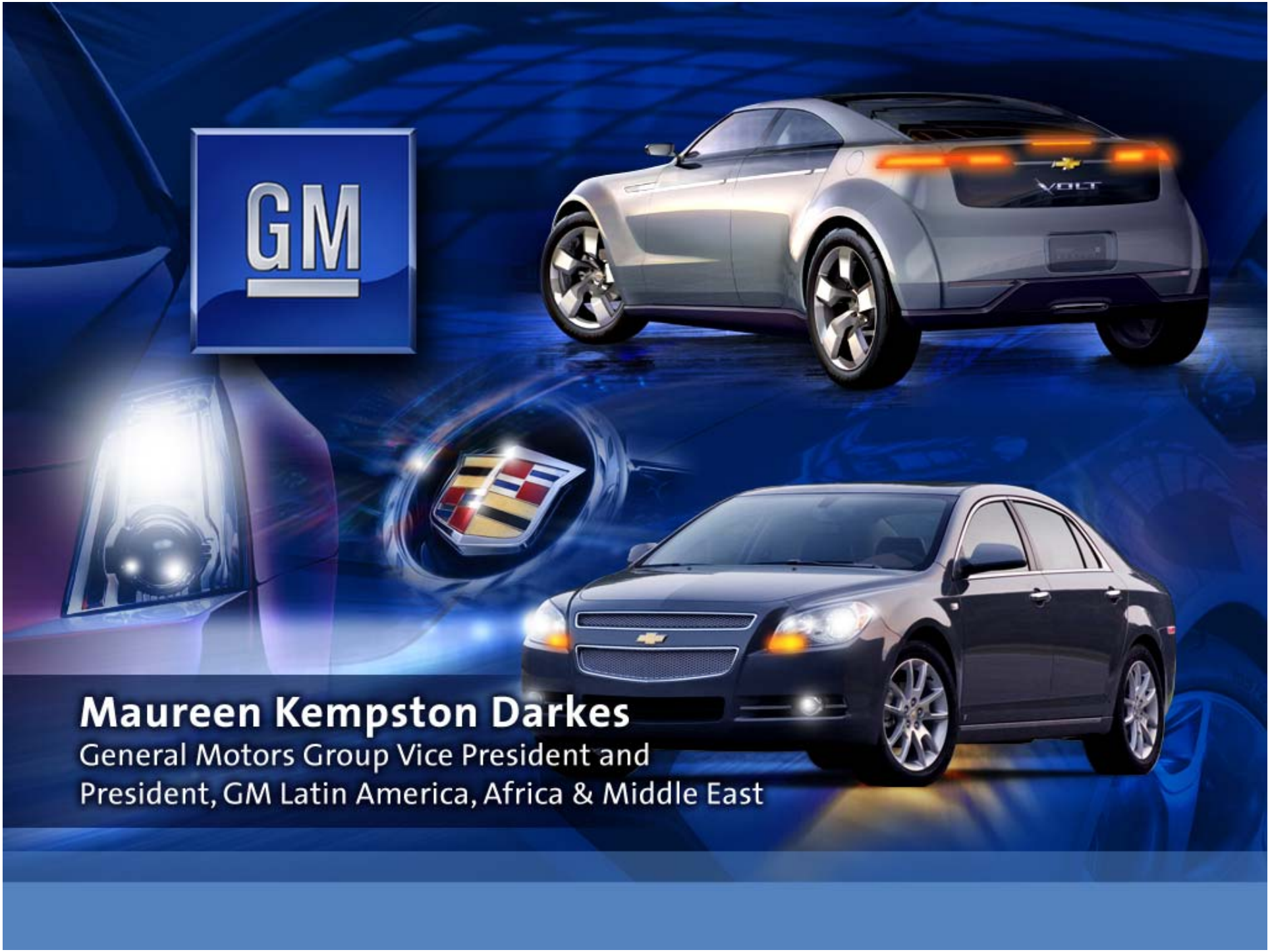

GM
VOLT
Maureen Kempston Darkes
General Motors Group Vice President and
President, GM Latin America, Africa & Middle East

GM LAAM Region

- 3 continents and 84 countries
- 4 major languages spoken
- >36,000 employees and >1,000 dealers
- Manufacturing plants in 8 countries
- $19 billion revenue in 2007 – expect to exceed that in 2008


EMERGING
Markets
Energy
DIVERSITY


GM
Global Update

GMNA Region

- Reduced manufacturing capacity to meet consumer demand
- Re-negotiated labor contracts and health care agreements
- Reduced structural costs by $9 billion
- Introduced successful new cars and crossovers
- Oil price increases are affecting U.S. auto industry sales mix

GMNA Region

Additional Actions Due to Oil Price Increases

- Increasing production of smaller, more fuel-efficient cars at two plants
- Idling four plants that build trucks and SUVs
- These actions will cut an additional $6 billion by 2010/2011
- Approved funding for production of the Volt

GM Europe Region

- Developed markets in Western Europe
- Emerging markets in Eastern Europe
- Spectacular growth in Russia
  - <5,000 vehicles sold in 2001
  - **260,000** vehicles sold in 2007

GM Asia-Pacific Region

- Strong performance in China
  - Sales grew 18.5% in 2007
  - GM first automotive manufacturer to sell over 1 million vehicles
- 74% sales increase in India
- Exported 870,000 GM Daewoo vehicles built in Korea

GM LAAM Region

- Record 1.2 million vehicle sales in 2007
- Record $19 billion revenue in 2007
- Record 2008 First Quarter
  - Revenue up >33%
  - Sales volume up 20%
- Expect growth to continue

GM Priorities

- Execute flawless launches and strengthen our brands
- Continue GME and GMNA turnarounds
- Maintain strong liquidity position
- Build technological capability


EMERGING
Markets
Energy
DIVERSITY


In 2007 GM
Sold MORE Vehicles
OUTSIDE of the U.S.


2007
71 Million Global
Industry Sales

Global Vehicle Sales

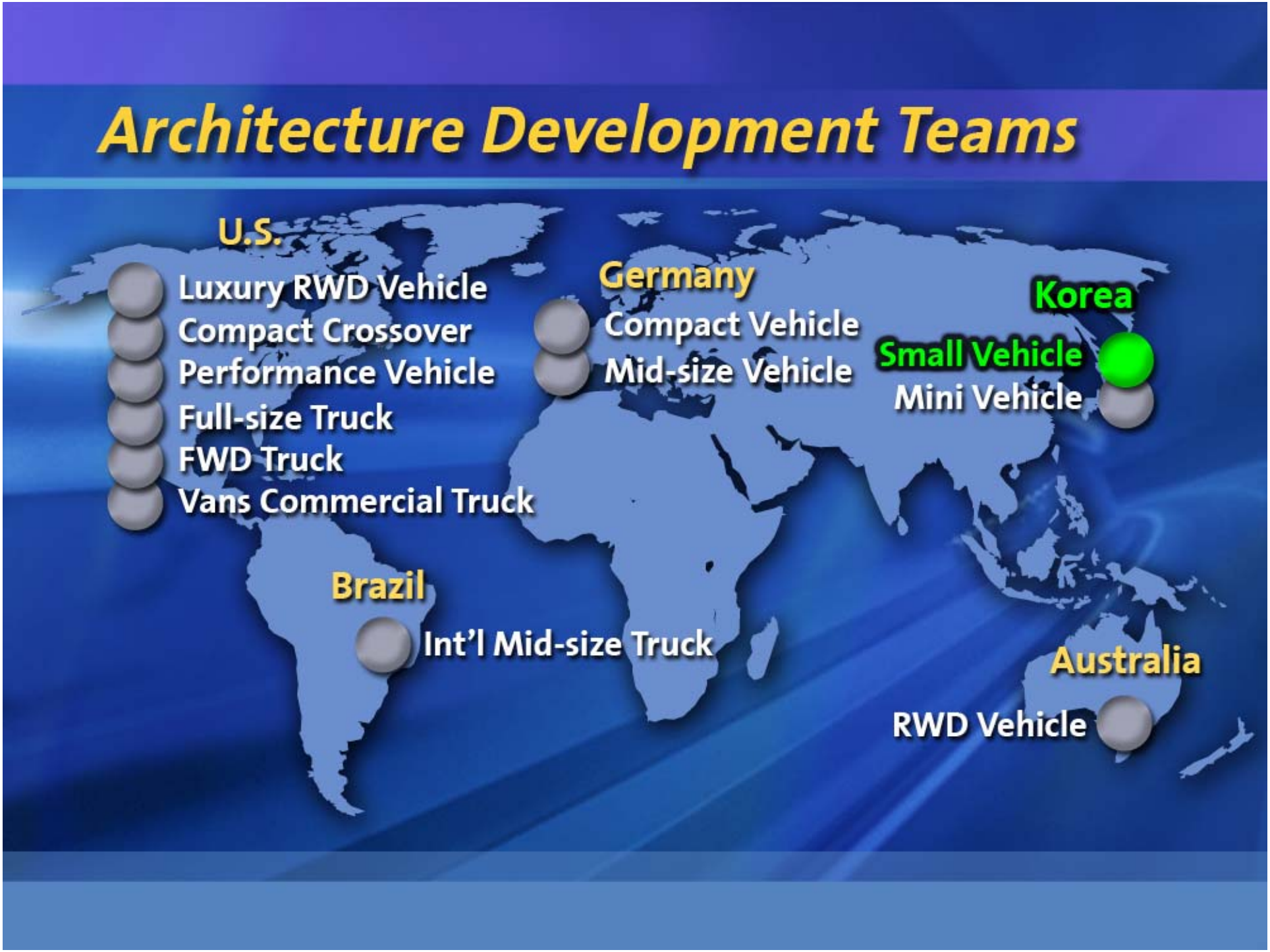
- Global industry sales in emerging markets
  - 2007: 38%
  - 2012: 45%
- Q1 2008: 64% of sales from outside U.S.
- Top 5 GM markets (in order): U.S., China, Brazil, U.K. and Canada


GM
Embrace
DIVERSITY


GM
One GLOBAL Company

Global Engineering and Design Centers

Architecture Development Teams



Global Manufacturing Footprint

GM ENERGY STRATEGY

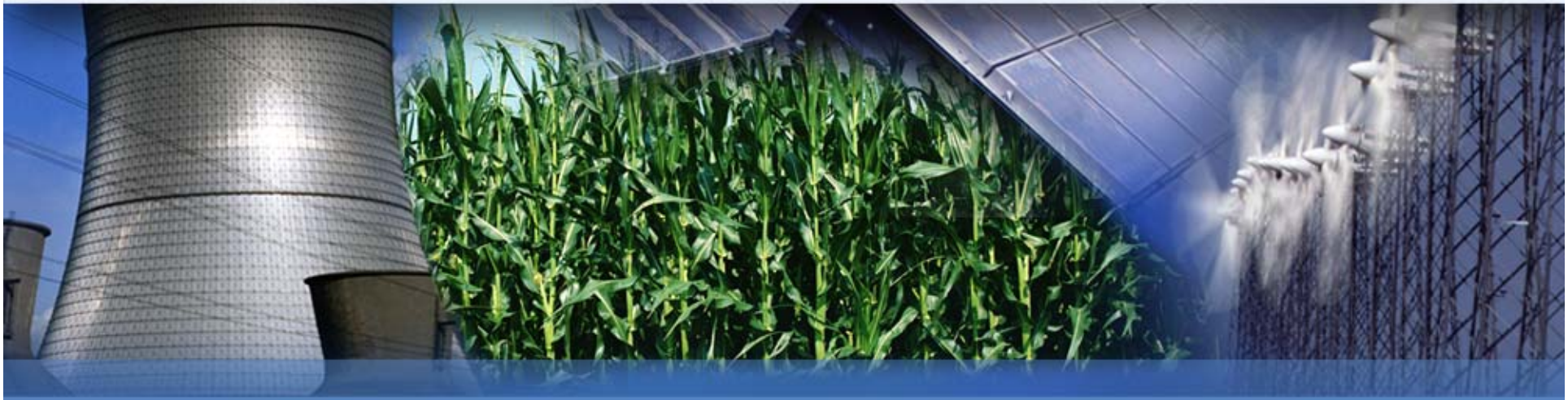
Meeting the challenges

PETROLEUM

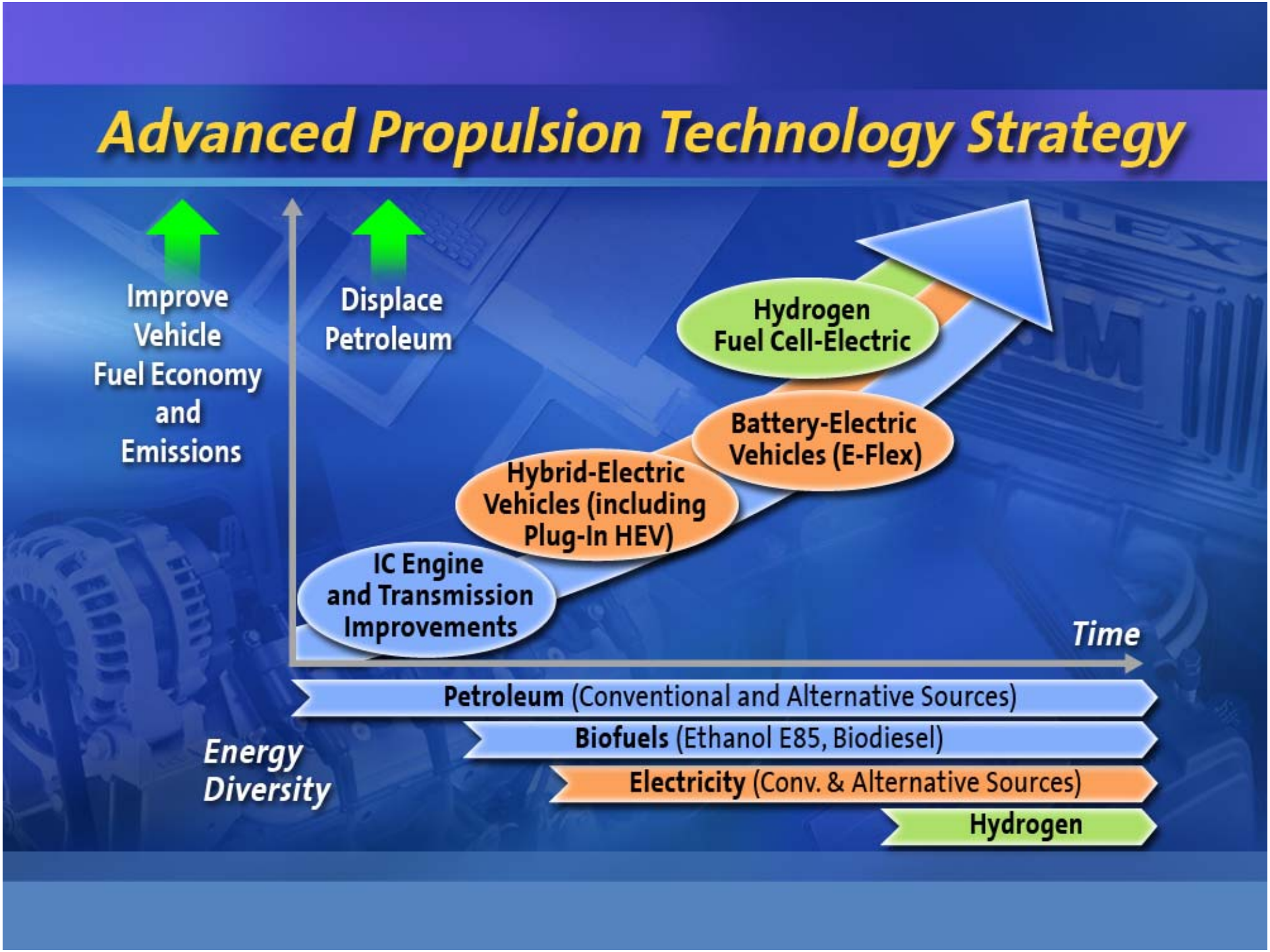
96% of **transportation** energy

GM ENERGY STRATEGY

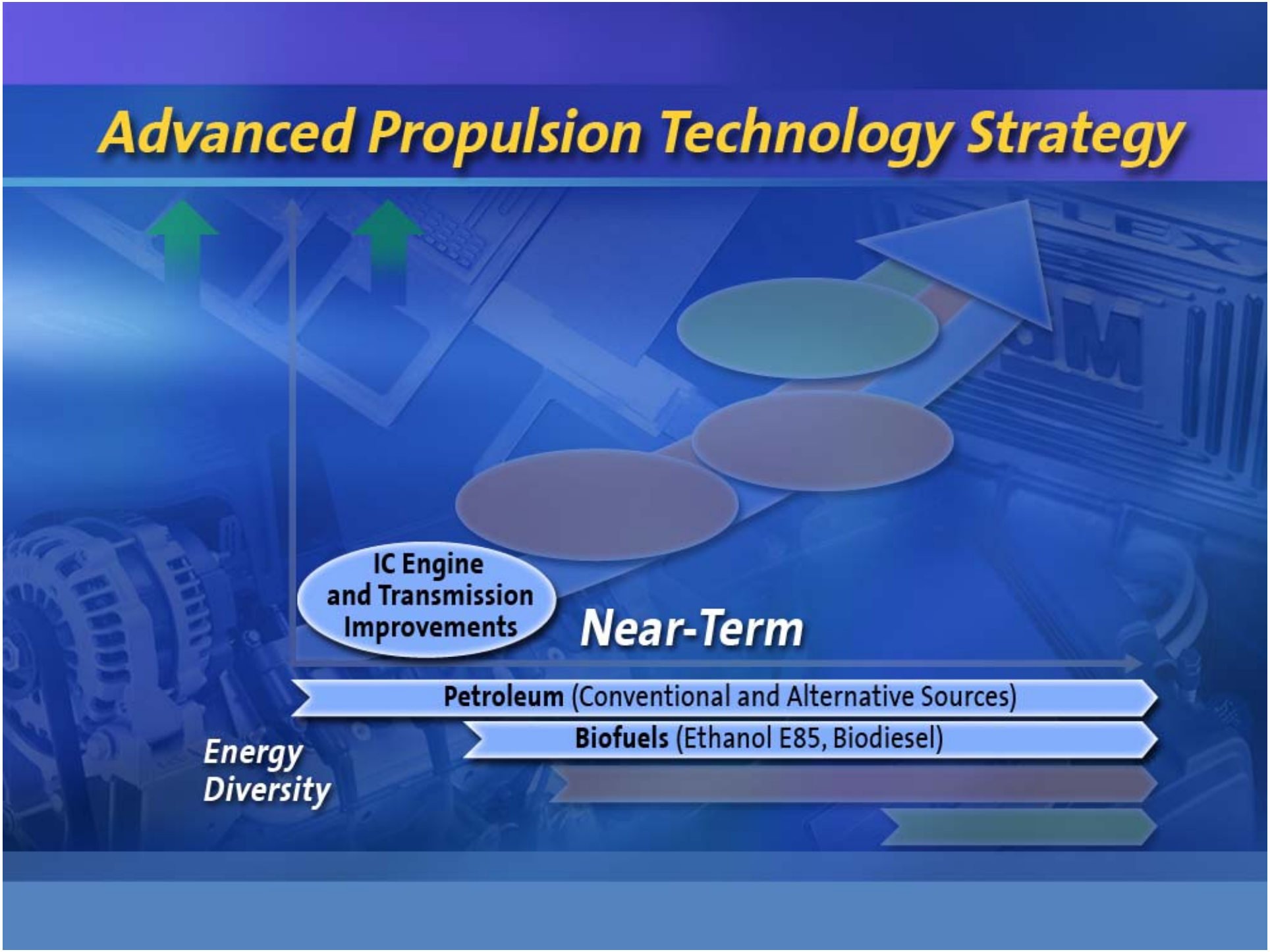
Displace **petroleum** through
energy **efficiency** and **diversity**



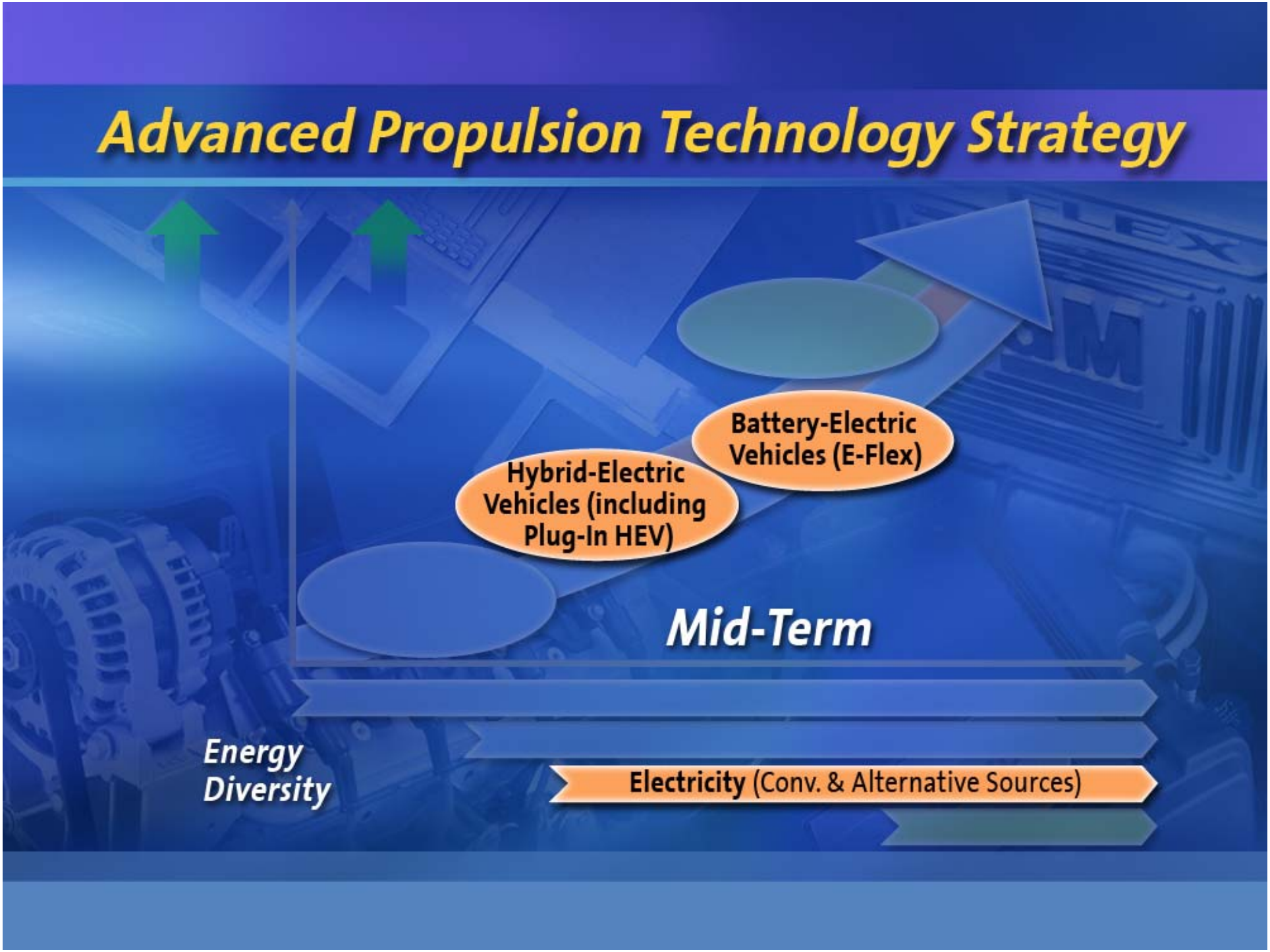
Advanced Propulsion Technology Strategy



Advanced Propulsion Technology Strategy



Advanced Propulsion Technology Strategy



Advanced Propulsion Technology Strategy

Gas-friendly to gas-free.

FUEL EFFICIENCY

E85 ETHANOL

HYBRID

ELECTRIC

FUEL CELL

GREEN BY DESIGN

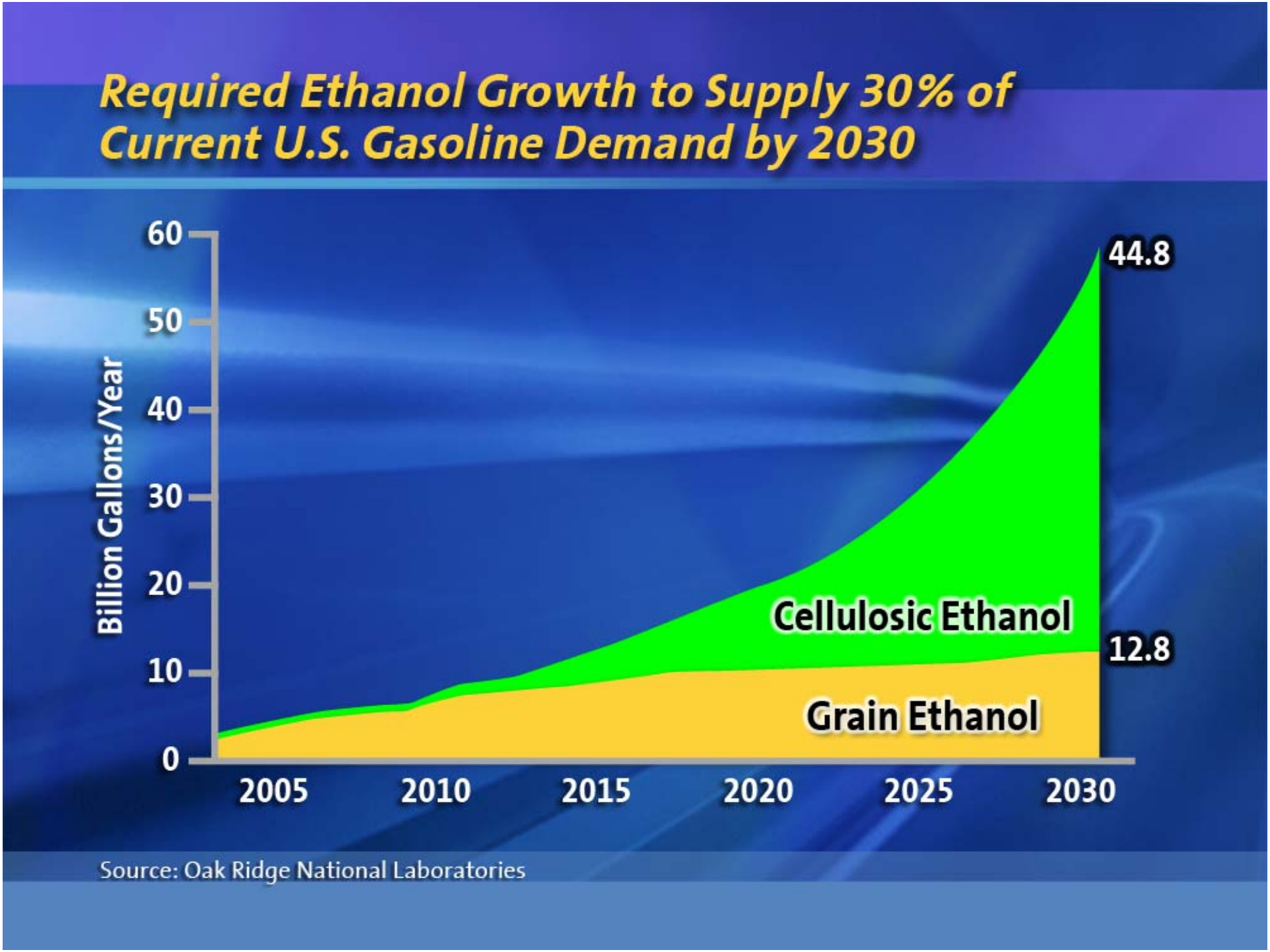
GM Canada


BIOFUELS

Benefits of Biofuels

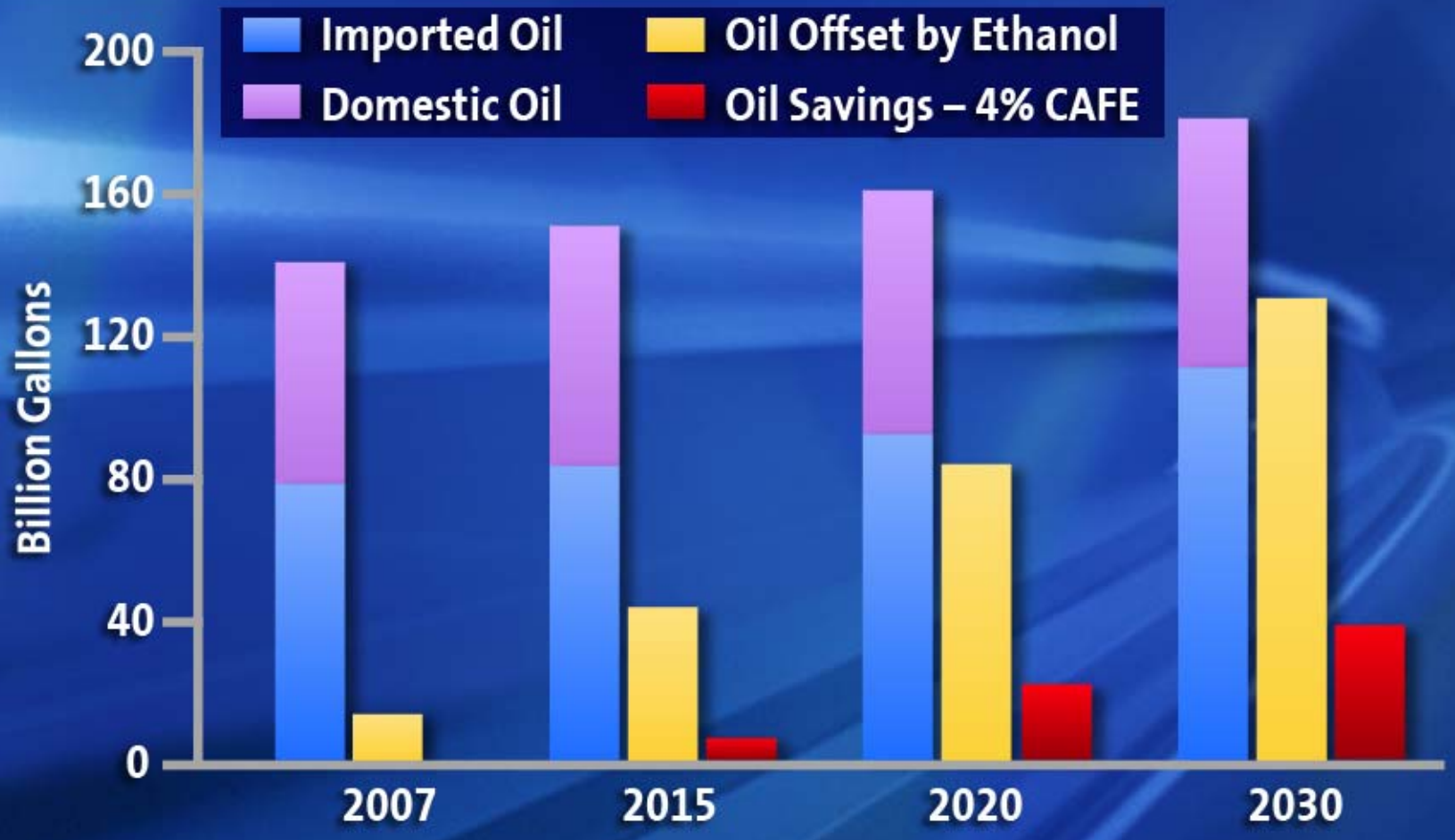
- Reduce greenhouse gas emissions
- Improve horsepower and torque
- Renewable; domestically produced
- Minimal modifications allow use in current gasoline vehicles
- Provide immediate petroleum reduction

Required Ethanol Growth to Supply 30% of Current U.S. Gasoline Demand by 2030



Source: Oak Ridge National Laboratories

E85 Ethanol Would Have Greatest Potential to Reduce Oil Imports if All OEMs Produced 90% FFV by 2020



Ethanol potential assumes all OEM FFV production of 50% in 2012, 75% in 2015, and 90% in 2020, and the FFV parc uses E85. Adjusted for energy equivalency with gasoline. Oil Info Source: *EIA 2007 Annual Energy Outlook*

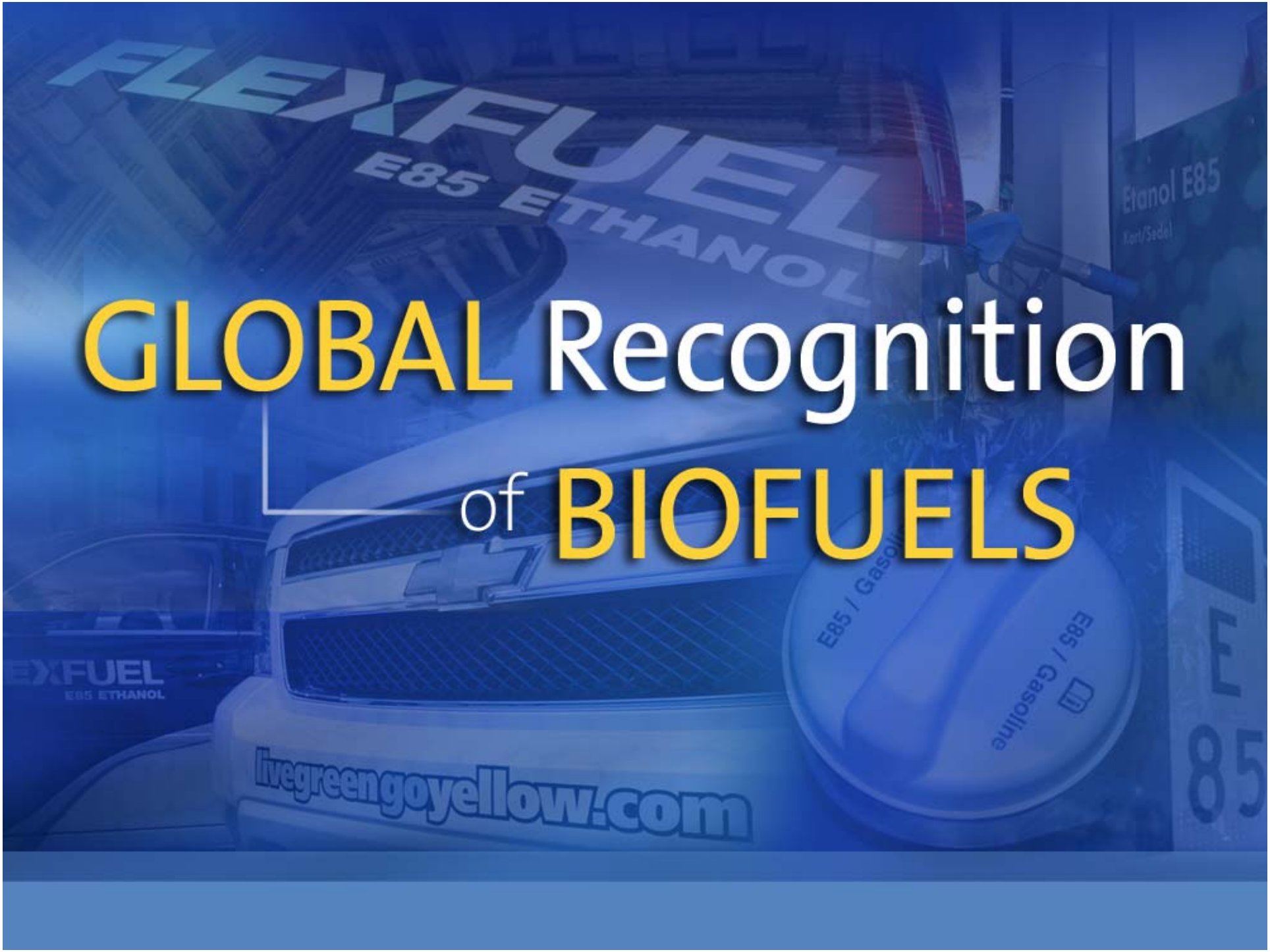
GM Flex-Fuel Vehicles


BIOFUELS


coskata
CAUTION
HOT SURFACE
DO NOT
TOUCH

MASCOMA

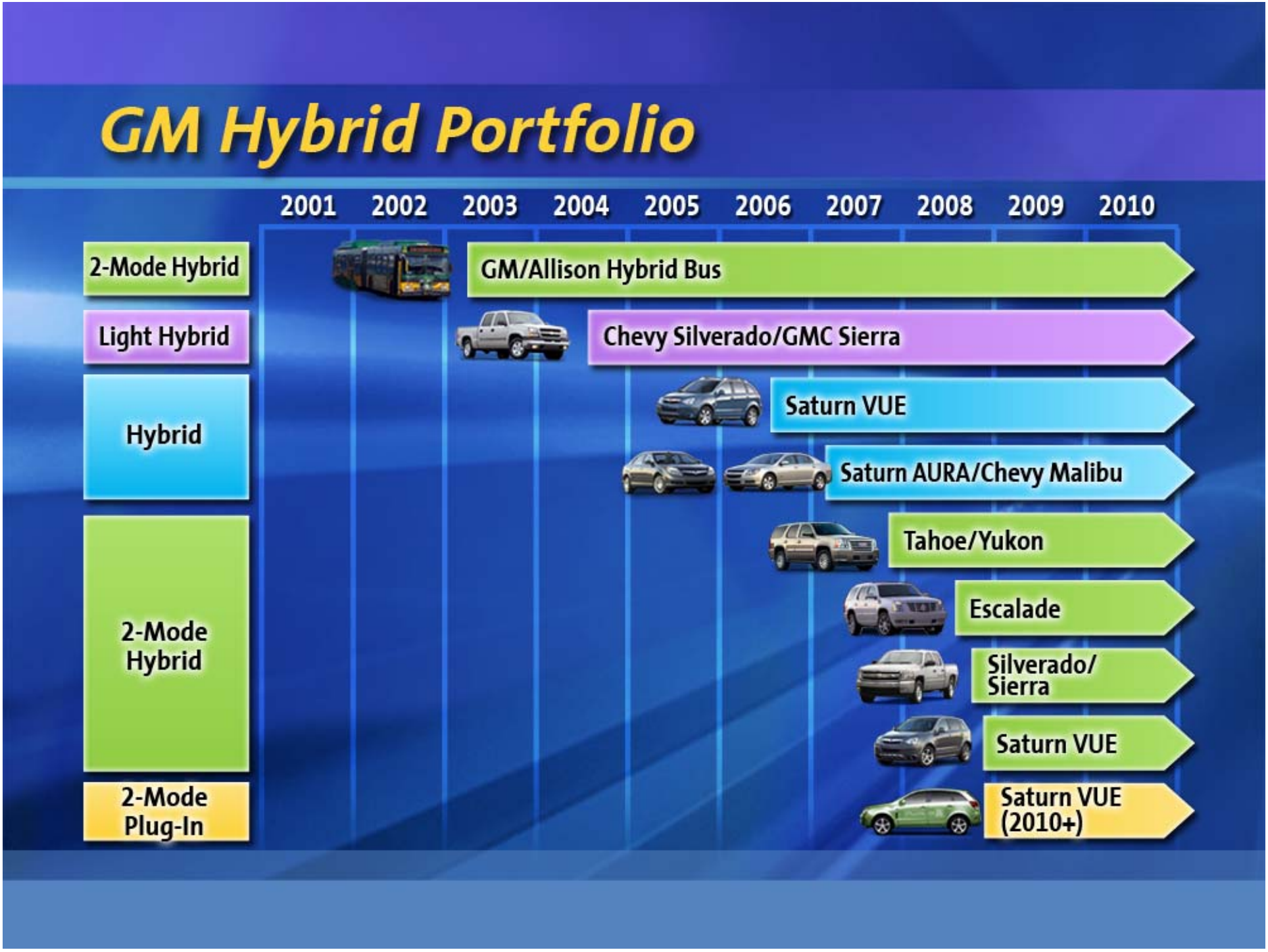
AVAILABILITY and DISTRIBUTION



GLOBAL Recognition of BIOFUELS


GM HYBRID BUS
2599
2599
HYBRID
2 MODE
HYBRIDS

GM Hybrid Portfolio

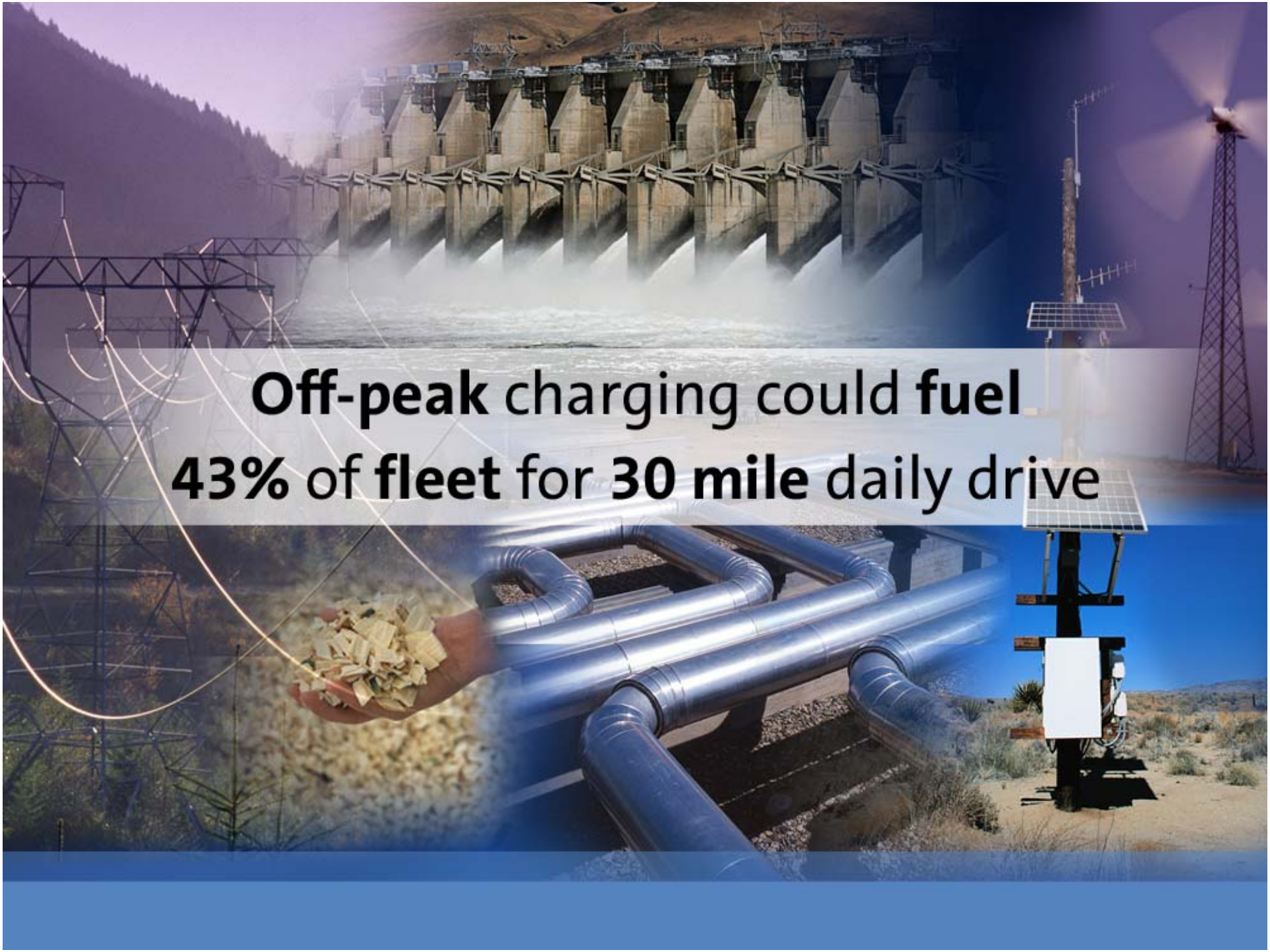



HUNTER CREEK
602
HYBRID
YOSEMITE NATL PARK
YosemiteShuttle
GM HYBRID BUS
2599
2599
HYBRID BUSES
Since 2003

Extended-Range Electric Vehicles


ELECTRICITY

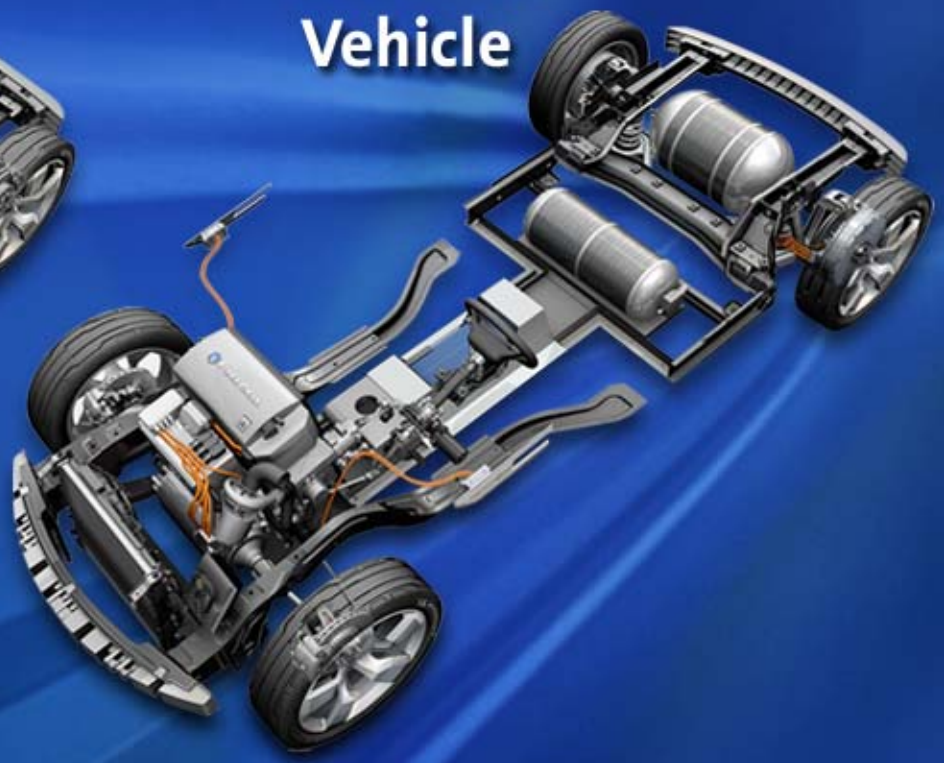
< $1.00 per U.S. Gallon of Gasoline


Off-peak charging could fuel
43% of fleet for 30 mile daily drive

e-FLEX

Extended-Range Electric Vehicle

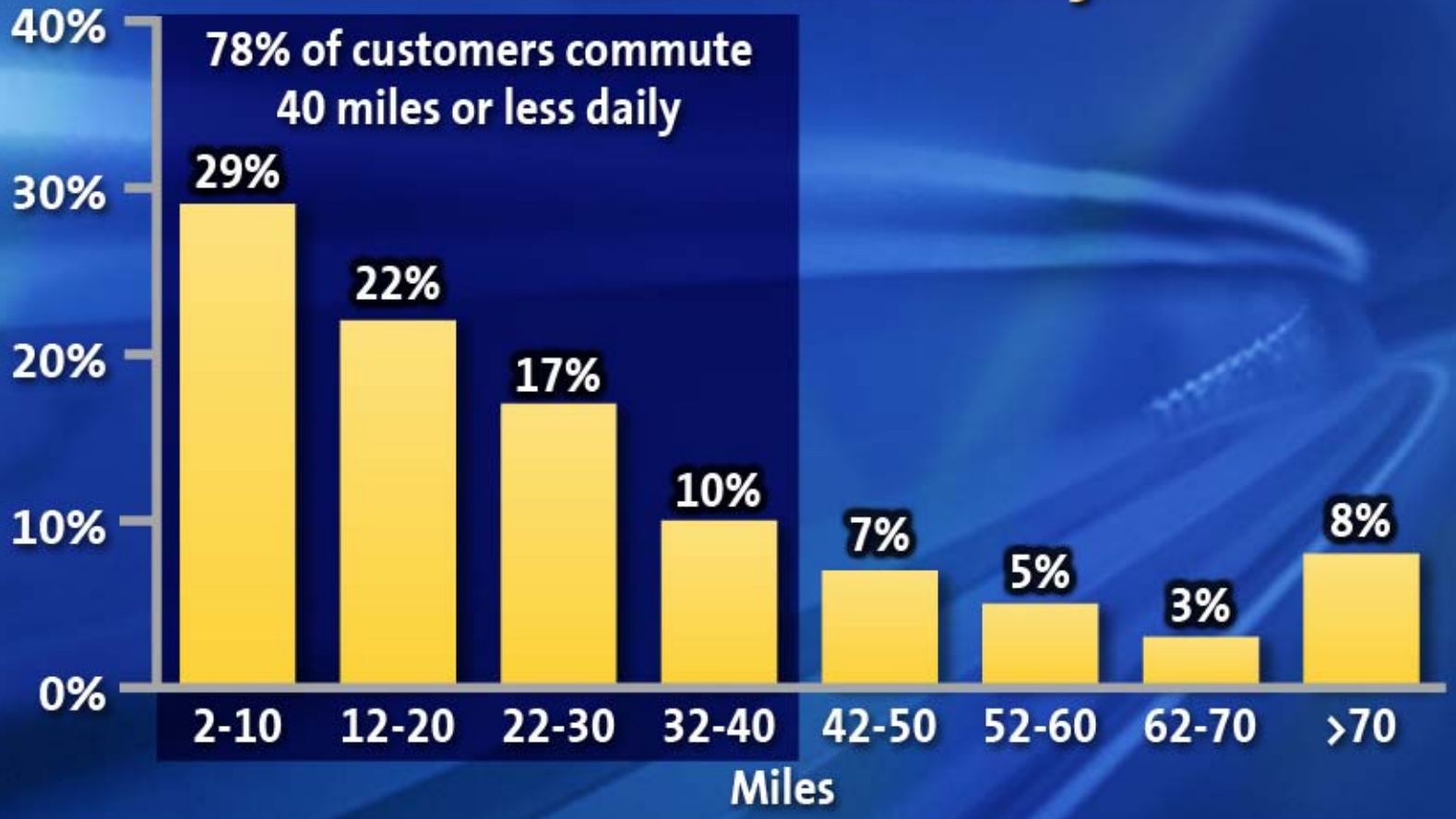
Fuel Cell Vehicle




VOLT

Typical Commute

40 Miles Is the Key

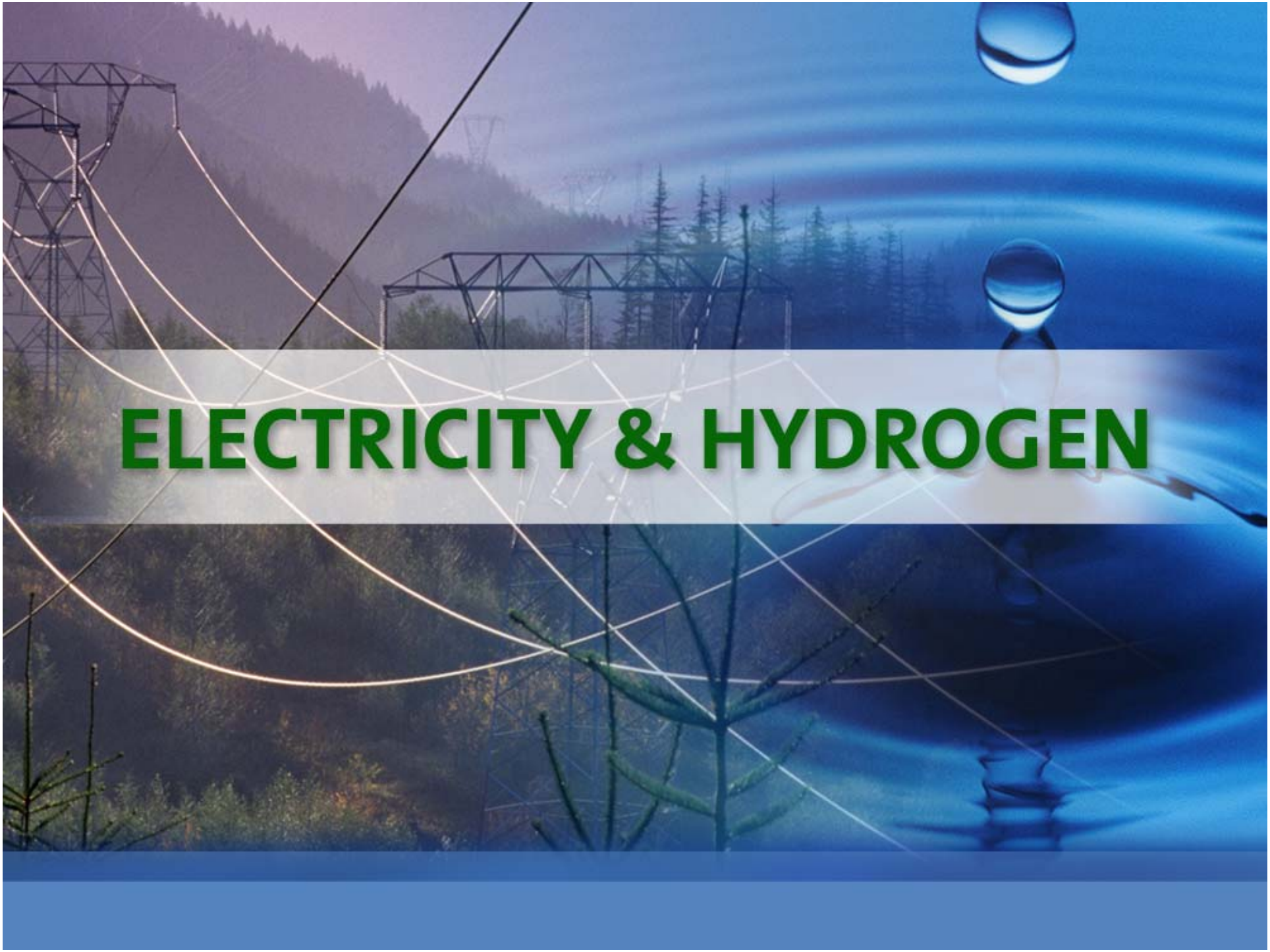


Based on OmniStats Data posted by the U.S. Bureau of Transportation

E-Flex Challenges

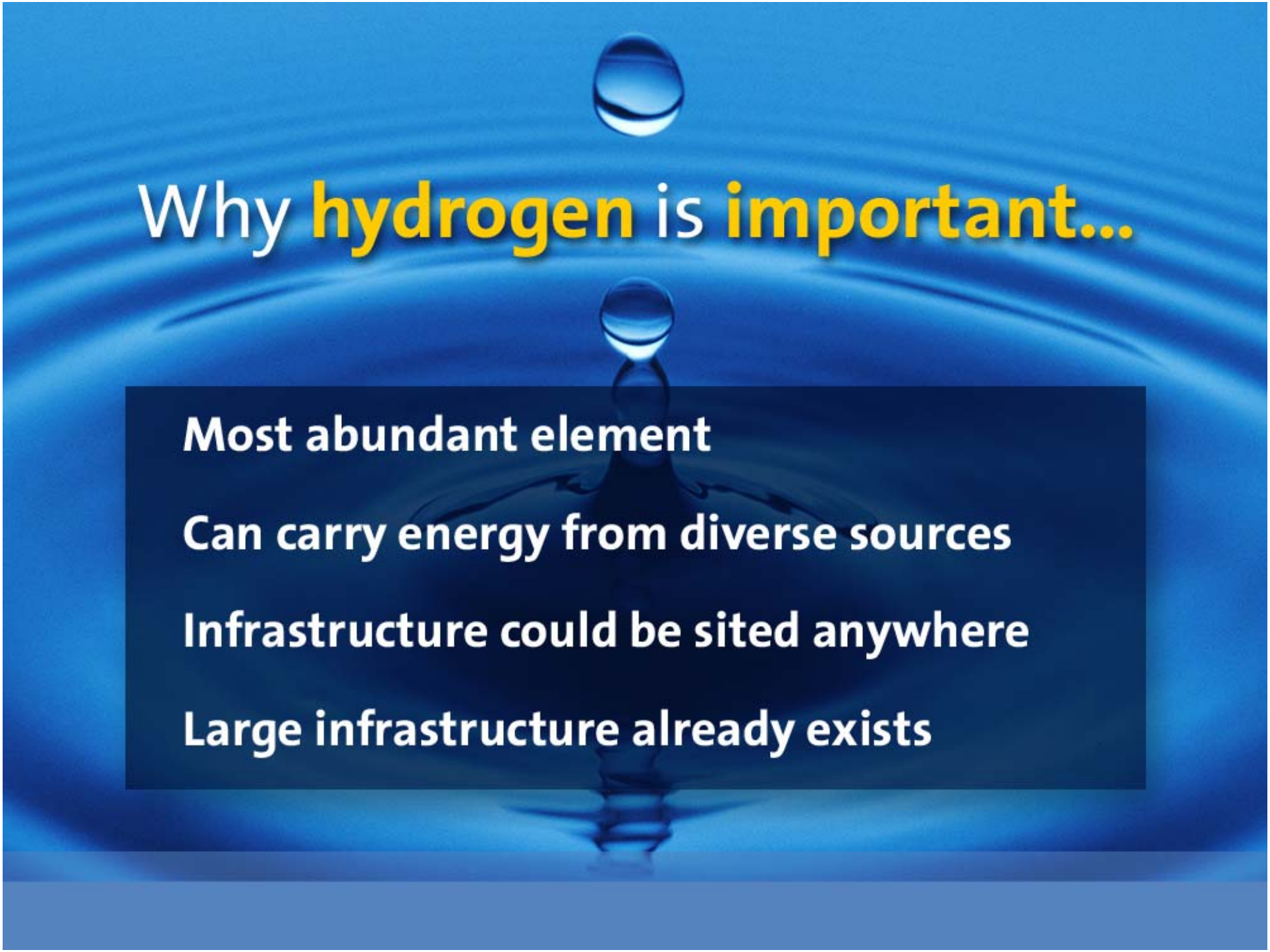
- Making lithium-ion technology production-ready
- Currently working with two partnerships to speed development of lithium-ion battery packs
- Speed – simultaneously developing the vehicle and the technology


VOLT


ELECTRICITY & HYDROGEN

Electricity and Hydrogen

- Right answer for the future
- Can be used interchangeably
- Can be produced from diverse energy pathways
- Can be generated from renewable feedstocks
- Have potential to displace petroleum at an affordable price


Why hydrogen is important...
Most abundant element
Can carry energy from diverse sources
Infrastructure could be sited anywhere
Large infrastructure already exists


SEQUEL


300-MILE
SEQUEL
DRIVE
Emissions-Free, Petroleum-Free
ZERO EMISSIONS
FUEL CELL DRIVE
FINISH


Virgin atlantic
GM FUEL C
PROJECT
DRIVEWAY
FUEL CELL
ZEROemissions
GM FUEL CELL


MANAGING the
TRANSITION


REMOVE Automobile
from Energy Equation

GM Advanced Propulsion Strategy

- Reduce fuel consumption and greenhouse gas emissions
- Be sustainable through energy diversity
- Displace petroleum


GM
VOLT