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General Motors Company



# REALIZING THE PROMISE OF BIOFUELS



# GM'S COMMITMENT TO BIOFUELS





# FORMULA FOR SUCCESS



RIGHT PRODUCT, RIGHT PRICE, RIGHT TIME



# FULFILLING THE PROMISE OF BIOFUELS

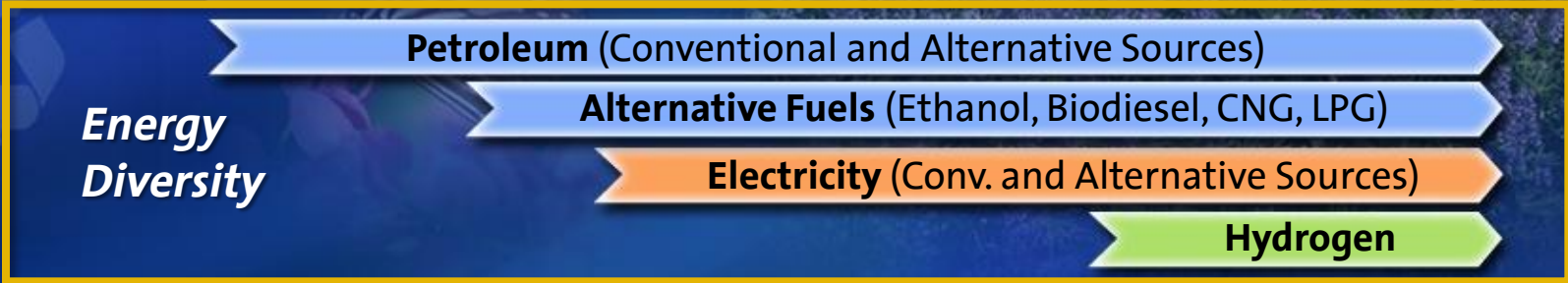
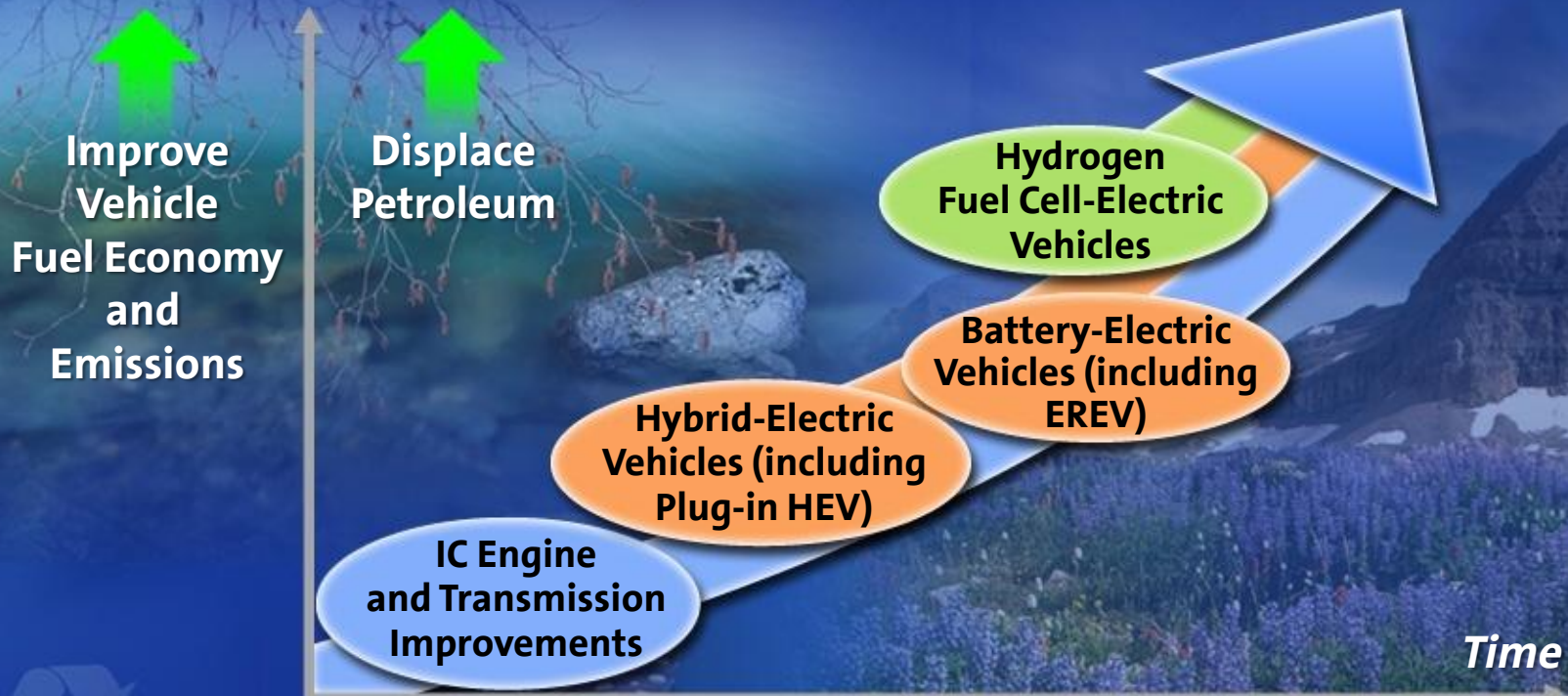


RIGHT PRODUCT, RIGHT PRICE, RIGHT TIME





# ADVANCED PROPULSION TECHNOLOGY STRATEGY



# CUSTOMER NEEDS



SHORT  
COMMUTE



LONGER-RANGE  
DRIVING



CARRYING  
PASSENGERS



HAULING  
CARGO





# GM E85 FLEX-FUEL VEHICLES



OVER 5.5M VEHICLES WORLDWIDE AND 17 MODELS IN NORTH AMERICA



# FUTURE FLEX-FUEL VEHICLES ... DIRECT-INJECTED AND TURBO ENGINES



**FLEXFUEL**  
E85 ETHANOL



**EXTENDED-  
RANGE ELECTRIC  
VEHICLE WITH  
FLEX-FUEL  
CAPABILITY**



**40  
MILES  
GAS-FREE**



# BIOFUELS SCIENCE



U.S. DEPARTMENT OF  
**ENERGY**

**Michigan Tech**

MICHIGAN STATE  
UNIVERSITY



UNIVERSITY OF  
**TORONTO**

**Colorado**  
**State**  
University



**CBERD**







 **coskata**

 **MASCOMA**



**GM**

# RENEWABLE GASOLINE AND DIESEL FUELS





# RENEWABLE GASOLINE AND DIESEL FUELS



**IN PARALLEL WITH** FIRST-GENERATION  
AND SECOND-GENERATION BIOFUELS





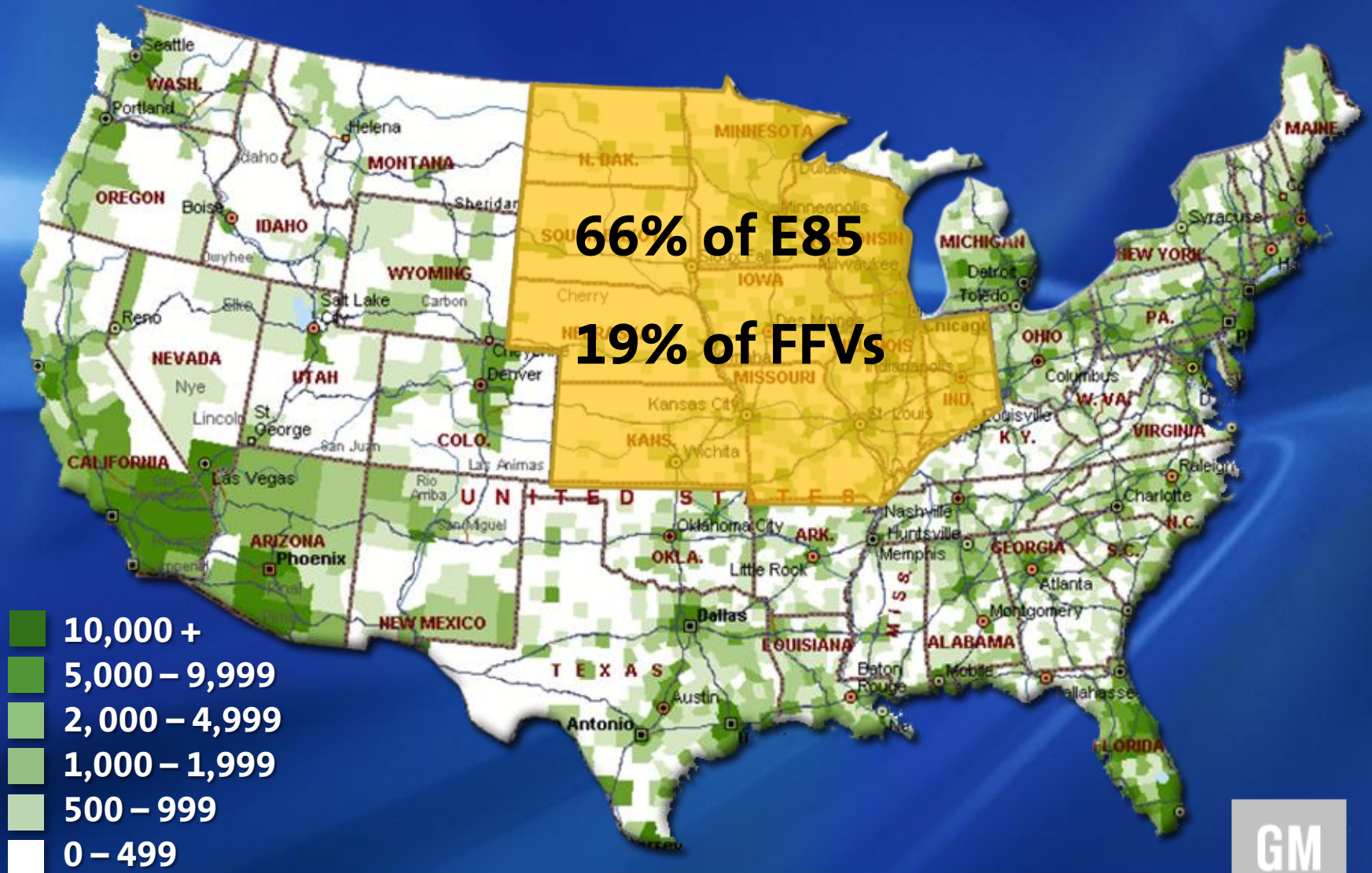
**OUR PRODUCTS COME TOGETHER ...**



**... AT THE PUMP**



# FFV / E85 STATION GAP



# BLENDER PUMPS

- Extend FFV infrastructure
- Can be used to fuel flex-fuel vehicles
- Enable consumers to choose the right fuel for their vehicles and other motorized equipment







GOVERNMENT  
– ENABLE  
**VARIETY**  
OF ENERGY  
SOURCES





# RIGHT PRICE ...

FRANCE



BRAZIL



THAILAND



SWEDEN



MISSOURI





# THE PROMISE OF BIOFUELS





# SUMMARY

- Next 2-3 years critical
- Partnerships needed
- We must all work together



