

GENERAL MOTORS CORP

Form 8-K

June 15, 2004

**Table of Contents**

---

---

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION**  
**Washington, DC 20549-1004**

---

**FORM 8-K**

**CURRENT REPORT PURSUANT TO SECTION 13 OR 15(d) OF**  
**THE SECURITIES EXCHANGE ACT OF 1934**

**Date of Report**  
**(Date of earliest event reported) June 14, 2004**

**GENERAL MOTORS CORPORATION**

(Exact Name of Registrant as Specified in its Charter)

**STATE OF DELAWARE**  
(State or other jurisdiction of  
Incorporation or Organization)

**38-0572515**  
(I.R.S. Employer  
Identification No.)

**300 Renaissance Center, Detroit, Michigan**  
(Address of Principal Executive Offices)

**48265-3000**  
(Zip Code)

Registrant's telephone number, including area code **(313) 556-5000**

---

---

---

**TABLE OF CONTENTS**

ITEM 9. Regulation Disclosure  
SIGNATURES

---

**Table of Contents**

**ITEM 9. Regulation Disclosure**

General Motors Corporation (GM) issued the following press release and charts in connection with a meeting with securities analysts and investors, held in Detroit, Michigan on Monday, June 14, 2004.

###

---

**Table of Contents**

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

GENERAL MOTORS CORPORATION

(Registrant)

Date: June 14, 2004

By: /s/PETER R. BIBLE. \_\_\_\_\_

(Peter R. Bible, Chief Accounting  
Officer)

---

**Table of Contents**

***Safe Harbor***

In the presentation that follows and in related comments by General Motors management, our use of the words expect, anticipate, estimate, forecast, objective, plan, goal, project, priorities/targets and similar expressions is to identify forward looking statements.

While these statements represent our current judgment on what the future may hold, and we believe these judgments are reasonable, actual results may differ materially due to numerous important factors that are described in GM's most recent report on SEC Form 10-K which may be revised or supplemented in subsequent reports on SEC Forms 10-Q and 8-K. Such factors include, among others, the following: changes in economic conditions, currency exchange rates or political stability; shortages of and price increases for fuel, labor strikes or work stoppages; market acceptance of the corporation's new products; significant changes in the competitive environment; changes in laws, regulations and tax rates; and, the ability of the corporation to achieve reductions in cost and employment levels to realize production efficiencies and implement capital expenditures at levels and times planned by management.

---

**Table of Contents**

2

Global Business Environment

**Paul Ballew**

*Executive Director,*

*Global Market and Industry Analysis*

---

**Table of Contents**

3

***Global Economy in 2004-2005***

Global economic recovery has accelerated, although some headwinds have developed

U.S. economy continues to grow briskly at 4-5%

European economies are slowly improving

Asia-Pacific region led by China continues to grow robustly

Latin America and Middle East economies continue to recover

***Economic Environment: Not Ideal But Improving***

---



**Table of Contents**

*Global Real GDP Growth Outlook*



**Table of Contents**

2004 GM Global Securities Analysts Conference P. 06/14/04  
Ballew

©2004 General Motors Corporation. All Rights Reserved 5

***Automotive Industry Outlook***

Global vehicle sales on pace for a record 61 million units

Sales on calendar-year-to-date basis are up a brisk 7%

Pricing remains challenging

But in line with expectations and offset in part by mix

Sales outlook unchanged

---

**Table of Contents**

2004 GM Global Securities Analysts Conference

P.  
Ballew

06/14/04

*Global Industry May CYTD*



**Table of Contents**

2004 GM Global Securities Analysts Conference P.  
Ballew

06/14/04

***Global Industry Outlook***



**Table of Contents**

***Global and Regional GM Share Performance May 2004 CYTD***



**Table of Contents**

*Global New Vehicle Sales*



**Table of Contents**

***Global New Vehicle Sales Revenue***



**Table of Contents**

*U.S. Vehicle Transaction Price Industry Average*





**Table of Contents**

2004 GM Global Securities Analysts Conference P. 06/14/04  
Ballew

©2004 General Motors Corporation. All Rights Reserved 12

***Global Industry Faces Some Headwinds***

Legitimate headwinds exist and are causing some uncertainty in the medium term

Need to put these in context and critically view their impact

Key risks are

Higher interest rates

Transitions to more sustainable growth rates are occurring in the two most important markets (U.S. & China)

Higher fuel prices

***Bottom Line: Headwinds are Present but Should Not Derail the Global Expansion***

---

**Table of Contents**

*U.S. Fed Funds Rate*

---

**Table of Contents**

*U.S. Vehicle Payment as a Percentage of Monthly Household Income*

---

**Table of Contents**

*U.S. Gasoline Prices*



**Table of Contents**

*Change in the Price of Gasoline and Other Consumer Items Between 1982-1984 and April 2004*



**Table of Contents**

*U.S. Gasoline Consumption as a Percentage of Disposable Personal Income*

---

**Table of Contents**

2004 GM Global Securities Analysts Conference P. 06/14/04  
Ballew

©2004 General Motors Corporation. All Rights Reserved 18

***Summary on Interest Rate and Fuel Price Situations***

A shift in monetary policy combined with higher energy prices will temper growth, however no reason to assume will derail the global expansion

Oil and gasoline markets have been hit by both supply and demand side disturbances

Although fuel prices have surged in the past few months, they remain low by historical standards, especially after fuel economy improvements are included

---

**Table of Contents**

2004 GM Global Securities Analysts Conference P. 06/14/04  
Ballew

©2004 General Motors Corporation. All Rights Reserved 19

***China: Industry Development***

Growth is moderating after recent unsustainable surge

2003 vehicle sales 4.6 Million units, up 35% y-o-y  
2004 outlook 5.0 to 5.2 million units

Largest sales increases in 2003 were in Lower Medium and intermediate segments

Industry structure will change radically in the near-term

Domestic automakers include more than 120 small companies

Government is encouraging consolidation

GM is well positioned as industry consolidates

---



**Table of Contents**

2004 GM Global Securities Analysts Conference P. 06/14/04  
Ballew

©2004 General Motors Corporation. All Rights Reserved 20

***GM's Strategy***

Focus remains on getting the basics right

Cost, Quality, Product and Brands

Must continue to take advantage of growth opportunities

Richer mix in U.S.

Emerging markets

Adjust to current and future challenges

Best in industry fuel economy

New-term focus on improving internal combustion engine (e.g., Displacement on Demand)

Push into new frontiers (e.g., Fuel Cells)

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. 06/14/04  
Devine

©2004 General Motors Corporation. All Rights Reserved

1

***Safe Harbor***

In the presentation that follows and in related comments by General Motors management, our use of the words expect, anticipate, estimate, forecast, objective, plan, goal, project, priorities/targets and similar expressions is to identify forward looking statements.

While these statements represent our current judgment on what the future may hold, and we believe these judgments are reasonable, actual results may differ materially due to numerous important factors that are described in GM's most recent report on SEC Form 10-K which may be revised or supplemented in subsequent reports on SEC Forms 10-Q and 8-K. Such factors include, among others, the following: changes in economic conditions, currency exchange rates or political stability; shortages of and price increases for fuel, labor strikes or work stoppages; market acceptance of the corporation's new products; significant changes in the competitive environment; changes in laws, regulations and tax rates; and, the ability of the corporation to achieve reductions in cost and employment levels to realize production efficiencies and implement capital expenditures at levels and times planned by management.

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 2

Global Business Update

**John Devine**

*Vice Chairman & CFO*

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 3

***What Has Happened Since January?***

Strong global market U.S. performing about as expected

On-track to meet Q2 and CY net income targets

GMNA, GMAP on-track, GMLAAM above target, GME below target

GME cost reduction on-track, shortfall in revenue

GMAC set to beat target by wide margin

Other financial metrics, including cash flow and capital, are on-track

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 4

***Agenda***

Automotive Update by Region

GMAC

Interest Rates

\$10 EPS

Report Card

---

**Table of Contents**



**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 6

***Cost Reduction Status GMNA***

Material cost reduction on target at 3.5%

Structural costs on target to decrease by \$1.0 billion

Performance improvements and decreased pension expense more than offset health care and labor economic increases

Continued strong reduction in non-scheduled manufacturing overtime

Continued trend of 4-5% net attrition (hourly and salary)

---

**Table of Contents**





**Table of Contents**

***6 Year Average Hours Per Vehicle Improvement History***



**Table of Contents**



**Table of Contents**



**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 11

***Status GM Europe***

First quarter results not at acceptable level

Good material cost performance, flat structural costs

Expected growth in revenue has not been achieved

Price competition remains strong

Mix has been unfavorable

German Market challenges remain

Saab turnaround continues to make progress, but F/X remains a challenge

Expect to be in a net loss position in 2004 CY

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 12

***New Astra***

Most important new vehicle for GME (over 25% of volume)

Initial acceptance excellent

Positive press comments

Brilliant New Astra... Better to drive than a Focus, classier than a Golf What Car? April 2004 (UK)

Very strong Astra demand

Approximately 10,000 new Astras sold in Q1 2004, projecting sales of over 315,000 by the end of the year

Over 147,000 orders received by end of May (116K sold orders)

---

**Table of Contents**



**Table of Contents**



**Table of Contents**

---



**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 16

***GMAP Strategy***

Focus on broad-based growth in key markets (China, India, Korea, ASEAN, Australia)

Continue to build up our capability in China Production, Engineering/Design, People

Grow/Improve GM Daewoo product portfolio

Strong joint venture/alliance partners

Improve profitability in Thailand, India and Korea

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 17

***GM China Strategy***

Grow share

Leverage brands

Adding product in new segments

Increase capacity

Leverage local engineering with global capability

Leverage GMDAT

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 18

***GM's Rapid Expansion in China***

New investment to exceed \$3B over three years

GM and its joint ventures to introduce nearly 20 new and upgraded products over the next three years

Will also introduce a range of new engines and transmissions

Vehicle assembly capacity in China will double to 1.3M units by 2007

Local engineering and design capability to be upgraded

---

**Table of Contents**



**Table of Contents**



**Table of Contents**



**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 22

***GM Daewoo***

Integral to GM overall product strategy

Tremendous growth opportunity

Currently sold in North America, South America, Europe and Asia

Strong capabilities in engineering

Low cost manufacturing

Improved profitability

---

**Table of Contents**

---



**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 24

***GMLAAM***

On-track to beat 2004 CY net income target of (\$200M) (\$100M)

Experiencing continued challenging economic conditions in Brazil, but have been able to reduce year-over-year losses

GM growing volume, share and profitability in Colombia, Venezuela, Ecuador and Chile

GM Argentina financially stable and gaining volume/share amid strong industry recovery

100% acquisition of Delta Motors will improve LAAM revenue and profitability

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 25

***Agenda***

Automotive Update by Region

GMAC

Interest Rates

\$10 EPS

Report Card

---

**Table of Contents**



**Table of Contents**



**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 28

***GMAC Outlook***

Diversified portfolio of profitable businesses

Positioned well to handle interest rate increases

Business fundamentals remain favorable

Increase in fee-based income at auto finance operations

Expansion of insurance and mortgage operations internationally

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 29

***Agenda***

Automotive Update by Region

GMAC

Interest Rates

\$10 EPS

Report Card

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 30

***Interest Rates***

Interest rate increase linked to strong recovery of U.S. economy

Consensus assumes interest rates will rise by 100 basis points or less, in both 2004 and 2005 CYs

Included in current 2004 EPS guidance of \$7.00 EPS

Earnings impact includes:

Sales Allowances/Inventory **DOWN**

Automotive Cash/Debt Portfolios **DOWN**

GMAC **DOWN**

Pension/OPEB **UP**

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 31

***Agenda***

Automotive Update by Region

GMAC

Interest Rates

\$10 EPS

Report Card

---



**Table of Contents**



**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 33

***Agenda***

Automotive Update by Region

GMAC

Interest Rates

\$10 EPS

Report Card

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved

34

***2004 Priorities/Targets***

## Priorities

\$6.00 \$6.50 EPS\* **G** \$7.00 EPS\*

Operating cash flow of \$5.0B **G**

Grow share in all regions **G**

## Regional/Sector Income Targets

North America: \$1,000 \$1,400M **G**

Europe: \$0 \$100M **R**

LAAM: (\$200M) (\$100M) **G**

Asia-Pacific: \$700 \$800M **G**

GMAC: >\$2,000M) **G**

## Other Metrics

Structural cost: >\$500M reduction (Auto Ops.) **G**

Capital spending of \$7.0B **G**

Material cost reduction: 3.5% GMNA & 3.0% GME **G**

\*EPS excluding any special items; at current dilution levels

---

**Table of Contents**

2004 GM Global Securities Analysts Conference J. Devine 06/14/04

©2004 General Motors Corporation. All Rights Reserved 35

***Summary***

Global industry sales remain strong

GM affirms Q2 guidance of \$2.00 \$2.25 EPS and 2004 CY guidance of \$7.00 EPS

Strength at GMAC offsets challenges at GME

Continued strong global cost performance

Impact of gas prices and interest rates appear manageable

Focus on \$10 EPS by 2006 remains

---

**Table of Contents**

---

**Table of Contents**

World's Best Powertrains

**Tom Stephens**

*Group Vice President,  
GM Powertrain*

---

**Table of Contents**

***World's Best Powertrains***

Who we are

Why Powertrain

Competitive advantage

    To the customer

    To GM's bottom line

Advanced technology and sustainability

---

**Table of Contents**

***World's Best Powertrains***

Who we are

Why Powertrain

Competitive advantage

    To the customer

    To GM's bottom line

Advanced technology and sustainability

---



**Table of Contents**

---

**Table of Contents**

2004 GM Global Securities Analysts Conference T. Stephens

06/14/04

©2004 General Motors Corporation. All Rights Reserved

6

***Who We Are...***

***General Motors Powertrain***

Global process leadership for:

91 facilities

14 countries

Over 72,000 people

43,000 engines/day

40,000 transmissions/day

---

**Table of Contents**

2004 GM Global Securities Analysts Conference T. Stephens

06/14/04

©2004 General Motors Corporation. All Rights Reserved

7

***World's Best Powertrains***

Who we are

Why Powertrain

Competitive advantage

To the customer

To GM's bottom line

Advanced technology and sustainability

---

**Table of Contents**

2004 GM Global Securities Analysts Conference T. Stephens

06/14/04

©2004 General Motors Corporation. All Rights Reserved

8

***Why Powertrain...***

Revenue

Option pricing

Key reason for vehicle purchase

Cost

20% of total vehicle material cost

---

**Table of Contents**

2004 GM Global Securities Analysts Conference T. Stephens

06/14/04

©2004 General Motors Corporation. All Rights Reserved

9

***World's Best Powertrains***

Who we are

Why Powertrain

Competitive advantage

To the customer

To GM's bottom line

Advanced technology and sustainability

---

**Table of Contents**

2004 GM Global Securities Analysts Conference T. Stephens

06/14/04

©2004 General Motors Corporation. All Rights Reserved

10

***Powertrain Offers a Competitive Advantage***

**To the customer**

Broad portfolio

Quality

Fuel economy

Performance

**To GM's bottom line**

---

**Table of Contents**



**Table of Contents**

*Advantage to the Customer...*

*Broad Global Product Portfolio*

Feature content and performance perceived as unchallenged by the competition

Customers will aspire to buy GM vehicles, regardless of affordability, because of these powertrains

**1% Image**

---



**Table of Contents**

*Advantage to the Customer...*

*Broad Global Product Portfolio*

Feature content will be equal to or better than any competition in segment

Functionality and quality will be at benchmark levels

Cost will be competitive

**20-30% High-Feature**

---

**Table of Contents**

*Advantage to the Customer...*

*Broad Global Product Portfolio*

Performance, fuel economy, NVH and packaging equal to or better than segment competitive norms

Quality will be at benchmark levels

Significant cost advantage

**70-80% High-Value**

---

**Table of Contents**

*Advantage to the Customer...*  
*Quality J.D. Power IQS2 Car Powertrains*

**Table of Contents**



**Table of Contents**

*Advantage to the Customer...  
Fuel Economy Leadership*

EPA reports:

GM trucks lead in 50 out of 75 models

GM cars lead in 40 out of 62 models

More segment-leading vehicles than any other manufacturer

---

**Table of Contents**

*Advantage to the Customer...*  
*Performance Gasoline Engine Trends*



**Table of Contents**

*Advantage to the Customer...  
Performance*

**Table of Contents**

2004 GM Global Securities Analysts Conference T. Stephens

06/14/04

***Powertrain Offers a Competitive Advantage***

To the customer

To GM's bottom line

Revenue optimization

Core competencies

Productivity

---



**Table of Contents**

*Advantage to GM's Bottom Line...*  
*Revenue Option Pricing*

---

**Table of Contents**

2004 GM Global Securities Analysts Conference T. Stephens

06/14/04

©2004 General Motors Corporation. All Rights Reserved

22

*Advantage to GM's Bottom Line...*

*Core Competencies Electronic Controls*

*Powertrain Electronic Control System*

System architecture specified in-house

Changes the balance of power with suppliers

Turns the electronic control system hardware into a commodity

Enables catalytic converter noble metal thrifting

Starting to leverage globally

---

**Table of Contents**

2004 GM Global Securities Analysts Conference T. Stephens

06/14/04

©2004 General Motors Corporation. All Rights Reserved

23

***Advantage to GM's Bottom Line...***

***Productivity***

***North American Harbour Report 2004***

5.2% improvement in engine productivity

Romulus most productive V-8 plant in N. America

Overtook Honda for 2nd place

Closed gap to Toyota by 26%

Parity to Toyota at comparable mix and volume

6.5% improvement in transmission productivity

Toledo most productive plant in N. America five consecutive years

---

**Table of Contents**

*Advantage to GM's Bottom Line...  
Partnership With Ford on 6-Speed FWD Transmission*

Jointly designed, engineered and tested

\$720M total investment

\$350M GM, \$370M Ford

Economies of scale

Excellent opportunity to provide a great product while cutting significant cost

---

**Table of Contents**

***World's Best Powertrains***

Who we are

Why Powertrain

Competitive advantage

    To the customer

    To GM's bottom line

Advanced technology and sustainability

---

**Table of Contents**

*Advanced Technology and Sustainability...  
GM Technology Strategy*

---

**Table of Contents**

*Advanced Technology and Sustainability...  
Gasoline Engine Technology*

Higher levels of fuel economy, power and torque

Required power density of 60 hp/liter-naturally aspirated and 100 hp/liter turbocharged

Spark ignition direct-injection (SIDI) gasoline engines

Cam phasers and variable induction tuning

OHV

DOD for V-6/V-8 engines

Three valves per cylinder

DOHC 4V

Two-step valvetrain

Port deactivation

Turbo/supercharging

By 2006, GM will have manufactured more than 1 million engines featuring port deactivation

By 2007, GM will equip more than 2.5 million engines a year with variable valve timing

By 2008, GM will equip up to 2 million vehicles annually with Displacement on Demand

---

**Table of Contents**

*Advanced Technology and Sustainability...  
Gasoline Engine Technology*

Emission reductions

Advanced control system algorithms

Improved combustion

Close couple catalytic converters

Exhaust manifold integrated in the cylinder head

Active intake manifold on OHV engines

Turbocharger integrated in the exhaust manifold

E85 alternative fuel

Since 1960, GM has reduced NO<sub>x</sub>, CO and HC emissions by more than 96%

Driving a Hummer H2 for 3,000 miles emits less NO<sub>x</sub>, HC than operating a snowmobile for 1 hour

GM produces more than one-third of all E85 flexible fuel vehicles on the road in the U.S.

---



**Table of Contents**

*Advanced Technology and Sustainability...  
Diesel Engine Technology*

Increased power and torque with reduced emissions and NVH

Power density > 80 hp/liter

Increased maximum cylinder pressure (P-max)

Reduced compression ratio

Common rail fuel system improvements

High pressure

Pilot/post injection

Advanced turbocharging systems

GM produces 1.9M diesels annually on 25 models globally

GM heavy duty diesel pickup market share increased from 2% to 29% with Duramax in 30 months

Starting in 2006, GM Daewoo will increase 1.5/2.0L diesel capacity by 250,000 units/year

---

**Table of Contents**

*Advanced Technology and Sustainability...  
Diesel Engine Technology*

Emission reductions especially particulates and NOx

Euro IV and beyond

Low temperature combustion for NOx reduction

Diesel particulate filter

NOx aftertreatment (traps/catalyst)

First OEM to meet Euro IV emissions requirements with 2003 Opel Astra 1.7L Circle L

The 2004 Duramax diesel emits 40% less NOx and 10% less particulate emissions

---

**Table of Contents**

*Advanced Technology and Sustainability...*  
*Transmission Technology*

Planetary stepped gear automatics for improved performance and fuel economy

6-speed families (FWD and RWD)

Stepped gear manual transmissions for improved fuel economy

Manual transmission automated (MTA)

Dual clutch transmission (DCT)

GM will produce nearly 1 Million 6-speed transmissions annually by 2008

---

**Table of Contents**

*Advanced Technology and Sustainability...*  
*GM Technology Strategy*

---

**Table of Contents**

*Broadest portfolio of hybrid systems in the industry*

*Advanced Technology and Sustainability...  
GM Hybrid Portfolio Evolution*

2003 GM Allison Hybrid Bus System

2003/2004 FAS Hybrid Full-Size Truck

2006 BAS/Hybrid VUE

2007 BAS/Hybrid Malibu

2007 AHS II Full-Size SUV

2008 AHS II Full-Size Truck

---

**Table of Contents**

*Advanced Technology and Sustainability...*

*GM Allison EP 40/50 Hybrid System*

*GM Hybrid Bus Features*

Two 100kW Motors

588-volt NiMH batteries

*Benefits*

Up to 60% fuel economy

Reduces emissions by more than 90%

Operation sound levels equal to cars

50% faster acceleration

Extended brake, engine oil and transmission oil life

---

**Table of Contents**

*Advanced Technology and Sustainability...  
Flywheel Alternator Starter*

*PHT Features*

14 kW motor

42- and 12-volt lead-acid batteries

*Benefits*

10-12% fuel economy improvement

Highest city fuel economy of any 2004 full-size truck

Uncompromised hauling/towing capability

First production hybrid build in North America

First 120-volt AC outlets in cab and pickup bed

Assembled on main line at Ft. Wayne Assembly

---

**Table of Contents**

***Advanced Technology and Sustainability...  
Belt Alternator Starter***

*BAS Features*

7kW motor replaces alternator

42- and 12-volt batteries

*Benefits*

12-15% fuel economy improvement

Lowest-cost hybrid solution

---



**Table of Contents**

*Advanced Technology and Sustainability...*  
*Advanced Hybrid System (AHS) II*

*AHS II Features*

Based on GM hybrid system for buses

Two 30kW motors

300-volt battery

*Benefits*

25-35% fuel economy improvement

Uncompromised performance and trailering/towing capability

Scalable architecture

Future industry standard in hybrid architectures

---

**Table of Contents**

*Advanced Technology and Sustainability...*  
*GM Technology Strategy*

---

**Table of Contents**

*Advanced Technology and Sustainability...  
Fuel Cells Reality, Not Hype*

Best chance to be competitive in high volume with today's internal combustion engine

Substantial reductions in vehicle exhaust and greenhouse gas emissions

Energy security

Geopolitical stability

Sustainable economic growth

Goal is to be the first company to profitably sell 1 million fuel cell vehicles

---

**Table of Contents**

***World's Best Powertrains***

Powertrain provides GM a competitive advantage globally

Advantage is sustainable through our:

In-house powertrain core competencies

Product strategy

Advanced technology strategy