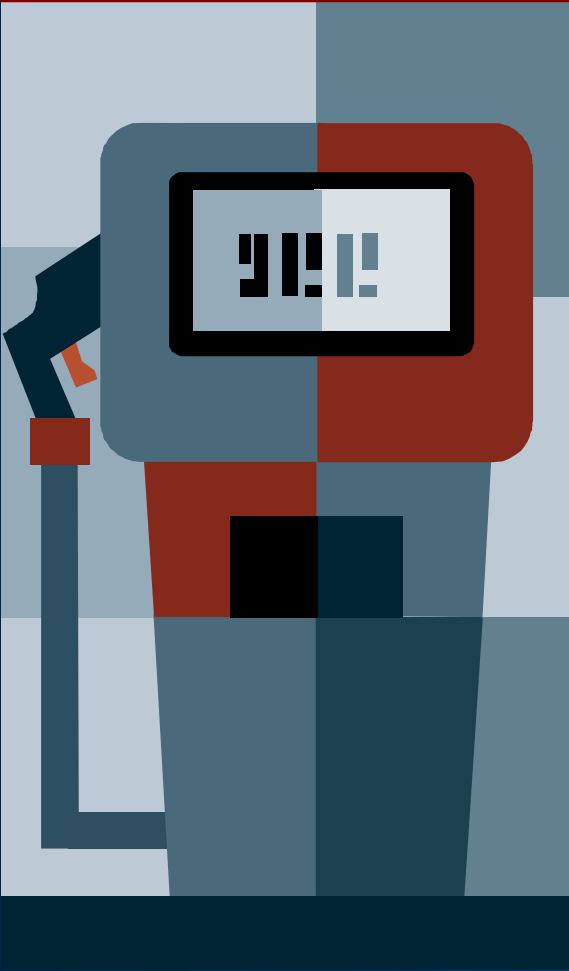


# Outlook for Light-Duty-Vehicle Fuel Demand



## Diesel Engine-Efficiency and Research Conference 2008

Energy Information Administration

Joanne Shore

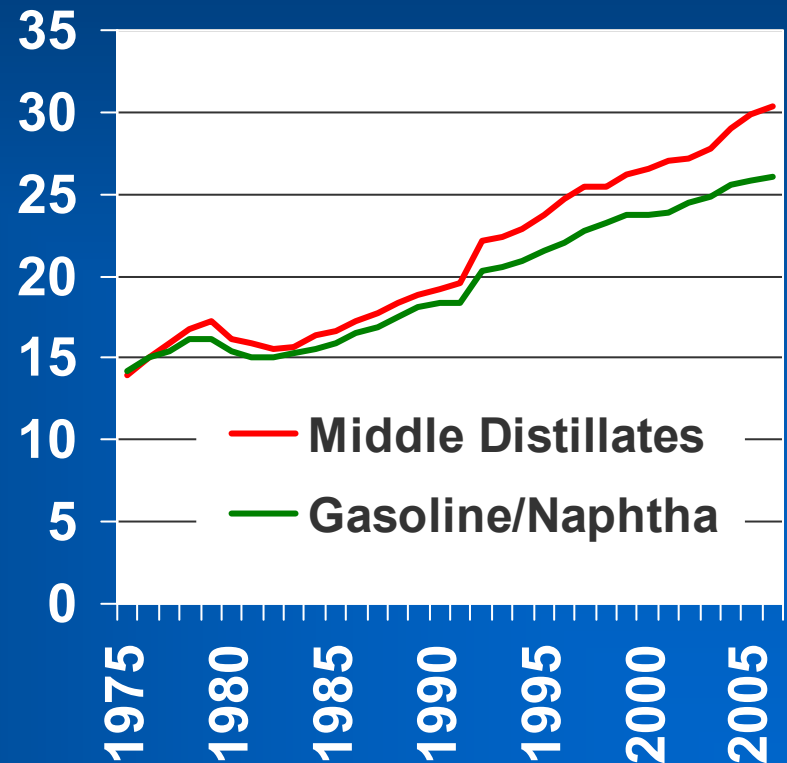
John Hackworth

John Maples

# History: World Distillate Demand Growing Faster than Gasoline

- World distillate demand has been growing faster than gasoline for many years.
- Yet, until recently, gasoline prices were higher than distillate.

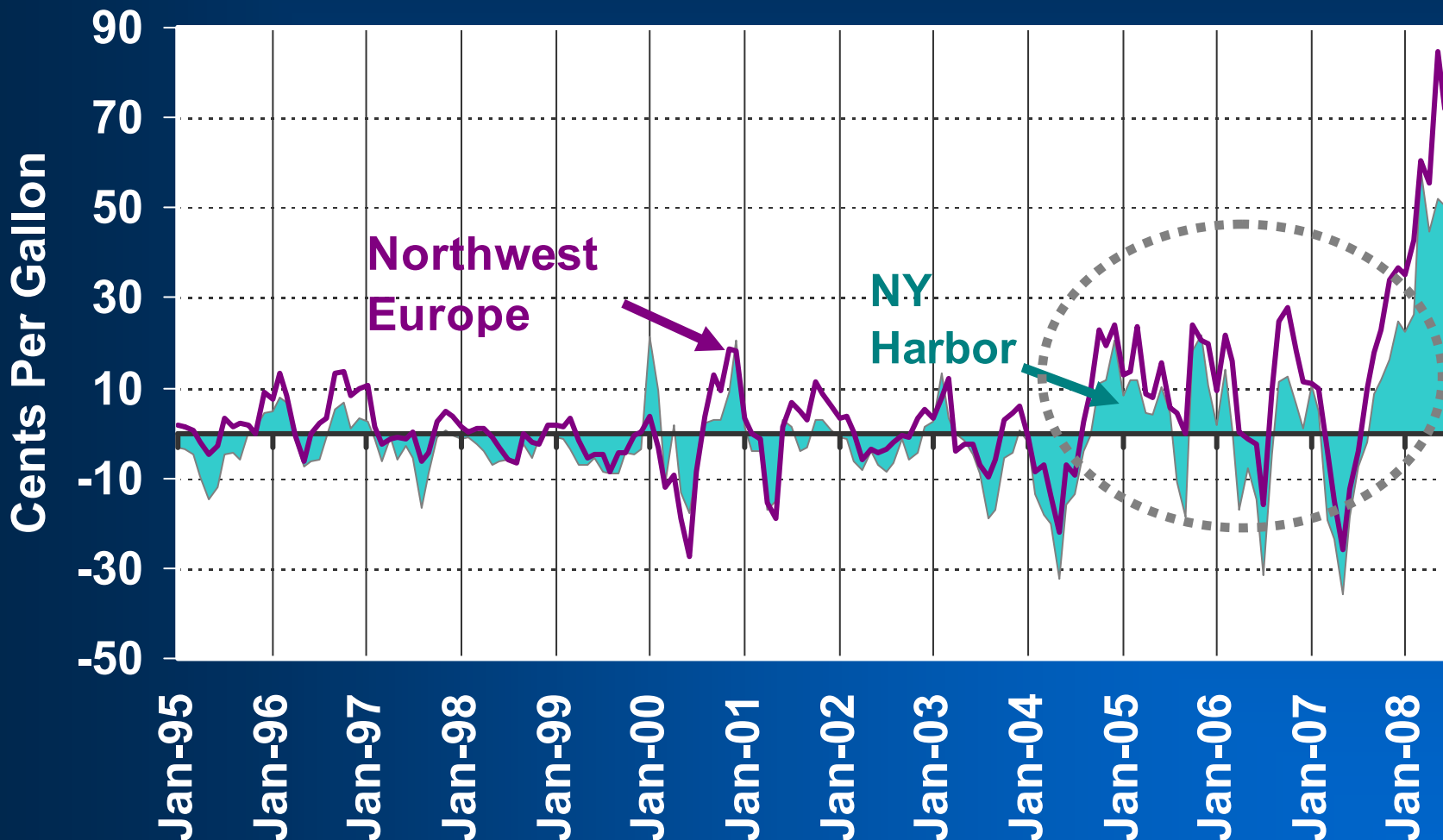
World Distillate and Gasoline Demand (MMB/D)



Note: MMB/D – Million Barrels Per Day  
Source: BP Statistical Review 2007

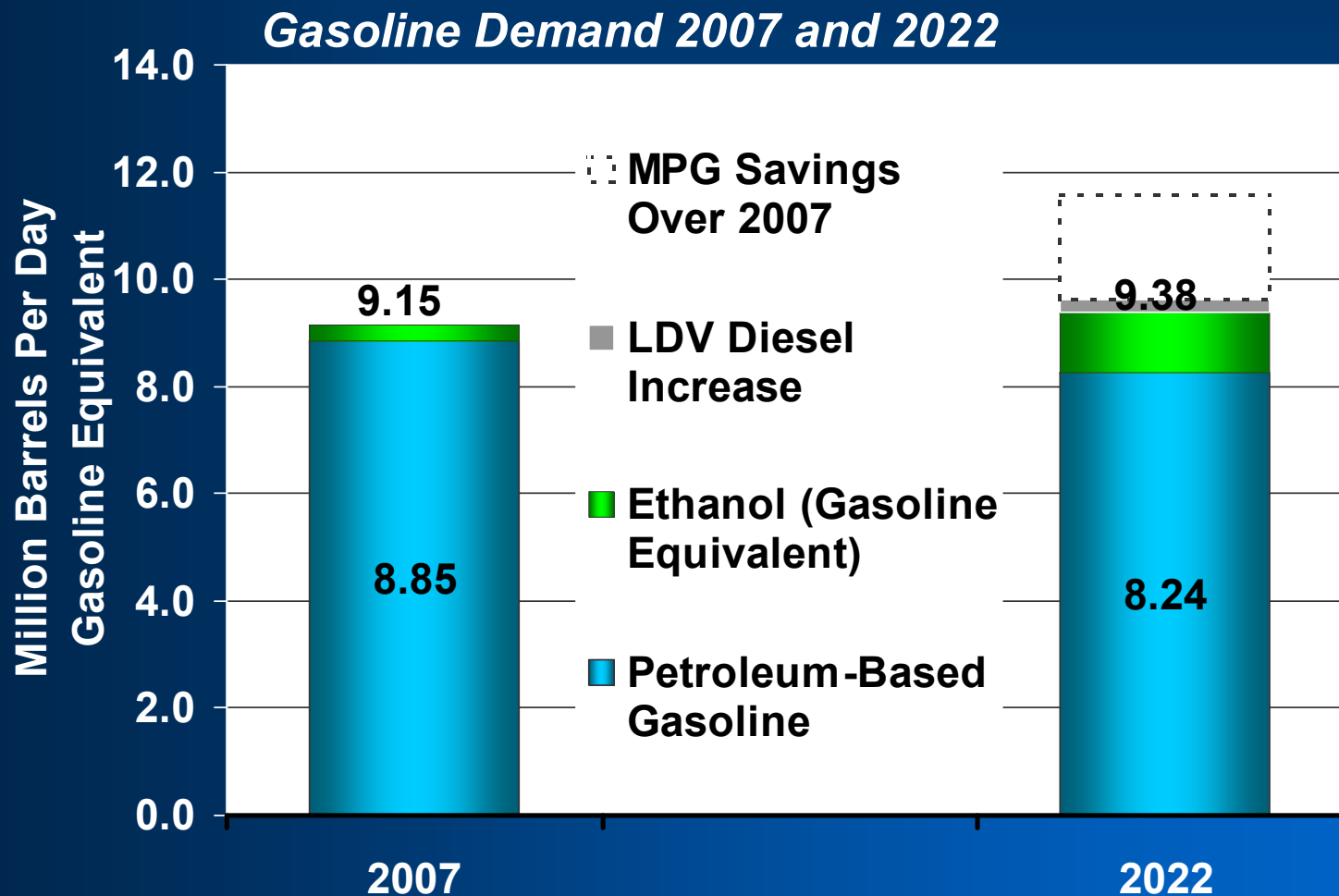
# Distillate Price Discounts From Gasoline May “Be History”

*Spot Heating Oil Price - Gasoline Price Differences*

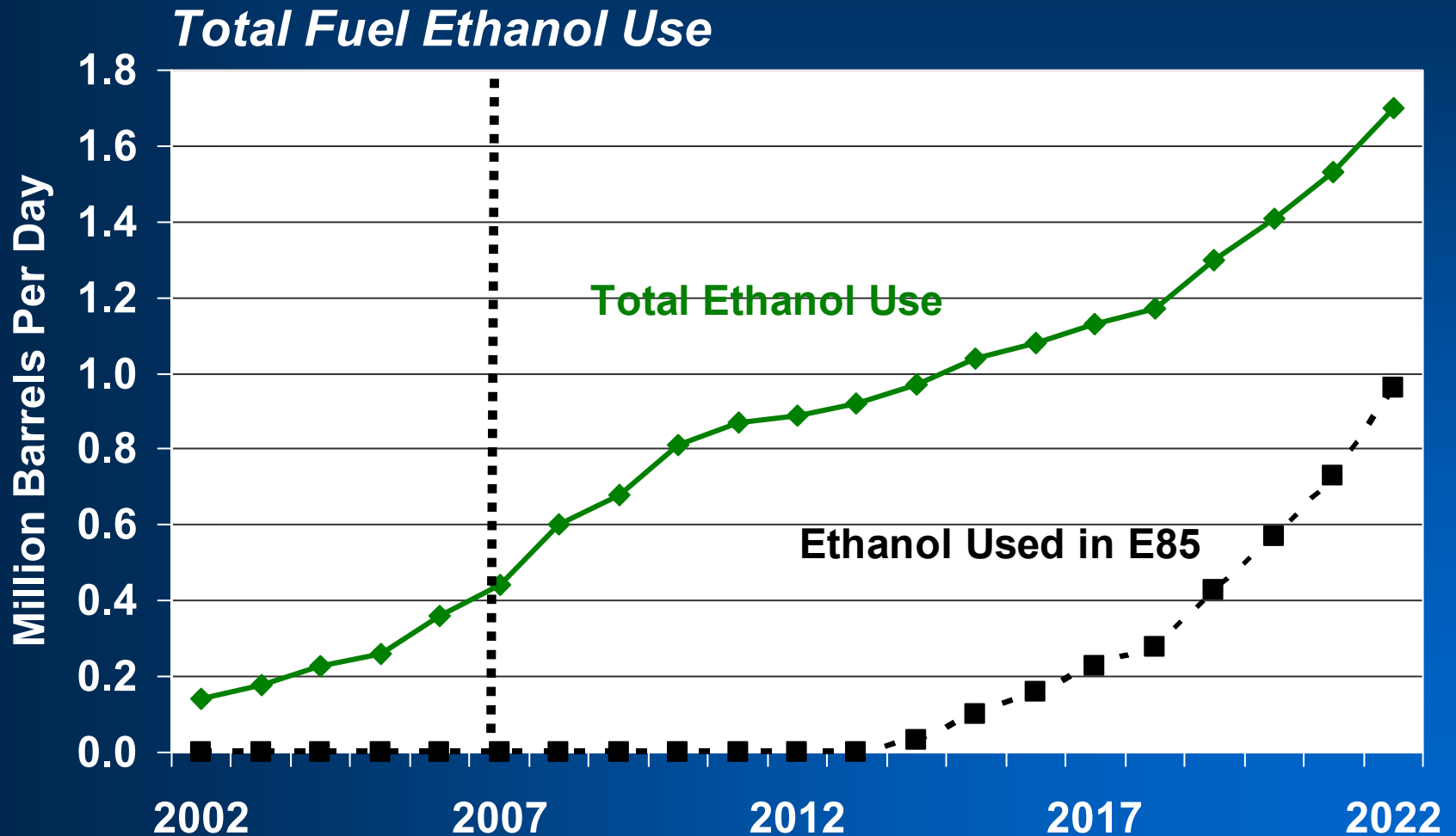


Source: Bloomberg New York Harbor Conventional Gasoline, No. 2 Heating Oil; NW Europe 0.2% Heating Oil and Premium Gasoline

# Projected Gasoline Demand Increases, But Petroleum-Based Gasoline Declines Due to Efficiency, Increased Biofuels, and Switch to Diesel



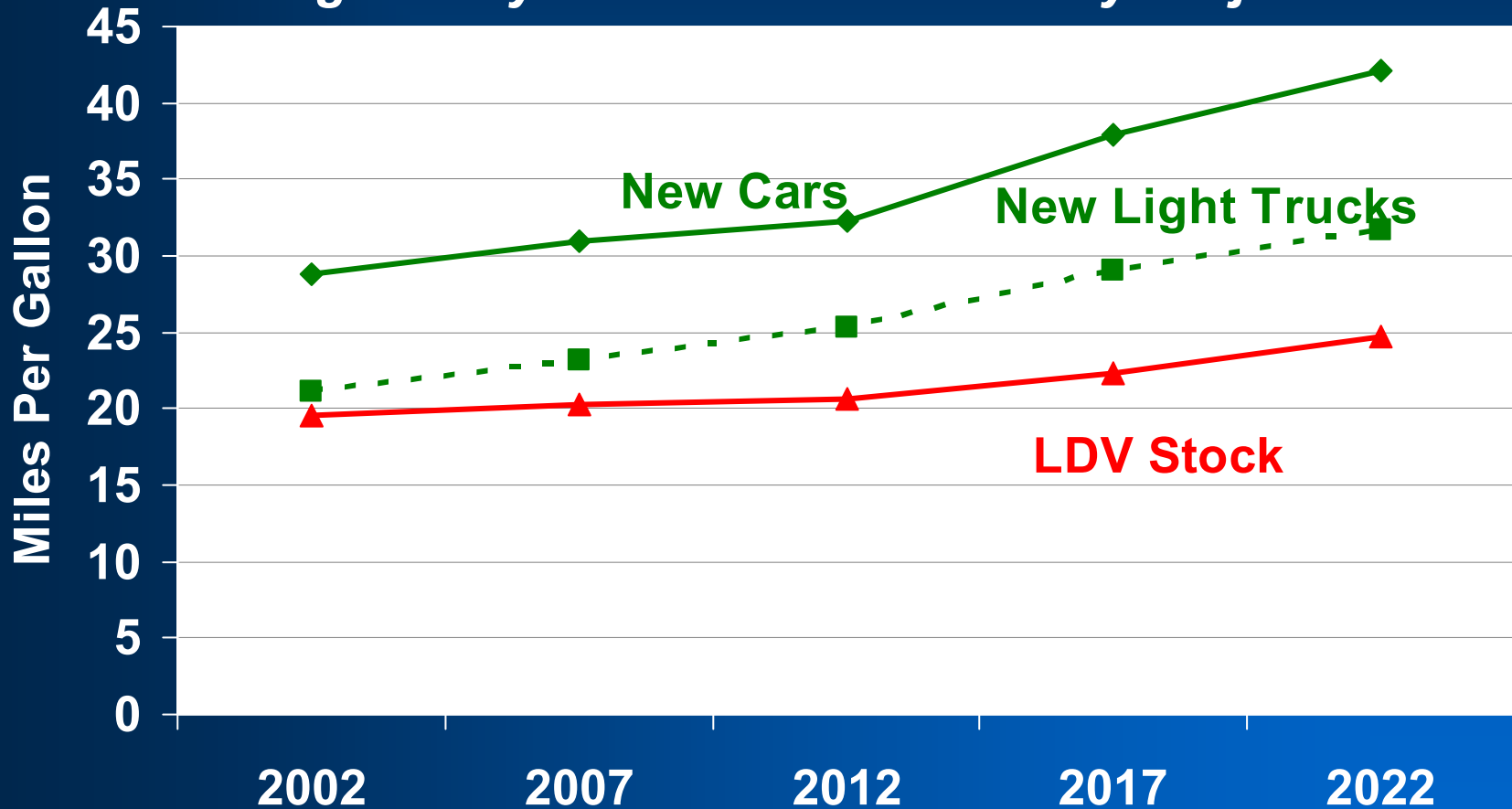
# Renewable Fuels Requirement Mainly Met with Ethanol, Including E85



Source: AEO 2008 Reference Case

# New Light-Duty Fuel Efficiency is 36 MPG in 2022 Versus 28.4 in Case without EISA

*Light-Duty Vehicle Fuel Efficiency Projections*

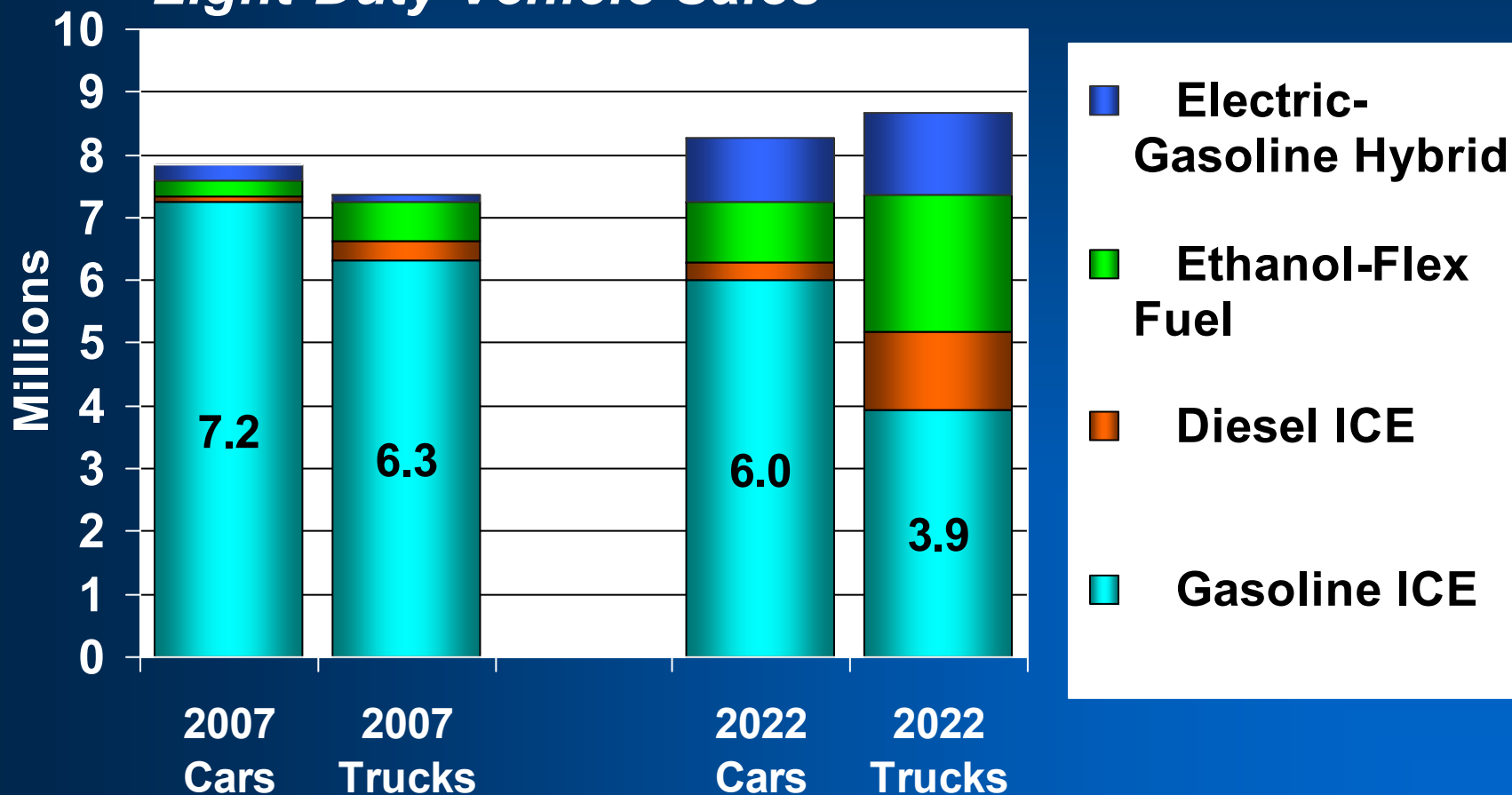


Note: EISA – Energy Independence and Security Act of 2007

Source: AEO 2008 Reference Case

# Shifting Vehicle Mix Needed to Meet Both Increased Efficiency & Ethanol Use

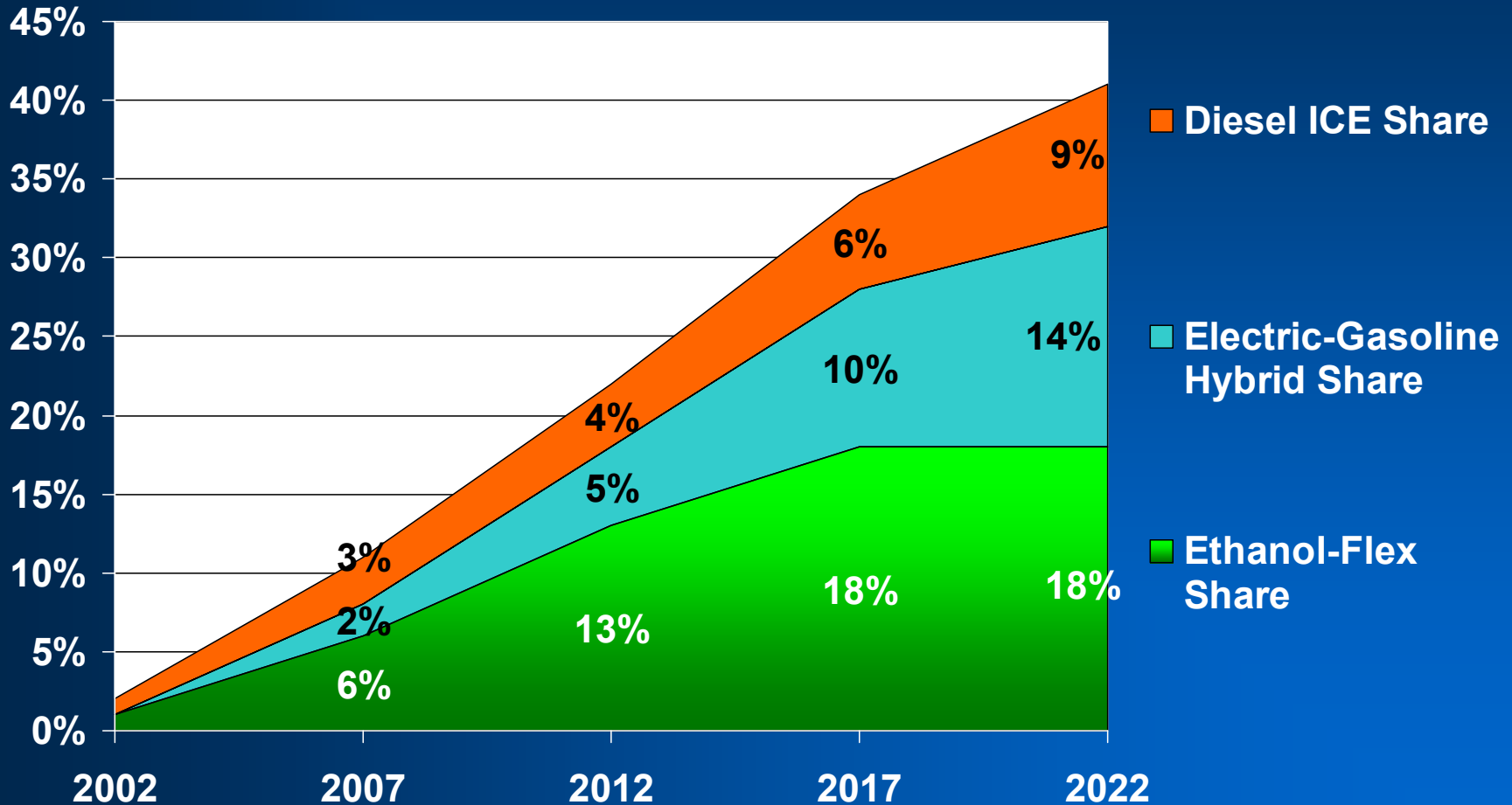
## Light-Duty Vehicle Sales



Note: ICE – Internal Combustion Engine  
Source: AEO 2008 Reference Case

# Non-Gasoline Vehicle Sales Penetration Increases from 11% in 2007 to 41% in 2022

*Non-Gasoline Light-Duty Vehicle Sales Penetration*



Source: AEO 2008 Reference Case



# Petroleum-Based\* Gasoline and Distillate Fuel Needs Shift

| Million Barrels Per Day | 2007 | 2022 | Growth to 2022 |
|-------------------------|------|------|----------------|
| Petroleum Gasoline      | 8.85 | 8.24 | -0.61          |
| Petroleum Distillate    | 4.22 | 4.71 | +0.49          |

\* Petroleum-Based excludes ethanol, biodiesel, and distillate from coal-to-liquids and biomass-to-liquids.  
Source: AEO 2008 Reference Case

# Issues Associated with Shifting U.S. Demand Mix and Import Availability

- The shifting demand mix of products towards more distillate and less gasoline may be a challenge for refiners
- Supply uncertainties:
  - U.S. Refiners Distillate Response – More throughput versus higher yields
  - U.S. Refiners Gasoline Availability – Function of distillate response
  - World Availability of Export Gasoline – Europe, Asia and Middle East increasing
  - Needs of other countries for “imported” gasoline
- The demand trends imply downward pressure on gasoline prices and upward pressure on distillate.

Questions?