

# BP Statistical Review of World Energy

June 2013

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## Energy in 2012 – Adapting to a changing world

**Mark Finley**  
General Manager, Global Energy Markets





# Outline

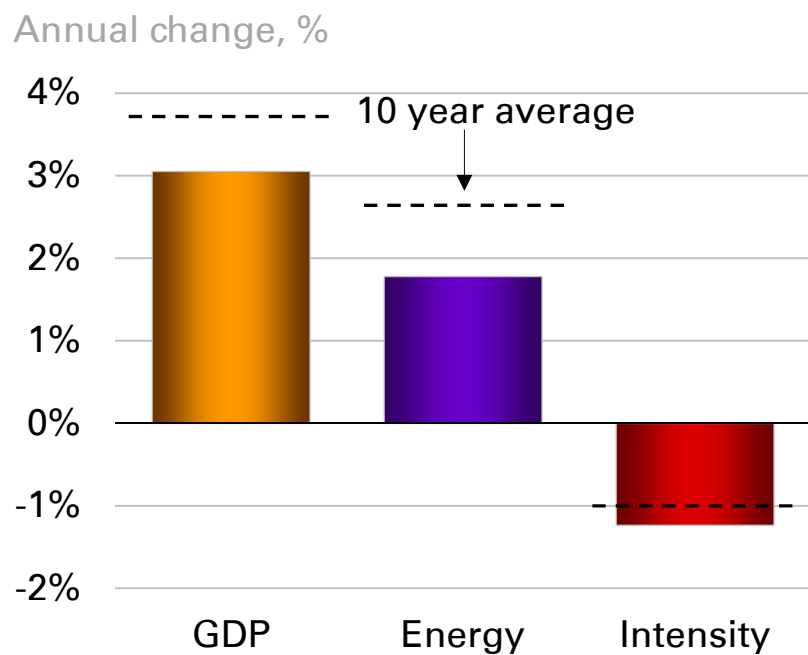
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- Introduction
- 2012 in long-term context
- Fuel by fuel
- Concluding remarks

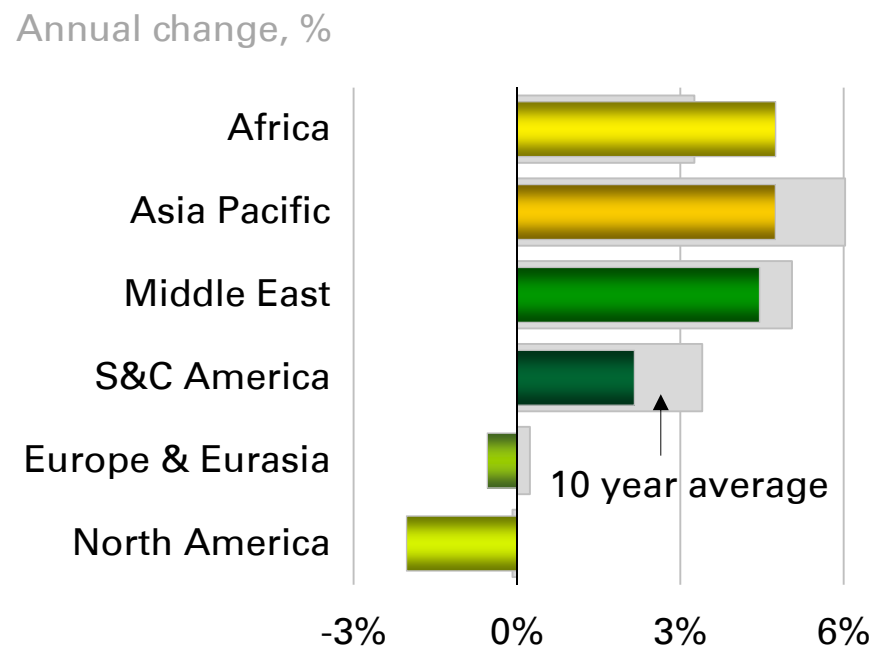


# Energy in 2012

### Energy and GDP



### Energy growth by region



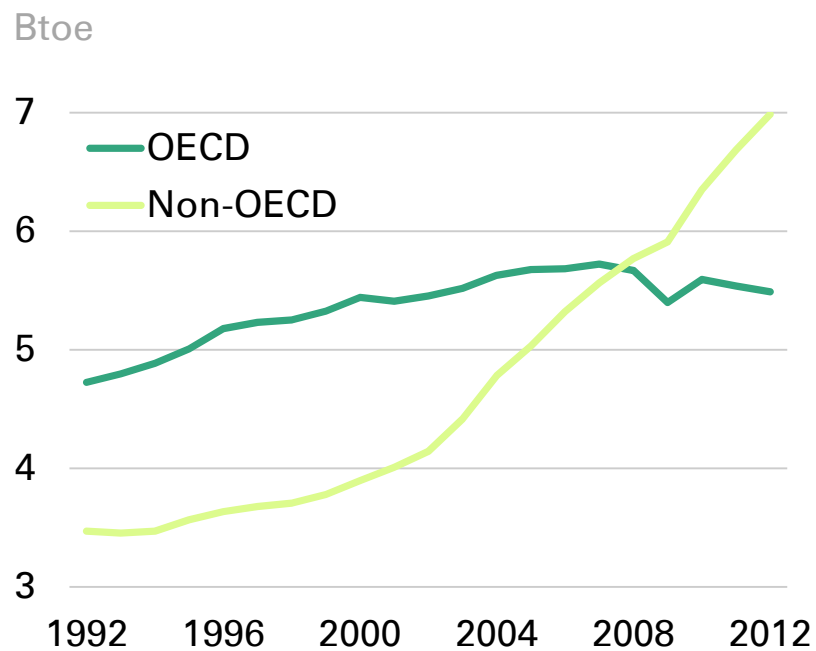
Source: includes data from Oxford Economics

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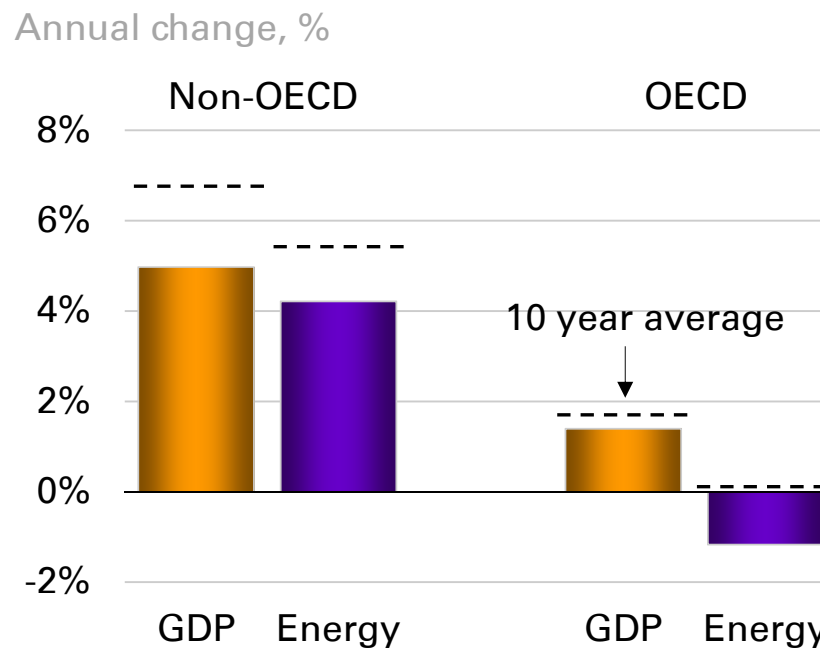


# Long-term energy trends

### Primary energy demand



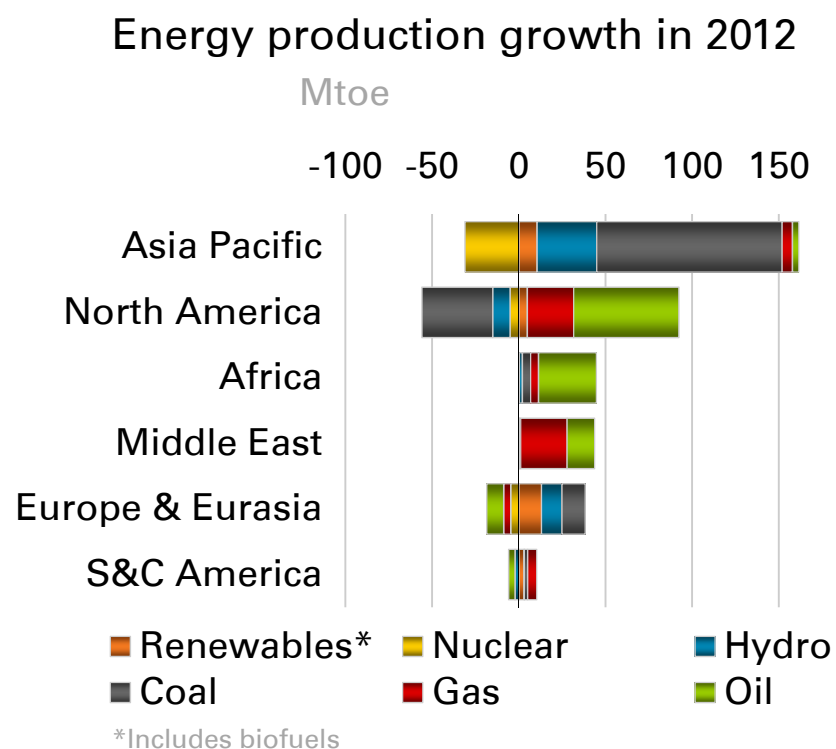
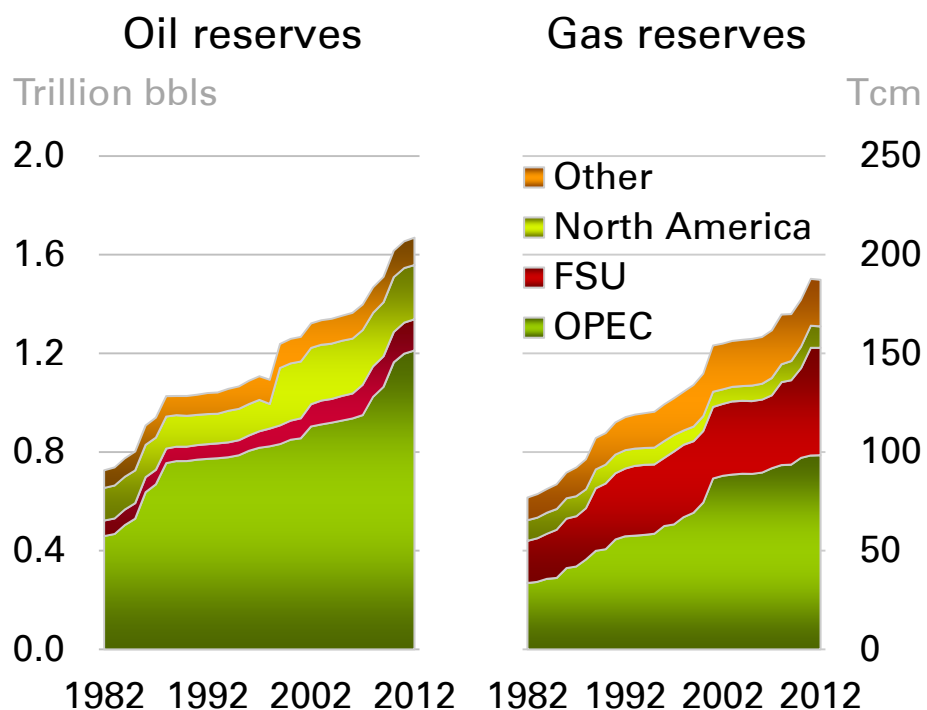
### Energy and GDP in 2012



Source: includes data from Oxford Economics

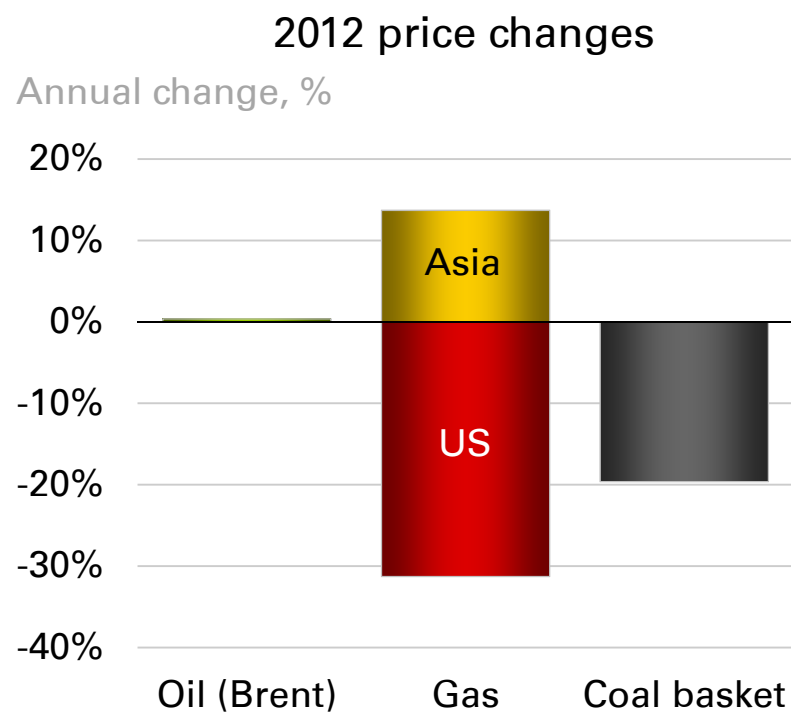
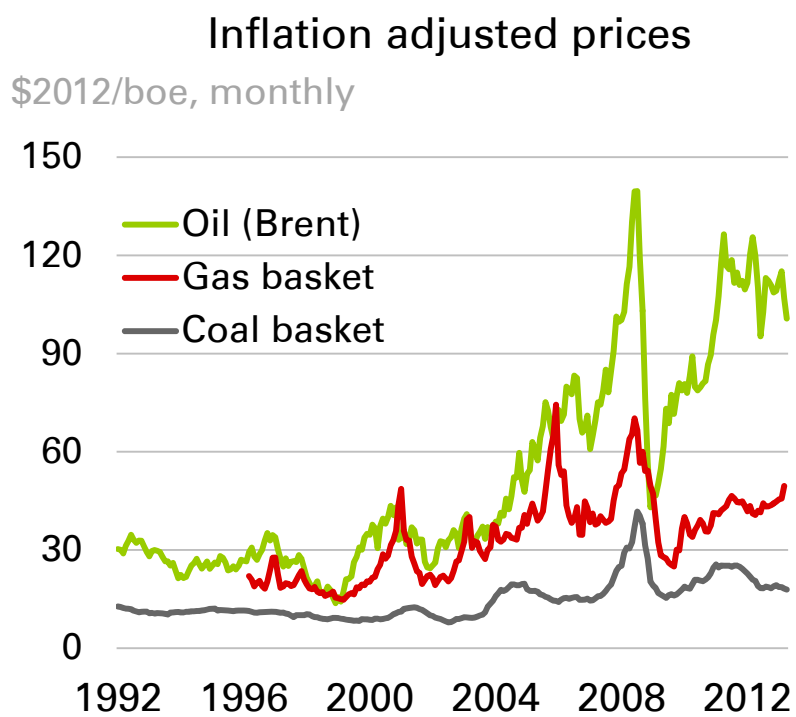


# Reserves and production





# Energy prices



Source: includes data from ICIS Heren Energy and Energy Intelligence Group, McCloskey and Platts

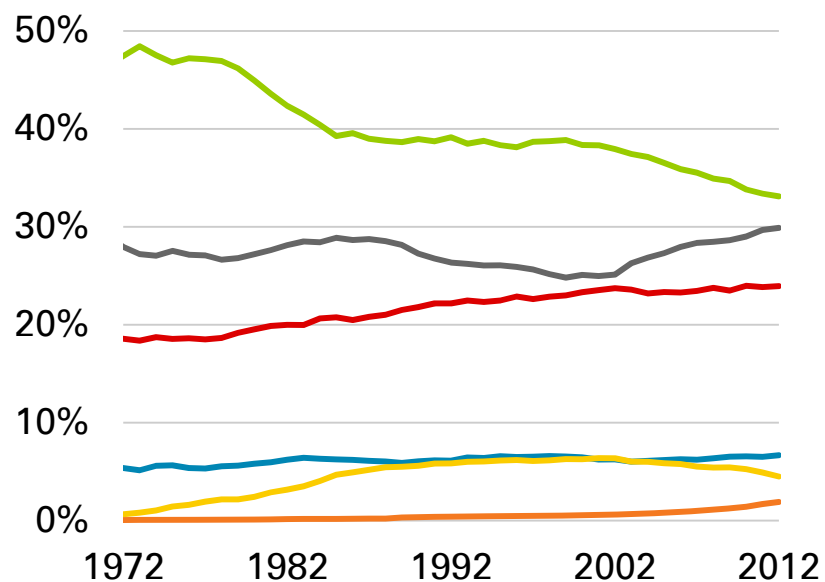
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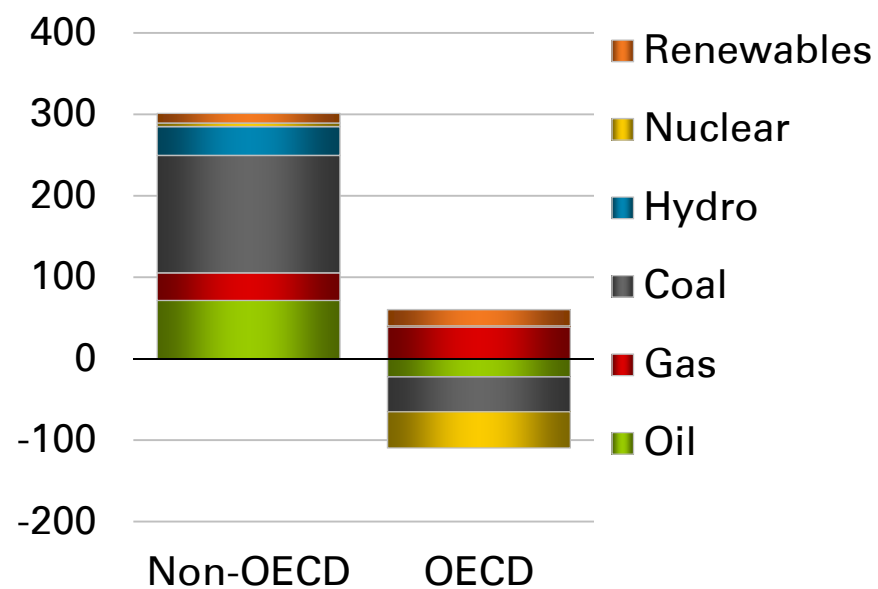
# The evolving fuel mix

### Shares of global primary energy



### 2012 energy consumption changes

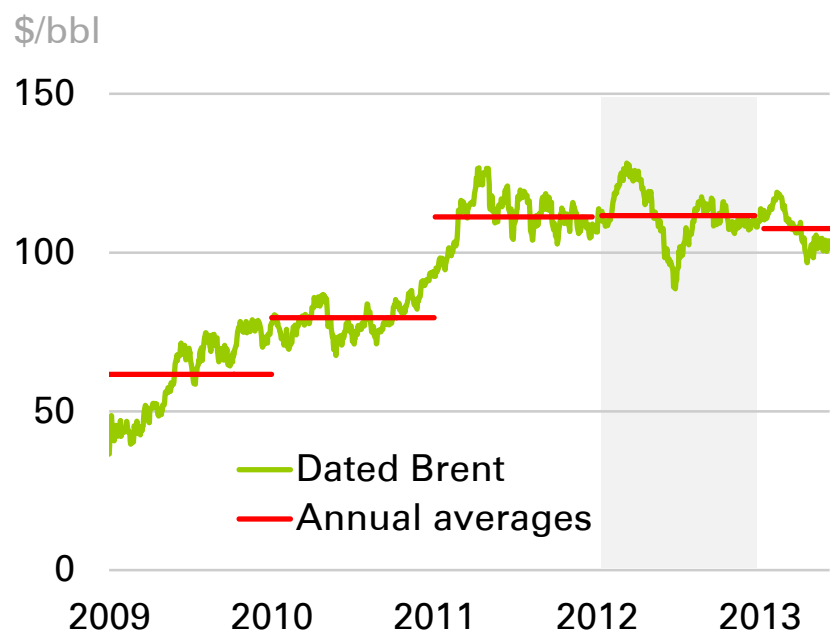
Annual change, Mtoe





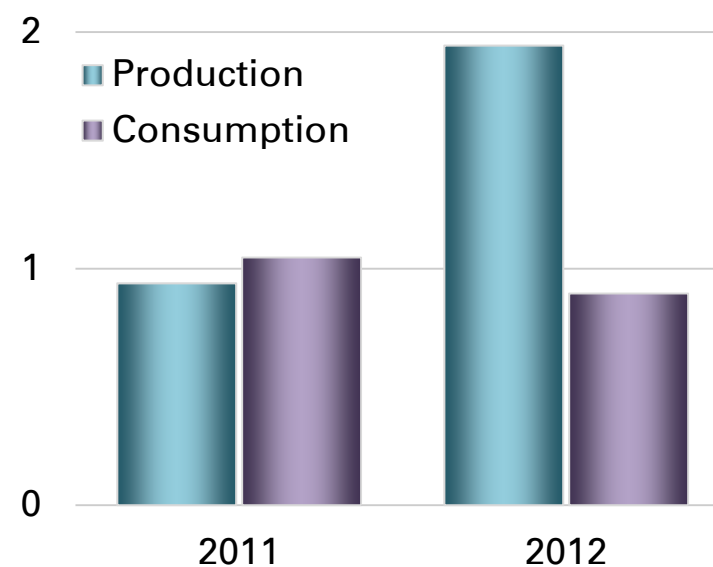
# The oil market in 2012

### The price of oil



### Production and consumption growth

Annual change, Mb/d



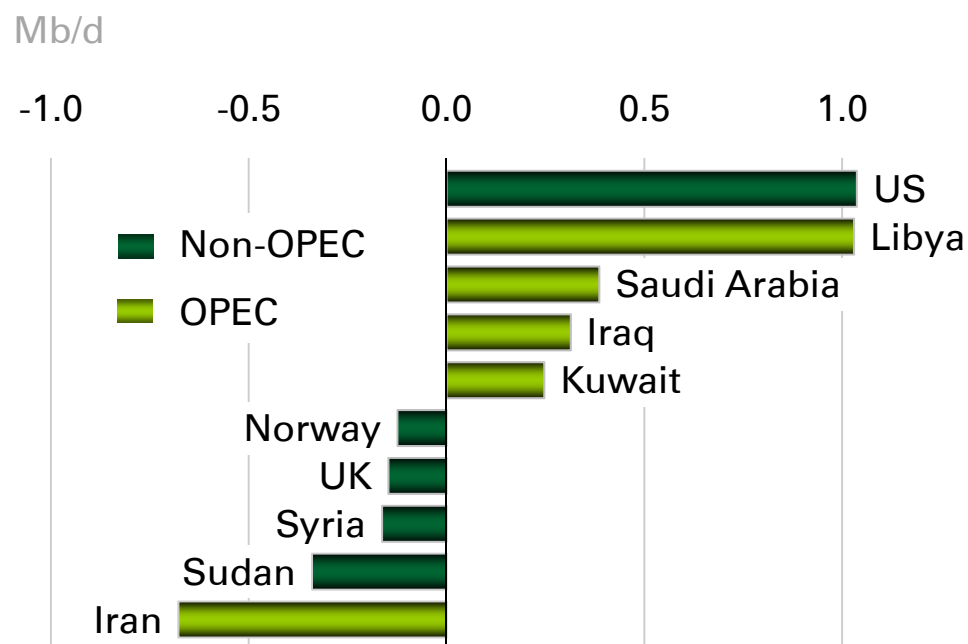
Source: includes data from Platts



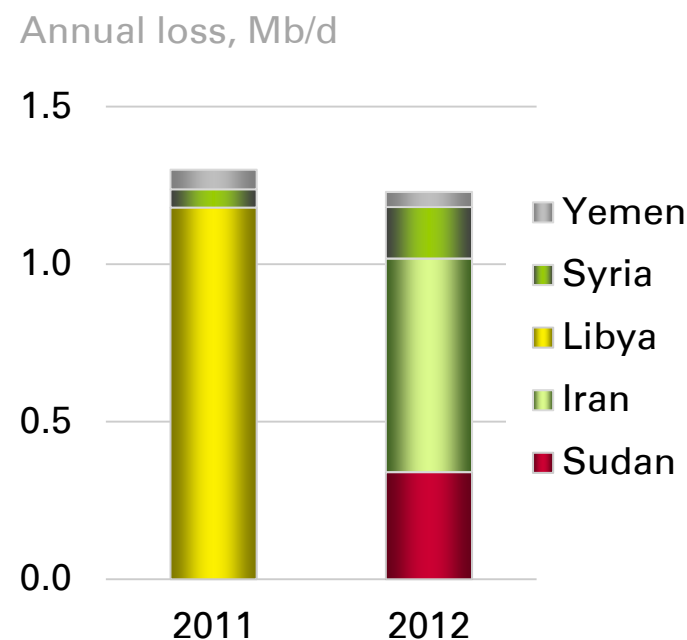


# Oil production in 2012

### Largest changes

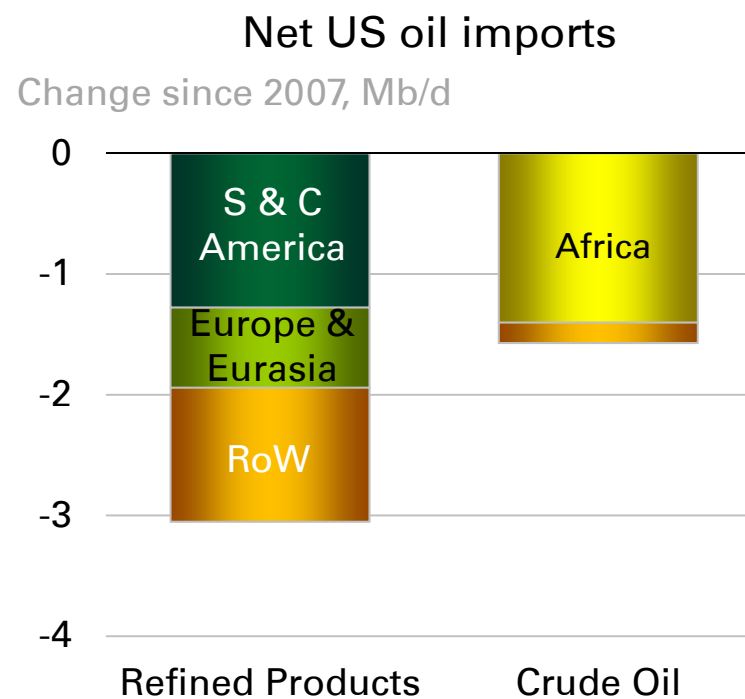
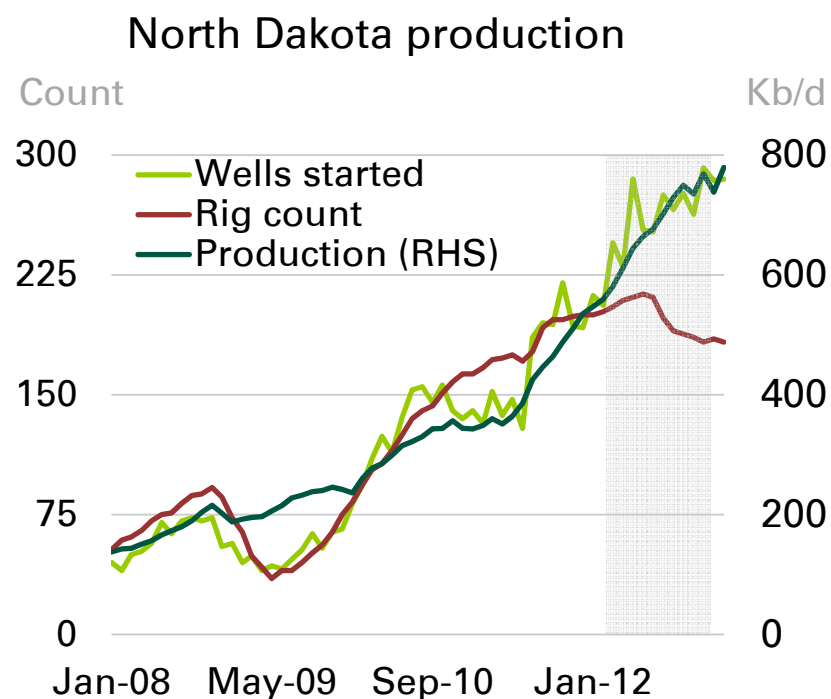


### Supply disruptions





# US oil supply: cause and effect

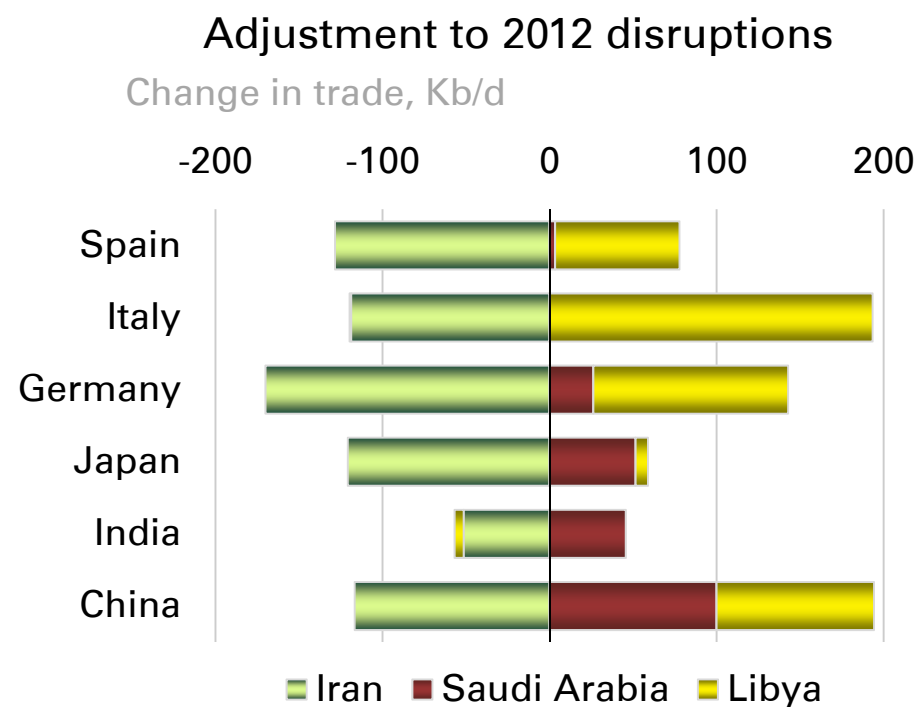
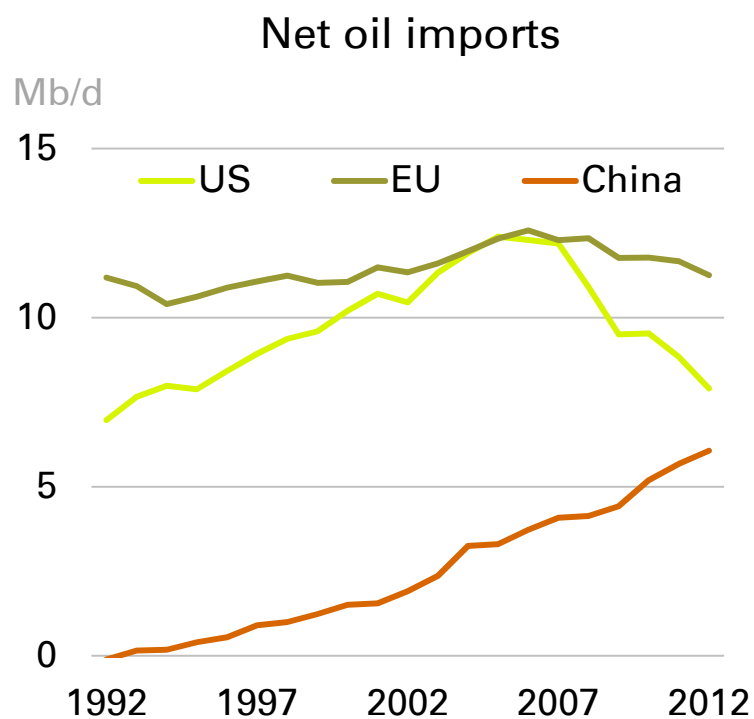


Source: includes data from North Dakota Department of Mineral Resources and Energy Information Administration

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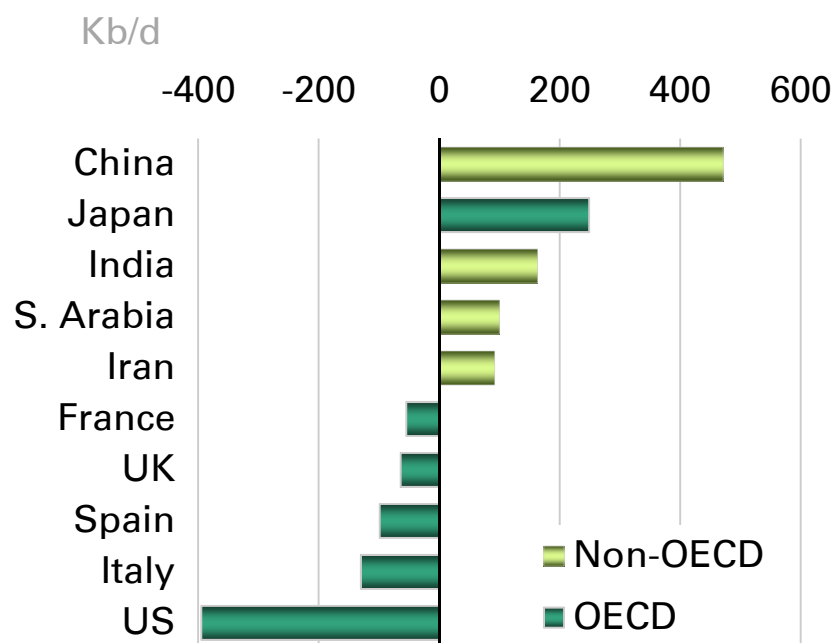
# Emerging oil trade patterns



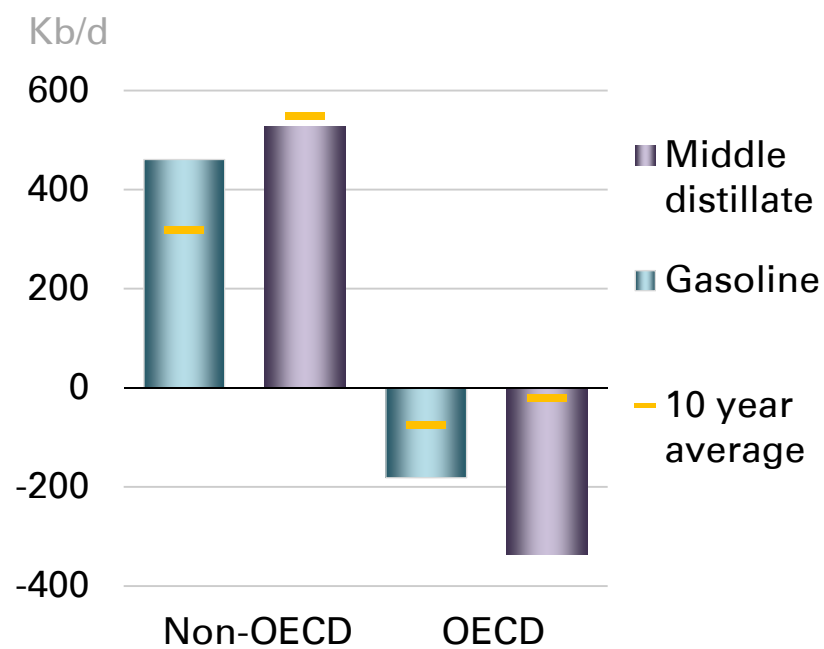


# Oil consumption in 2012

### Largest changes



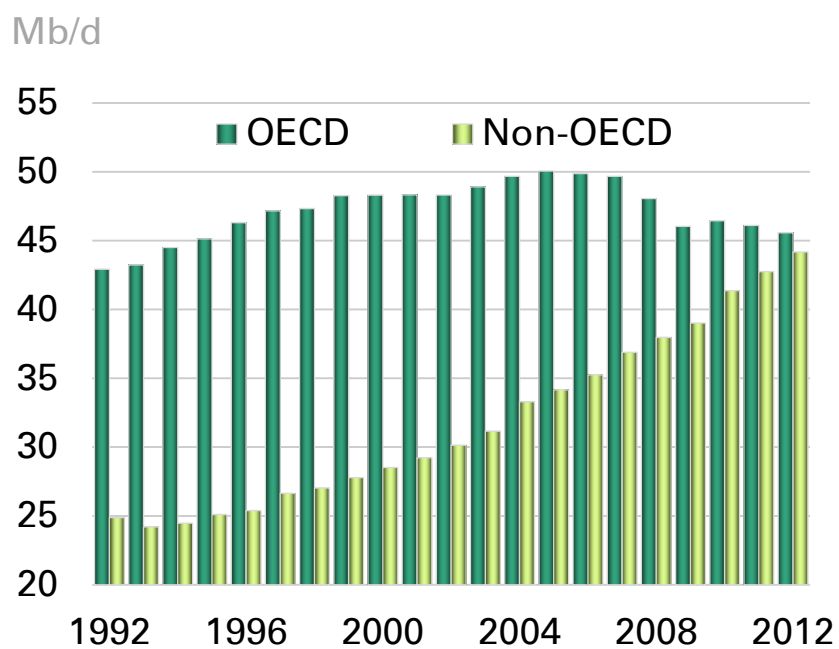
### Growth by product type



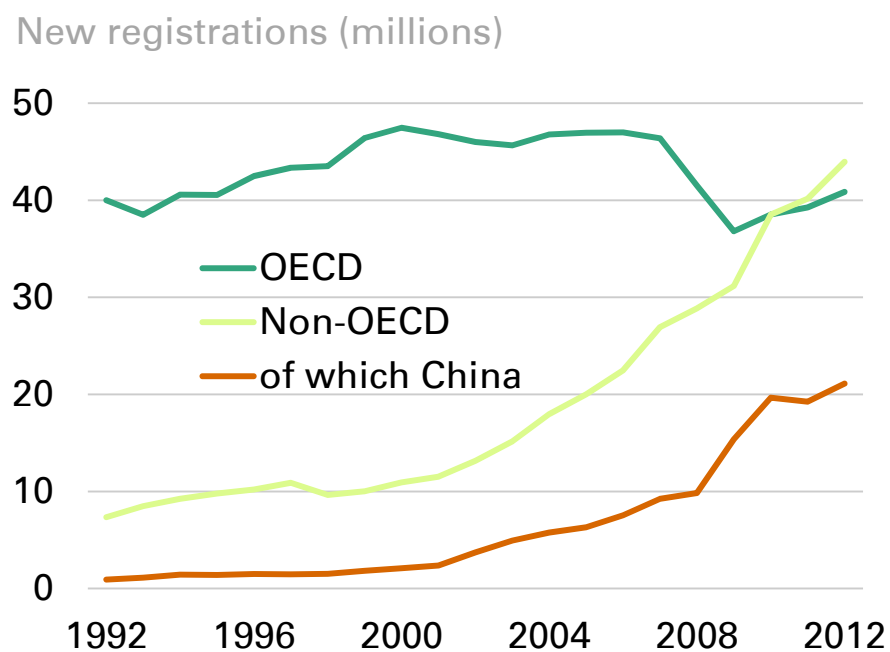


# Oil consumption and mobility

## Oil consumption trends



## Vehicle sales



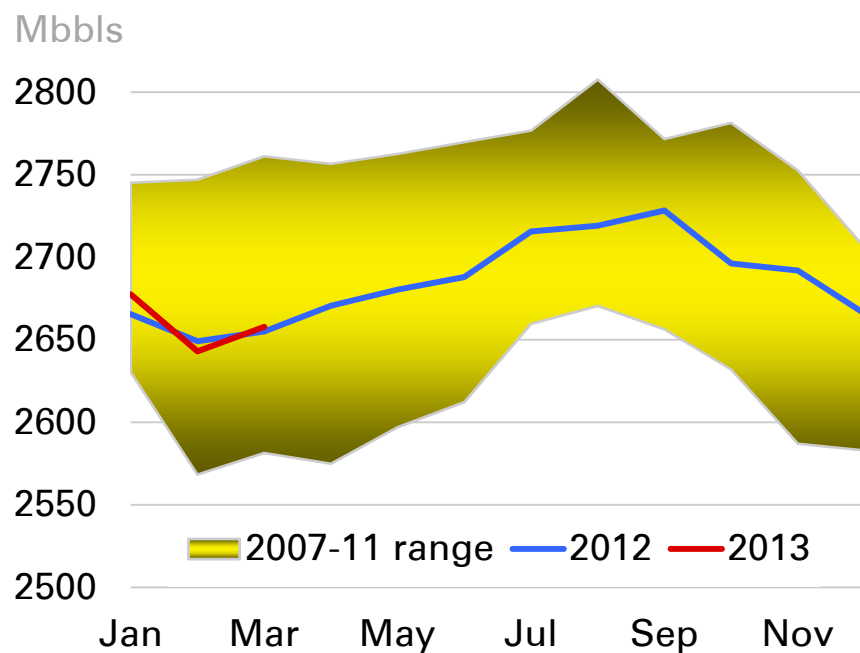
Source: includes data from R. L. Polk & Co.

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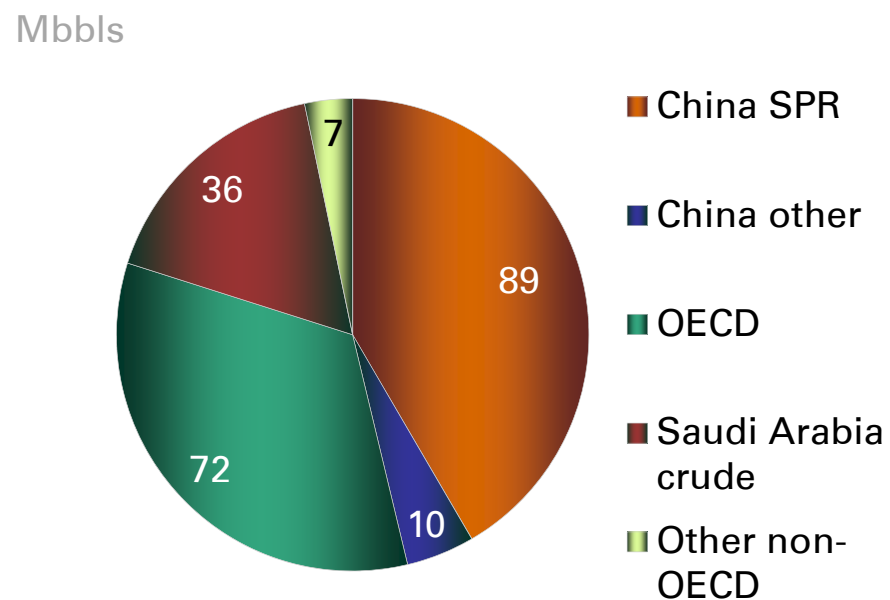


# Oil inventories

### OECD commercial inventories



### Inventory increases in 2012

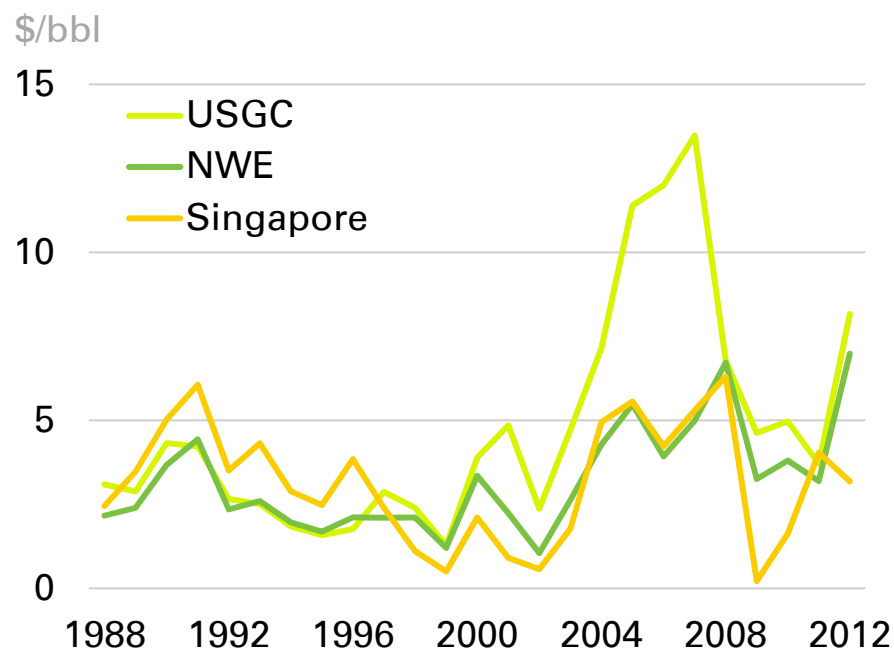


Source: Includes data from the International Energy Agency © OECD/IEA 2013

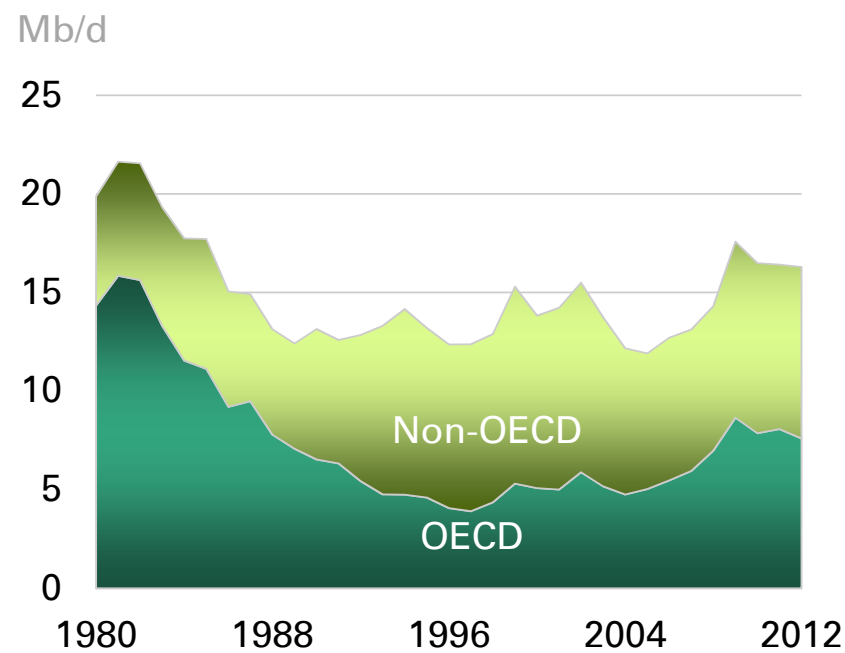


# Refining margins and capacity

## Upgrading margins



## Unused refining capacity



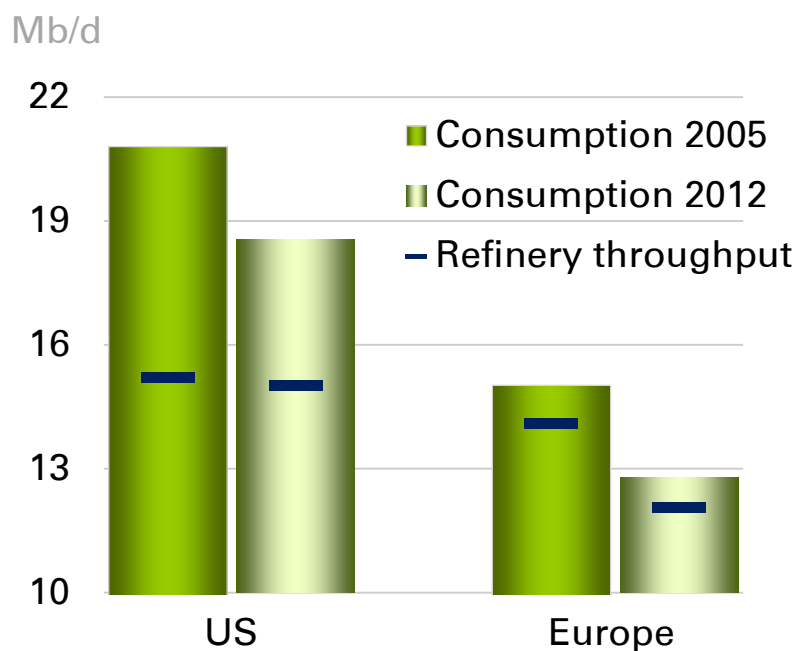
Source: Includes data from Platts

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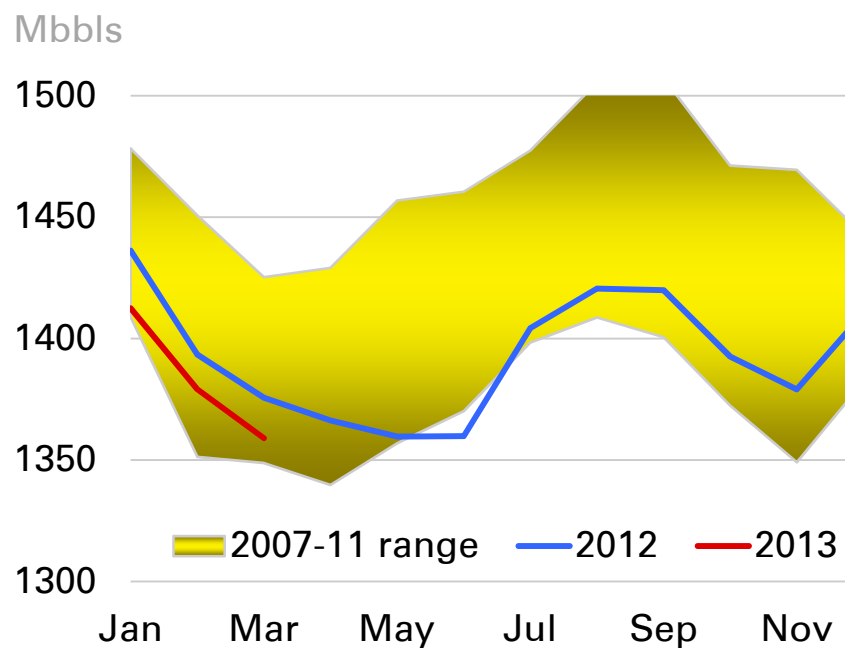


# Crude run rebalancing and product stocks

### Oil consumption and crude runs



### OECD product stocks



Source: Includes data from the International Energy Agency © OECD/IEA 2013

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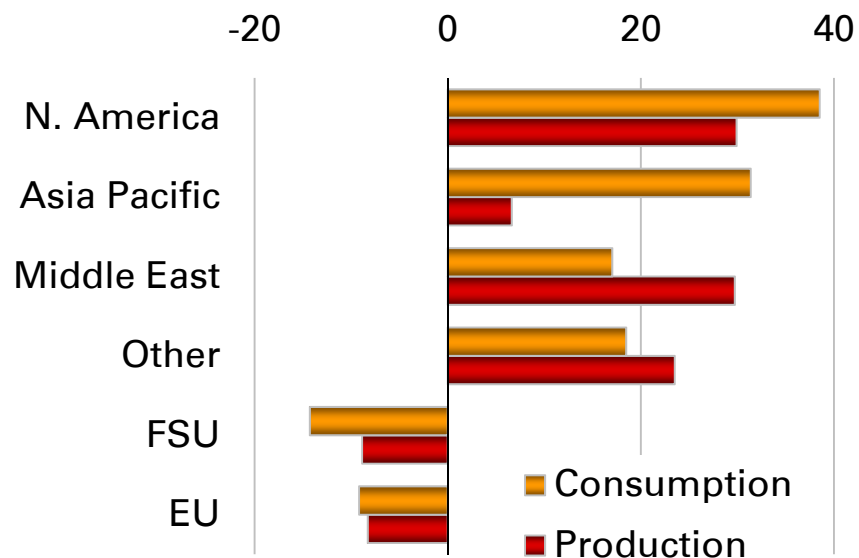




# Global natural gas balance

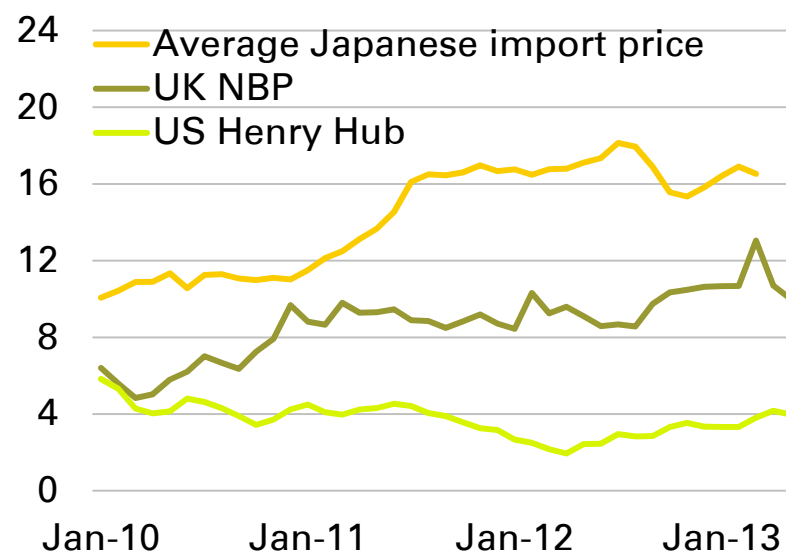
## Global growth in 2012

Annual change, Bcm



## International gas prices

\$/mmBtu

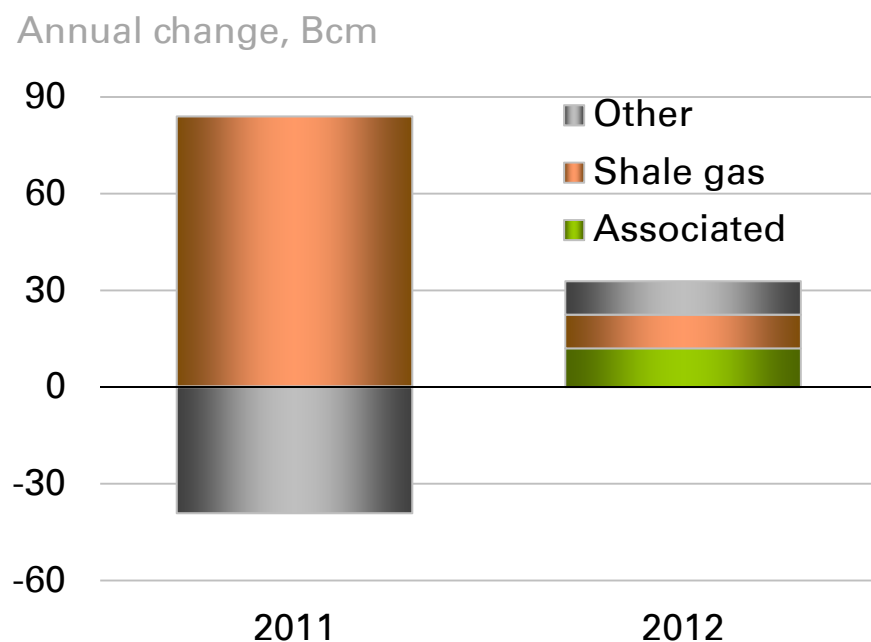


Source: includes data from ICIS Heren Energy and Energy Intelligence Group

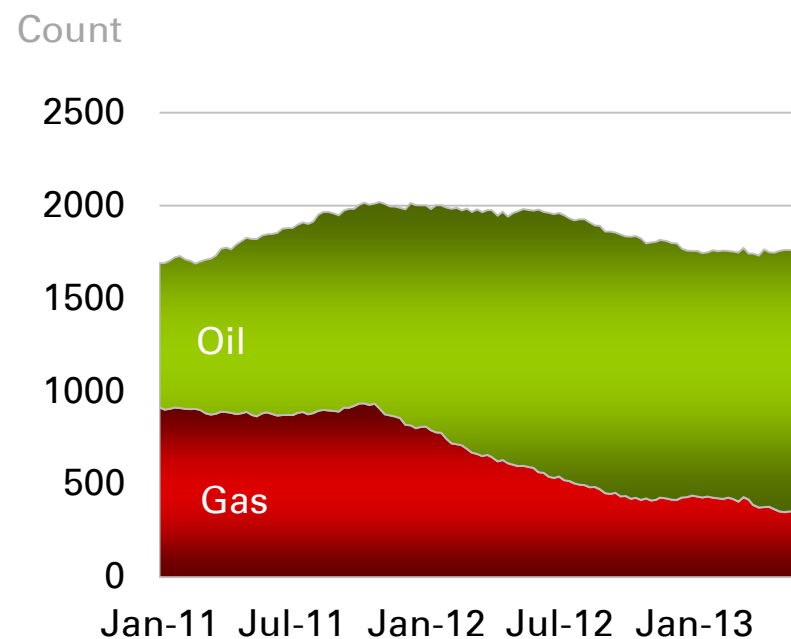


# US natural gas production

### Production growth



### Rig count



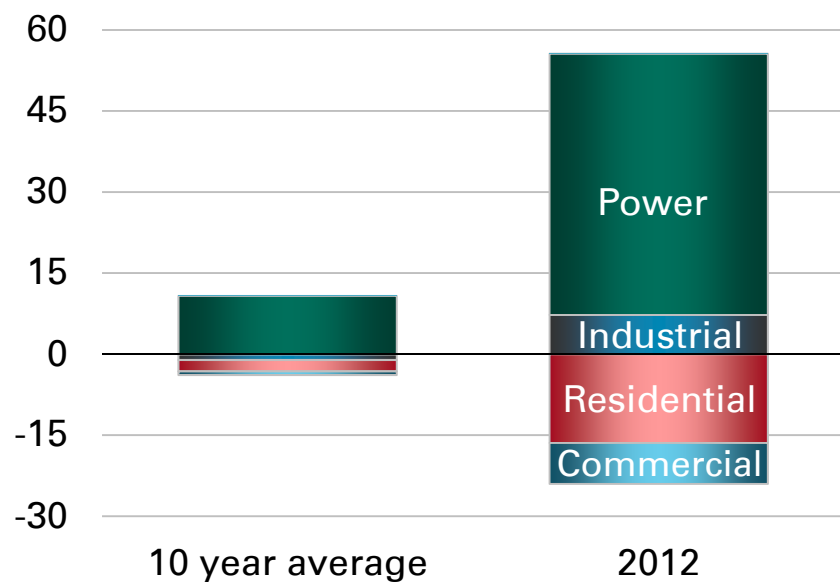
Source: includes data from Energy Information Administration and Baker Hughes



# US coal to gas switching

## Natural gas consumption growth

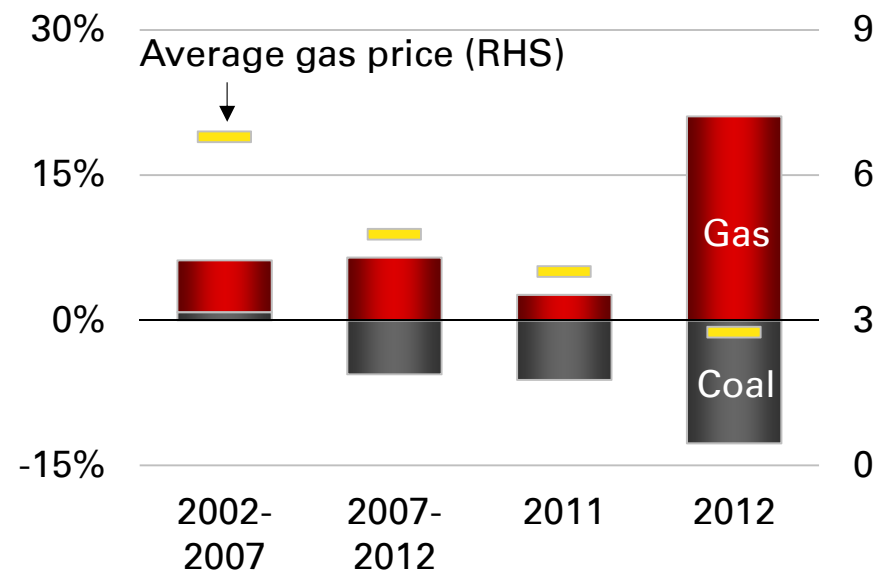
Annual change, Bcm



## Power generation

Annual change, %

\$/mmBtu



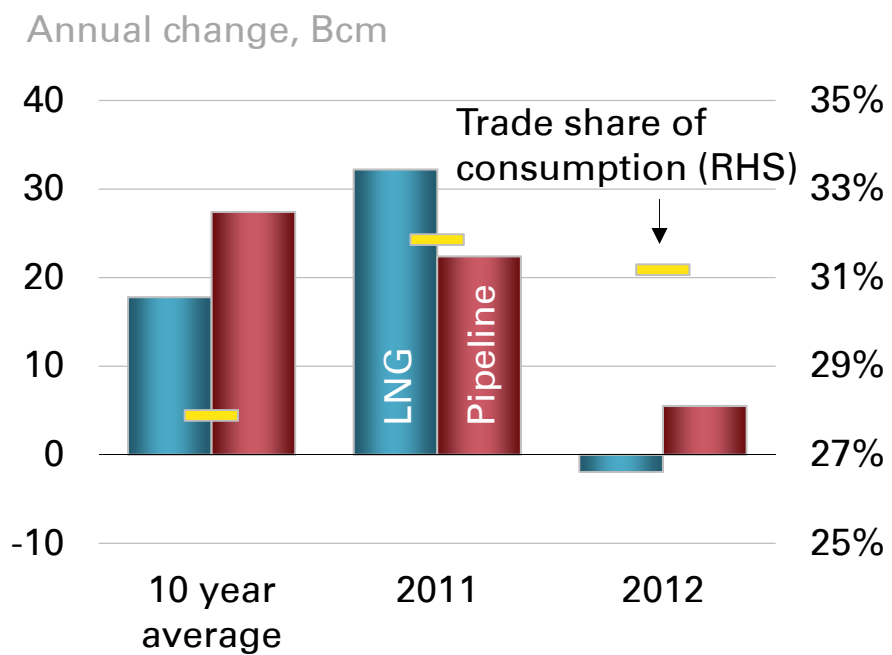
Source: includes data from Energy Information Administration and Platts

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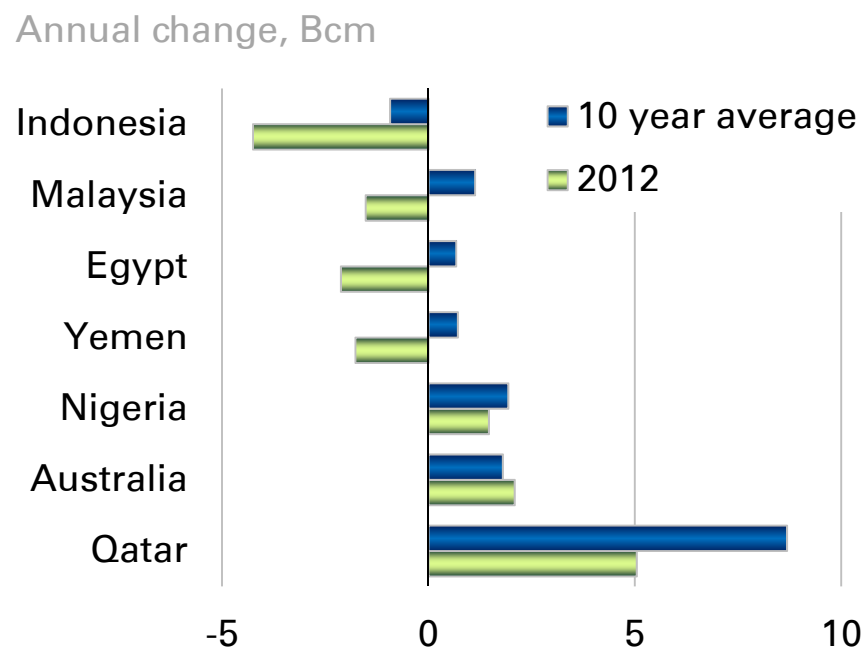


# Natural gas trade

## LNG and pipeline trade

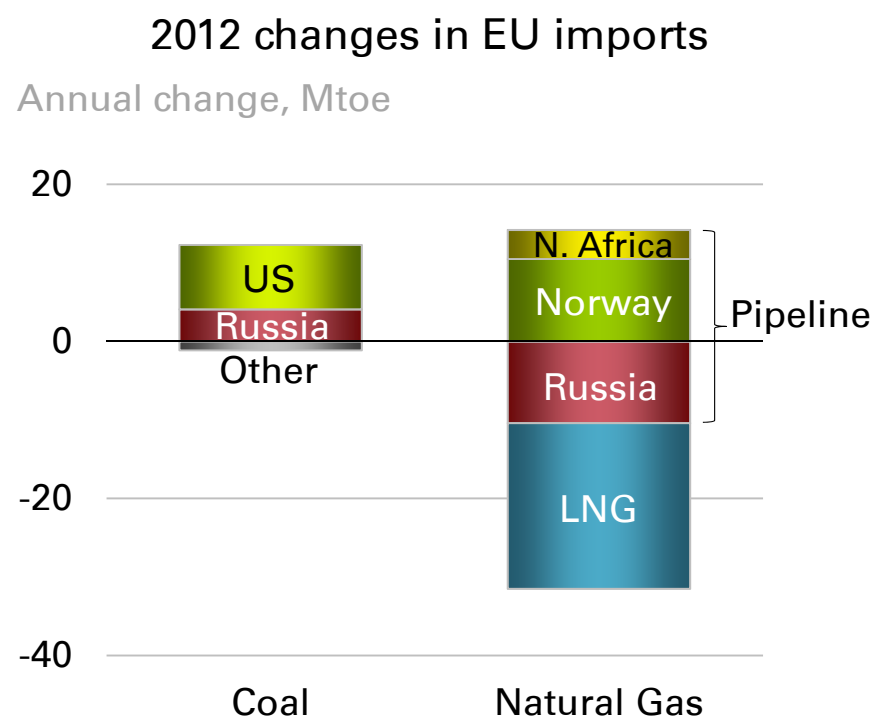
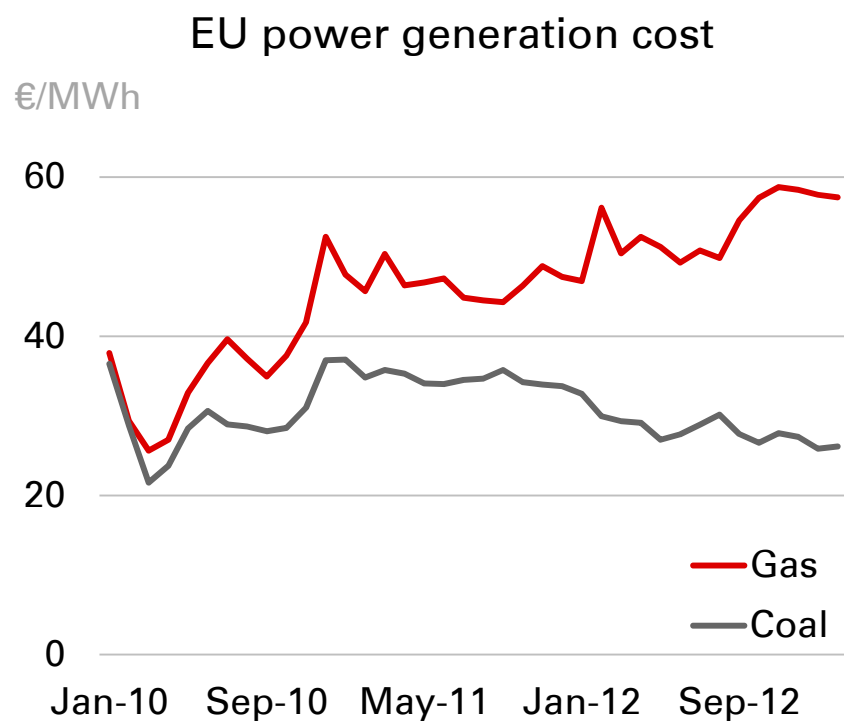


## LNG exports





# European gas-coal competition



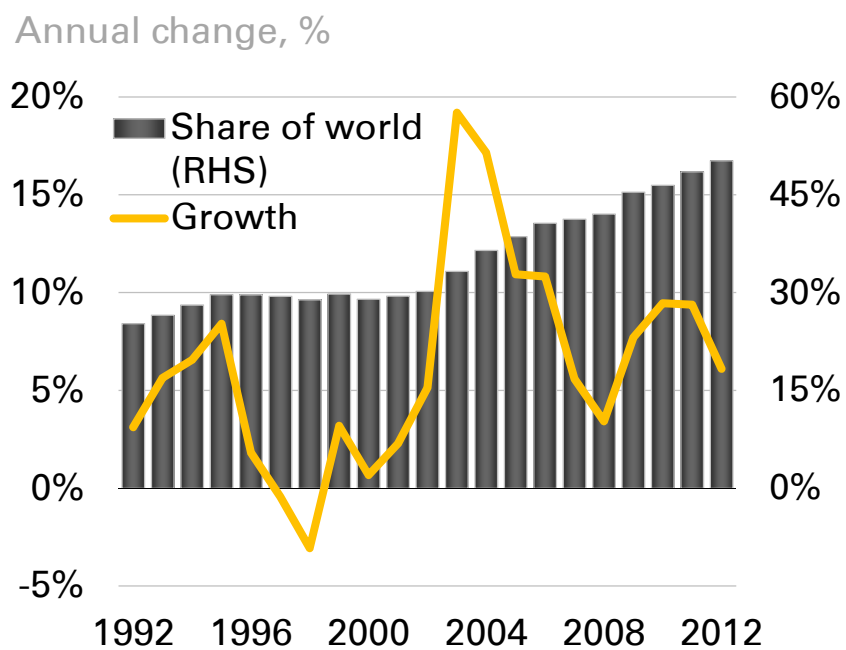
Source: includes data from Platts, IHS McCloskey and IntercontinentalExchange

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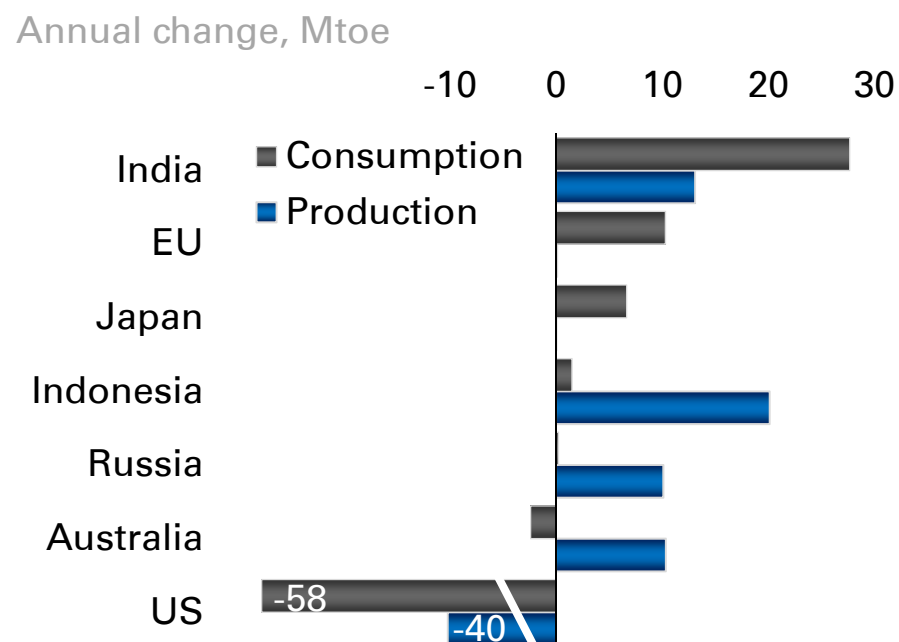


# The coal market in 2012

## Coal consumption in China

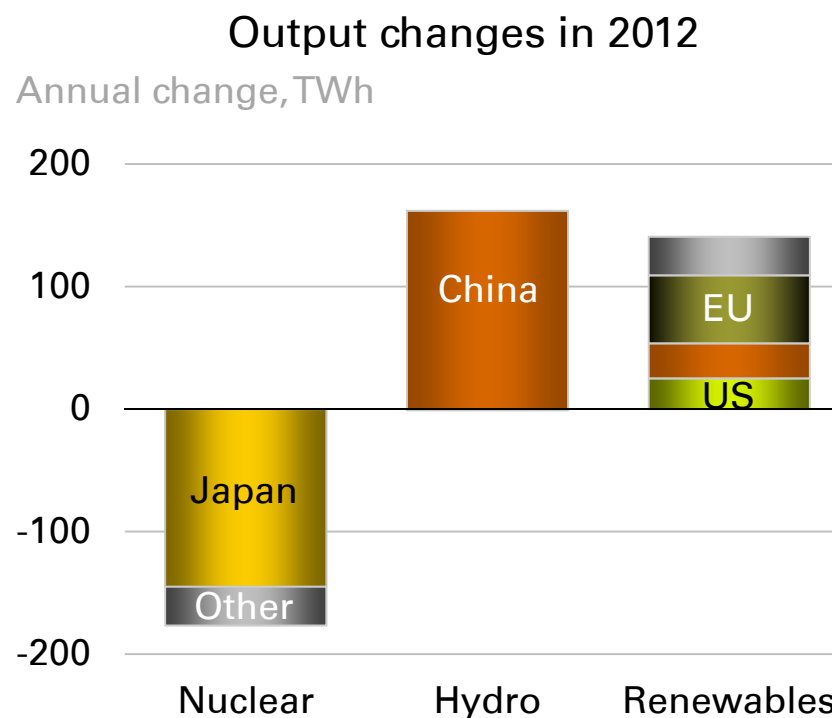
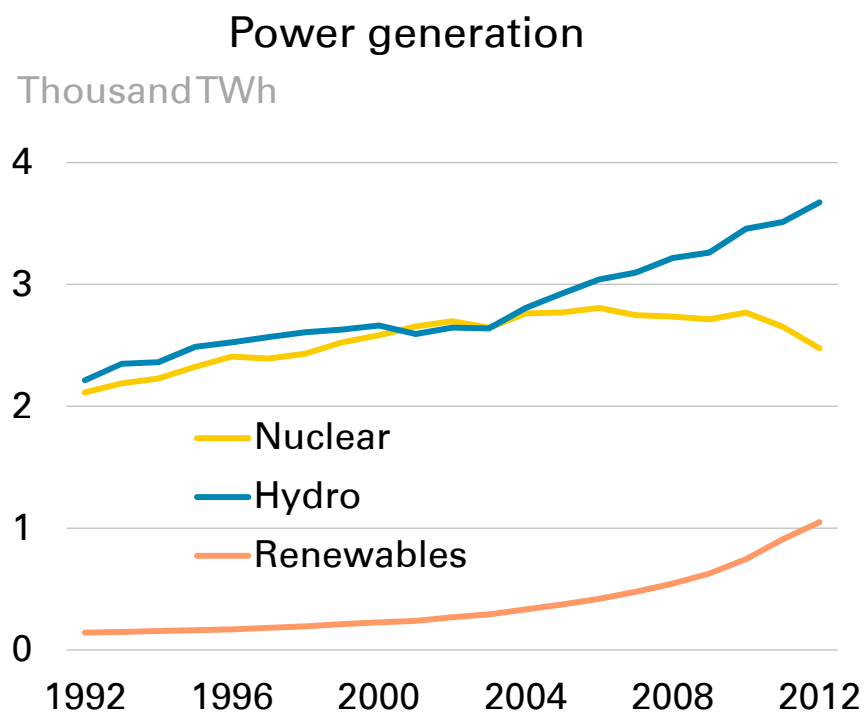


## Largest changes outside China in 2012





# Hydro, other renewables and nuclear

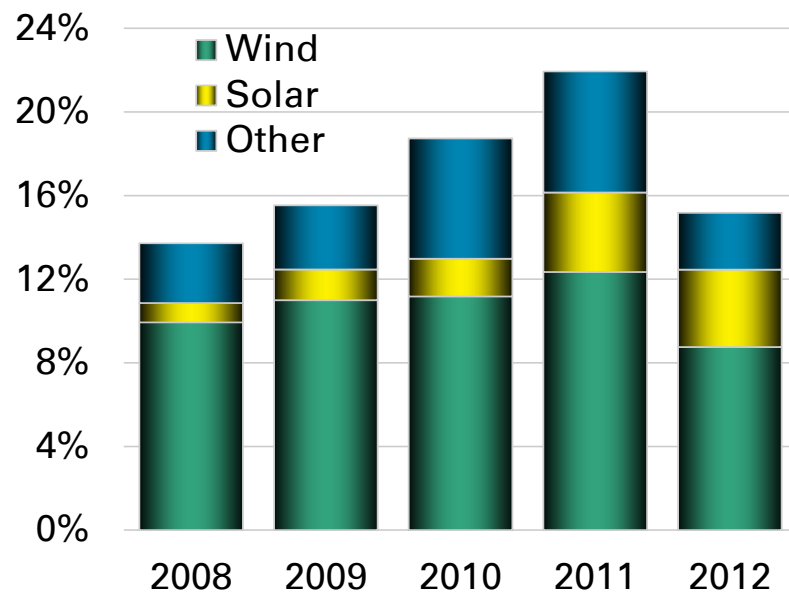




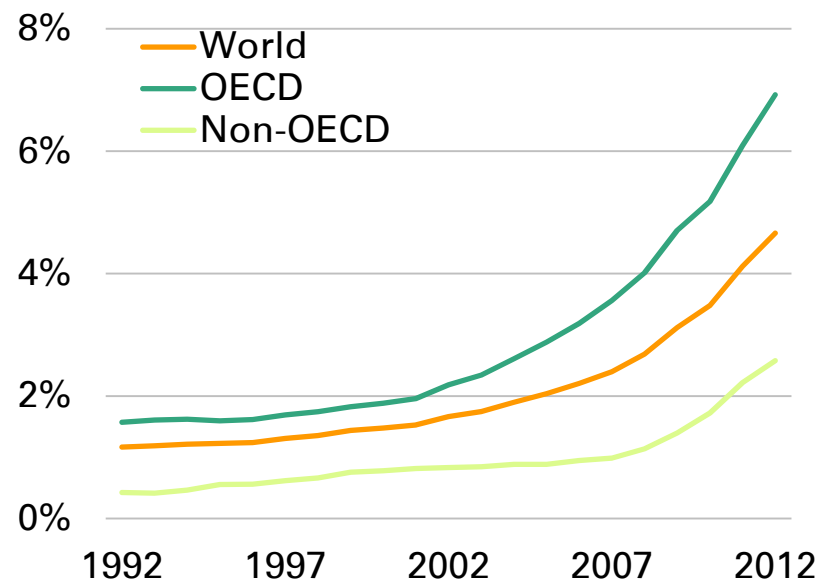
# Renewables in power generation

## Contributions to growth

Annual change, %



## Renewables share of power

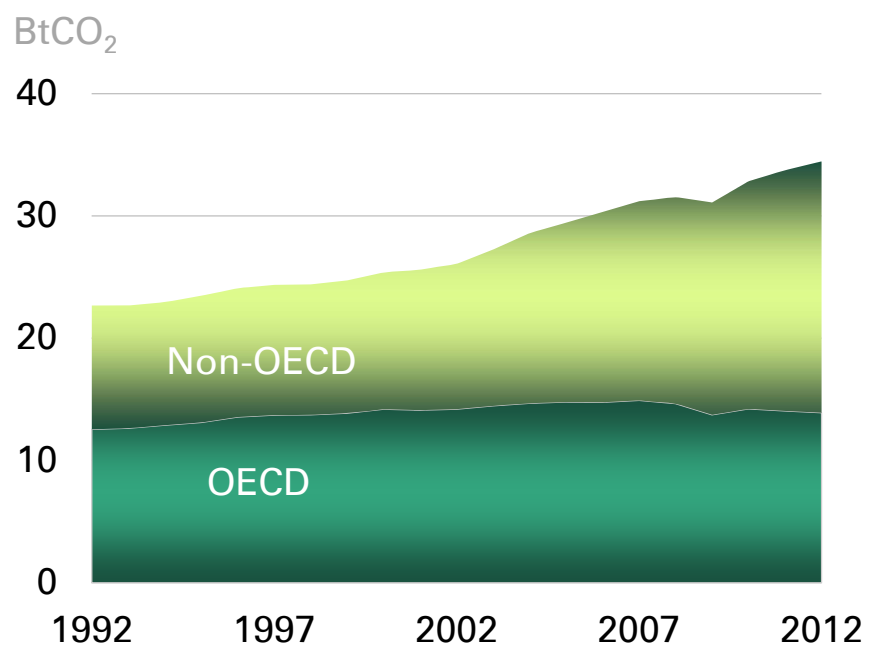




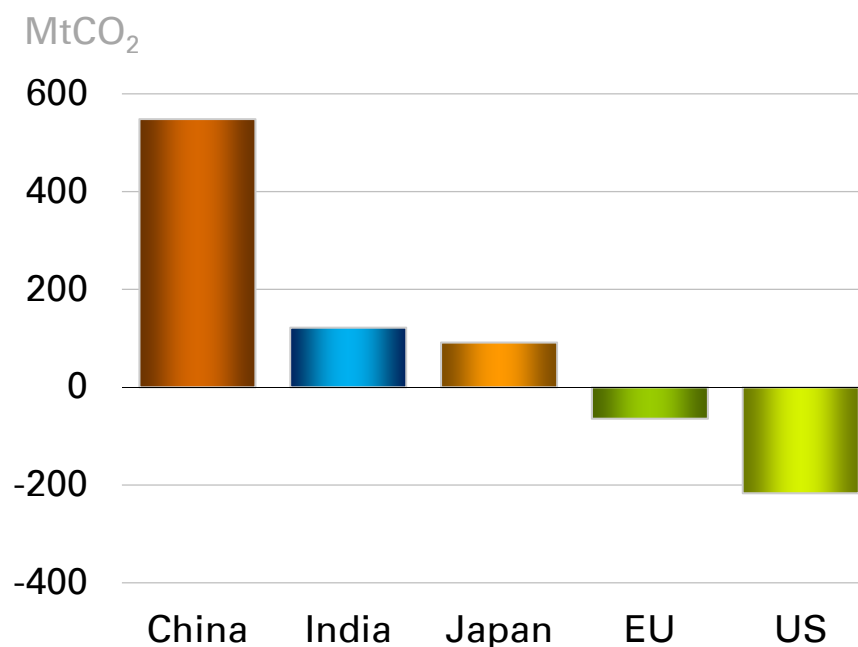


# Carbon emissions

### Global emissions from energy use

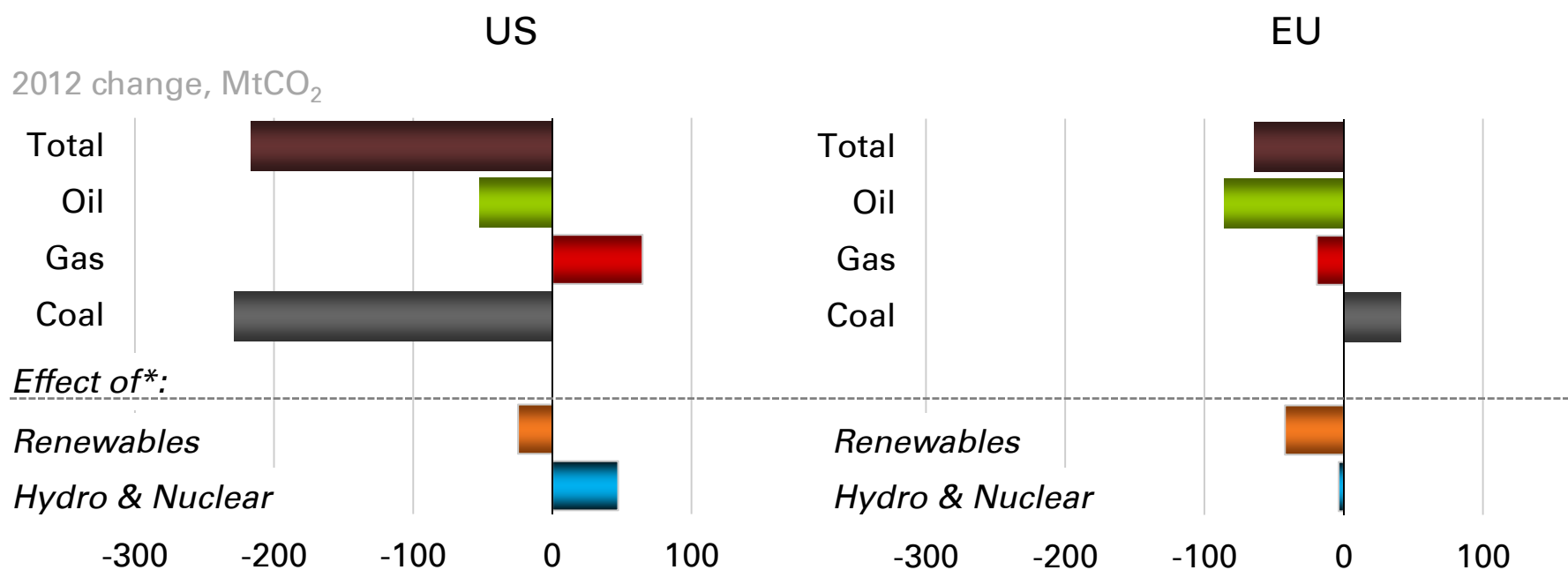


### Largest emission changes in 2012





# Carbon emissions by fuel: US and EU



\* The net effect of changes in non-fossil fuels in power on emissions, based on 2011 shares of fossil fuels in power generation



# Conclusion

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## Energy in 2012

- Fundamental adjustment
  - And short-term aberrations
- Market and price driven
  - Sometimes with surprises
- Policy matters

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## Energy in 2012 – Adapting to a changing world

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