Applications to Energy and Mobilility Systems – Progress at GM

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Society’s Expectations

- Environmentally responsible
- Integrity
- Trustworthy
- Worker respect
- Contribute to the community
- Law abiding
- Willing to share
- Willing to engage
- Sustainable
- Productive
- Responsible with governments
- Return on capital
- Ethical
- Growth
- Profitable
- Stable
- Accountable
- Encourage safety
- Transparent
- Fair
- Encourage diversity
- Innovative
- Job security
- Operate to a higher standard
Corporate Responsibility Framework

Values
Principles
Behaviors
Strategies
Results

Culture
Performance

GM
Corporate Responsibility in Action: Efficient Energy Usage

- Values
- Principles
- Behaviors
- Strategies
- Continuous Improvement

Culture

Results
- Energy Consumption Reduced 13% through 2004
- Spread Best Practices; Quarterly Reporting
- Reduce Global Energy Usage by 10% from 2000 Levels
- “We are committed to reducing waste and conserving resources”

Performance

GM Global Energy Use (Gigawatt hours, GWh)

- 2000*: 36,651
- 2001*: 35,567
- 2002*: 34,642
- 2003*: 33,297
- 2004: 31,686
- 2005 Target: 34,240

*Re-stated due to changes in data management systems providing new analyses.
Hydrogen Fuel Cell
Hybrid Electric Vehicles
Cleaner HC Fuels, Renewable Fuels
Incremental Internal Combustion Engine and Transmission Improvements
Hydrogen Infrastructure
Biofuels

Advanced Propulsion Technology Strategy

Near-Term
Mid-Term
Long-Term
2006 Chevrolet E85 Flex Fuel Vehicles
2007 Chevrolet Flex Fuel Vehicles
With Active Fuel Management

Tahoe

Avalanche

Suburban
2006 GMC E85 Flex Fuel Vehicles
New in 2006 – E85 Flex Fuel Cars

Chevrolet Monte Carlo

Chevrolet Impala
Saab 9-5 BioPower
Raising Awareness

www.livegreengoyellow.com
Active Fuel Management

2006 Pontiac Grand Prix GXP
2006 Chevy Trailblazer
2006 GMC Envoy XL
2006 Chevy Monte Carlo
2006 Chevy Impala SS
2006 Buick Ranier
2006 Saab 9-7X
2007 Chevy Tahoe
2007 GMC Yukon

5.3 L V-8 Vortec Engine

Over 2 million vehicles by 2008
HYBRID Systems
VUE with GM Hybrid Assist

Energy Storage Module

Engine Control Module

Starter Motor/Generator Unit
Hybrid Mode 2

- Battery Pack
- Power Electronics
- Mode Two
- Displacement on Demand V8 Engine (8 cylinders active)
HYDROGEN
Fuel Cell Vehicles
Corporate Responsibility in Action: Fuel Cell Vehicles

"We will continue to pursue vigorously the development and implementation of technologies for minimizing emissions."

Path to Zero Emissions
- Fund R&D and Develop Collaborations
- Generation IV Fuel Cell Vehicle

GM
PARTNERSHIPS