



---

# BP Statistical Review of World Energy 2008

Mark Henstridge  
Director, Group Economics  
November, 2008

© BP 2008

## Outline



- Global fuel mix
- Economic growth and energy prices
- Policy 'above the ground'
- Technology

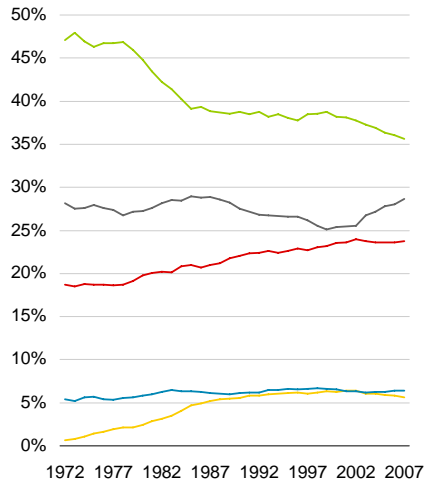
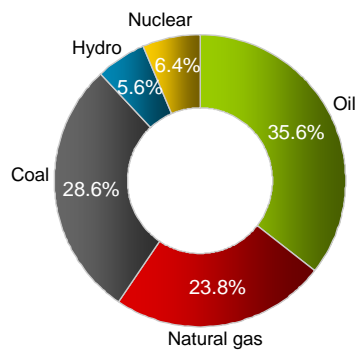
[www.bp.com/statisticalreview](http://www.bp.com/statisticalreview)

---

BP Statistical Review of World Energy 2008

© BP 2008

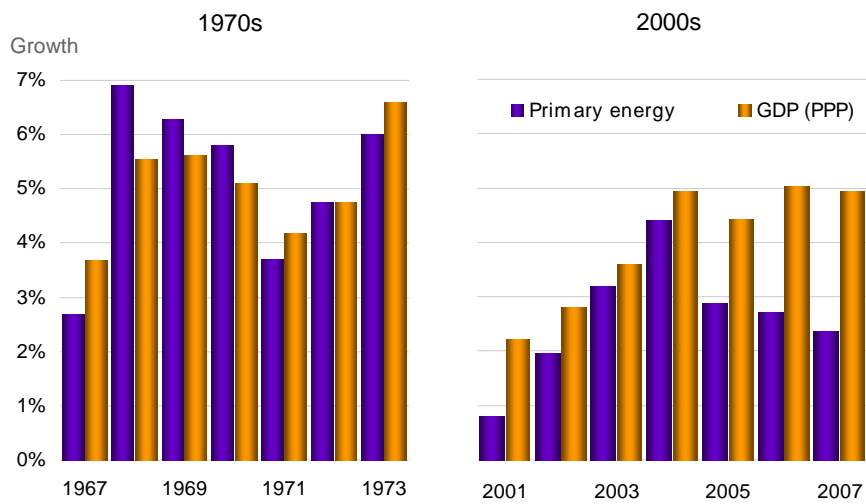
## World Fuel Shares



BP Statistical Review of World Energy 2008

© BP 2008

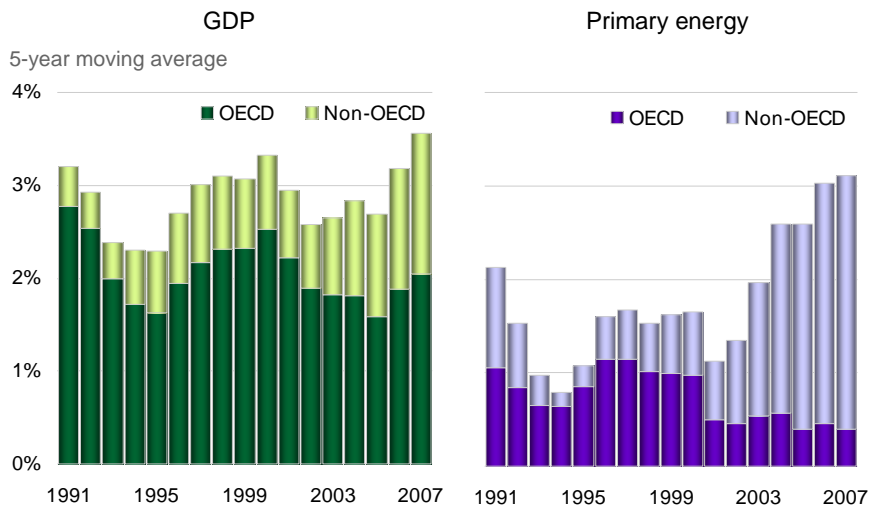
## GDP and Primary Energy Growth



BP Statistical Review of World Energy 2008

© BP 2008

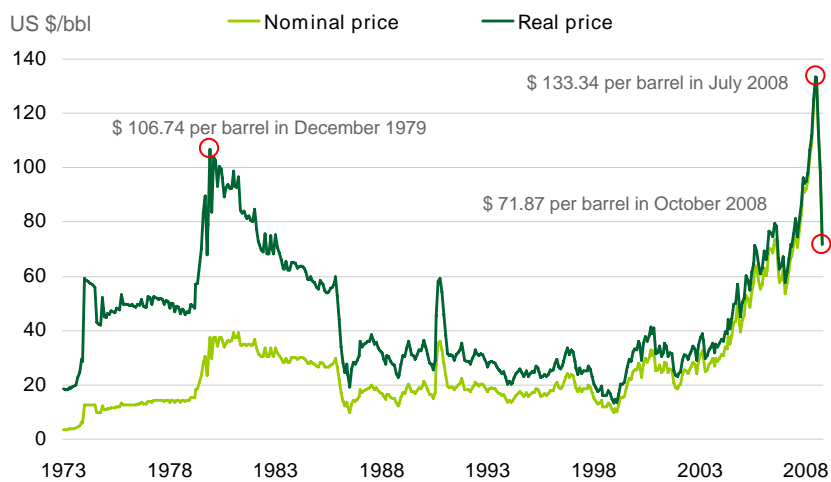
## Contributions to Growth



BP Statistical Review of World Energy 2008

© BP 2008

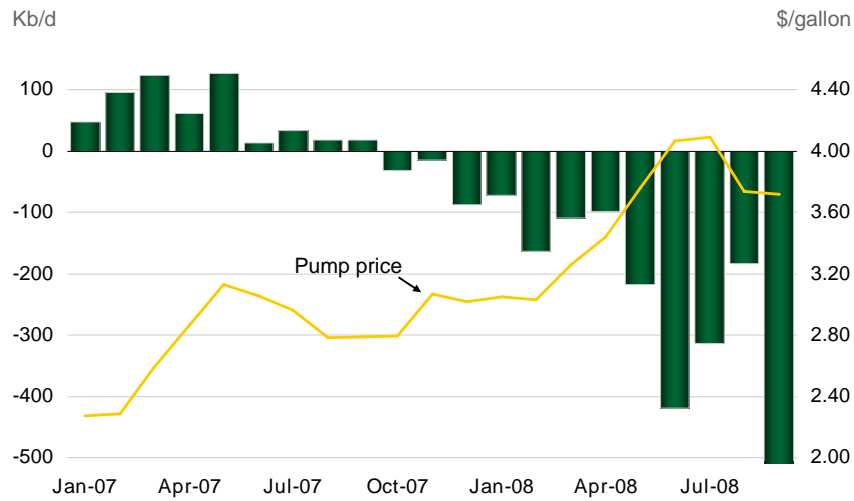
## Brent Real and Nominal Prices



BP Statistical Review of World Energy 2008

© BP 2008

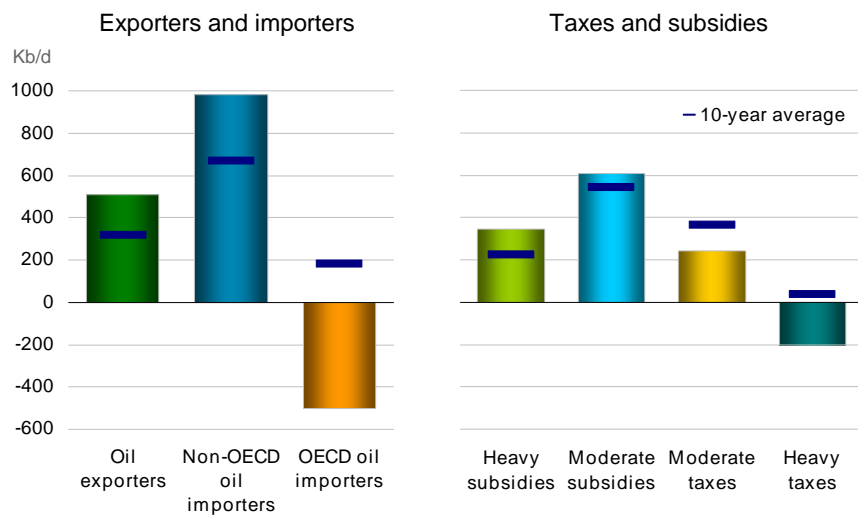
## US Gasoline Consumption Growth



BP Statistical Review of World Energy 2008

Source: EIA  
© BP 2008

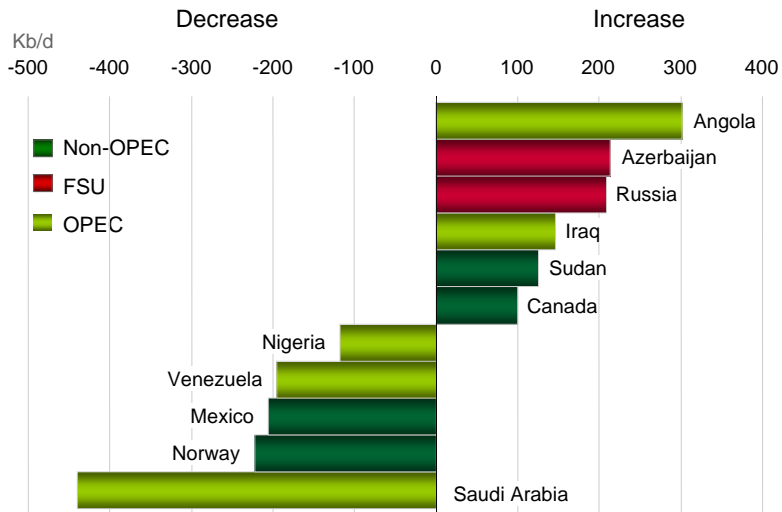
## Global Oil Consumption Growth



BP Statistical Review of World Energy 2008

© BP 2008

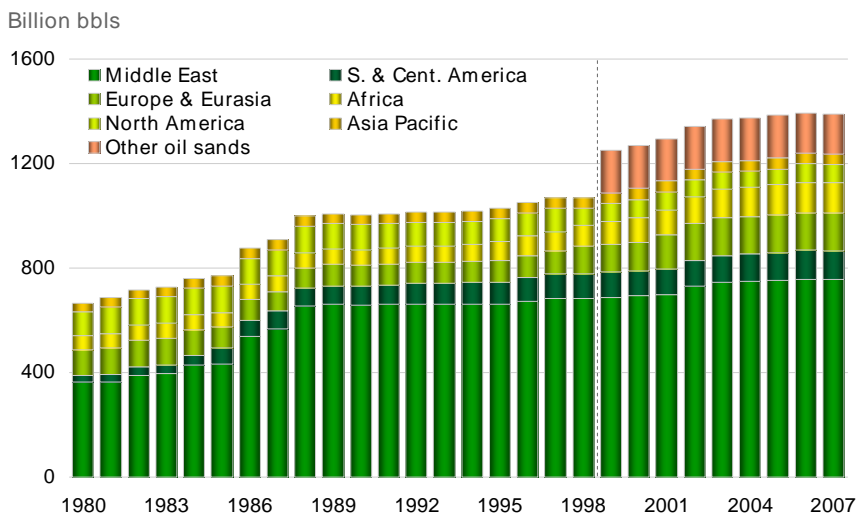
## 2007 Oil Production: Largest Changes



BP Statistical Review of World Energy 2008

© BP 2008

## Global Oil Reserves



BP Statistical Review of World Energy 2008

© BP 2008

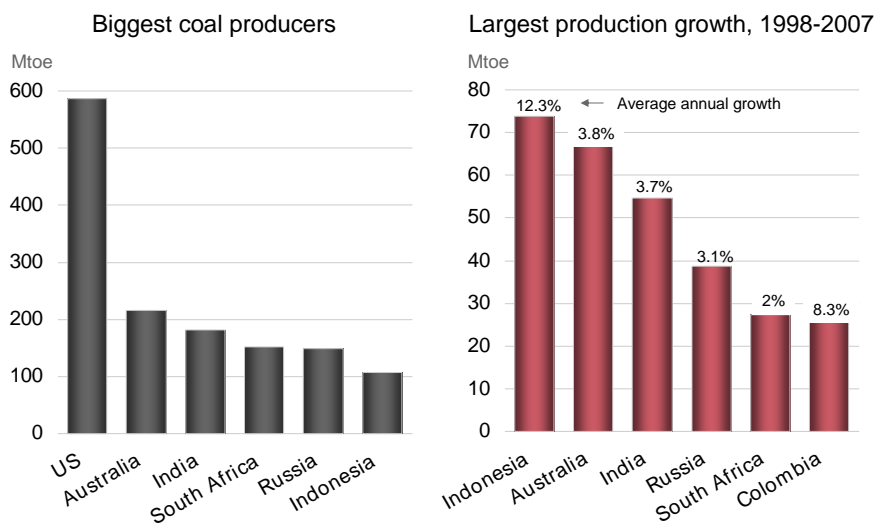
## 2007 LNG Market Diversification



BP Statistical Review of World Energy 2008

Source: Cedigaz  
© BP 2008

## Coal Production Outside China



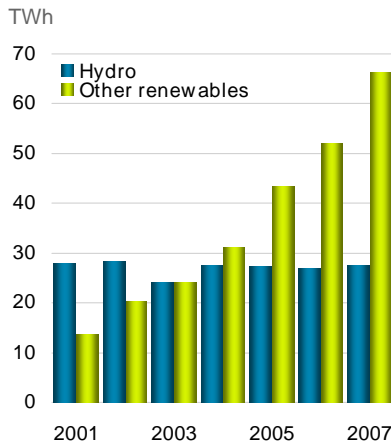
BP Statistical Review of World Energy 2008

© BP 2008

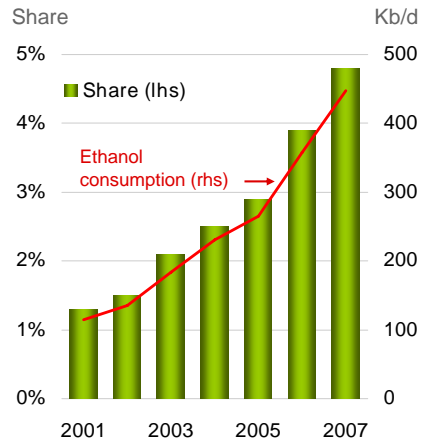
# Renewables



Electricity generation in Germany



Volume of ethanol in US gasoline



BP Statistical Review of World Energy 2008

Sources: BDEW, EIA  
© BP 2008

# BP's long-term technology development



## Resource business extensions



Options:

- Maximise recovery
- Arctic
- Ultra deepwater
- Unconventional oil and gas

## Conversion technologies



Options:

- Heavy oil upgrading
- Coal gasification
- Natural gas reforming
- Syngas conversion

## Low carbon technologies



Options:

- Alternative Energy (hydrogen power, solar, wind)
- Advanced biofuels
- Demand side reduction

BP Statistical Review of World Energy 2008

© BP 2008

## Options to reduce CO<sub>2</sub> emissions by 2050



### SUPPLY SIDE

- CCS fossil fuel power generation
- Nuclear
- Onshore and offshore wind
- Biomass IGCC and co-combustion
- Solar PV
- CSP
- Coal: IGCC
- Coal: ultra-supercritical
- Second generation biofuels



### DEMAND SIDE

- Energy efficiency: buildings/appliances
- Energy efficiency: transport
- CCS in industry
- Second generation biofuels
- Electric and plug-in vehicles
- H<sub>2</sub> fuel cell vehicles
- Industrial motor systems
- Heat pumps
- Solar space and water heating

Reference: IEA Energy Technology Perspectives 2008

## Conclusion



- High economic growth and improvements in energy intensity
- Importance of developing world
- Oil market constrained, gas market integrating, global coal market emerging
- Prices are effective, where allowed to work





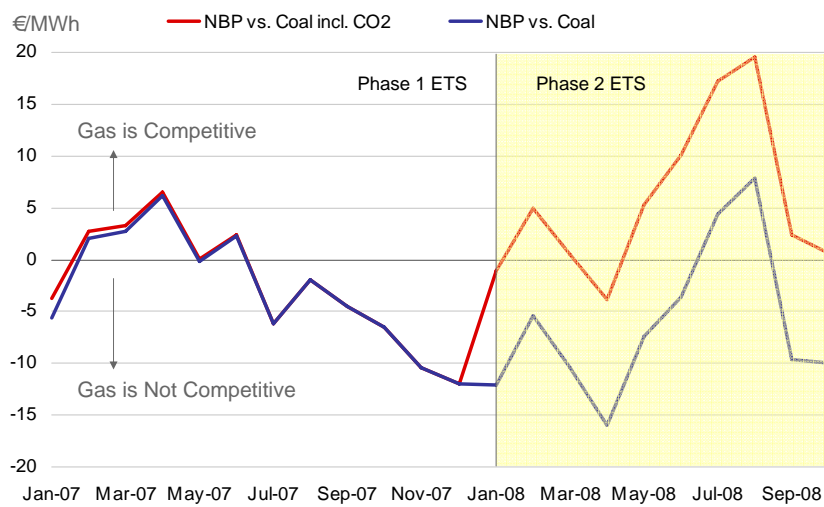
# BP Statistical Review of World Energy June 2008

November, 2008

[www.bp.com/statisticalreview](http://www.bp.com/statisticalreview)

© BP 2008

## European Gas and Coal Competition in Power Generation

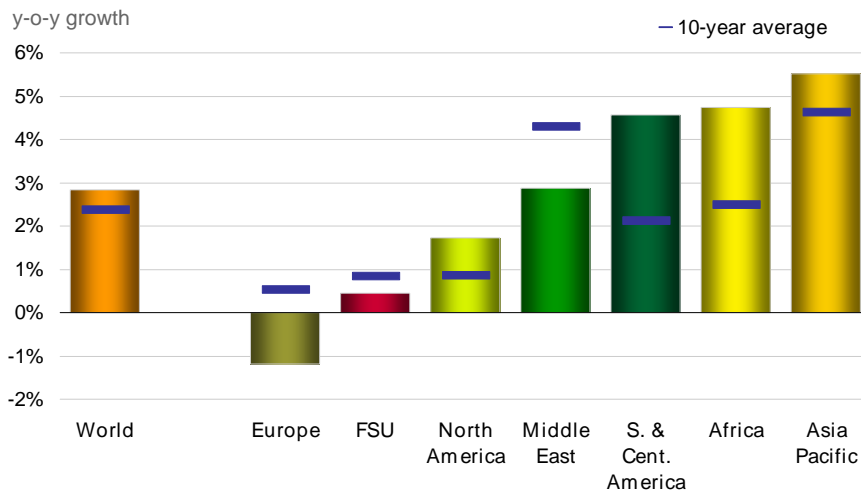


BP Statistical Review of World Energy 2008

Sources: Platts, European Climate Exchange, McCloskey

© BP 2008

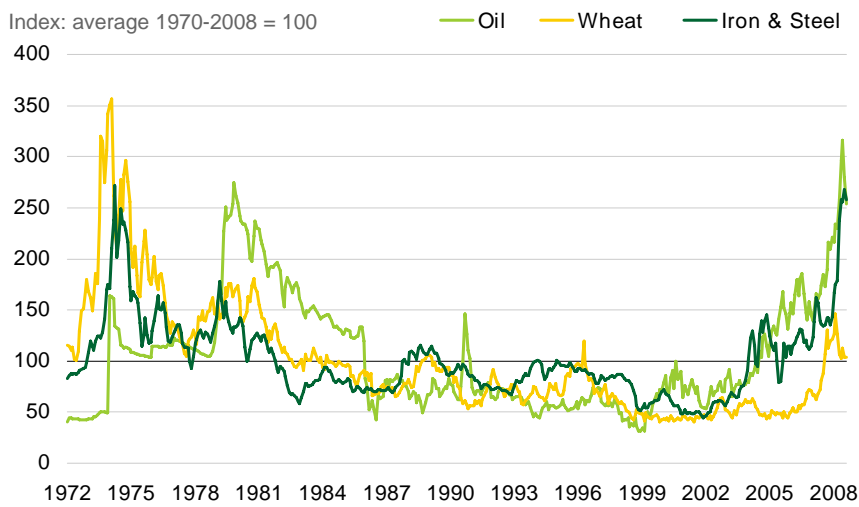
## 2007 Carbon Emissions Growth



BP Statistical Review of World Energy 2008

© BP 2008

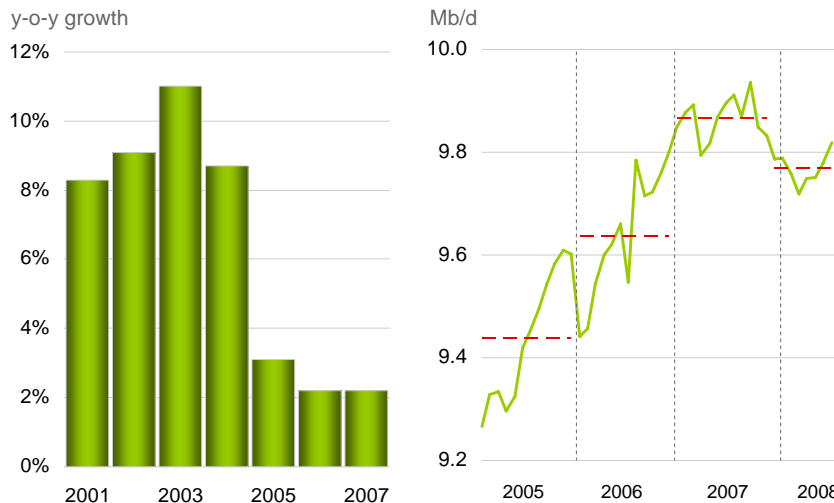
## Real Commodity Prices



BP Statistical Review of World Energy 2008

© BP 2008

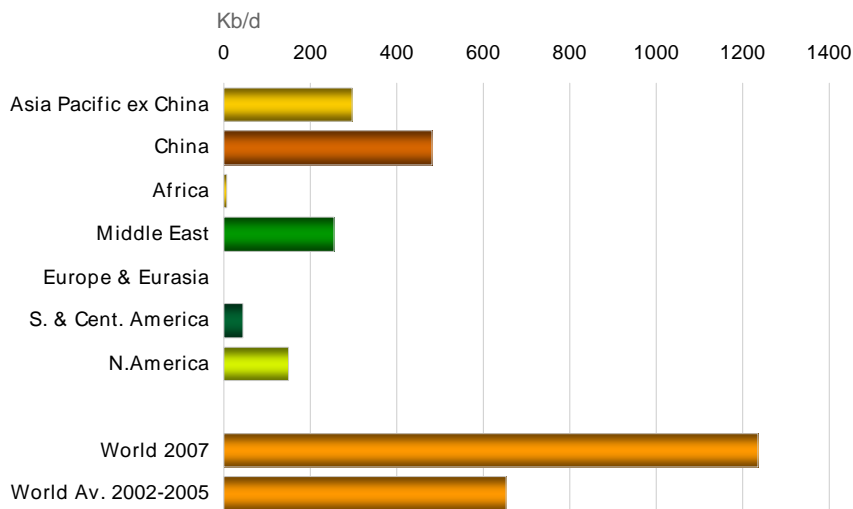
## Russian Oil Production



BP Statistical Review of World Energy 2008

Source: Russian Ministry of Industry and Energy  
© BP 2008

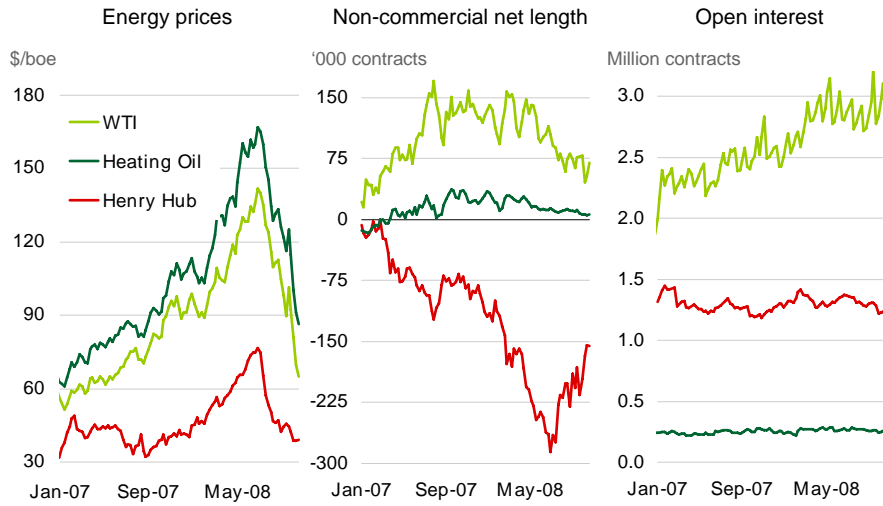
## 2007 Refining Capacity Additions



BP Statistical Review of World Energy 2008

© BP 2008

# Financial Investment in Energy



BP Statistical Review of World Energy 2008

Sources: CFTC, Platts  
© BP 2008