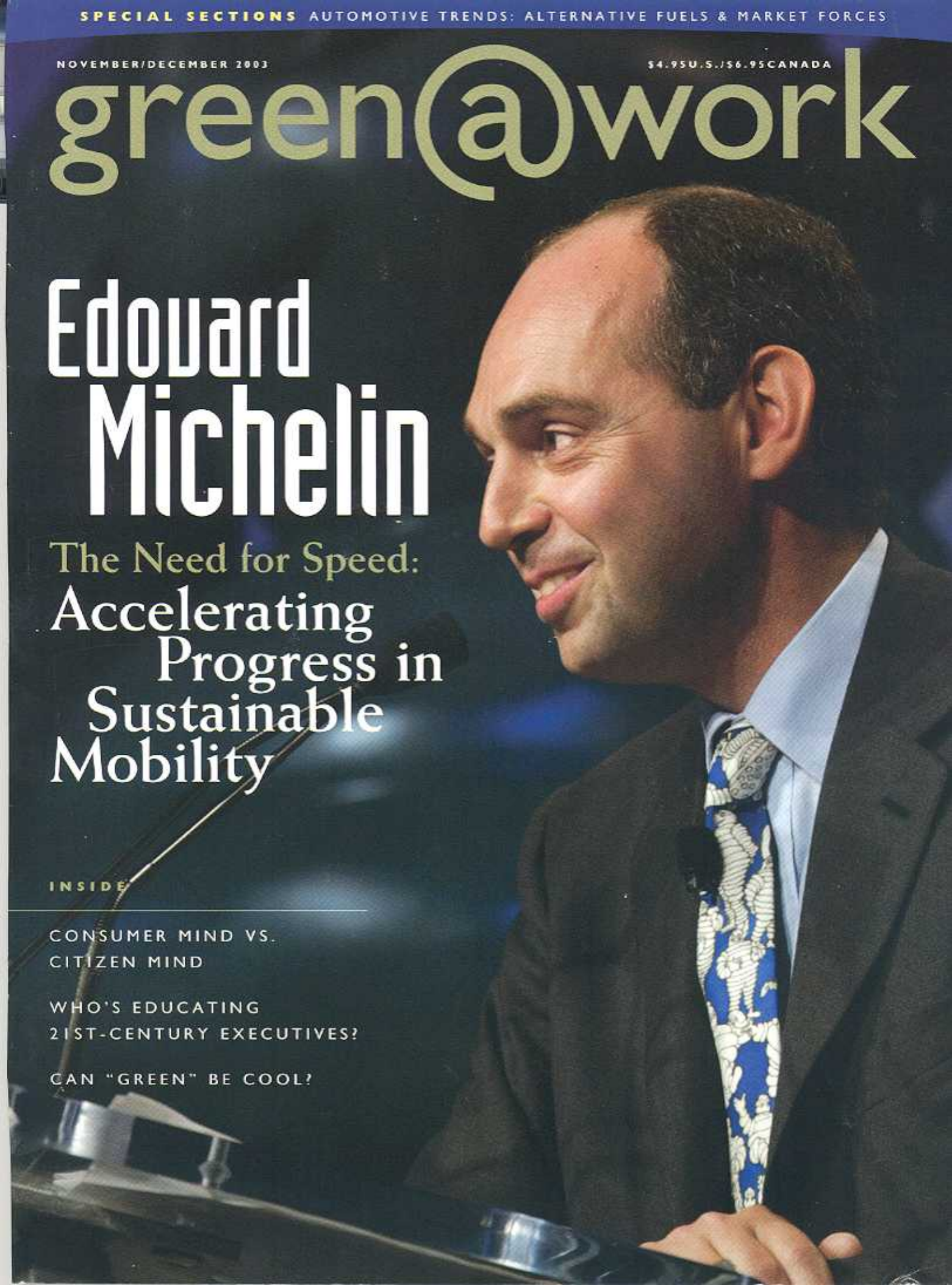


Edouard Michelin

The Need for Speed: Accelerating Progress in Sustainable Mobility

INSIDE

Shifting Gears

Environmental factors and market forces are helping to impact what—and who—is steering the future course for the auto industry.

Americans have long had a love affair with their cars. We care how they look, how they perform, how they handle and how comfortable and reliable the ride is. We consider all these factors and more when agonizing over which car we want to spend our money on—a major purchase that, in dollars, only a generation ago could have bought a two-story, four-bedroom home in a pleasant suburb outside a growing metropolitan area.

For a long time, we thought bigger was better. Then came the energy crisis of the '80s and suddenly small was in. Today we have come full circle: not only is bigger better, huge is best.

But is it really? Suddenly our cars are not only causing sticker shock, but a fair share of surprise and dismay at the gas pump as well. Between rising gas prices, urban sprawl and the size of the vehicles we drive, it is not all that uncommon for an active family to spend upwards of $200 a month just on gas.

As a result, consumers are starting to take notice of how their automobiles are impacting their wallets on a regular basis. Combined with an increased awareness of environmental issues and transportation's role in contributing to global climate change, a recent J.D. Power and Associates study found that 60 percent of American new-car buyers would seriously consider buying fuel efficient gas-electric hybrid cars, and they're willing to pay $1,000 more for them—a premium that's likely to rise with the next oil price shock. This reinforces the findings of another J.D. Power and Associates report, the 2003 Escaped Shopper Study℠, where gas mileage is now fifth on the list of reasons that new vehicle buyers reject one model over another—a sharp jump up from 13th place in 2002.

Automakers, too, are paying close watch. Hence the increasing introduction of hybrid cars and trucks, vehicles that are powered by a rechargeable battery combined with gasoline in order to deliver the energy efficiency that more and more consumers are looking for.

In fact, hybrid sales are expected to reach 40,000 units in 2003 with only three hybrid electric models currently on the market, reports the 2003 Hybrid Electric Vehicle Outlook[SM] report for third quarter 2003, released in October by J.D. Powers. However, manufacturers are preparing to introduce a dozen new hybrid electric models over the next two years, and hybrid sales are expected to exceed 177,000 by 2005. A total of 28 models—18 truck and 10 car models—are expected to offer hybrid powertrain options in 2008.

That translates into U.S. consumer purchases of approximately 350,000 hybrid vehicles annually by 2008, a forecast that has been revised down from previous expectations of 500,000 due to the fact that some automakers have revised plans to produce hybrid electric vehicles, with many delaying the release of some hybrid vehicle models or dropping models from their hybrid program altogether. In addition, the price premium charged to consumers for a hybrid powertrain option is expected to be higher over the next several years than previously expected.

"The hybrid-electric vehicle market has undergone some significant changes over the past several years, and those changes have caused many of the manufacturers to adopt a wait-and-see approach," said Walter McManus, executive director of global forecasting at J.D. Power, whose outlook was based on its North American Automotive Forecasting data and the firm's consumer research data.

"Hybrid electric vehicles are still a growing portion of the market, but their share is rising at a slower rate than we previously expected," he continued. "Higher-than-expected initial retail prices will slow sales growth, and slower sales growth will keep prices high. Sales should increase dramatically as more hybrid vehicles, especially in segments other than compact cars, become available."

The first hybrid electric model in the U.S. market was the Honda Insight in 1999. The Toyota Prius debuted the following

THE CLEAR ACT
TAX INCENTIVES FOR CLEAN, EFFICIENT VEHICLES

Tax incentives to encourage consumers to purchase the cleanest, most fuel-efficient vehicles on the market have long been a legislative priority for the Union of Concerned Scientists' (UCS) Clean Vehicles Program. From 2000 to 2003, UCS has worked with a bipartisan group of senators and representatives to develop a comprehensive package of tax credits for the purchase of the full range of alternative-fuel or advanced-technology vehicles, from cars and SUVs to buses and delivery trucks. Its goal has been to ensure that these credits are tied to strong environmental performance.

Tax incentives, says the UCS, are an important complement to the tougher regulations for cars and trucks that it has been fighting for and winning. Once these tax benefits are passed, it will be critical to ensure that consumers and businesses know they are available. These incentives will also boost local efforts to replace diesel transit and school buses with alternative-fuel models, making advanced technologies more accessible to transit authorities and school districts.

On March 3, 2003, UCS joined with Sen. Orrin Hatch (R-UT), Rep. Dave Camp (R-MI), and representatives of the alternative-fuels industry and the auto industry to announce the reintroduction of the CLEAR Act (S. 505), which is designed to provide tax incentives for clean advanced vehicles. The co-sponsors of the Senate bill included John Rockefeller (D-WV), James Jeffords (I-VT), Lincoln Chafee (R-RI), Hillary Clinton (D-NY), John Kerry (D-MA), Joseph Lieberman (D-CT), Olympia Snowe (R-ME), Gordon Smith (R-OR), Zell Miller (D-GA), Mark Dayton (D-MN) and several others. On April 3, 2003, the CLEAR Act passed through the Senate Finance Committee with strong environmental performance criteria intact. In the House, Rep. Camp introduced the companion bill, H.R. 1054. But the bill was weakened by the House Ways and Means Committee dramatically, says the UCS, when it removed the hybrid tax credit and replaced it with a credit for diesel vehicles, which can be three to 10 times dirtier than the hybrids and other technologies targeted in the original bill. This weakened version then passed the full House on April 11, 2003. UCS says it will continue to work with its allies to get the environmentally responsible Senate bill passed and signed into law.

Existing Tax Break Phasing Out

As of April 2003, hybrid car buyers are eligible for a federal income tax deduction. In fact, buyers can benefit from the tax deduction even if they bought their hybrid in 2002.

In May 2002, an IRS press release declared gasoline/electric hybrids eligible for tax deductions as "clean fuel" vehicles under the Energy Policy Act of 1992 (PL 103-486). The amount of the deduction depends on the cost of running the vehicle on the electric system that supplements the gas engine. Once automakers have certified those costs, the IRS will set the deductions for each model, up to $2,000.

The deduction can be claimed on line 32 of the Form 1040 federal tax return. Individuals who have already bought a hybrid can file an amended return for the year they bought the car.

The clean-fuel tax deduction is set to end after 2006, with $500 less available each year as the deduction is phased out. If the CLEAR Act passes this year, the UCS notes there will be generous, performance-based tax deductions available for the purchase of a wide range of hybrids, battery electric vehicles, fuel cells and alternative-fuel buses and trucks through 2010.

Source: Union of Concerned Scientists (www.ucsusa.org)

year, and the Honda Civic Hybrid went on sale in 2002. The first full-size pickup hybrids—Chevrolet Silverado and Dodge Ram—hit commercial fleets this year and will reach retail dealers in early 2004. The first SUV hybrid, the Ford Escape, will also reach dealerships in 2004.

"Trucks should account for about 35 percent of hybrid sales by 2005 and 64 percent of hybrid sales by 2008," McManus said. "We know, based on J.D. Power and Associates studies, that consumers express interest in a hybrid powertrain option in the same segments as their current vehicles. Trucks generally are more popular than cars, and they will be more popular in the hybrid market as well."

While hybrid vehicles are stirring up interest among consumers, these vehicles will only represent about one percent of the market by 2005 and reach two percent market share by 2008, says J.D. Powers. Honda should see its share of the hybrid market soar to 58 percent this year based on strong Civic Hybrid sales. As other manufacturers enter the hybrid market, Toyota's hybrid share is expected to drop from 39 percent in 2003 to 20 percent by 2008—about the same as Honda's projected share for 2008. General Motors is expected to see growth from less than two percent market share in 2003 to nearly 33 percent by 2008. DaimlerChrysler's share of the hybrid market should increase from slightly more than one percent in 2003 to nearly 15 percent by 2008, while Ford Motor Co.'s share should grow from zero percent in 2003 to six percent by 2008.

INDUSTRY COLLABORATIONS

Recognizing the market forces at play and the environmental concerns at risk, here's four industry organizations that are exploring the future course of the automotive industry.

- The **Suppliers Partnership for the Environment** (SP) was formed by several companies in the automobile industry working together with General Motors and the Environmental Protection Agency. SP's mission is to identify, address and pursue systematically the challenges and opportunities that are available within the auto mobile supply chain to improve the environment and, in addition, the bottom lines of member companies.
  www.supplierspartnership.org

- The **California Fuel Cell Partnership** is a collaboration of auto companies, fuel providers, fuel cell technology companies and government agencies that is exploring the path to commercializing fuel cell electric vehicles.
  www.fuelcellpartnership.org

- **FreedomCAR** (Cooperative Automotive Research) is an industry/government research initiative focused on collaborative, pre-competitive, high-risk research to develop the component technologies necessary to provide a full range of affordable cars and light trucks that will free the nation's personal transportation system from petroleum dependence and from harmful vehicle emissions, without sacrificing freedom of mobility and freedom of vehicle choice.
  http://uscar.org/freedomcar/

- The **Sustainable Mobility Project** of the World Business Council for Sustainable Development (WBCSD) was established to point the way to mobility systems worldwide that are more efficient, more equitable and less environmentally and socially disruptive, while preserving the benefits that mobility systems provide.
  www.wbcsd.org

MARKET SENSITIVITY

But those predictions could change dramatically, suggests a study just out from the World Resources Institute (WRI) and Sustainable Asset Management (SAM), which analyzes how climate change policies can affect the financial performance and competitiveness of leading global auto companies. The report, *Changing Drivers: The Impact of Climate Change on Competitiveness and Value Creation in the Automotive Industry*, uses new indicators of a company's performance. A product of WRI's Sustainable Enterprise Program, it is intended to help investors make better-informed decisions regarding investments in automotive companies.

"The global auto market in which companies compete is increasingly being defined by concern over climate change," said Jonathan Lash, president of WRI. "From Europe to Japan to California, new policies and commitments are challenging companies to make less carbon-intensive and more fuel-efficient vehicles."

As a growing number of countries adopt measures to address climate change, auto company profits will become increasingly sensitive to pressures to reduce vehicle carbon dioxide (CO_2) emissions and improve fuel economy. Investors and portfolio managers will need to start considering these influences and their impact on company finances when buying and selling stocks.

Though carbon constraints create both risks and opportunities for the industry as a whole, the risks and opportunities fall differentially on the 10 companies that the report assesses: BMW, DaimlerChrysler, Ford, General Motors, Honda, Nissan, PSA Peugeot Citroën Group, Renault, Toyota and Volkswagen.

According to the report, companies producing low-carbon vehicles and possessing superior carbon-reducing technologies should see market share increase and competitive advantage grow as these developments take hold. In contrast, companies that have more carbon-intensive vehicles and that are lagging behind in the race to develop lower-carbon technologies could

"The global auto market in which companies compete is increasingly being defined by concern over climate change."

—Jonathan Lash, President, World Resources Institute

suffer from lower sales, increased costs and reduced profits. Hence, carbon constraints could have a strong influence on competition within the industry.

WRI and SAM have developed new indicators to quantify the risks and opportunities that carbon constraints create. The two key measurements of the risk facing companies are "carbon intensity of profits" and "value exposure."

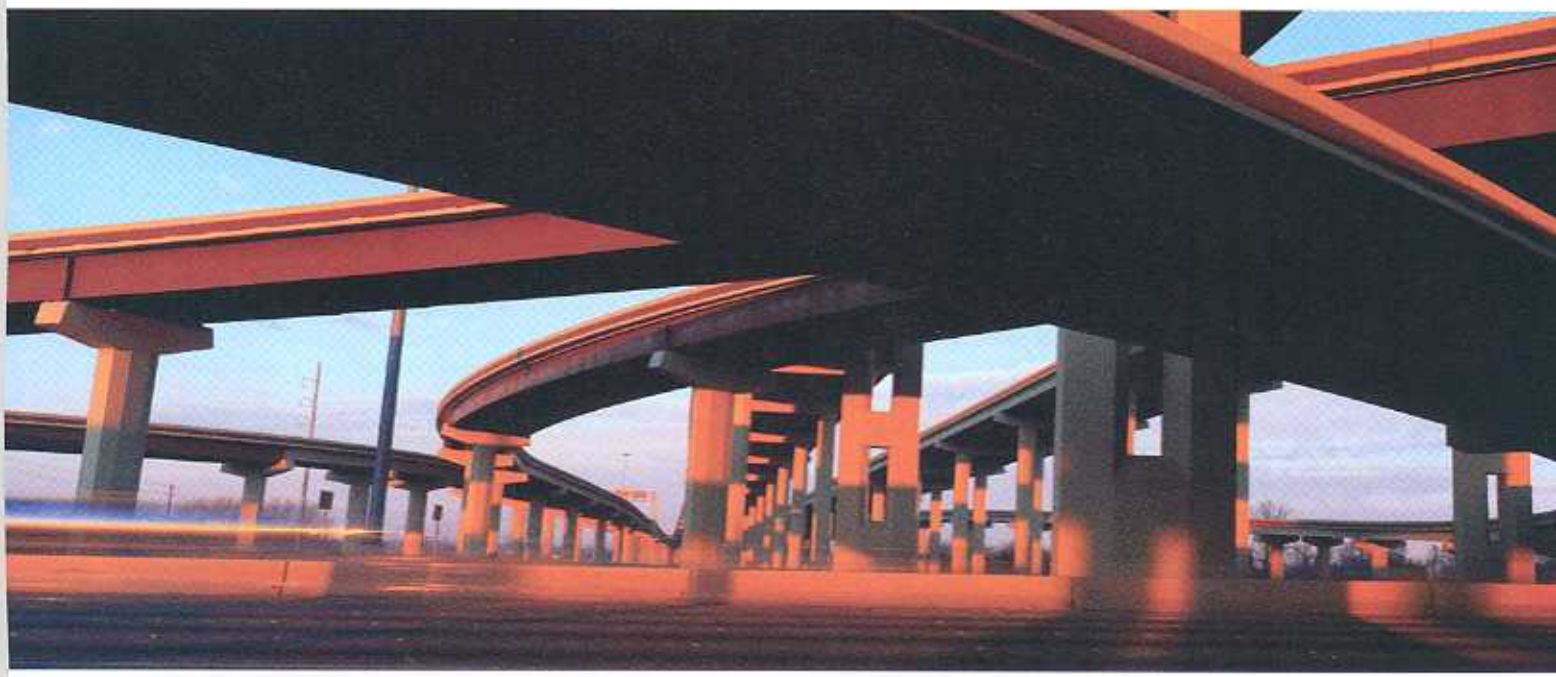
The carbon intensity of profits captures the degree to which current profits are derived from high carbon-emitting vehicles. Comparing the carbon intensity of profits for different companies allows investors to assess the relative ease or difficulty that a manufacturer faces in responding to carbon constraints. Value exposure is an estimate of the costs manufacturers face in meeting new carbon constraints. The report finds that the costs incurred in meeting carbon constraints could vary by a factor of 25 across the industry.

Offsetting the risks are important new opportunities for car companies to capitalize on carbon constraints by developing new technologies. In a management quality assessment, the report analyzes which companies have the best opportunity to benefit from carbon constraints by developing and commercializing key lower-carbon technologies—clean diesel, hybrids and fuel cells—ahead of their competitors.

SAM and WRI found that Toyota has the strongest management quality score regarding lower-carbon technologies, with a strong position in all three technologies likely to confer competitive advantage. Investors and portfolio managers will need to monitor closely the management quality of companies regarding lower-carbon technologies, so that they can invest in those companies best positioned to capitalize on carbon constraints.

While carbon constraints appear to be a material issue for value creation in the automotive industry, institutional investors and financial analysts do not currently take these aspects into account when valuing companies. WRI and SAM also assess what impact the risks and opportunities will have for companies' estimated earnings between now and 2015. While some companies' earnings could increase by up to eight percent because of carbon constraints, others may decline by as much as 10 percent—indicating just how important this issue is for investors and portfolio managers.

"Carbon constraints could significantly affect earnings and competitiveness in the global auto industry," said Alois Flatz, head of SAM Research "It is critical that portfolio managers understand the implications of carbon constraints and begin to differentiate car makers on the grounds of their relative carbon positioning." @



THE NEXT GENERATION PRIUS

Toyota has been a leader in designing hybrid vehicles that combine an internal combustion engine and electric motor for over five years. Currently, the automaker has over 100,000 hybrid vehicles currently on the road, and judging from the next generation Prius' Hybrid Synergy Drive® system, the extensive experience has been put to good use. Hybrid Synergy Drive seamlessly integrates all aspects of Prius' hybrid system, from the proper mix of the electric motor and gas engine for optimum performance and efficiency, to the regeneration of electricity via Prius' unique braking system. In addition, a new hybrid powerplant offers a more powerful electric motor, a smaller yet more durable battery pack and a refined VVT-i gas engine. The result is a Prius with improved horsepower and torque.

Thanks to Hybrid Synergy Drive, the Prius is also one of the most environmentally considerate vehicles on the planet. Its low emission levels meet the standard set for an Advanced Technology Partial Zero Emission Vehicle (AT-PZEV) by the California Air Resources Board, which means the Prius produces nearly 90 percent fewer smog-forming pollutants than the average new vehicle. The Prius also features by-wire technologies like electronically controlled shifting and throttle (normally reserved for jet airplanes), which enhance performance and increase efficiency by reducing vehicle weight.

What sets the new Prius apart from any other 21st-century vehicle? Consider these benefits:

- A combined EPA city/hwy fuel economy estimate of 55 mpg. (2004 EPA-estimated 60 city/51 highway/55 combined mpg. Actual mileage may vary.) Its performance and acceleration is comparable to a conventional car with a 2.4-liter engine.
- The Prius never needs to be plugged-in for recharging. During operation, the vehicle's battery is recharged via an onboard generator powered by the gas engine, and an ingenious regenerative braking system.
- Prius' interior provides a unique mix of comfort and versatility: roomy seating for five, 60/40 split fold-down rear seats, an easy-access rear hatch and a hidden storage compartment underneath the cargo deck.
- Prius' Smart Entry & Start allows the driver to automatically unlock the doors and start the vehicle using a key fob transponder.

The next generation 2004 Toyota Prius is remarkably affordable. Making the Prius an even more attractive value is an IRS tax credit purchase incentive. Buyers who purchase a new Prius (IRC Section 179A) within the calendar year 2003 may be eligible to receive a federal tax deduction of up to $2,000. For more information on this program, visit www.carb.ca.gov.

VISTEON EARNS DJSI SPOT FOR THIRD YEAR

Visteon Corp. (NYSE: VC), one of the world's leading suppliers of automotive components and integrated systems, has been included in the Dow Jones Sustainability World Index for the third consecutive year. Dow Jones Sustainability World Index companies are selected based on their ability to integrate financial, social and environmental success factors into their strategies and operations.

Visteon was selected based on numerous practices initiated within the company, including environmental management systems, ethics training, formal codes of conduct and community involvement. Through the Visteon Fund, for example, employees around the globe can recommend that corporate donations be made to charitable organizations within local communities that focus on children and the environment.

Another example of Visteon's commitment to the community and the environment is the recently-opened water treatment plant at the company's automotive climate systems manufacturing facility in El Marques, Queretaro, Mexico. Previously, the water used in the plant's production processes was sent to a treatment facility about 150 kilometers away, resulting in high costs and some risk of spills during transportation.

In this new treatment plant, Visteon can treat up to 500 liters of water per day. By evaporating the water, the plant transforms the entire waste volume into a very small amount of solid waste. The waste is then concentrated for treatment outside the plant in compliance with environmental regulations.

Committed to doing business in a responsible manner, Visteon implements its own environmental and community development initiatives, when possible.

"Visteon's selection to the index for the third year in a row is confirmation of our dedication to pursue best practices with regard to our business, the communities in which we operate and environmental stewardship," says Gary Mayo, Visteon's director of corporate social responsibility. "Each year the standards for selection to the index become more rigorous as stakeholder expectations for corporate commitment to sustainability issues increase."

The index influences the investment decisions of 45 asset managers who use the Dow Jones Sustainability World Index as an objective benchmark for investment portfolios designed to support companies that follow the principles of sustainability.

Visteon is a leading full-service supplier that delivers consumer-driven technology solutions to automotive manufacturers worldwide and through multiple channels within the global automotive aftermarket. Visteon has approximately 75,000 employees and a global delivery system of more than 180 technical, manufacturing, sales and service facilities located in 25 countries.

GM DRIVES A SUSTAINABLE FUTURE

**BY BETH LOWERY,
GM VICE PRESIDENT,
ENVIRONMENT AND ENERGY**

Almost a century after President Theodore Roosevelt initiated the conservation and preservation of our nation's natural wonders, General Motors' products, research and facilities continue to drive the spirit of his idea: a sustainable future. Its recently announced plan to introduce hybrid technology to GM's most popular and best-selling vehicles—full-size trucks and SUVs—is just one example of the corporate-wide integration of its sustainability goals.

Beth Lowry

This year, GM began commercial production of parallel hybrid pick-up trucks, which improve fuel economy by about 12 percent. By 2007, GM will offer a comprehensive hybrid product lineup that will improve fuel economy by 25 to 35 percent. But the creation of a sustainable future cannot be limited to product applications; it must be generated throughout the company. For that reason, it also has integrated sustainable solutions into other areas of its business. For example:

Three GM plants—Lake Orion, MI, Fort Wayne, IN, and Toledo, OH—are using landfill gas to fuel boilers, greatly reducing emissions and dependence on non-renewable energy sources. Other GM facilities are in the process of applying this technology.

Two GM sites were recently certified by the Wildlife Habitat Council and lauded for wildlife habitat management and environmental education programs. The Lordstown Assembly plant in Ohio is home to a 40-acre wildlife preserve, including 375 blue heron nests. GM of Canada's headquarters in Oshawa, Ontario was reforested with 38,000 trees and shrubs to enhance a habitat for numerous animals, including 303 species of birds, creating the 105-acre McLaughlin Bay Wildlife Reserve.

GM's chemicals, resource and oil management programs, which treat waste as valuable resources, helped its North American operations achieve a 59 percent reduction in non-recycled waste over the past five years.

The Suppliers Partnership for the Environment, developed by GM with the U.S. Environmental Protection Agency and several automotive suppliers, facilitates the implementation of environmental best practices through the supply chain.

Ultimately, the future of GM and society is in the utilization of zero-emission hydrogen fuel cells. GM has invested a billion dollars in the research and development of this sustainable technology, creating innovations in automotive and non-automotive applications.

The extent of GM's commitment to generating sustainable solutions goes beyond just one plan. It touches every part of its business. It is a commitment that recognizes the importance of the future—theirs and yours.

CHARACTERISTICS OF A LEADER

BY KAREN SLOAN

What is a true leader? The answer is quite simply and easily demonstrated by Robin Erickson, the circulation transportation manager at Salt Lake City's Newspaper Agency Corp. With the assistance of Ford Motor Co. she made a bold decision to take her fleet in a new direction. This decision proved to be the benchmark for corporate and community leadership.

DEDICATION TO IMPROVEMENT

Erickson was dedicated to finding a fleet transportation option that was economical. Her decision to run a natural gas vehicle fleet has resulted in an annual fuel cost savings of over $320,000. Working with her natural gas provider, Erickson is able to lock into an annual natural gas rate that is considerably cheaper than current gasoline prices, allowing these incredible savings to become a regular occurrence when operating 88 Ford natural gas vans. A secured rate also enables Erickson to budget her expenditures with precision each quarter.

Her dedication to finding a successful fleet alternative nets her additional savings in maintenance. Because her Ford natural gas vans operate on a cleaner burning fuel, preventative maintenance is extended and parts such as spark plugs are in operation considerably longer than with gasoline vehicles. This has resulted in an annual maintenance savings of over $100,000 for her fleet.

Operating a fleet that reduces annual expenditures over $400,000 annually can certainly be considered an improvement.

CONSIDERATION

Erickson and The Newspaper Agency are very aware that they use natural resources to produce their end-product. "We use a lot of paper, a by-product of trees and we wanted to be able to give something back to the community," explained Erickson.

The Newspaper Agency was able to give cleaner air back to their communities by running Ford natural gas vans. Based on her estimation that each of the Newspaper Agency's vans travels approximately 100,000 miles annually, Erickson calculates that her 88 Ford natural gas vans reduce carbon monoxide emissions by more than 1,000 pounds per vehicle per year versus gasoline vehicles. Each year, her natural gas vans reduce CO_2 by almost 100,000 pounds. That is certainly considerate!

Robin Erickson

SUCCESS

Success for a delivery fleet means getting product to its destination on time every time.

Erickson's fleet is able to access High Occupancy Vehicle (HOV) lanes with only single occupants because in Salt Lake City environmental vehicles receive special consideration. Erickson's fleet bypasses daily rush hour traffic so newspaper delivery is more efficient and timely.

This is leadership at work. Robin Erickson is just one example of how Ford's alternative fuel vehicles can make you a leader. Erickson invites other fleet managers to take the leadership challenge and succeed like she did.