

# Oil Markets and the Future of Supply

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IHS Cambridge Energy Research Associates

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# Oil's Wild Decade

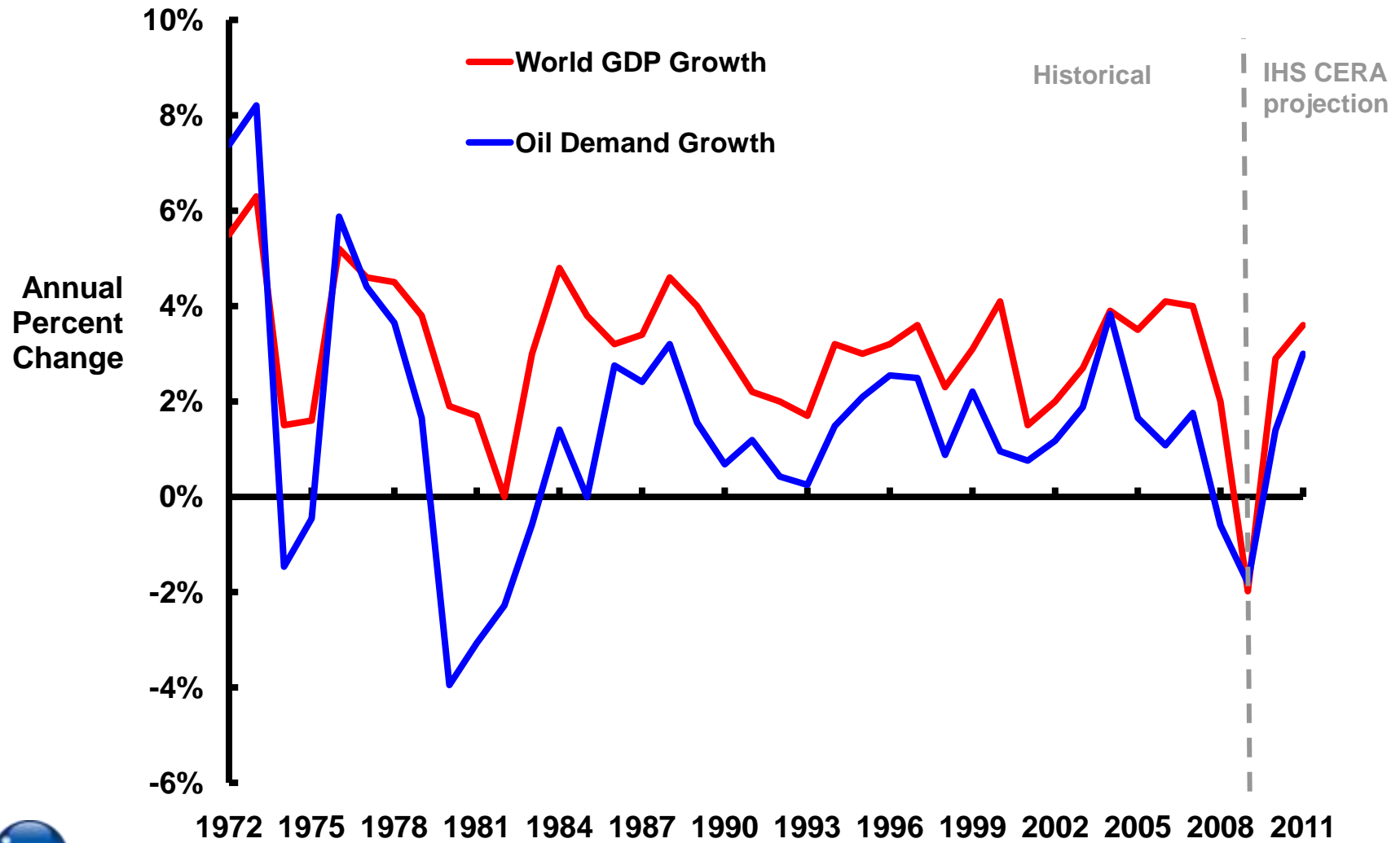
Light Sweet Crude Prices January 2000–January 2010



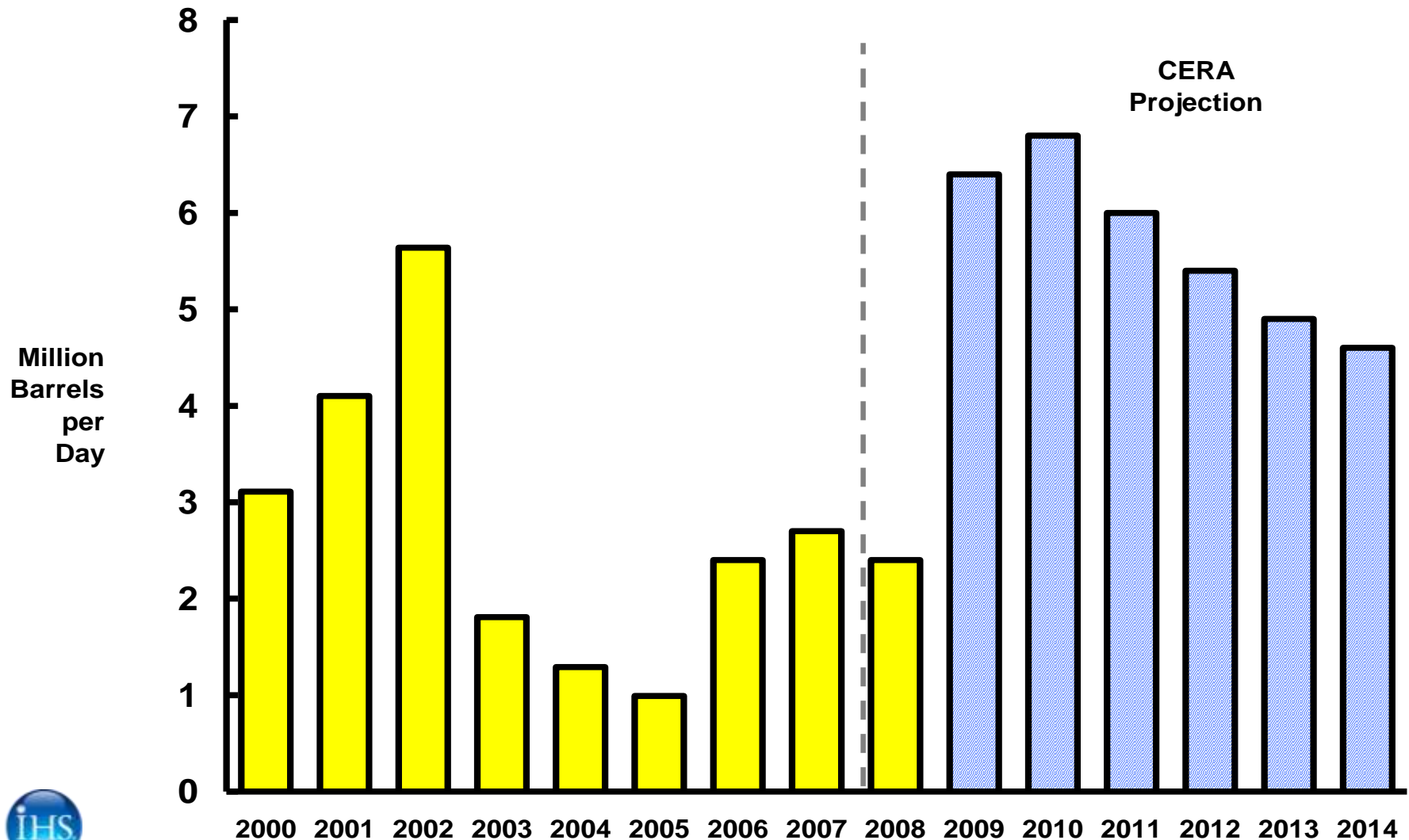
Source: Platts, IHS Cambridge Energy Research Associates.  
Note: Prices are daily West Texas Intermediate prices at Cushing, Oklahoma.



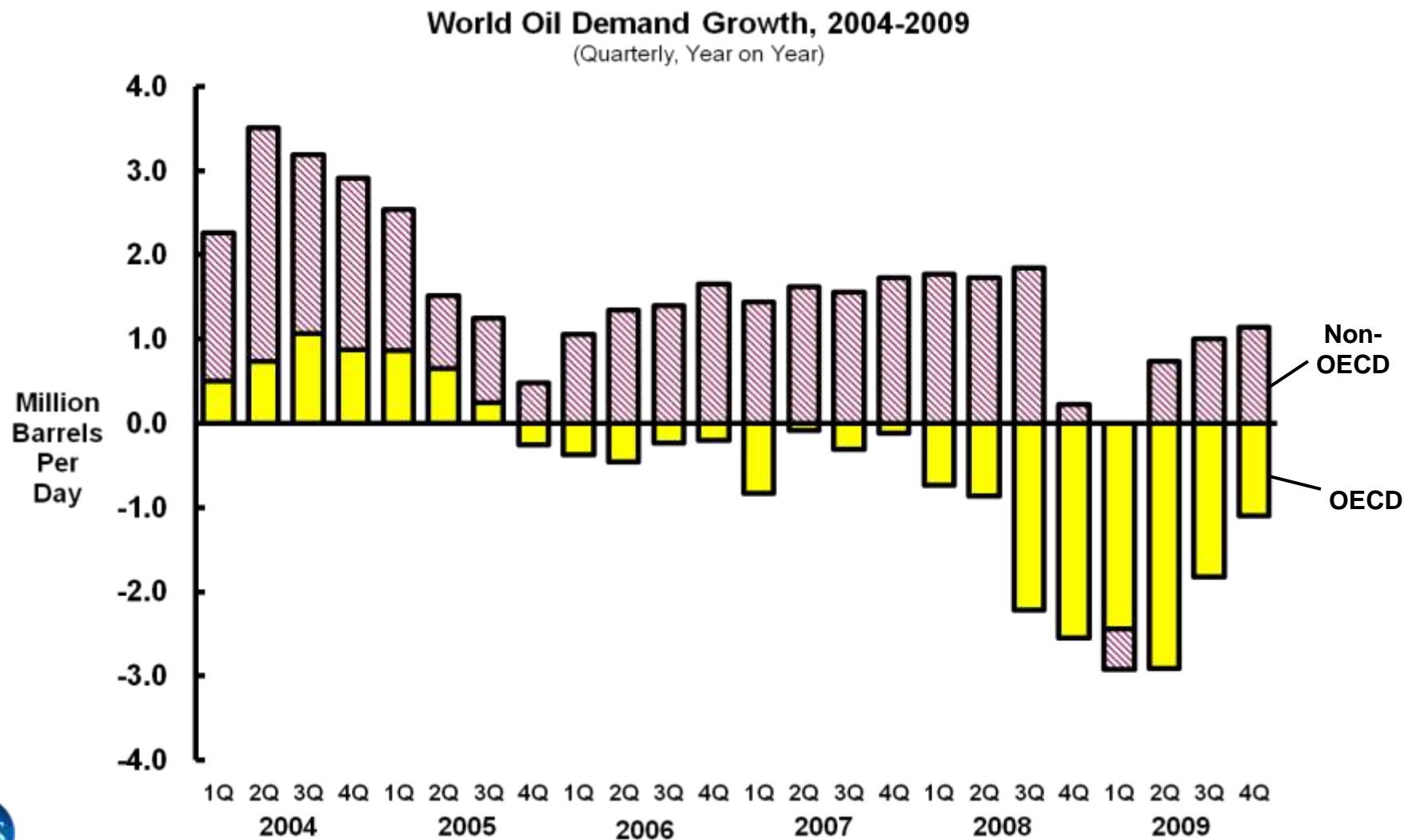
# Oil Demand Should Rebound with Global GDP



# OPEC Spare Crude Oil Production Capacity

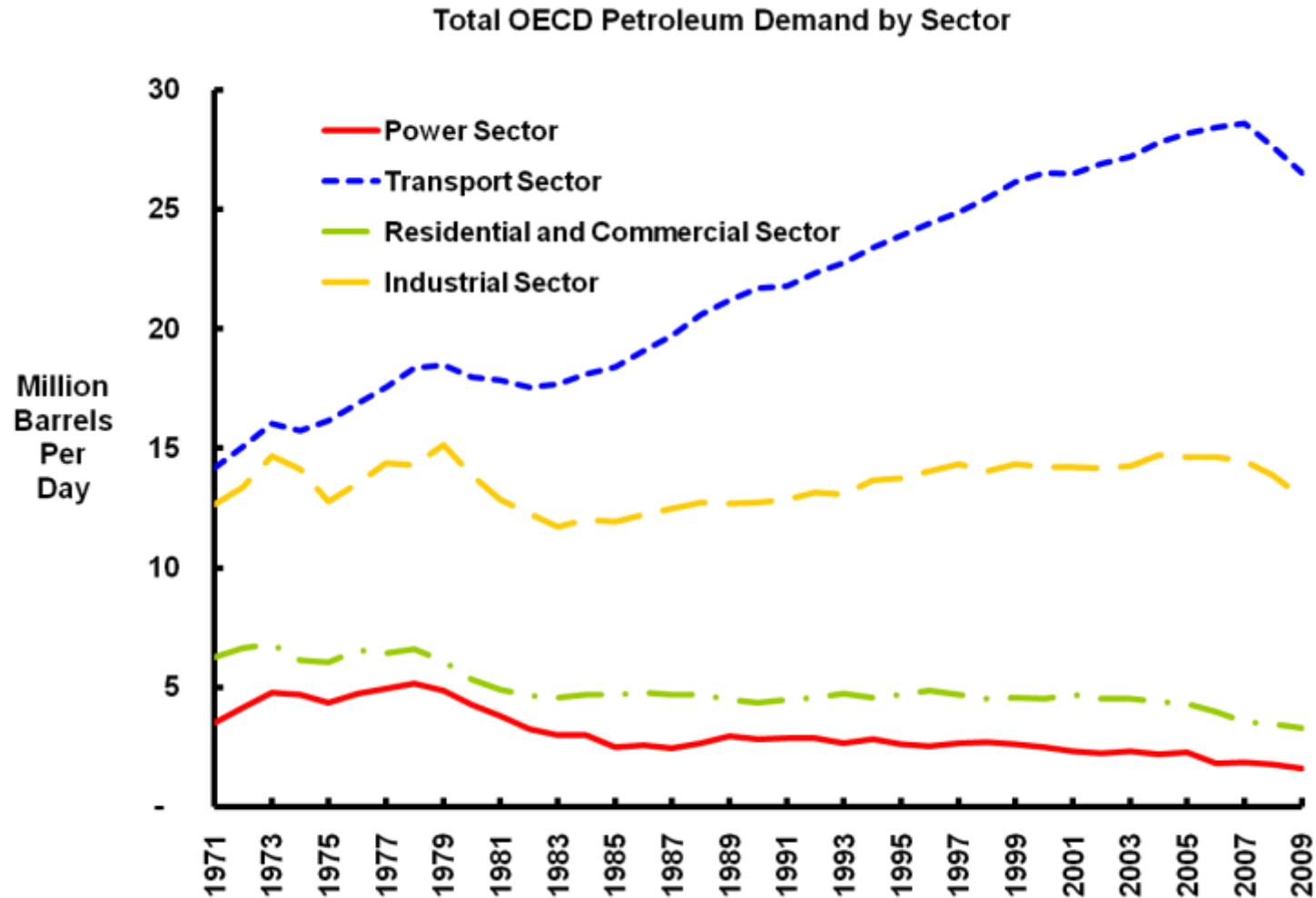


# Developing World the Engine of Global Oil Demand Growth



# Oil Demand Has Peaked in the OECD

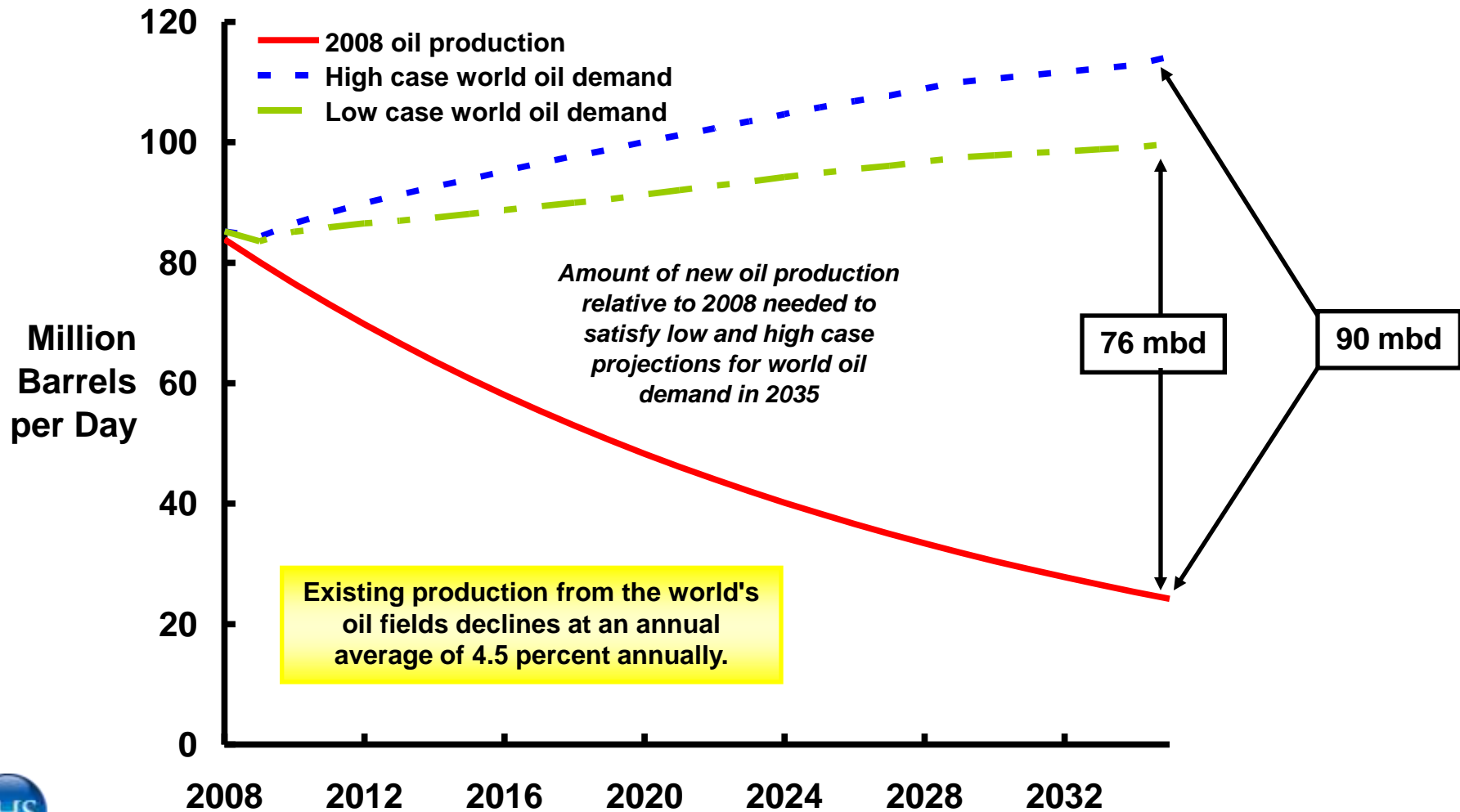
**Vehicle efficiency gains, demographics, substitution with natural gas and biofuels**



Source: International Energy Agency, IHS CERA



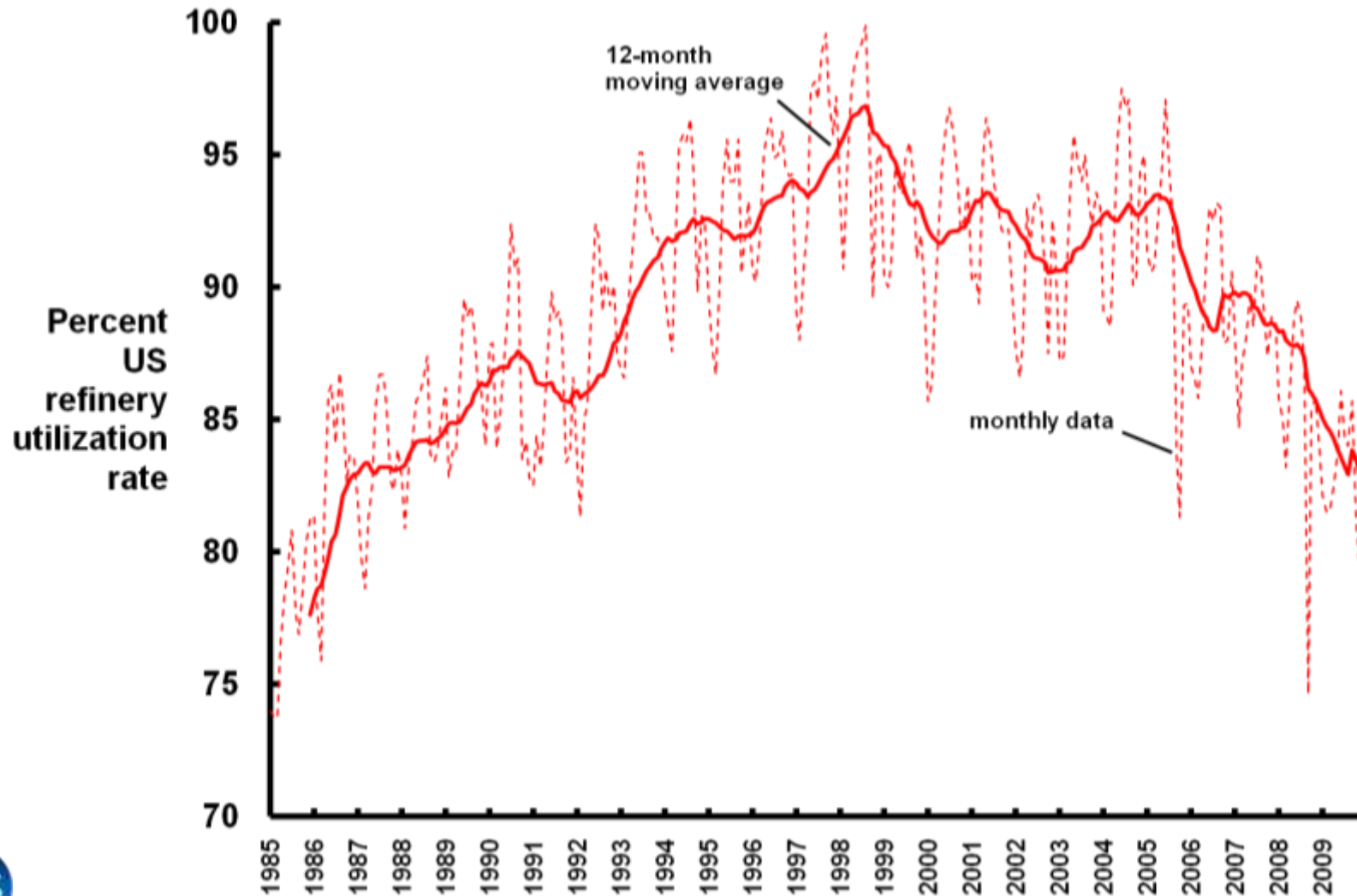
# Significant Investment Needed to Offset Oil Field Production Decline



Source: IHS Cambridge Energy Research Associates.

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# The Downstream Crisis: US Refinery Utilization at Lowest Level in 20 Years



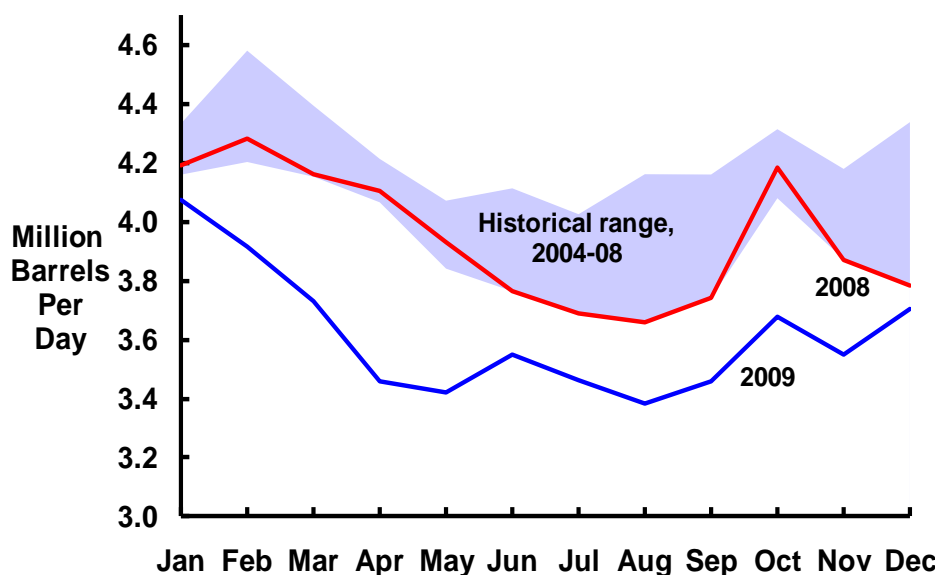
Source: US Energy Information Administration, IHS Cambridge Energy Research Associates

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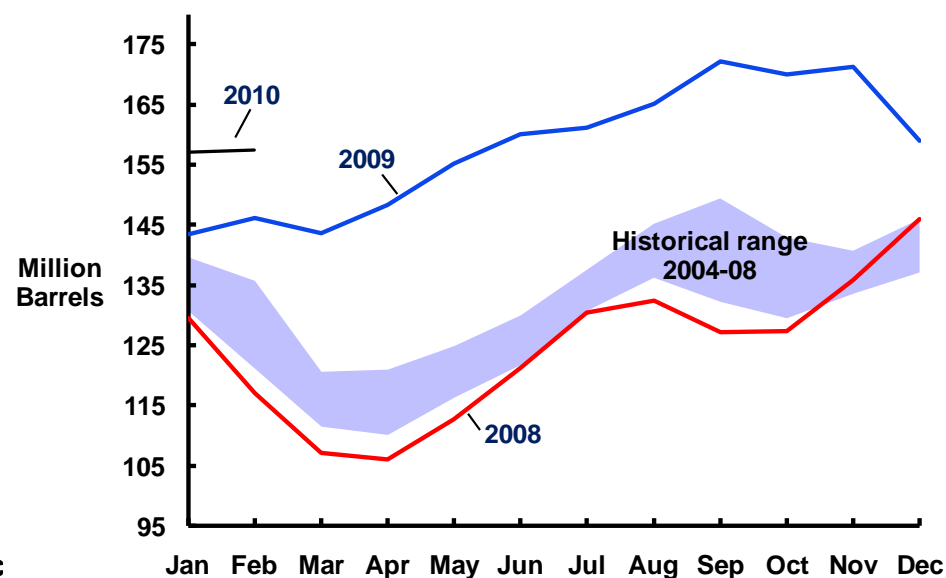


# Diesel Demand Has Yet to Revive— Biggest Short Term Obstacle to Recovery

US Distillate Demand



US Distillate Inventories

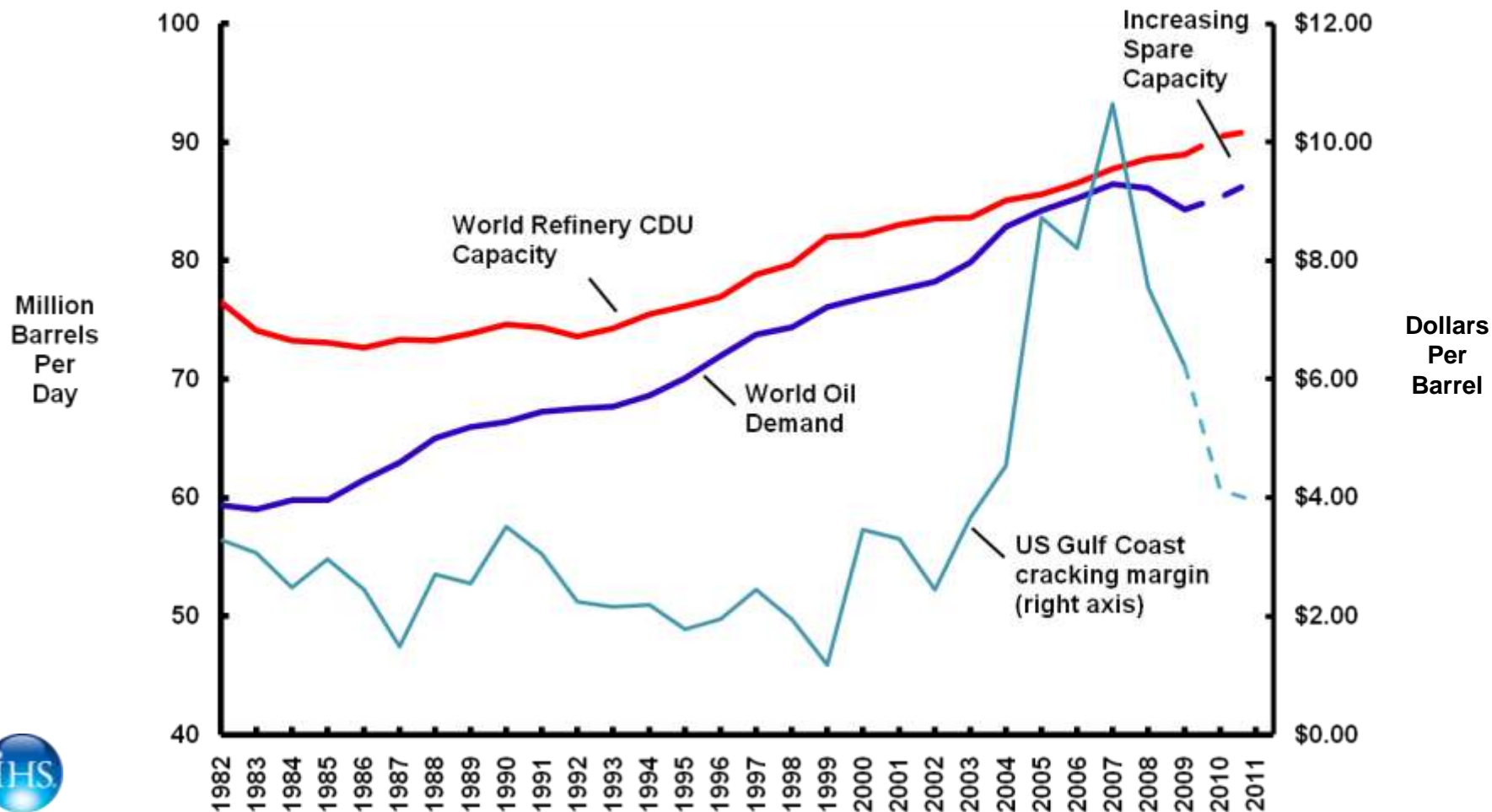


Source: IHS Cambridge Energy Research Associates, US Energy Information Administration

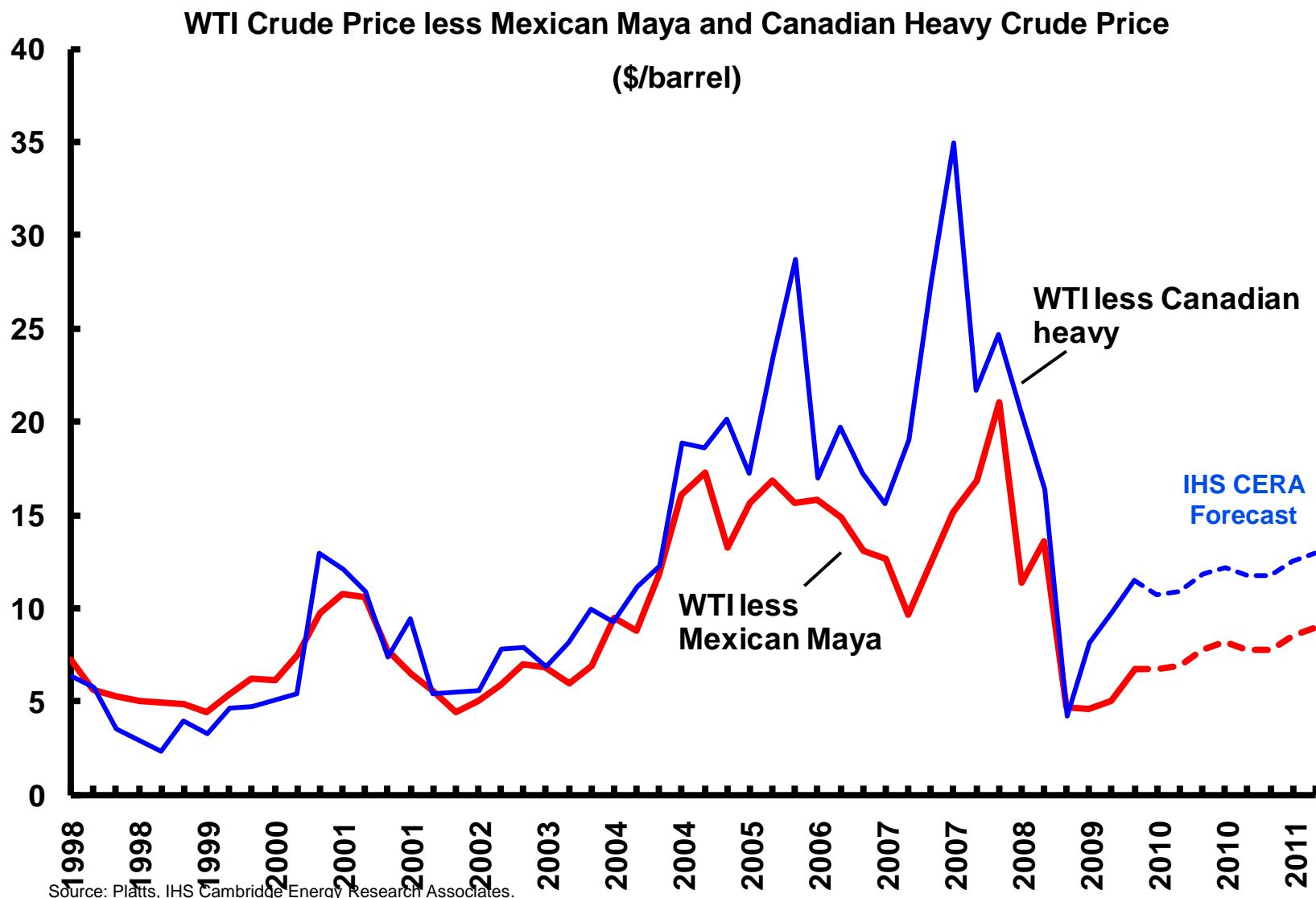


# Reducing Spare Capacity The Key To Returning Industry to Profitability

World Refining Capacity and Oil Demand, 1980-2011 (Projected)

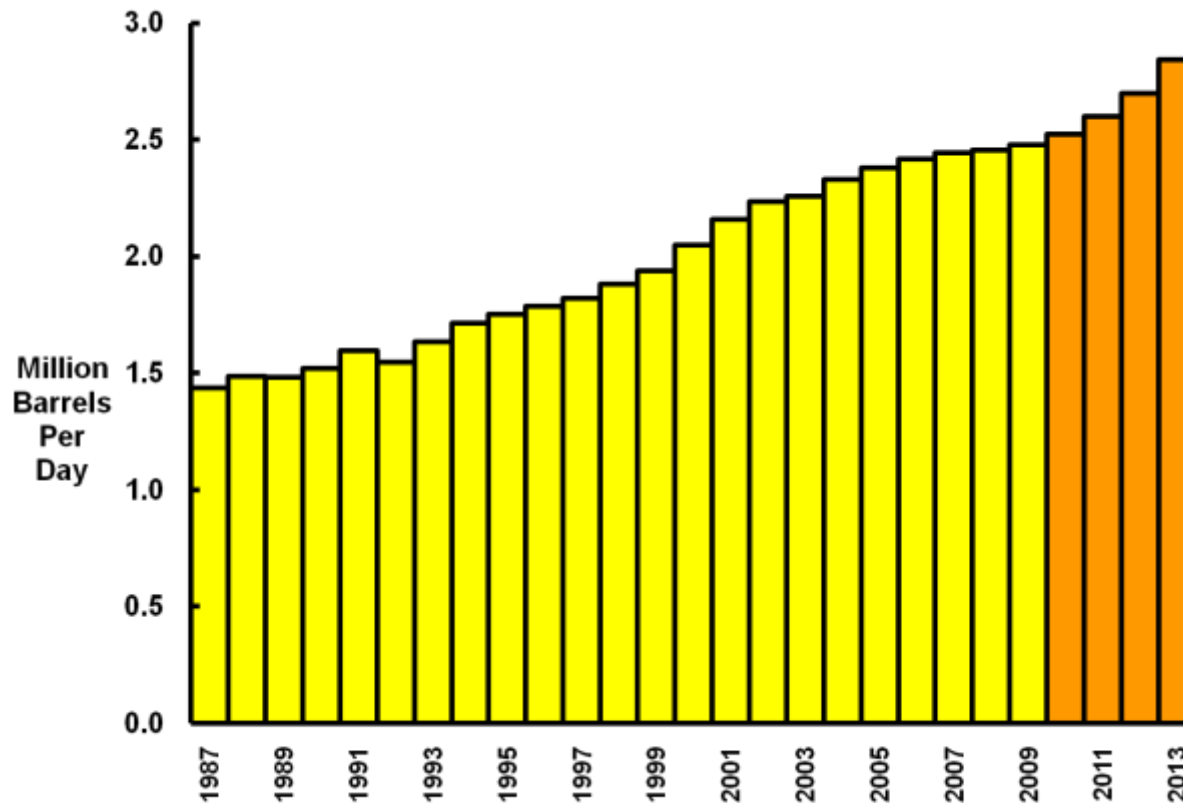


# Light-Heavy Crude Price Differentials Have Narrowed



# Paradigm Reversal for Heavy Sour Refining Economics?

US Coking Capacity, 1987-2013 (Projected)



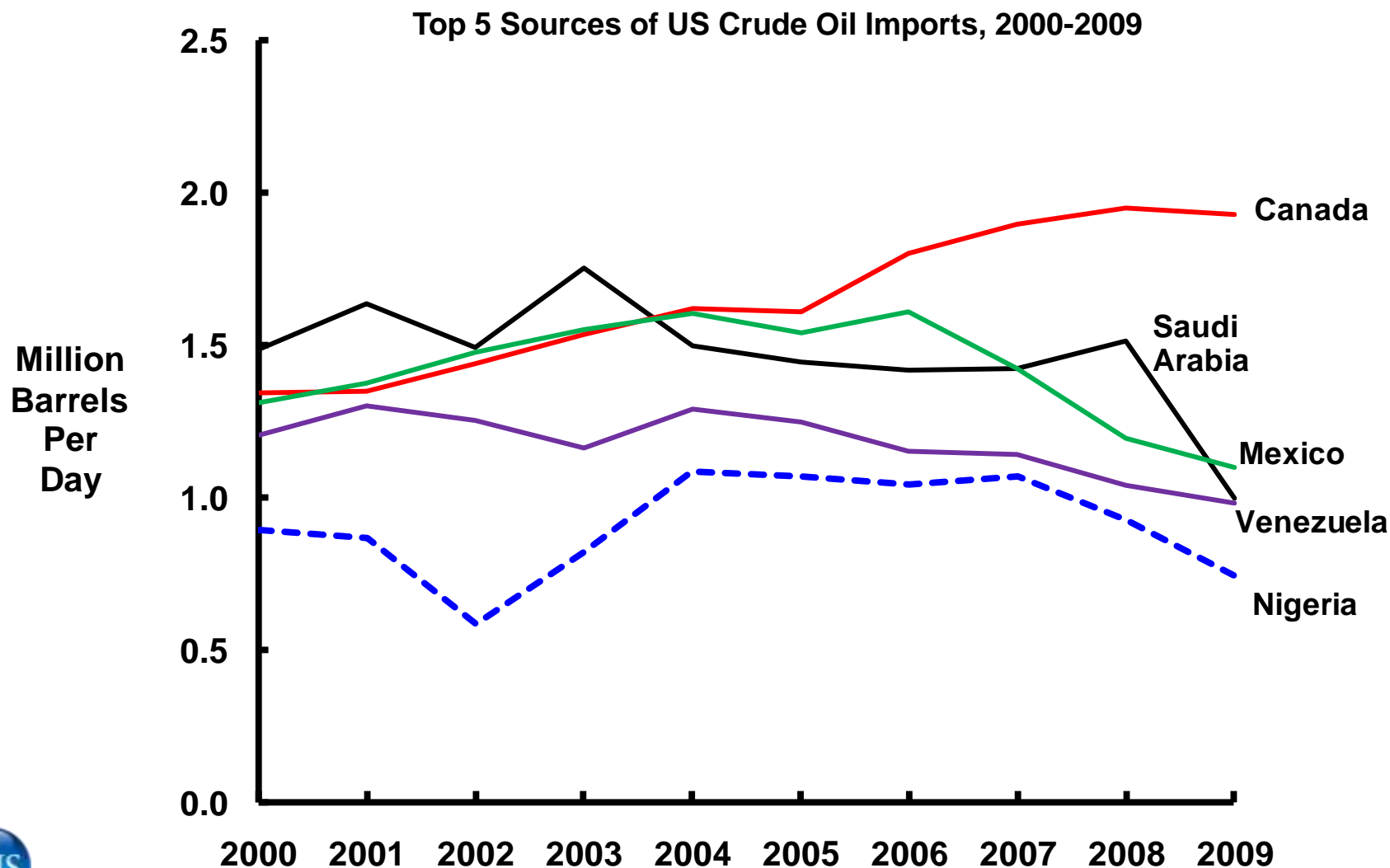
*Coking additions facing shortage of feedstock:*

- Declining Mexican production
- Stagnant/declining Venezuelan production
- Canadian oil sands project delays

Source: IHS Cambridge Energy Research Associates, US Energy Information Administration



# Canadian Oil Sands: An Increasingly Important Source of US Oil Supply



Source: IHS Cambridge Energy Research Associates, US Energy Information Administration



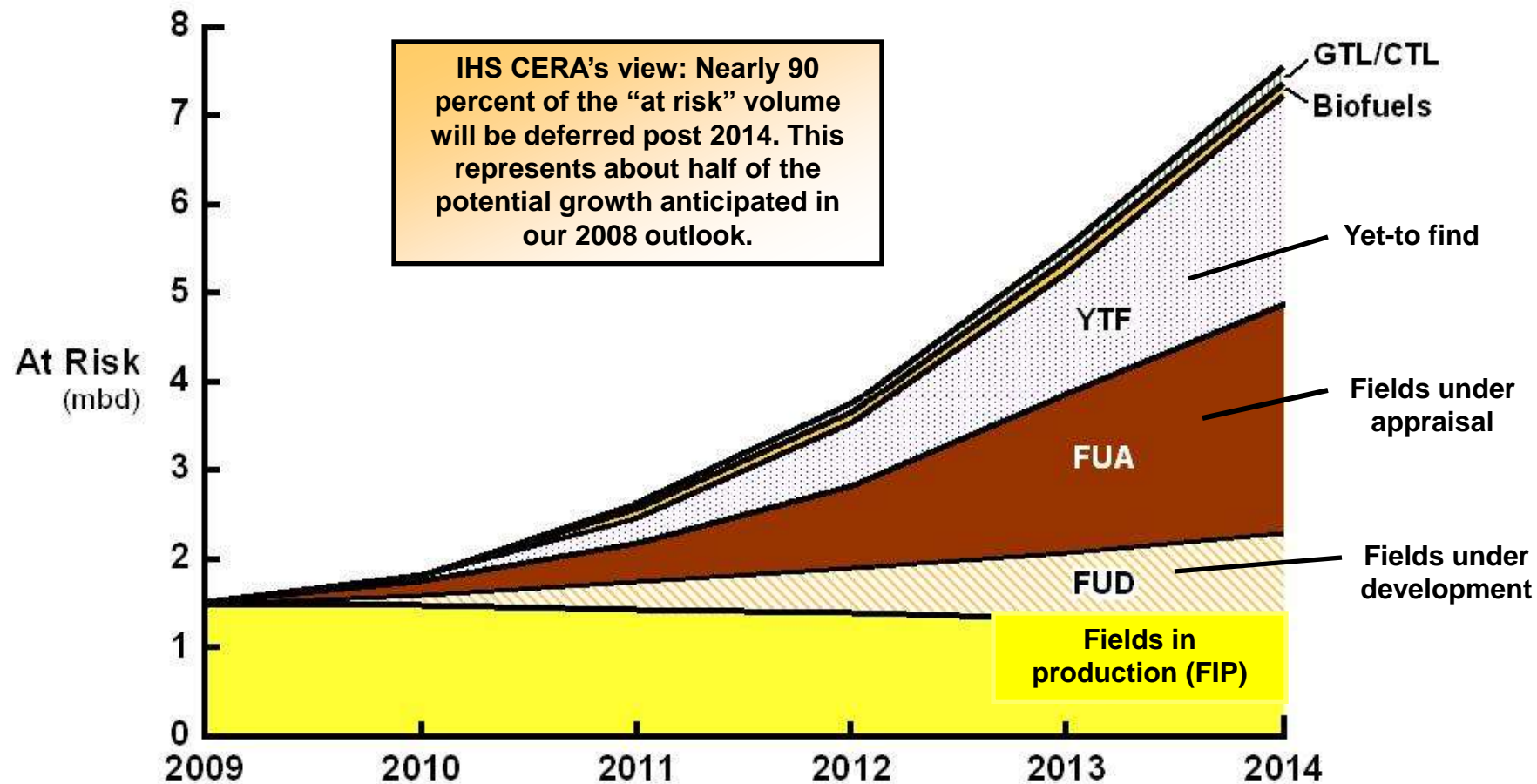
# Three Factors Supportive of Rising Prices to 2020

- **The Long Aftershock**
  - Deferment of oil supply projects because of poor economics and large surplus of production capacity could create a tightening balance between demand and production capacity after 2010
- **The O-15 (the Oil -15)**
  - Oil supply growth will become increasingly concentrated among the O-15 countries
  - The O-15 will have growing influence over pace of oil supply growth
- **The Refiners' New Diet**
  - Most of the growth in liquids supply to 2020 will consist of natural gas liquids and condensate; crude oil growth will be modest (assuming no sustained strong growth from Iraq)



Source: IHS Cambridge Energy Research Associates.

# The Long Aftershock: 7.6 Million Barrels per Day of World Supply Growth Are at Risk of Deferral by 2014



Source: IHS Cambridge Energy Research Associates.  
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# Long-Term the “Oil-15” Will Shape Oil Supply Growth

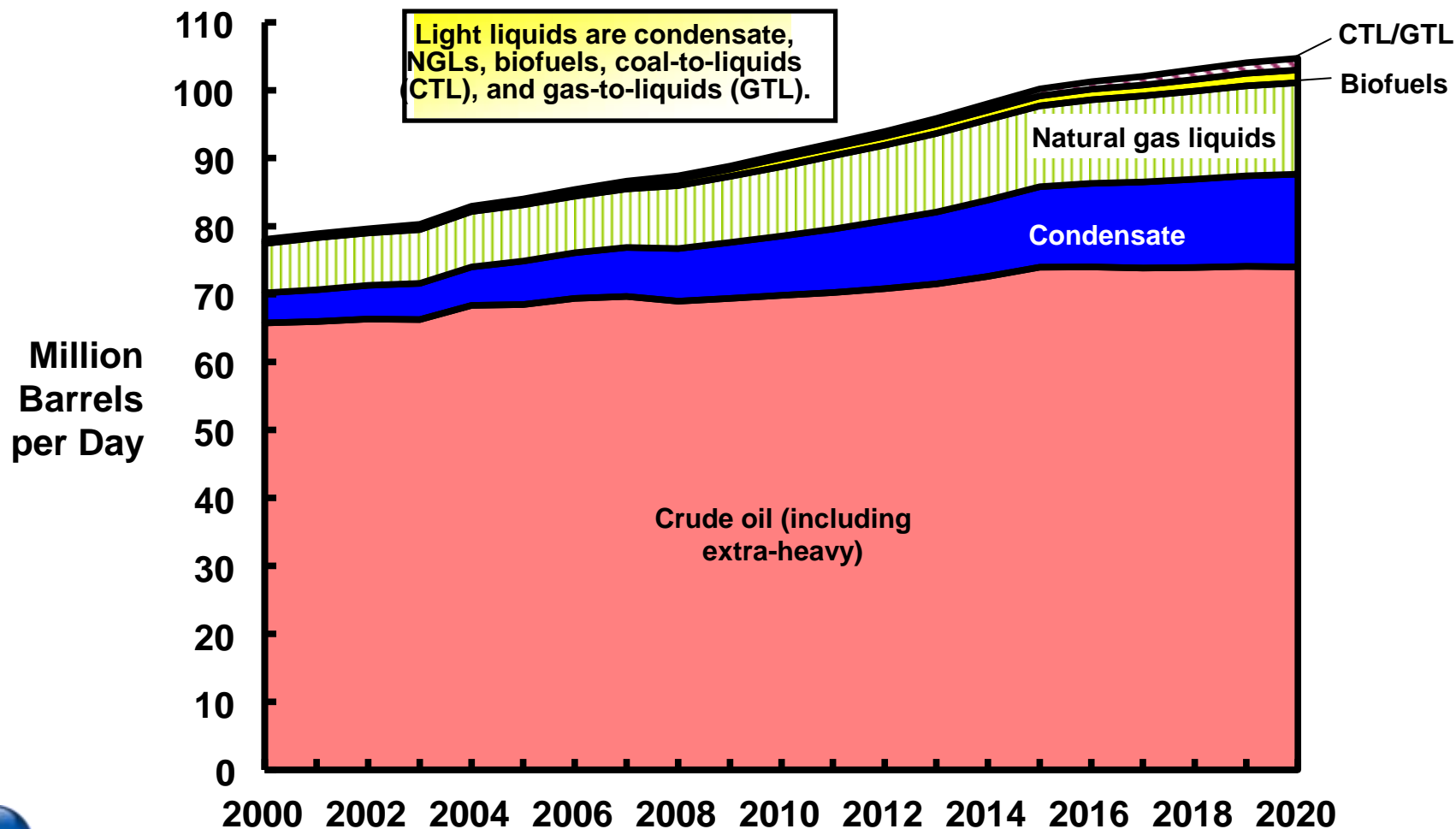
Countries shaded in yellow are the “O-15”, the 15 countries with the greatest potential to increase oil production to 2020



Source: IHS Cambridge Energy Research Associates.  
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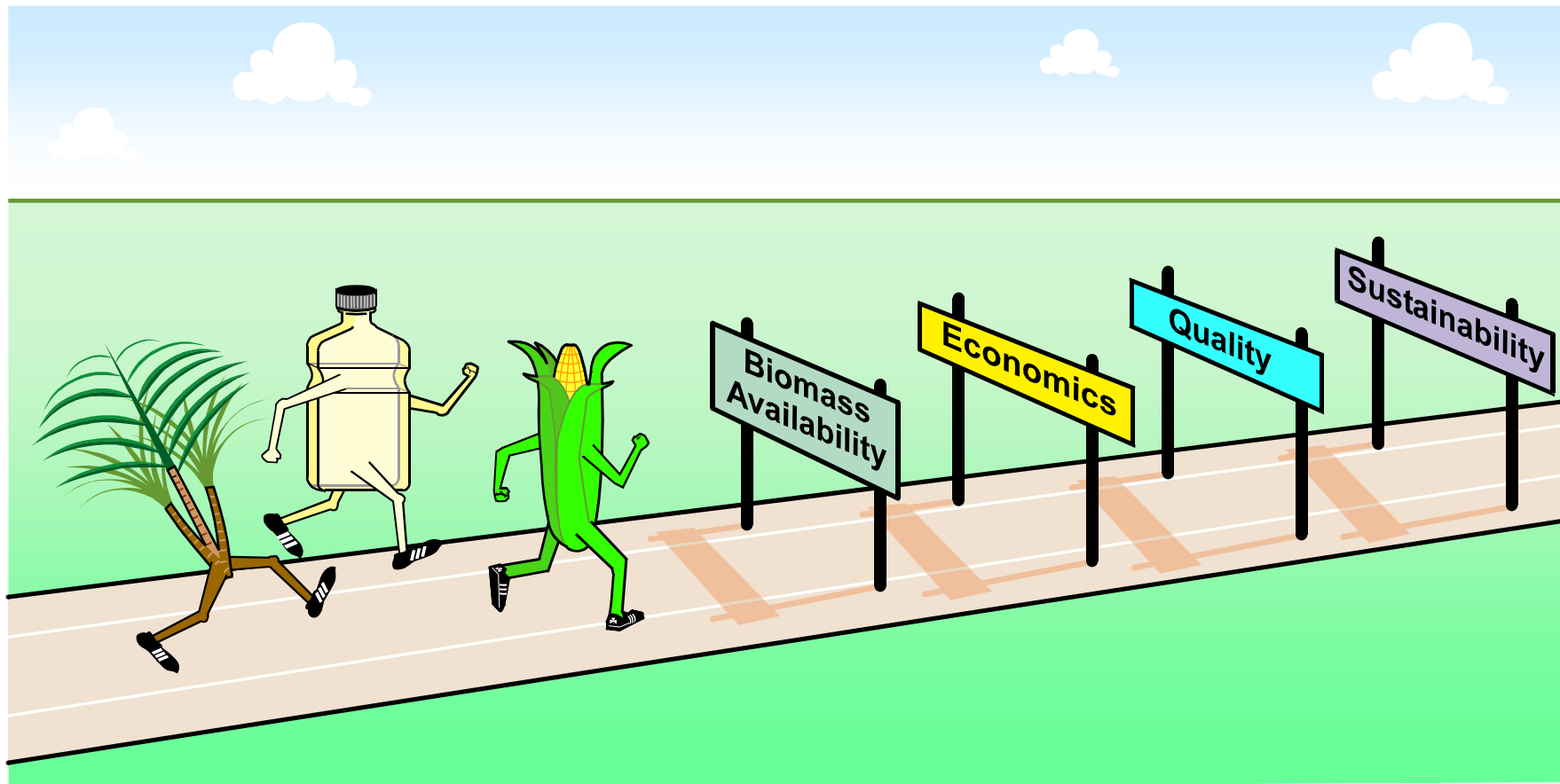
# The Refiners New Diet: Light Liquids Expected to Account for 70 Percent of Total Supply Growth from 2009 to 2020



Source: IHS Cambridge Energy Research Associates



# Can Alternatives Get Bigger? Four Key Hurdles for the Biofuel Industry



Source: Cambridge Energy Research Associates.  
80506-1

# World Oil Markets: Key Messages

- **Despite weakened demand and high spare capacity, prices between \$70 and \$80 are explainable by the need for high-cost investment to meet future demand growth.**
- **Refining sector facing biggest crisis since early 1980s. More closures should be expected. Light-heavy crude price differentials expected to remain narrow for several years.**
- **Upward pressures are building on oil prices this decade**
  - Boomerang effect of deferred investment from the economic crisis
  - Concentration of supply in fewer and more geopolitically unstable countries
  - Changing composition of raw material liquid supply towards gas-related liquids could put a squeeze on conventional crude supplies

