GM - Energy and Environment Vision

"Our goal is to take the automobile out of the energy debate... to be part of the solution..."

Beth Lowery

Vice President

Energy and Environment

General Motors Corporation

Solving the 3E Challenge!

- Energy
- Environment
- Economics

Energy and Environment

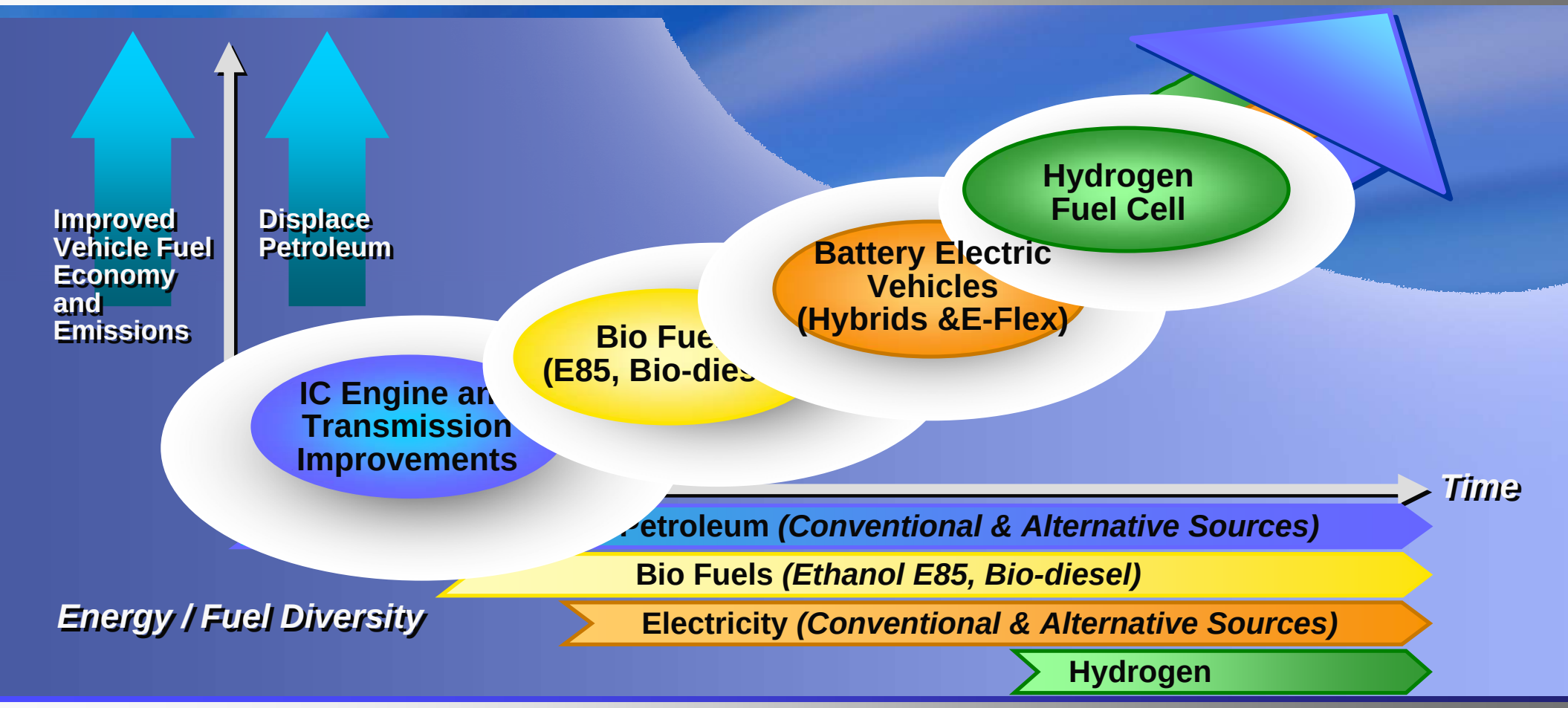
"At GM, we believe tomorrow's automobiles must be flexible enough to accommodate many different energy sources. And a key part of that flexibility will be enabled by the development of electrically driven cars."

Rick Wagoner
Chairman and CEO
General Motors Corporation
LA Auto Show 11/29/2006

GM's Energy Diversity Strategy

- Improve internal combustion engine
- Utilize alternative fuels
- Produce electrically driven vehicles

Advanced Propulsion Technology Strategy



Fuel Economy Leadership

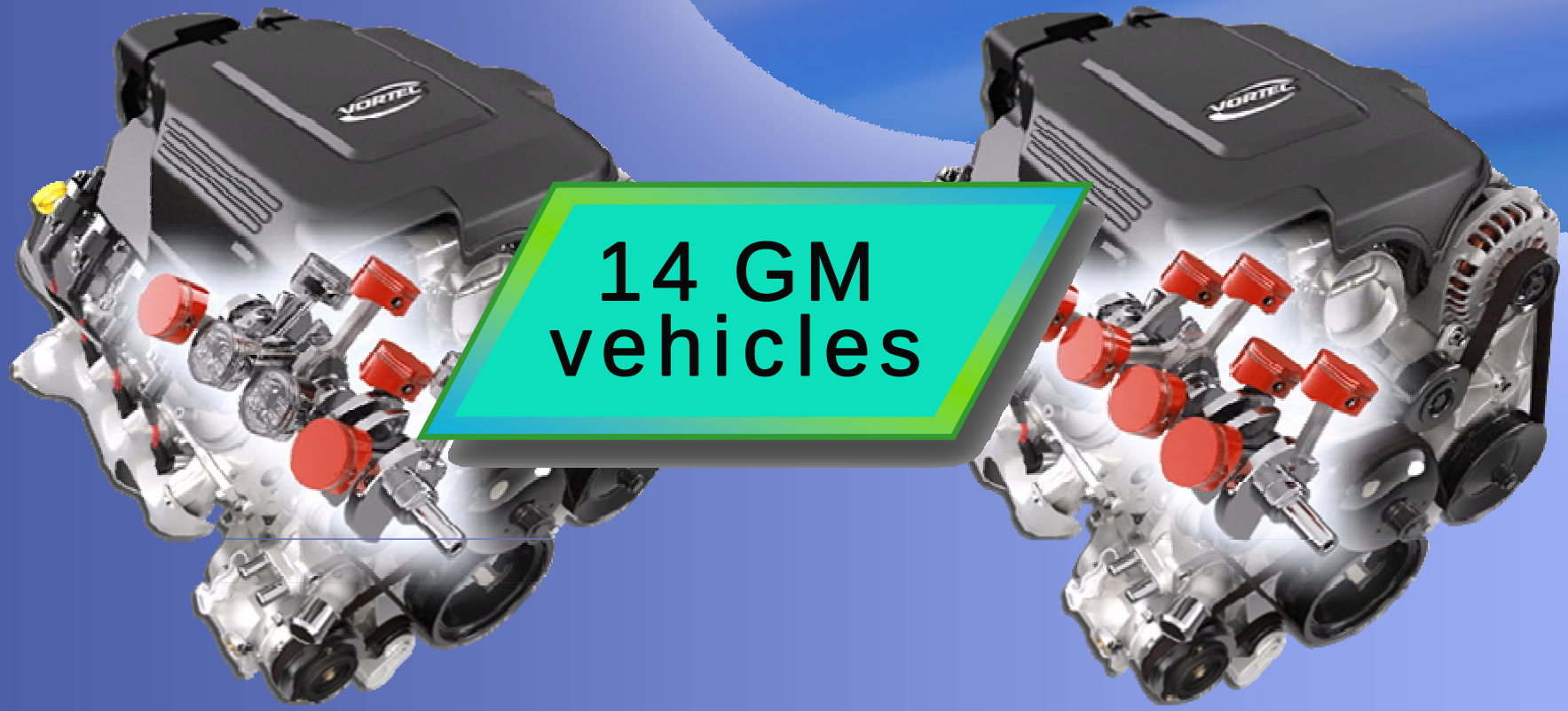
Active Fuel Management

- Available on 5.3L V8
- Available on 3.9 V6
- By 2008, two million vehicles on the road

Active Fuel Management

4 Cylinders Active

8 Cylinders Active



14 GM vehicles

The “Over 30” Club

- Leader in 30 mpg or better highway fuel economy
- More than any other manufacturer… including Toyota, Nissan, Ford or Dodge

The GM U.S. "FlexFuel Club"

13 models for 2008 MY! **Over 2 million on the road**

GMC Sierra

livegreen goyellow

Chevrolet Silverado

GMC Yukon and Yukon XL

Chevrolet Impala & Police Impala

Chevrolet Uplander

Chevrolet Avalanche, Suburban and Tahoe & Police Tahoe

GMC Savana & Chevy Express

Energy and Environment

- Double production of E85-capable vehicles
- Single largest commitment to renewable fuels

Replacing Gasoline

With **"Big Three"** vehicles:

U.S. could save **22 BILLION** gallons of gasoline annually

FLEXFUEL
E85 ETHANOL

livegreen goyellow

Replacing Gasoline

With **ALL** Vehicles:

U.S. could save **37 BILLION** gallons of gasoline annually

FLEXFUEL
E85 ETHANOL

livegreen goyellow

Environmental – Reduce Greenhouse Gases

- Corn-derived E85: 20% CO_2 reduction
- Cellulose-derived E85: 75% CO_2 reduction

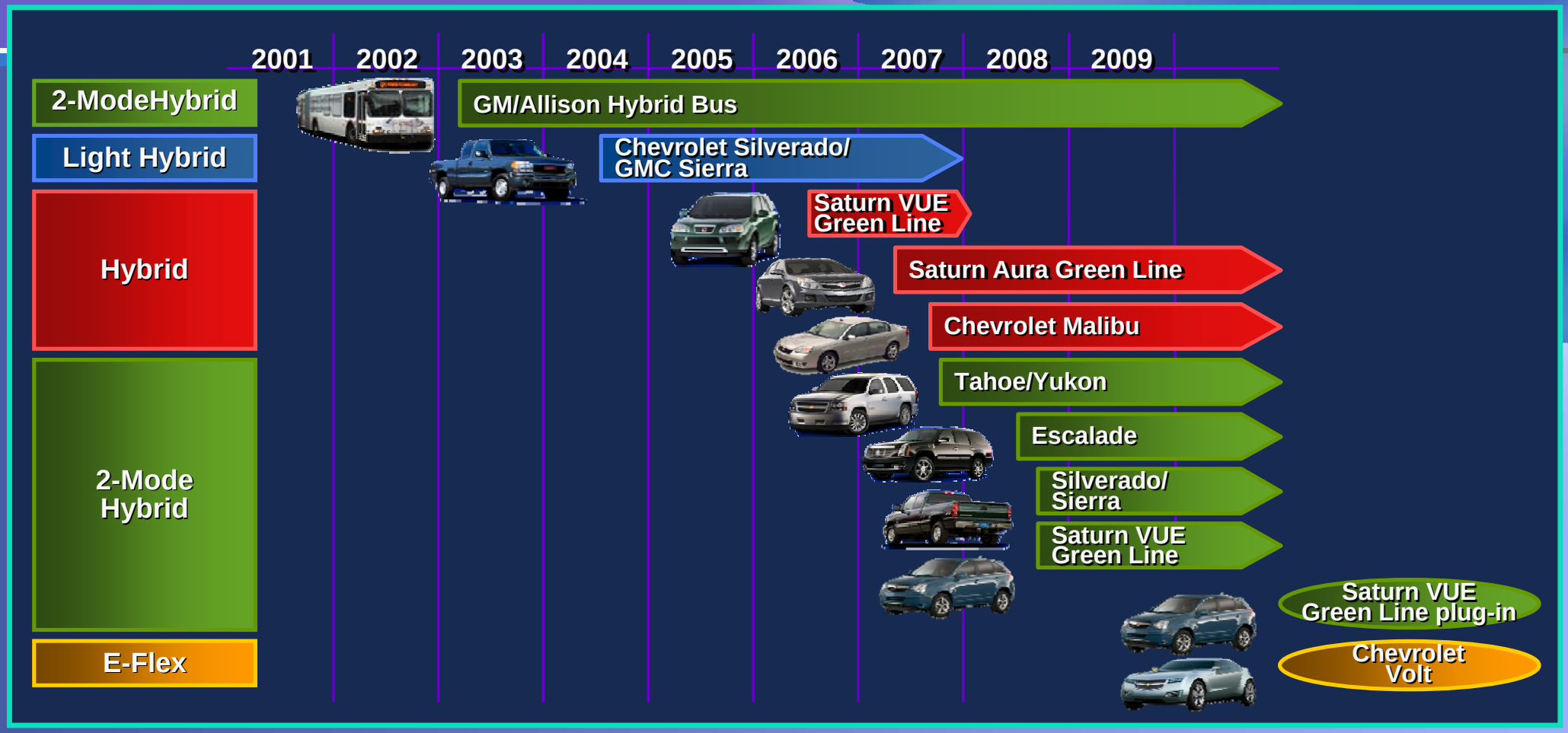
FLEXFUEL
E85 ETHANOL

Why E85?

- E85 is a clean-burning, renewable resource
- Reduced dependency on foreign oil
- Help the U.S. Economy
- GM builds the engines flexible to run on unleaded gas or E85 ethanol
- Reduced greenhouse gasses

Energy Diversity

GM's HYBRID E-FLEX Portfolio



GM's Hybrid Portfolio

HYBRID
2 MODE

2008 Chevrolet Malibu Hybrid

- Engineered for global implementation
- Simple, flexible system, allowing for broad usage
- Affordable — $2,000 below Camry
- $1300 IRS Tax Credit
  - $600 net
- Available start of production
  - October 2007

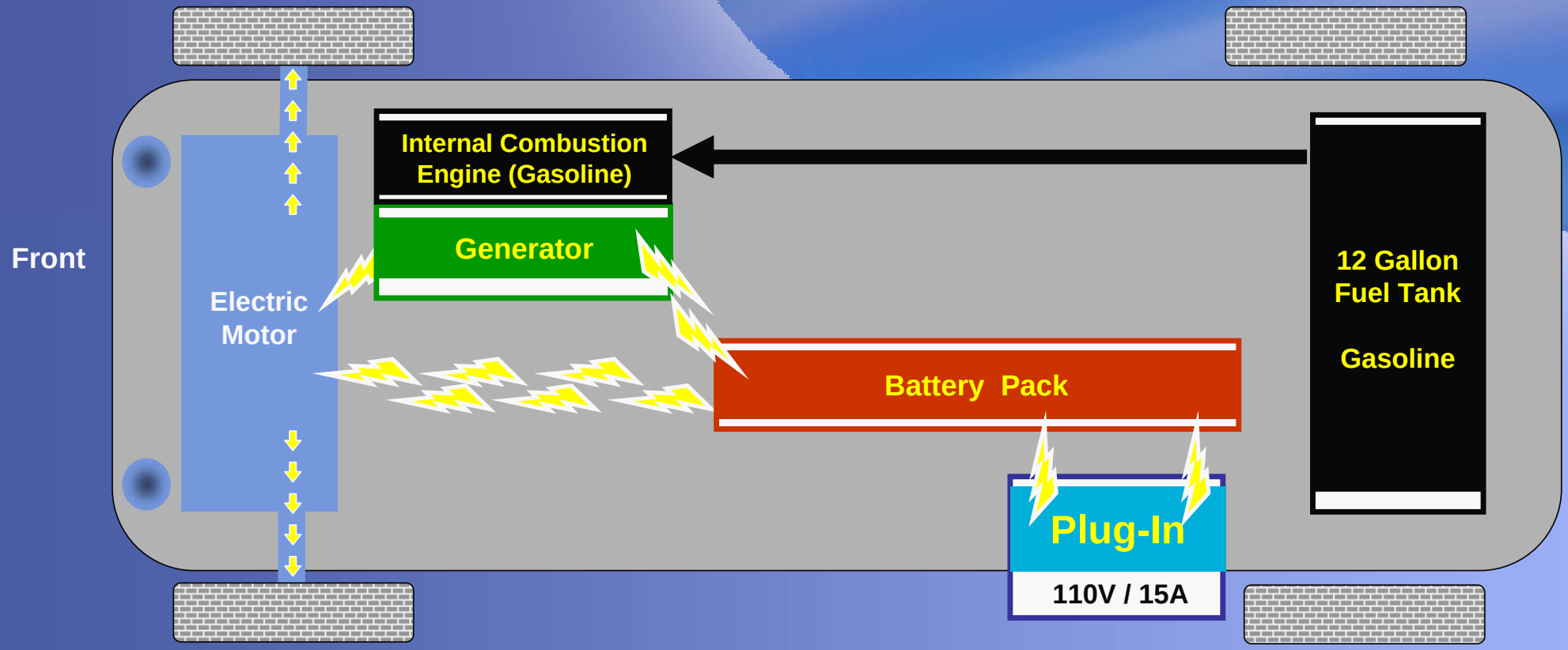
The world’s only full-size Hybrid SUVs

Reinventing the Automobile

Chevrolet Volt

- Electricity stored in battery is the primary “fuel” source
- Small motor creates on-board electricity
- Vehicle is capable of 40 miles of pure electrical vehicle driving (78% of commuters)

E-Flex System



Equinox Fuel Cell Vehicle

West to East High Level Summary - *The Positive*

- UL Testing
  - Going well and could be resolved as early as 3rd quarter
  - Necessary for big box retailers to consider
- Stations Continue to Open
  - The West, South East and Northeast are key to deployment outside ethanol producing states
  - GHG legislation supporting greater adoption of ethanol
- Ethanol Production Continues to Rise
  - E85 in high producing states is very competitively priced
  - Rail leases continue to be an issue so producers are looking to move volume in local market

West to East Summary

- Governor's Coalition
  - GM has extended the Governors' Ethanol Coalition Vehicle program that provides flex fuel vehicles to 30 member governors for promotion and education
- Partnership Update
  - New York: Two additional stations in May
  - Washington, D.C: First of five stations to be announced June 28
  - California: Brentwood station waiting for final permitting and anticipates fuel flowing in July / August
  - Iowa: Announcement to take place in August at the State Fair
  - Oregon, Arizona, Georgia, Florida, Alabama and Wisconsin efforts starting

Live Green Go Yellow Campaign

- Phase II Launched on Earth Day, April 22nd -- Mid December 2007
  - Focus on 13 key markets with high E85 stations and where GM has partnerships
    - Chicago, Cincinnati, Denver, Des Moines, Minneapolis, Washington DC, Columbia, Columbus, St. Louis, Pittsburgh
    - Austin, Dallas, Houston (added in 3rd quarter)
  - "Green" sites and search term to drive to LGGY site:
    - Ecoworld.com, greennature.com, MSNBC Environment, lime.com and greenbiz.com

livegreengoyellow

National Advertising Campaign

- Fuel For Thought Brochure
  - GM's leadership in fuel economy and alternative fuels
  - Available in English and Spanish

- Weekly Reader E85 Curriculum Kit
  - 25,000 kits sent to schools cross country
  - Winner of Distinguished Achievement Award from the Association of Educational Publishers
- DJ Ambassador Program (April – November)
  - 16 national and 31 local DJs
  - Corporate Messages: Warranty, OnStar, Fuel Economy and E85

Yellow Gas Cap / FlexFuel Badge Promotion

- GM customer's who purchased a 2006/2007 MY E85 vehicle received an advisory in late April to go into the dealership for a computer software improvement
  - Dealers have the option to offer a free yellow gas cap and FlexFuel badge as a "Surprise & Delight" goodwill gesture
  - Dealers received quantities of caps/badges, E85 pamphlets and instructions in the DWD box
  - Part installation will be covered by VSSM
  - 21,000 sets of caps/badges already shipped
  - Promotion expires August 31st, 2007

livegreengoyellow

‘Fuel for Thought’ Display at GM Test Track at Epcot

- Opened October 2006 communicating GM messaging on E85, fuel cell and hybrid technologies in an engaging, interactive environment
- GM Test Track attraction attendance averages 15,000 daily; over 4.8 million guests came through GM Test Track in 2006

Regional Activation Recap

- Q1-Q2 Activation 50+ Promotions (E85 & Hybrid)
  - Trade Shows
  - GRAMMYS
  - "Green" Expos/Summits
  - GM Test Track
  - Press Conferences
  - Academy Awards
  - Pump Openings
  - Ride & Drives
  - Auto Shows
  - DOE Clean Cities Activities

- Q3-Q4 Activation 150+ Promotions (E85 & Hybrid)
  - Sport Team Sponsorships
  - Country Music Awards
  - Speedway Sponsorships
  - MTV Video Music Awards
  - Earth Day
  - Trade Shows/Expos
  - PSAs
  - Indy 500
  - Project Driveway
  - Fuel Card Promotion
  - Auto Shows
  - River Days
  - MLB All Star Game
  - State Fairs
  - Media Tour

The majority of event activation include the following elements: wrapped display and courtesy vehicles, product specialists, literature, signage, and premiums.

Regional & Local Marketing Groups

- South Central Region and Kroger
  - Advertising using Chevy, E85 and Kroger imagery in key markets
  - "Meet the Dealer" Luncheons in Houston & Dallas for ethanol stakeholders
  - Fuel Pump Grand Openings
  - Distribution of Fuel Gift Cards to FFV Owners in Q3

- North Central Region and ALA
  - Participated in over 200 E85 events
  - E85 postcard initiative in Iowa
  - Utilize ALA personnel to help staff GM & Dealer events

Regional & LMG Best Practices

- Western Region – Drive For E85 Initiative
  - To capitalize on an increase in available E85 gas stations (40) and Chevy's full line-up as a competitive selling advantage
  - Enhance cooperation between Colorado government, E85 retailers and Chevy dealers – co-marketing opportunities
  - Change opinion and consideration
  - Set the foundation for Chevy Fuel

- Northeast Region – Project Drive-a-way
  - Dealers paraded 75 All-New Silverado Pickups fueled by renewable E85 ethanol from auto
  - After the drive-a-way activities, dealers fueled the grand opening of a fueling station in Philadelphia that offers E85

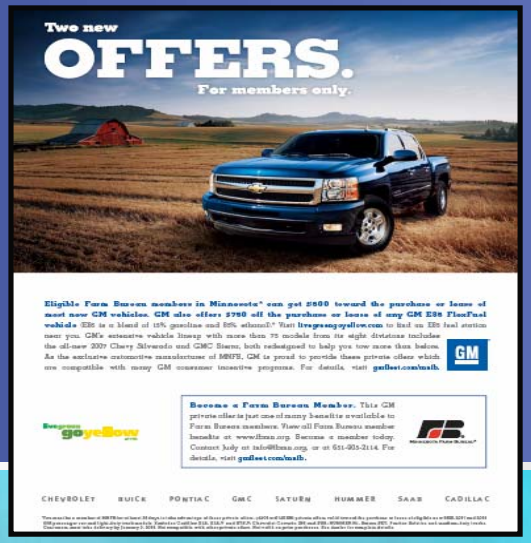
- Southeast Region and Spinx
  - Throughout Chevy dealerships and Spinx gas stations, signage will
  - highlight FlexFuel vehicles and E85
  - Activation includes hole in one insurance for (3) golf courses and a
  - sweepstakes giveaway for a Tahoe

Farm Bureau Partnership

- Private offer of $500 toward the purchase or lease of most new GM vehicles –
OR –
- $750 toward the purchase or lease of any new GM E85 FlexFuel vehicle to select Farm Bureau members (same offer for retail and fleet customers)

ELIGIBLE SELECT FARM BUREAUS TOTAL MEMBERSHIP = **2,110,000**

Illinois	Iowa	Kansas	Kentucky Michigan Minnesota
Nebraska	New Mexico	South Dakota	Tennessee

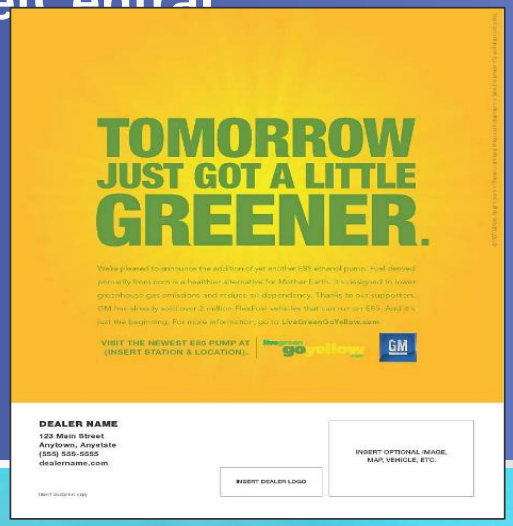


Additional Marketing Support

GM AssetCentral E85 Collection

Promotional kit available for dealership, LMG and regional promotions

Ad slicks and radio scripts available for LMG on GM AssetCentral



“Green” Fleet Opportunities

- Walt Disney Company/ABC/ESPN
- General Mills
- Nestle USA and Companies
- Schwans
- Xcel Energy
- Consolidated Edison of New York
- Palm Beach County
- State of California
- Forest Preserve District of DuPage County, IL
- Aquila, Inc
- Benjamin Moore &Co
- Applied Industrial Technologies
- UCLA
- St. Louis International Airport
- Bausch & Lomb

Updated info at www.gmaltfuels.com

www.gmability.com

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Automotive

Services

Welcome March 15, 2007

General Motors' CEO Rick Wagoner discussed GM's long-term commitment to developing electrically driven vehicles at a speech kicking off the Greater Los Angeles Auto Show.

» Play 23-minute video » Read the speech

News

GM Achieves Technology Breakthrough with Smart Materials »

GM Committed to Energy Diversity »

Saab BioPower 100 Concept: Bioethanol Performance Potential Unleashed »

Cadillac to Debut GM's Powerful New

Tools

Use these interactive tools to explore GM's citizenship and responsibility.

» GM Google Map

» GM Fuel Economy Calculator

» GM Facilities Map

Inside

Advanced Tech
Developing a portfolio of future options to internal combustion engines.

Community
Investing dedicated to improving cultural, economic, educational, environmental and social aspects of our communities.

Education
Supporting a strong and diverse base of K-12 education programs, especially in science, mathematics and business.

Environment
Protecting human health, natural resources and the global

Internet

Environment

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  - Environment
  - Safety
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  - Workplace
  - CR Report
  - Technology
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- Investor Information
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Automotive

Services

Environment

See how GM vehicles save resources & energy

Download environmental cards >>

Welcome

What does an automobile manufacturer have to say about energy and the environment? Quite a lot. Our GMability website offers background and information to help you understand where GM is today and where we are headed in relation to this planet we all share. Because if you're visiting this site, we assume you care about the world around us. We do too.

More >> Beth Lowery, V.P. Environment and Energy

Challenges

Our products and manufacturing facilities have an impact on the environment. Not only do internal combustion engines produce emissions and greenhouse

Objectives

GM is dedicated to protecting human health, natural resources and the global environment. We also have a responsibility to our shareholders to continuously make good

Performance

As we reported voluntarily last year, we reduced our composite greenhouse gas emissions in the U.S. by 77.2 percent from 1990 to 2004. Total carbon

Inside

News
The latest on our environmental and energy initiatives.

Fuel Economy & Emissions
Compare our fuel economy and see how we are working to improve emissions.

E85 Ethanol
Learn how GM is using a renewable resource to power trucks and SUVs.

Simplified Maintenance
Say goodbye to the 3,000 mile oil change.

Product Life Cycle
Review GM's recycling activities for plants and vehicles. See how we are making it easier for dismantlers to recycle our vehicles.

GM Plants
Check out GM's global facilities, best practices on pollution prevention and redeveloped brownfield sites.

Partnerships
Learn about GM's partnerships with The

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Q A