
nergy Diversity
YBRID
FLEX
FLEXFUEL
E85 ETHANOL
FLEXFUEL
goyellow.com
Livegreen
goyellow.com

Slide 1

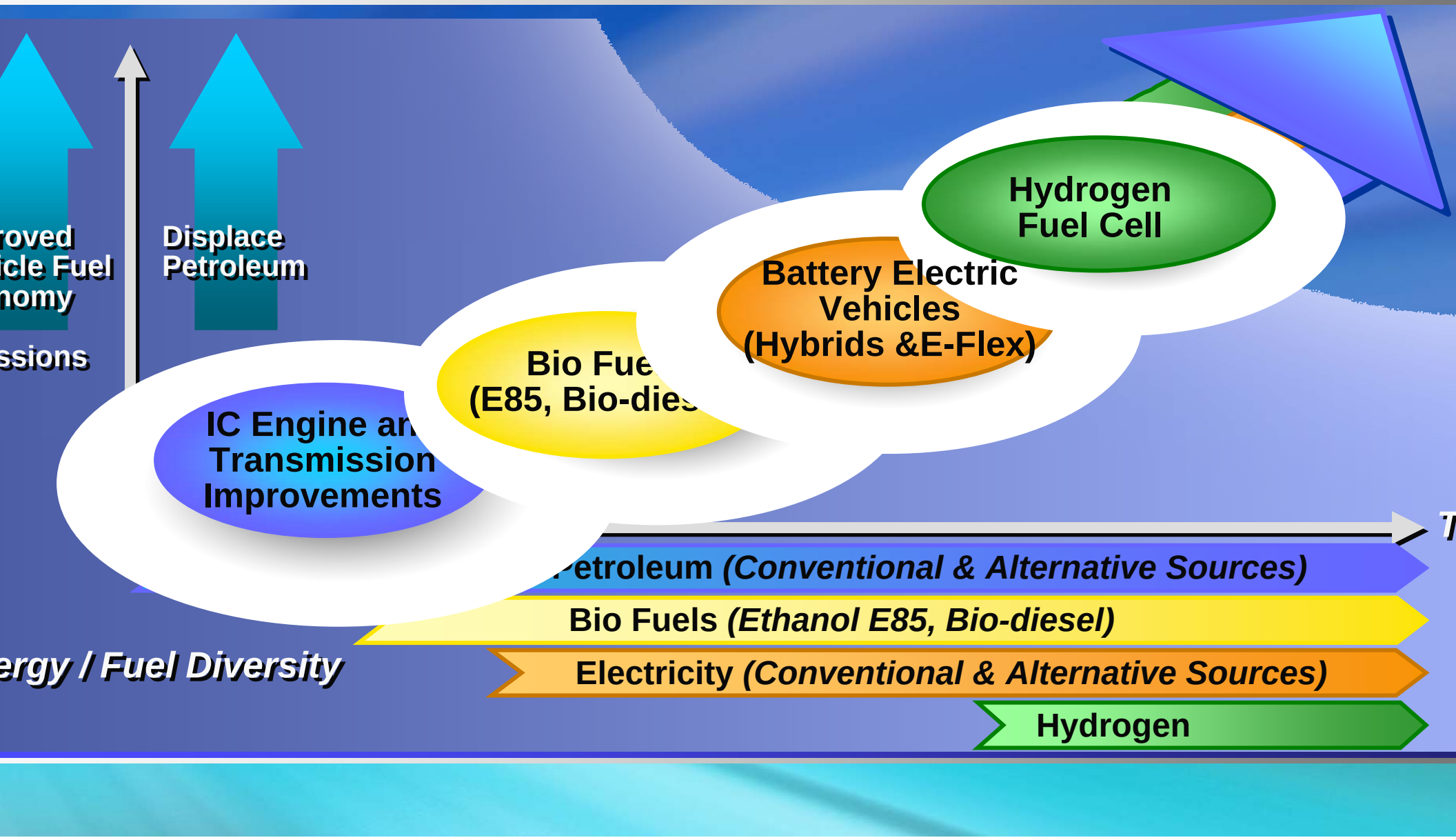
lm1 bzxt7d, 10/9/2007

M's Energy Diversity Strategy

No Silver Bullet

- Internal Combustion Engine Improvements
- Biofuels — E85 / Biodiesel
- Gas / Electric Hybrids
- E-Flex (Electrically driven vehicles)
- Hydrogen-powered Fuel Cells

dvanced Propulsion Technology Strategy



he “Over 30” Club

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

he GM “Over 30 MPG” Club


Chevrolet Cobalt
32 MPG


Chevrolet Aveo
34 MPG


Pontiac G6
34 MPG


Pontiac Vibe
34 MPG


Chevrolet Malibu
32 MPG


Saab 9-3
SportCombi
30 MPG


Chevrolet
Monte Carlo
31 MPG


Saab 9-3
Sport Sedan
30 MPG


Pontiac
Grand Prix
30 MPG


Buick LaCrosse
30 MPG


Chevrolet Impala
31 MPG


Saturn ION
32 MPG


Chevrolet
Aveo 5
34 MPG


Saab 9-3
Convertible
30 MPG


Saturn
VUE Hybrid
32 MPG


Chevrolet HHR
30 MPG


Saturn SKY
31 MPG


Pontiac G5
32 MPG


Saab 9-5
Sport Sedan
30 MPG


Pontiac Solstice
31 MPG


Saab 9-5
SportCombi
30 MPG


Saturn AURA
Green Line Hybrid
32 MPG


Chevrolet
Malibu Maxx
30 MPG

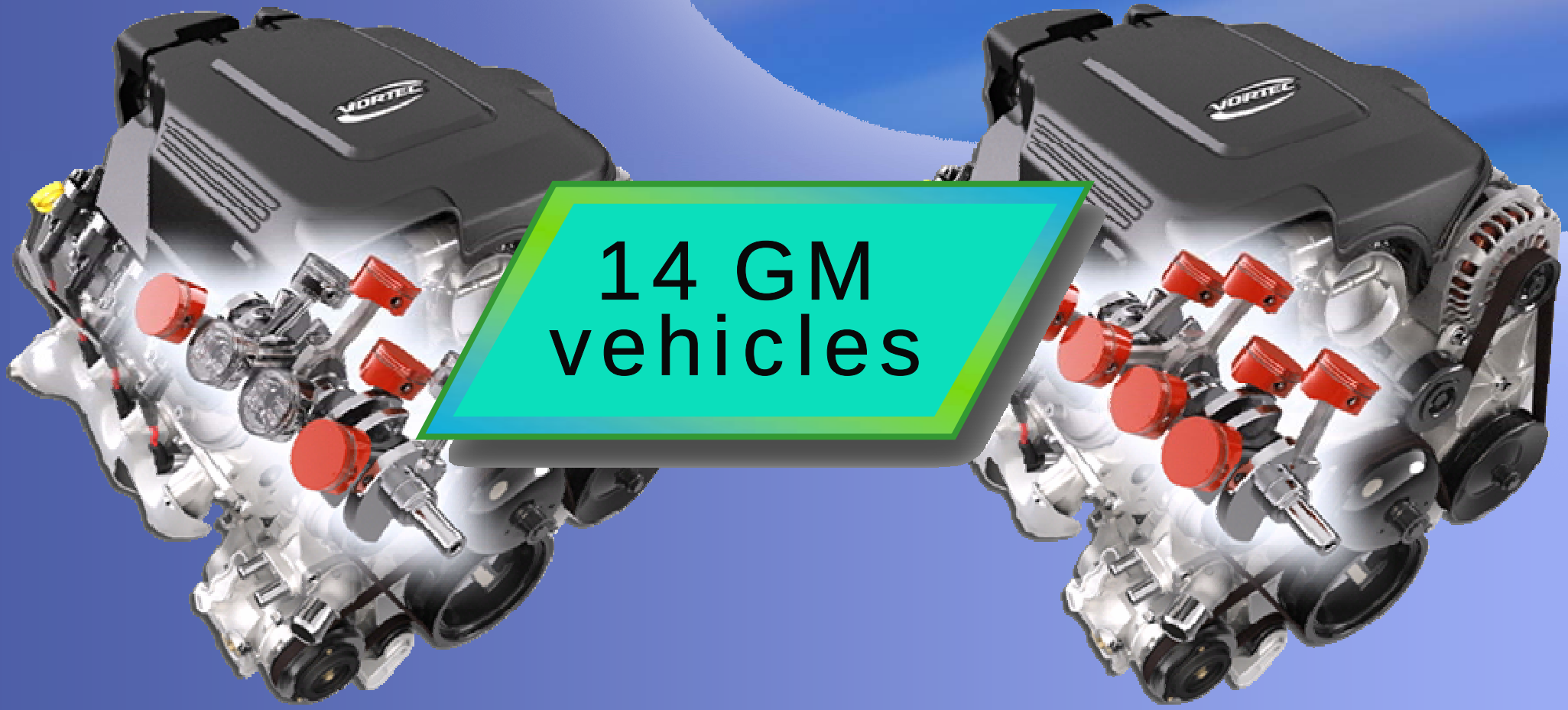

Saturn AURA
30 MPG

(EPA Highway Labels)
***EPA ratings for 2007 MY vehicles**

ctive Fuel Management

4 Cylinders Active

8 Cylinders Active



14 GM vehicles

he GM U.S. “FlexFuel Club”

3 models for 2008 MY! Over 2 million on the road

livegreen goyellow

MC Sierra

Yukon and
ukon XL

Chevrolet
Uplander

GMC Savana &
Chevy Express

Chev
Silve

Chev
Impa
Police

Chevrolet Avalanche,
Suburban and Tahoe & Police Tah

eplacing Gasoline

With **"Big Three"** vehicles:

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

E85 ETHANOL

FLEXFUEL
E85 ETHANOL

livegreen goyellow

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

M's Hybrid Portfolio

HYBRID

2 MODE

GM's HYBRID FLEX Portfolio

2001 2002 2003 2004 2005 2006 2007 2008 2009

odeHybrid

ght Hybrid

Hybrid

2-Mode Hybrid

E-Flex

GM/Allison Hybrid Bus

Chevrolet Silverado/ GMC Sierra

Saturn VUE Green Line

Saturn Aura Green Line

Chevrolet Malibu

Tahoe/Yukon

Escalade

Silverado/ Sierra

Saturn VUE Green Line

Saturn VUE Green Line plu

Chevrolet Volt

008 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

008 Saturn Vue Green Line

HYBRID
2 MO

Fuel economy improvements

- 20% — current Vue Green Line over base
- 45% — two-mode Vue Green Line over base

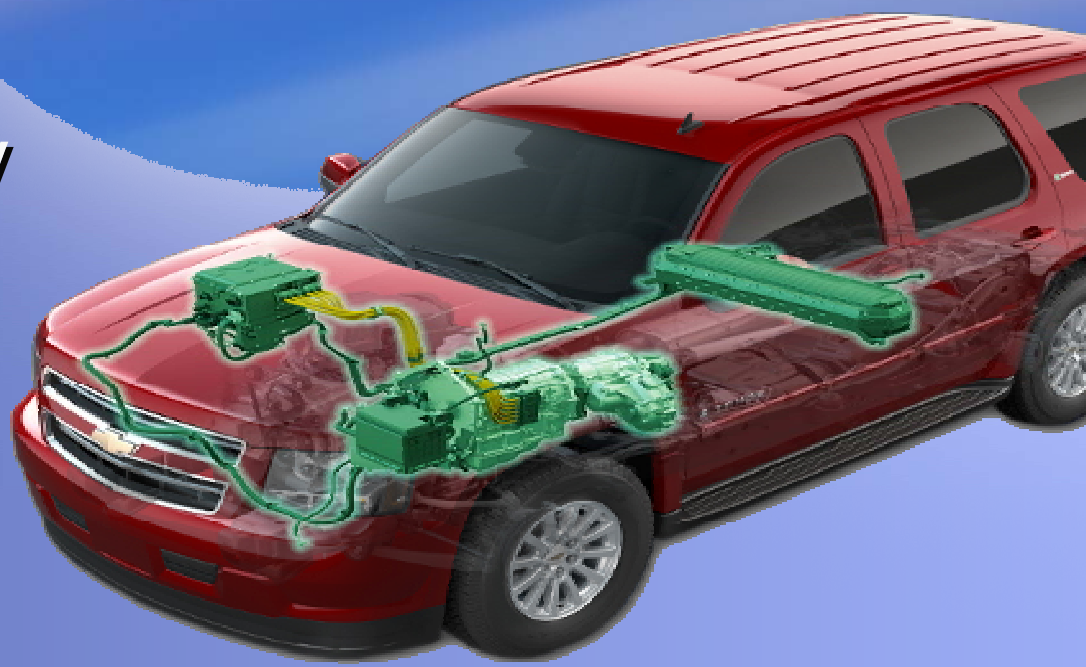
2007 Saturn Aura Green Line Hybrid

- 20% fuel economy improvement
  - 28 mpg city / 35 mpg hwy
- Base price below $23,000


TAHOE
HYBRID
2 MODE
The world's only full-size Hybrid SUVs

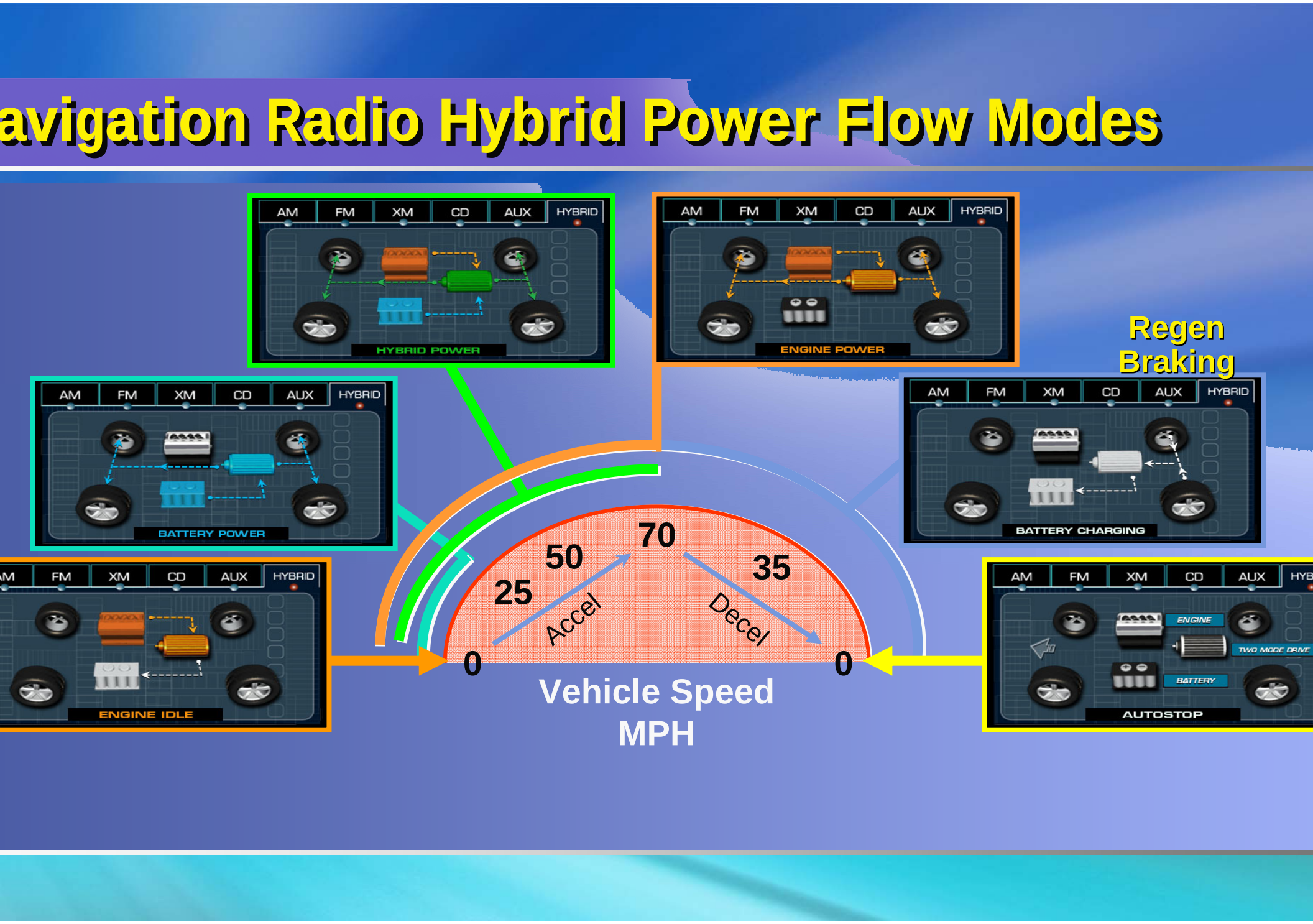
aintains Full Size Utility Capability
he world's only full-size Hybrid SUVs

- No loss in utility
- 5- to 8-passenger seating
- 6,200-pound towing capacity
- Refined level of quietness
- Great driving performance
- Smooth ride and handling
- Up to 50% better city fuel economy



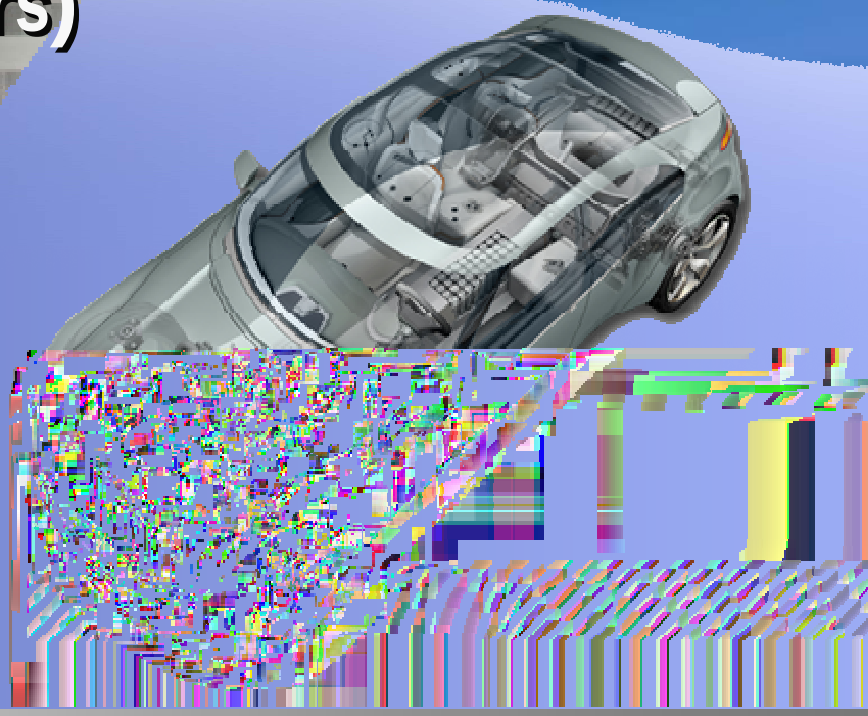
HYBRID
2 MODE

avigation Radio Hybrid Power Flow Modes

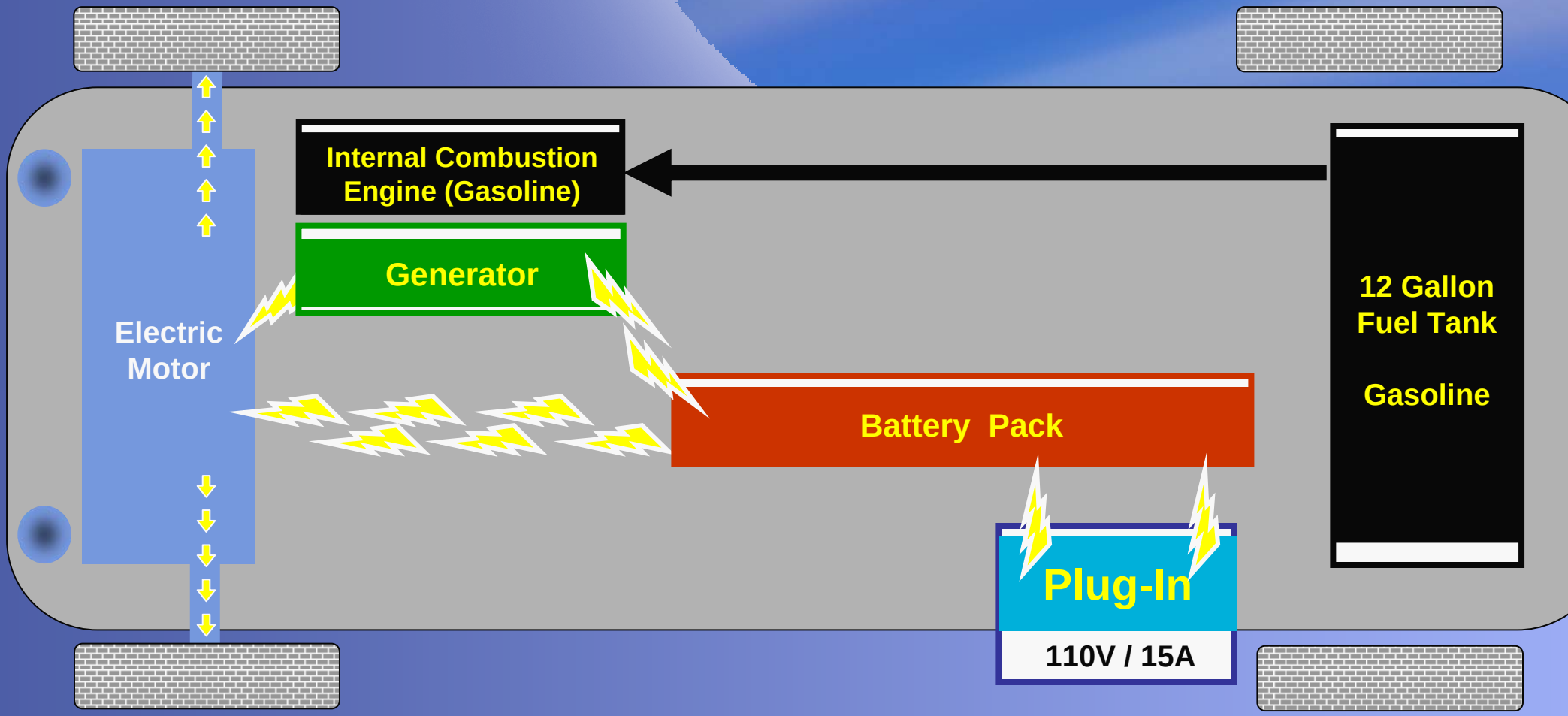


hevrolet Volt

- 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)



-Flex System


Internal Combustion Engine (Gasoline)
Generator
Electric Motor
Battery Pack
12 Gallon Fuel Tank
Gasoline
Plug-In
110V / 15A

quinox Fuel Cell Vehicle

ow Fuel Cells Work

A fuel cell harnesses the electricity created in the chemical reactio that occurs when hydrogen and oxygen are combined. Hundreds of fuel cells are "stacked" together, combining their electrical outputs into enough electricity to power a car.

In the not-too-distant future, fuel cells will change how we live our everyday lives. They will power our vehicles, homes and office buildings more efficiently and with significantly less impact on the environment than fossil fuels. Fuel cell technology could end energy shortages and reduce reliance on imported oil. Before that day comes, however, four important challenges - hydrogen storage, cost reduction, durability and infrastructure development - must be solved. GM is working to solve these problems.

hallenges

- Durability
  - » Membrane
  - » Catalyst
  - » Diffusion media
- Hydrogen storage
- Cost, cost, cost

GM Driving Industry Standard Technology/ Performance Defining Industry Future Direction

- More than 50% of US vehicle volume will be FlexFuel by 2012 MY
- 16 new hybrids in the next 4 Years...or 1 every 3 months for the next 4 years!
  - ⇒Cost effective hybrid in cars and small SUVs
  - ⇒Fuel economy leadership in 2-Mode Hybrid applications
  - ⇒Plug-in 2-Mode Hybrid in medium crossover-utility segment
- New applications of clean passenger car and light-duty truck diesels in North America
- E-Flex/Chevrolet Volt/Equinox Fuel Cell vehicles strengthen technology leadership

M Automotive Service Educational Program (ASEP)

GM ASEP incorporates advanced automotive technical training with a strong academic foundation of math, reading, and electronics, in both analytical and technical skills. Students earn an Associate Degree while working and learning on the job, resulting in a solid education combined with invaluable work experience.

GM ASEP is a strategic alliance between students, GM, GM dealers, ACDelco. GM ASEP colleges and universities has produced over 13,000 graduate service technicians.

ogram Overview

The GM ASEP program teaches exclusively on current GM products. These programs allow students to alternate between attending college and working at a sponsoring GM dealership for approximately two years.

All GM ASEP colleges and universities are National Institute for Automotive Service Excellence/National Automotive Technicians Education Foundation (ASE/NATEF) certifie ensuring that training meets or exceeds industry standards.

GM provides instructor training on the latest trends in technology.

GM provides new vehicles, training components, and training aids for students to work o and learn from in a closely supervised and structured environment.

M's K-12 Educational Initiatives

M has teamed up to bring quality lesson plans to K-12 schools that are consistent with national education standards. Topics nclude fuel cells, the environment, and technology.

eystone Center created the Sustainable Energy Curriculum, a module for teachers where students are encouraged to review ritical information and use scientific reasoning and processes to explore the energy issue.

unior Achievement and GM have teamed up to create four stand-alone activities that explore the business and economics of fu ell technology.

etroit Area Pre-College Engineering Program (DAPCEP), a nationally acclaimed K-12 program designed to motivate, inspire and cademically prepare minority youth for the demands of college, and careers in engineering, math, science or technology relat elds.

lobal Rivers Environmental Education Network (GREEN), a program that brings together employees from GM facilities, local nvironmental groups, community leaders, educators, and young people to protect local water resources.

ociety of Automotive Engineers: A World in Motion, a program SAE developed to pique the interest of elementary and middle chool students in math and science.

olar Schools, a partnership with the Great Lakes Renewable Energy Association to promote an education program about enewable energy.

utomotive Youth Educational Systems (AYES), a dynamic partnership between participating automotive manufacturers, articipating local dealers, and selected local high schools/technical prep schools to encourage awareness of and participation areers as automotive technicians. GM was the initiator of this innovative industry-wide program in 1995, which has since grow nclude the participation of over 430 schools nationwide.

ompetitions

Challenge X: Crossover to Sustainable Mobility, a new competition series co-sponsored by GM and the U.S. Department of Energy and other industry organizations, challenges engineering students from universities throughout North America to re-engineer a crossover vehicle to achieve better fuel economy and lower emissions.

FIRST, an organization encouraging young people to explore careers in science and technology by using a competition format similar to sporting events where students learn the fun and excitement that can be found in a technical career.

DOE National Science Bowl for Middle Schools and High Schools, a competition that encourages student involvement in math and science and improves awareness of career options in science and technology.

The Science and Engineering Fair of Metropolitan Detroit program focuses on junior high and high school students throughout the state of Michigan and beyond.

MATHCOUNTS, a U.S. middle school math enrichment and competition program run by volunteers that helps to prepare students for the working world by stimulating their interest in math and math-related careers.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