



# BP Energy Outlook 2035

Spencer Dale, group chief economist

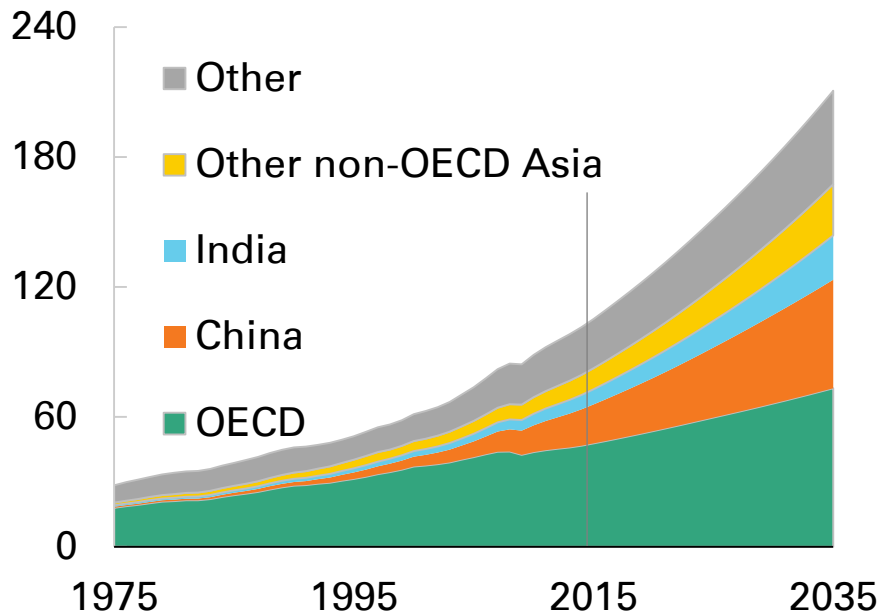
[bp.com/energyoutlook](http://bp.com/energyoutlook)

#BPstats

# Economic backdrop

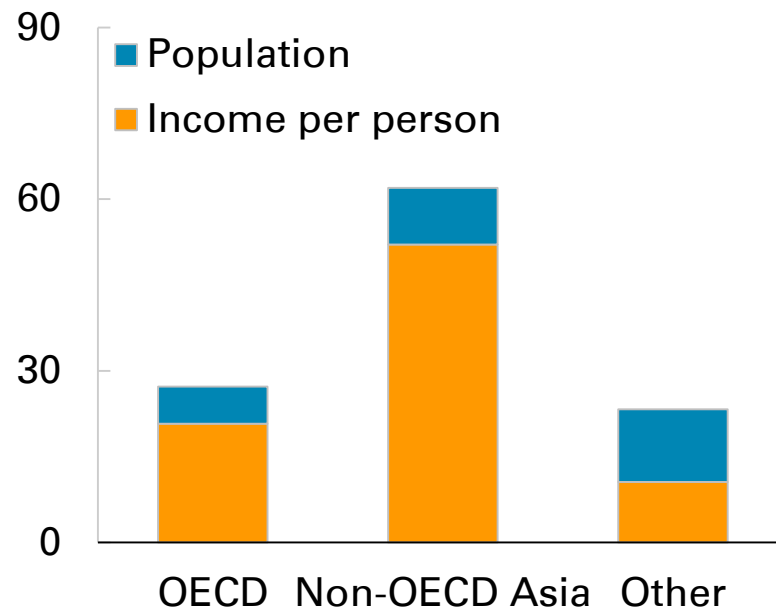
## GDP

Trillion, \$2011 PPP



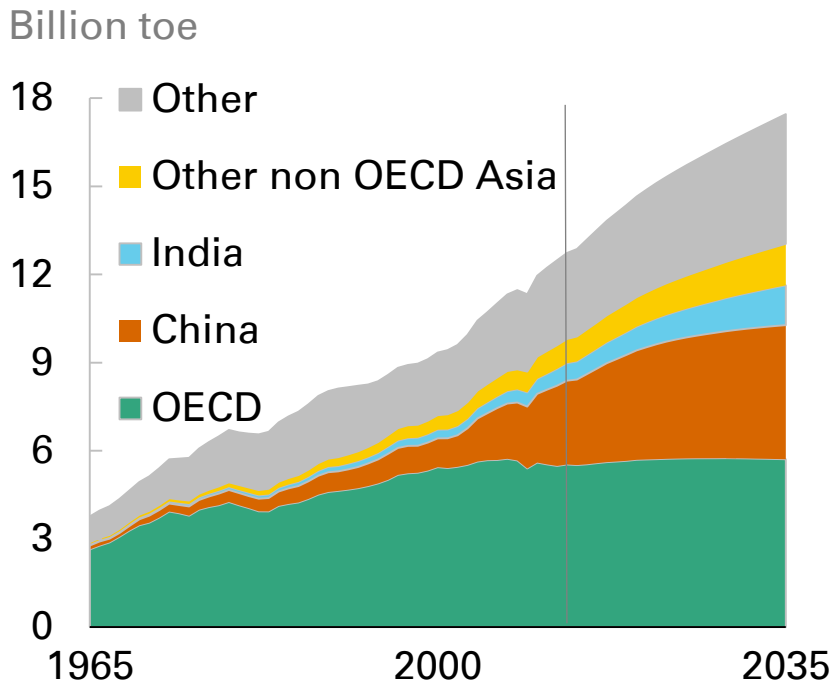
## Contribution to GDP growth

Trillion \$2011 PPP, 2013-35

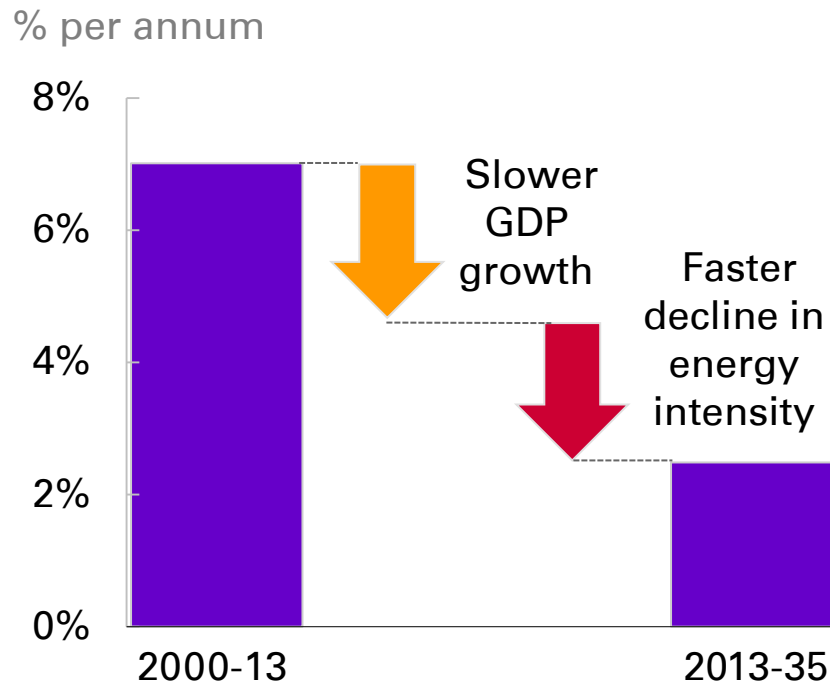


# Global energy demand

## Consumption by region

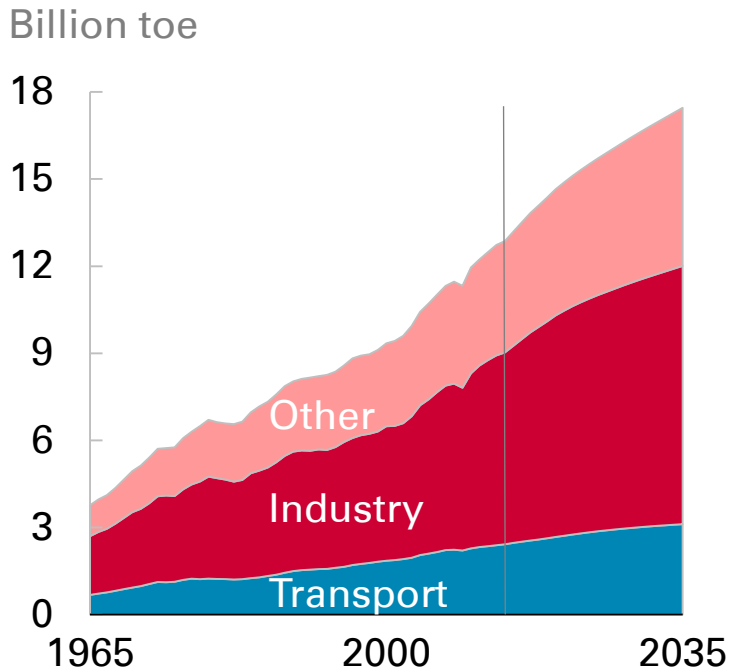


## Non-OECD Asia energy growth

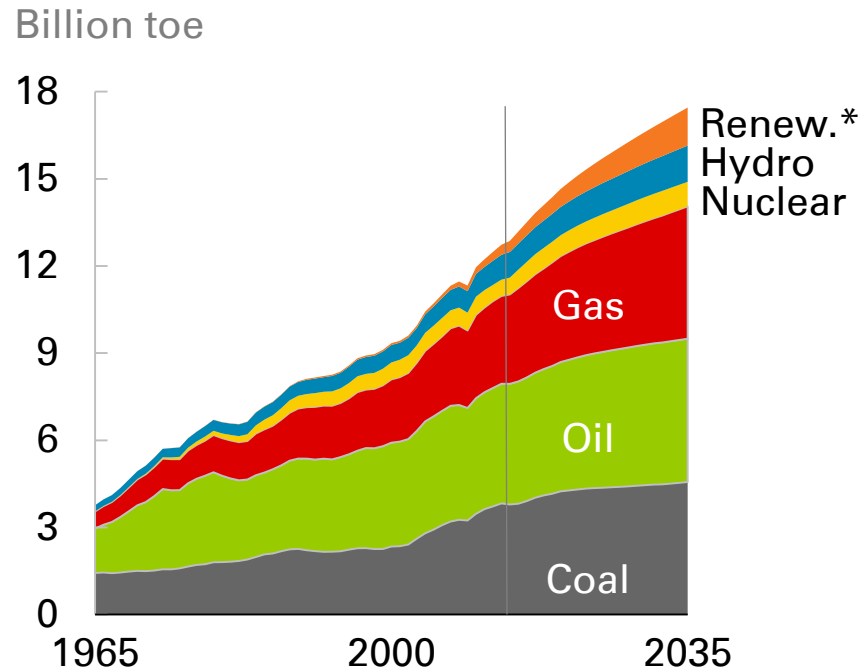


# Global energy demand by sector and fuel

## Consumption by sector

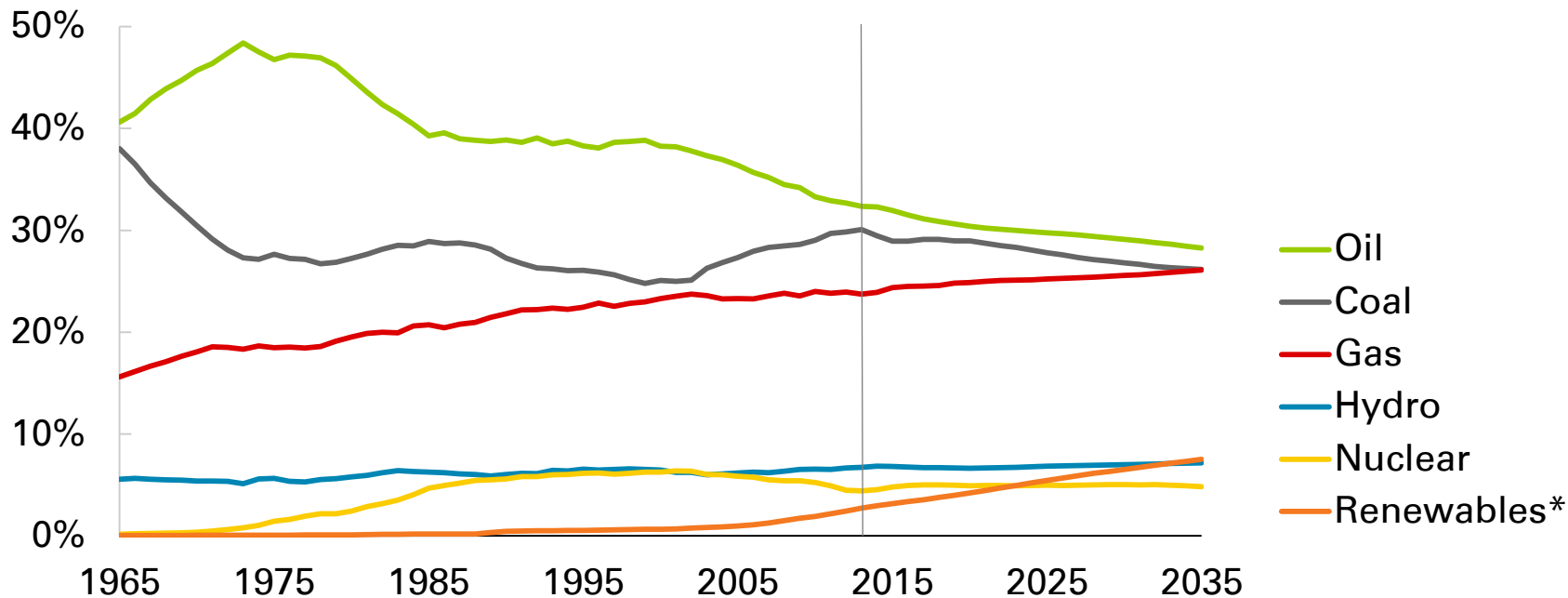


## Consumption by fuel



\*Includes biofuels

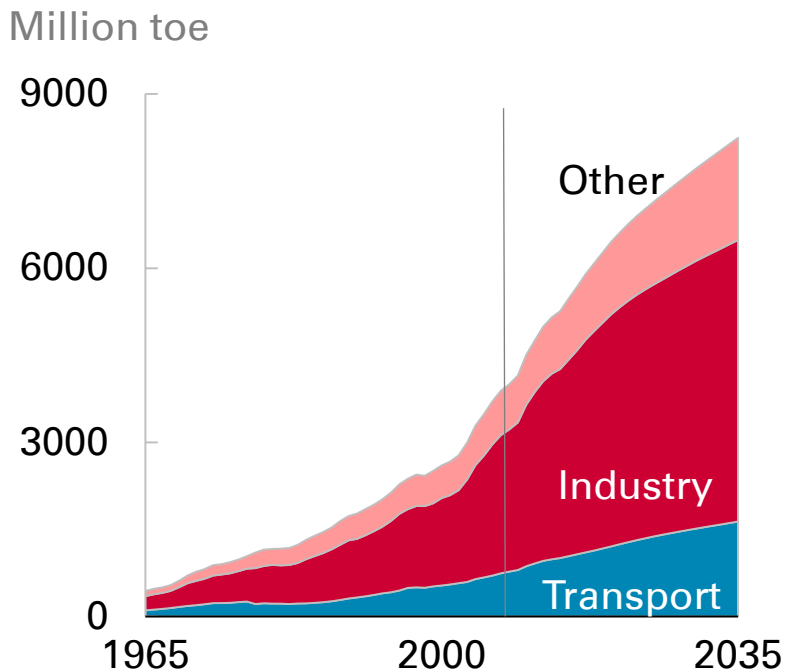
# Global shares of primary energy



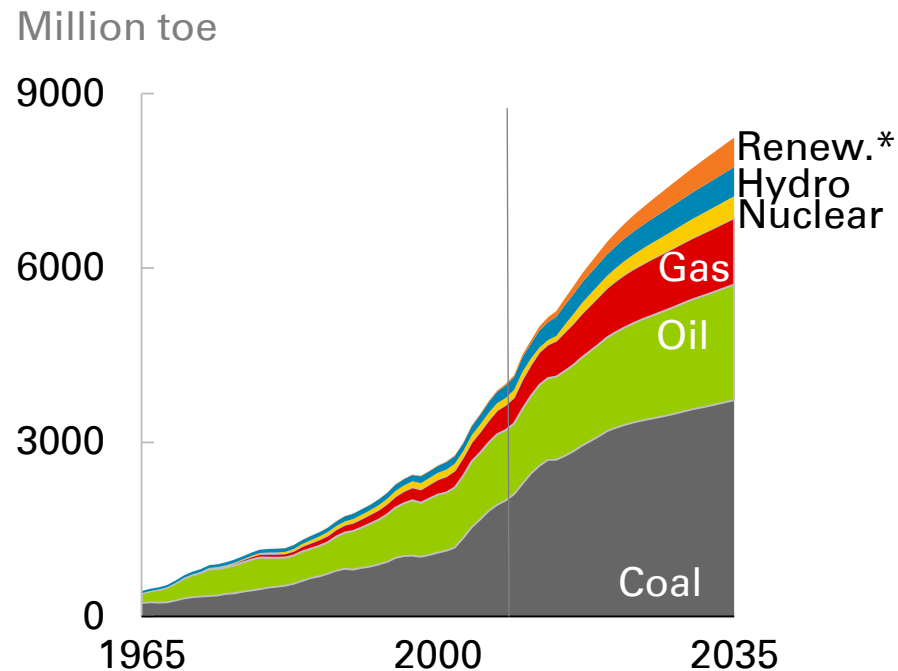
\*Includes biofuels

# Asia's energy demand by sector and fuel

## Consumption by sector

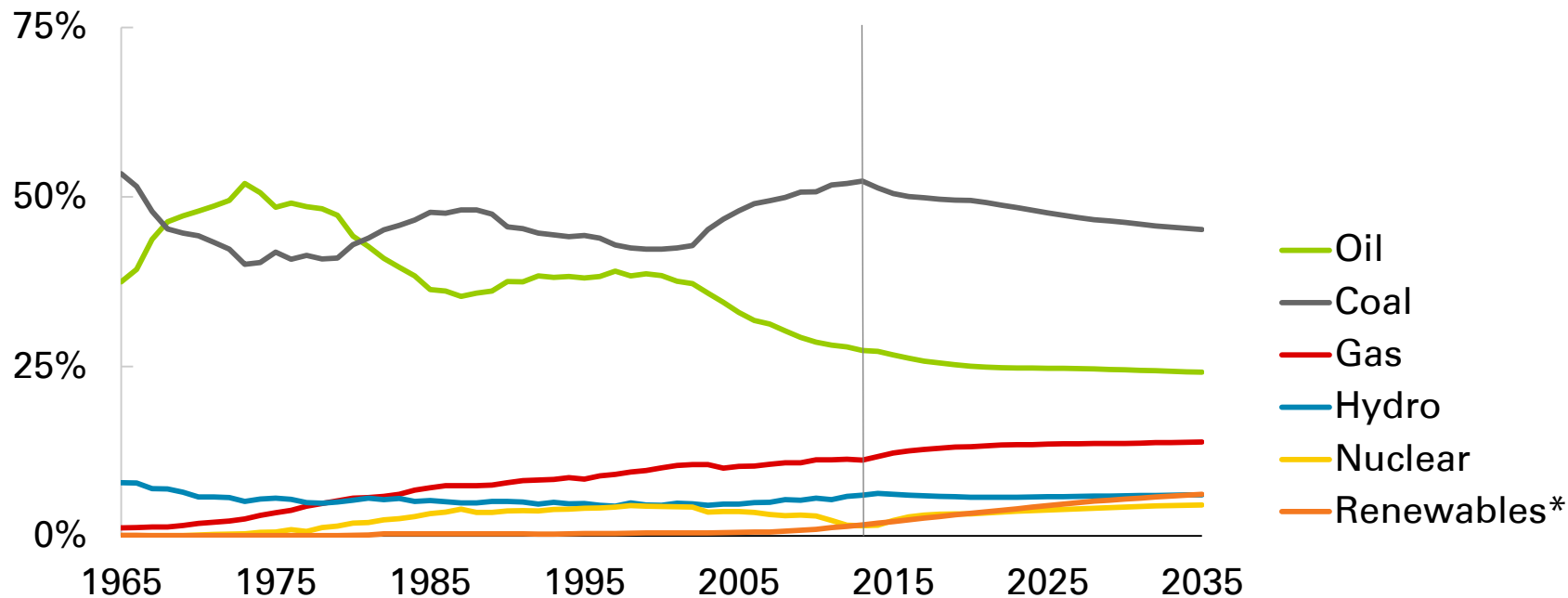


## Consumption by fuel



\*Includes biofuels

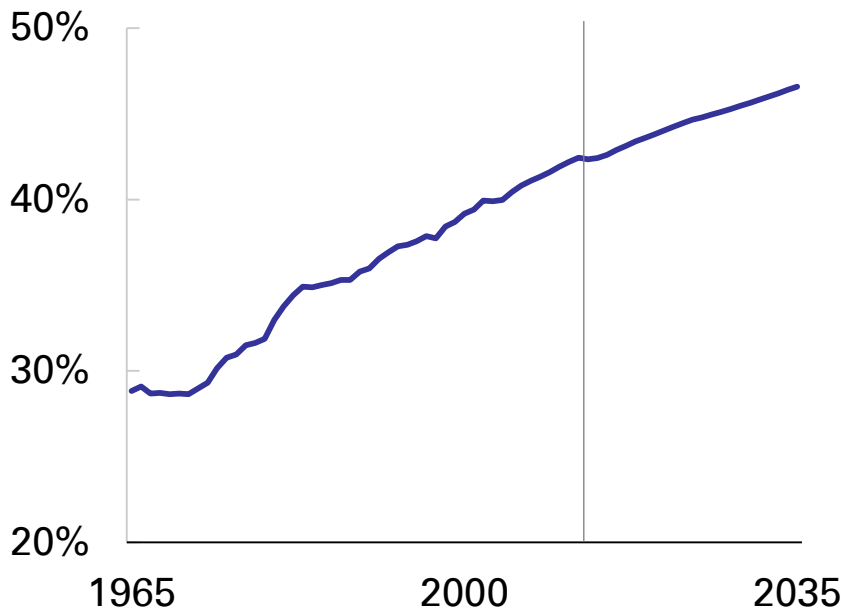
# Shares of primary energy in Asia



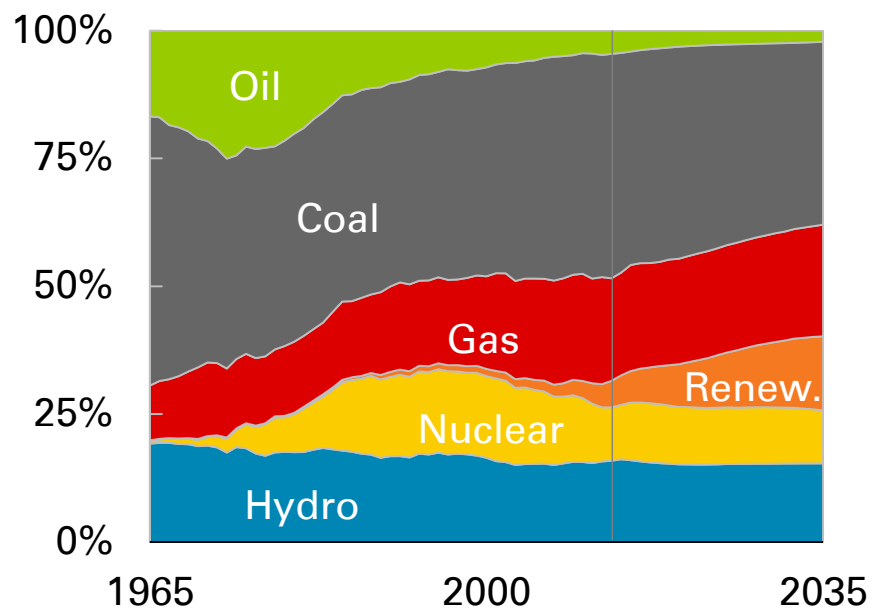
\*Includes biofuels

# Global power sector

Inputs to power as a share of total primary energy



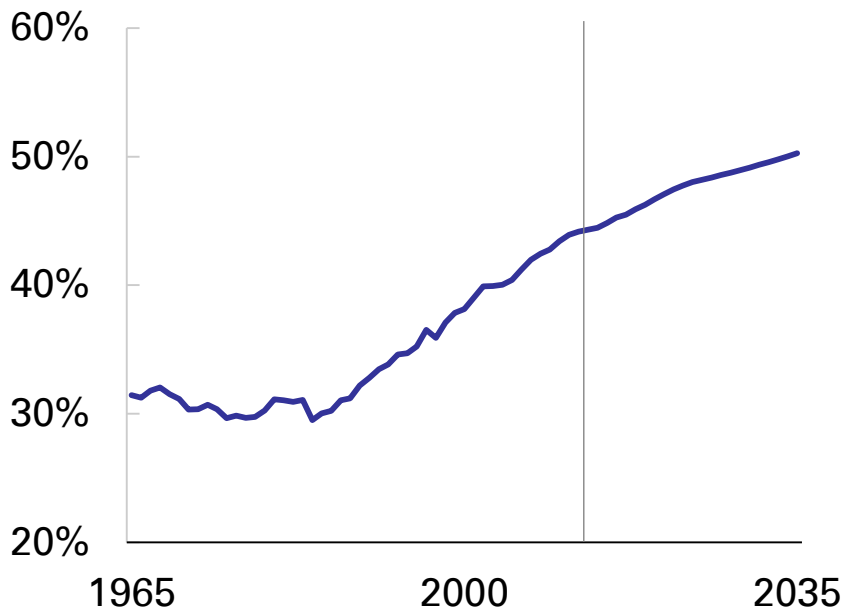
Primary inputs to power



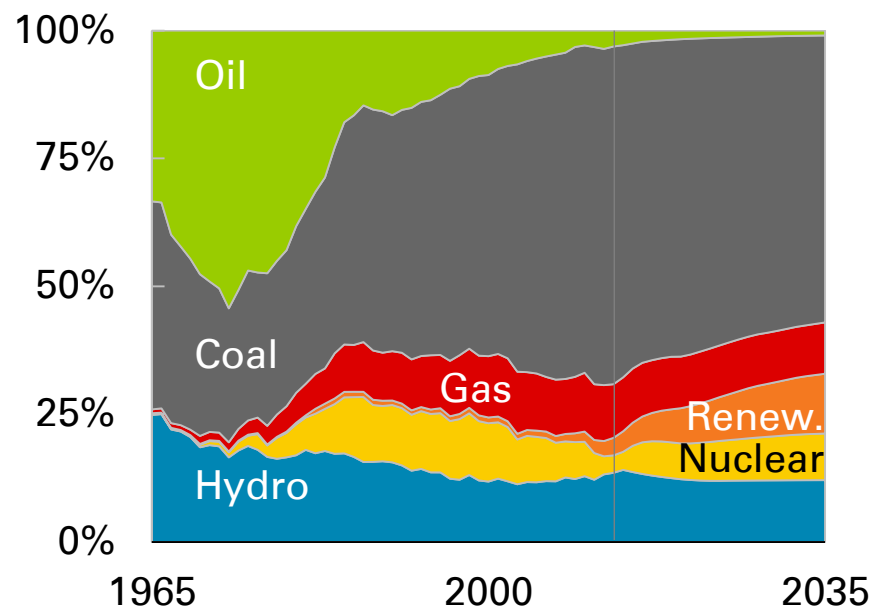


# Power sector in Asia

Inputs to power as a share of total primary energy



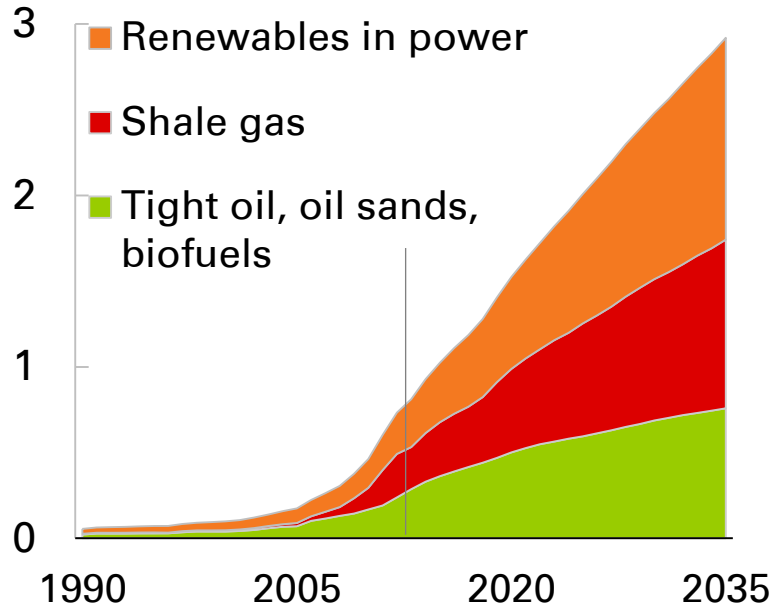
Primary inputs to power



# New sources of energy supply

## Production

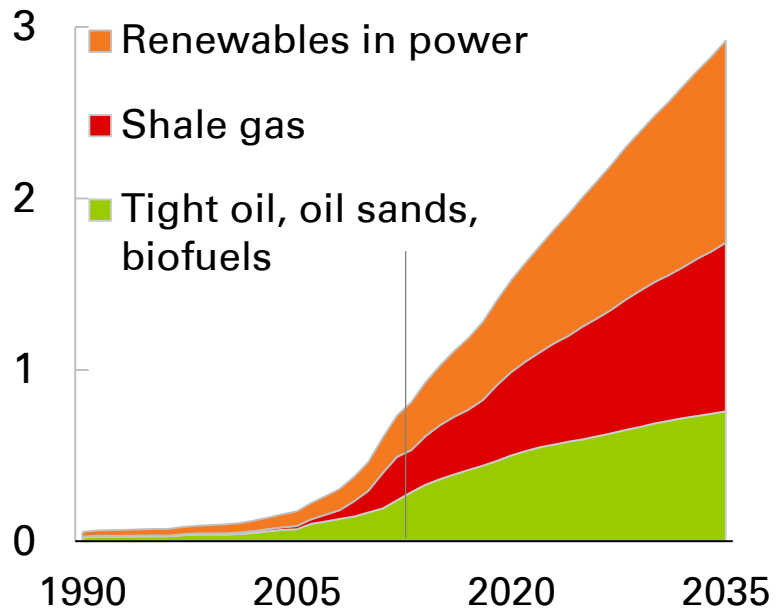
Billion toe



# New sources of energy supply

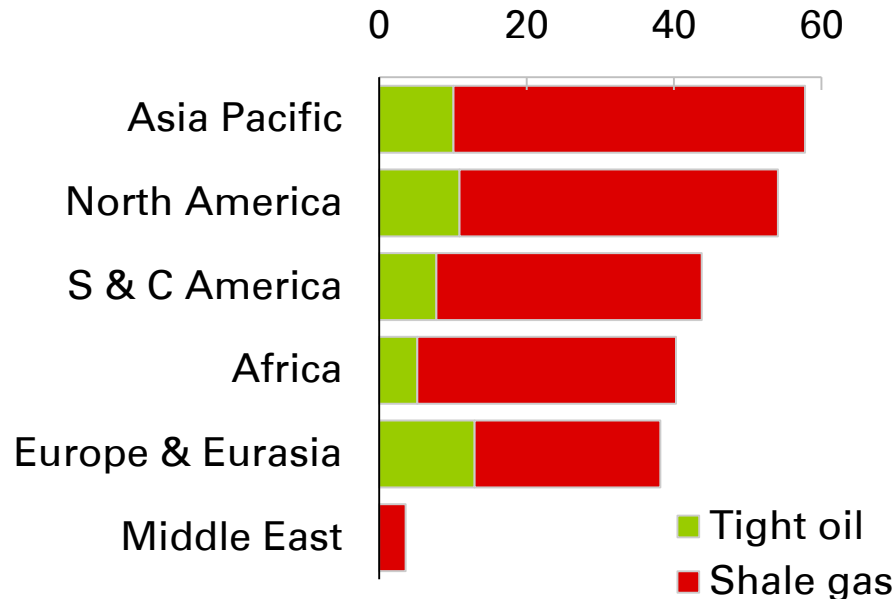
## Production

Billion toe



## Technically recoverable resources

Billion toe

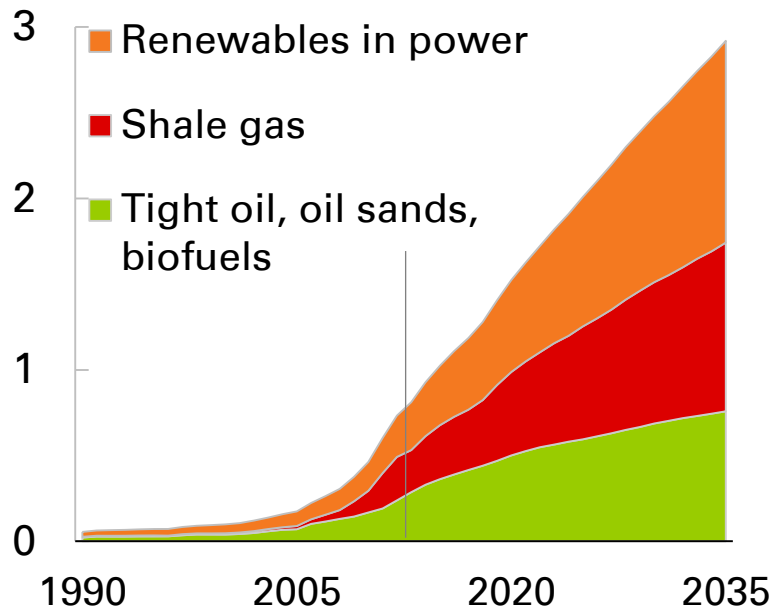


Source: © OECD/IEA 2014

# New sources of energy supply

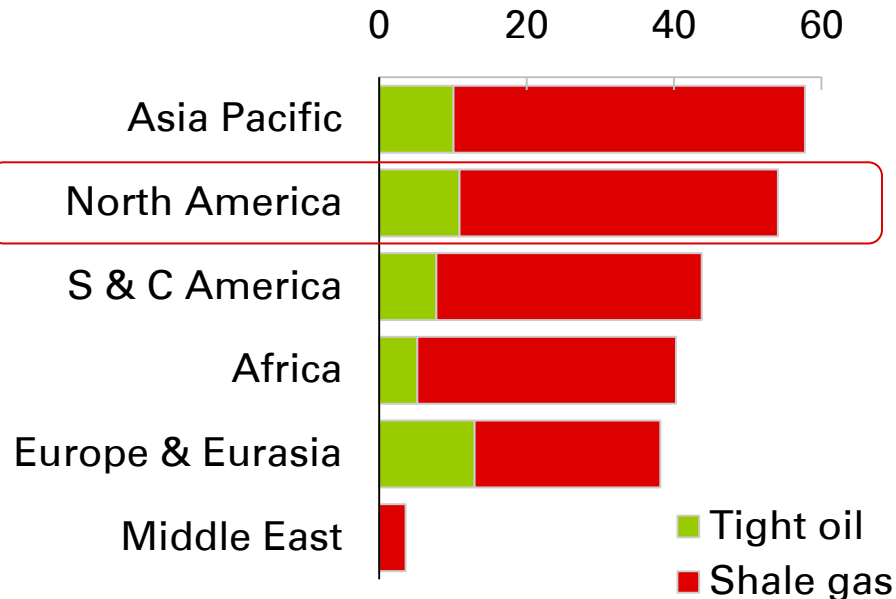
## Production

Billion toe



## Technically recoverable resources

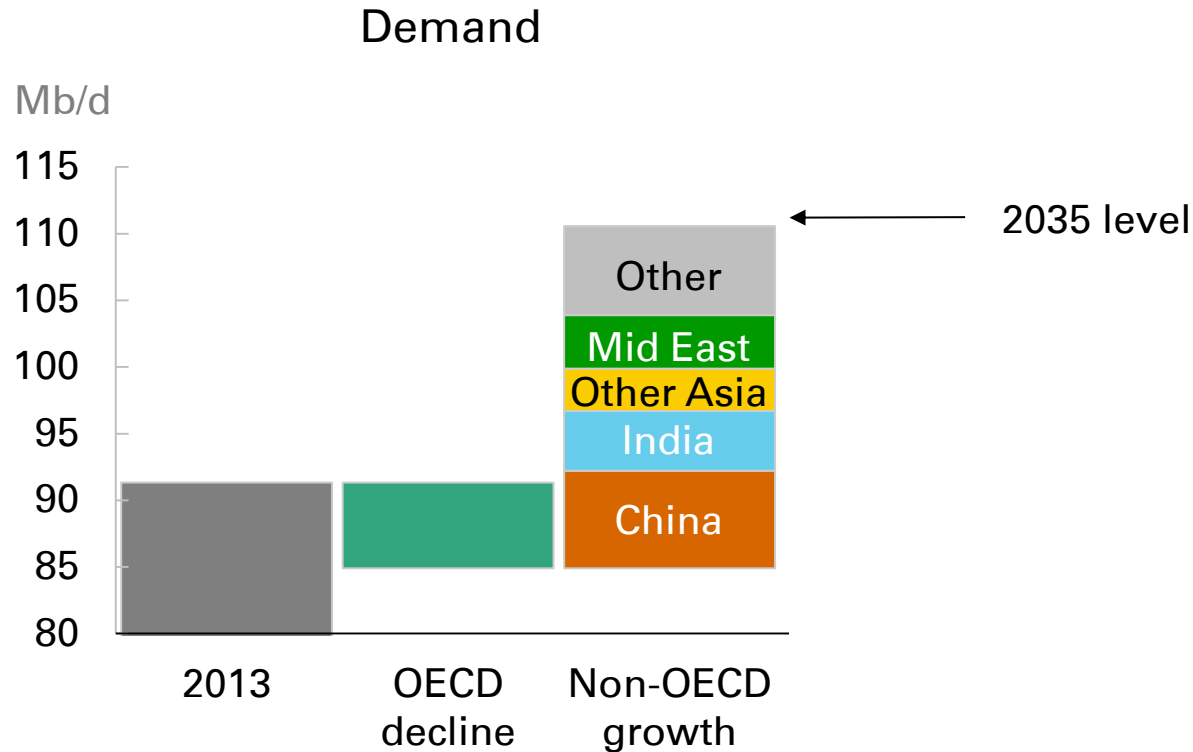
Billion toe



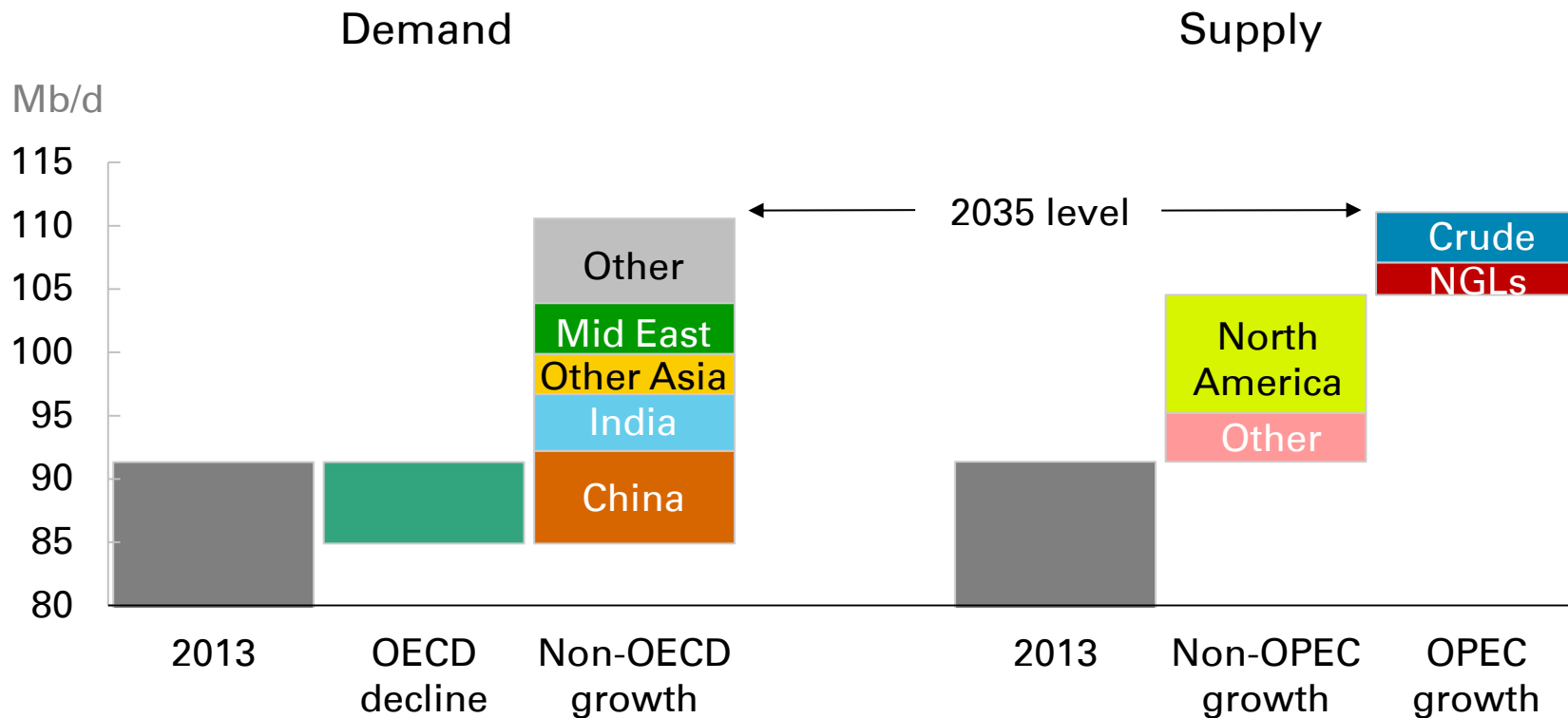
Source: © OECD/IEA 2014

# Oil and other liquid fuels

# Global liquids demand

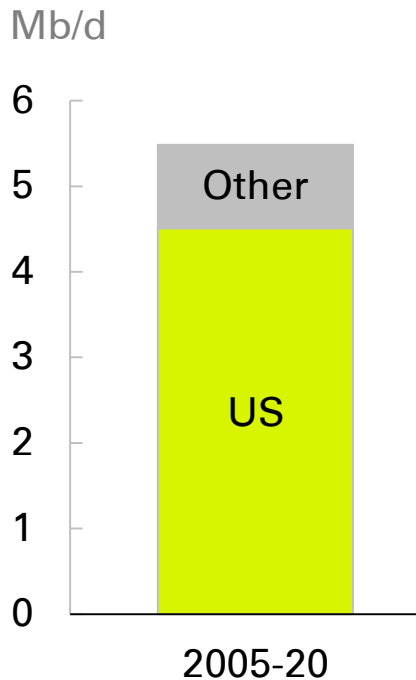


# Global liquids demand and supply

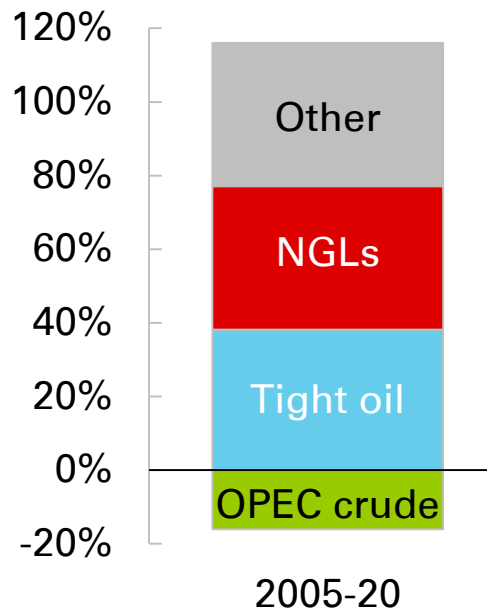


# Tight oil and OPEC balance

## Tight oil supply growth



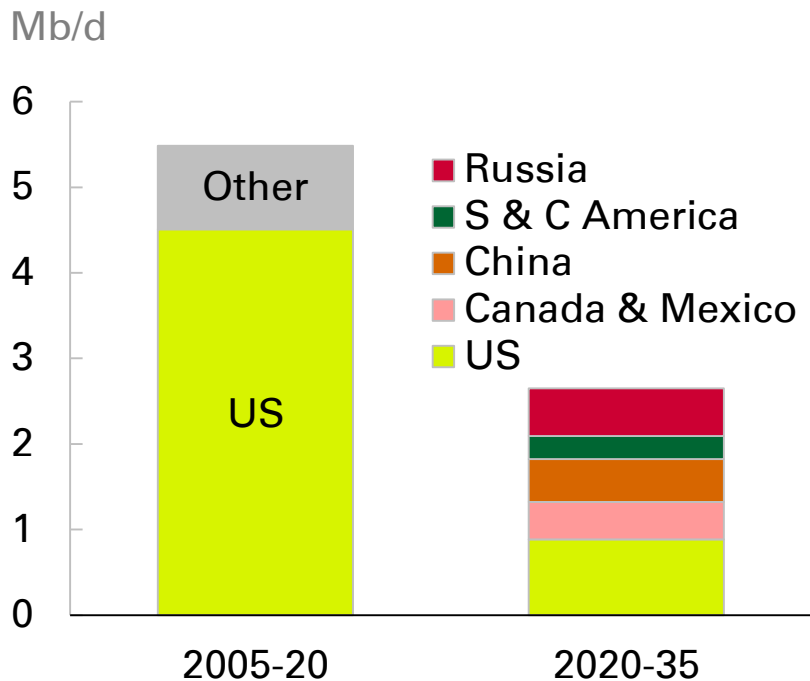
## Share of global liquids growth



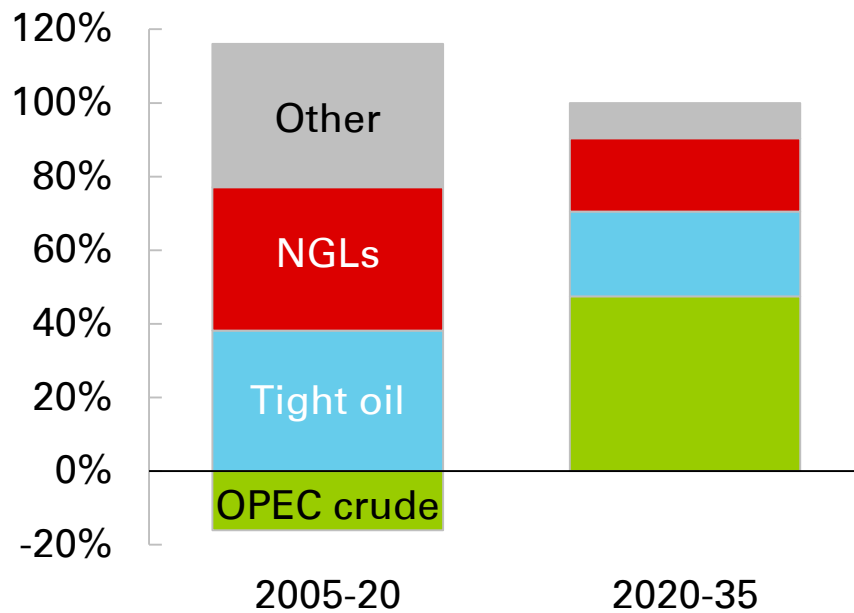


# Tight oil and OPEC balance

## Tight oil supply growth

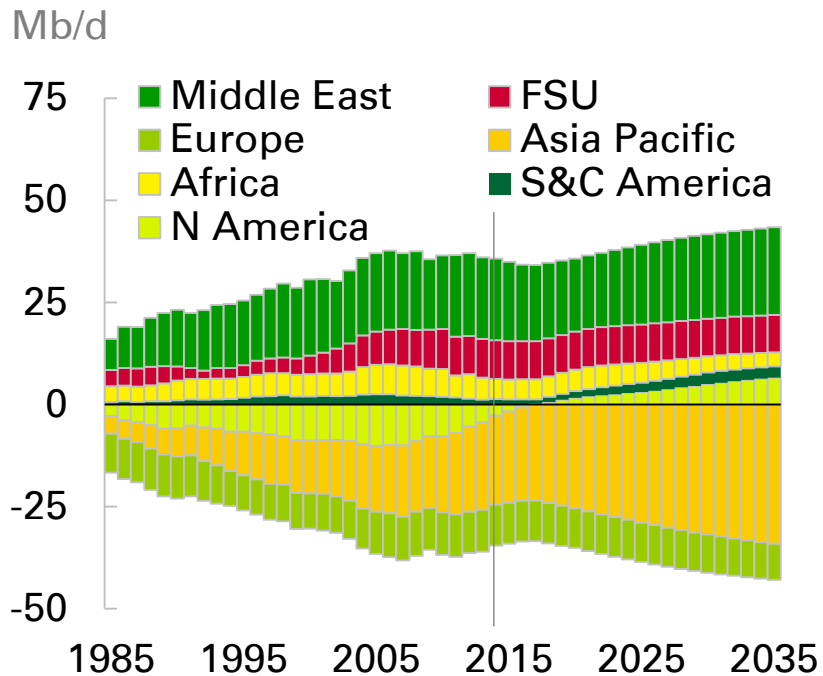


## Share of global liquids growth

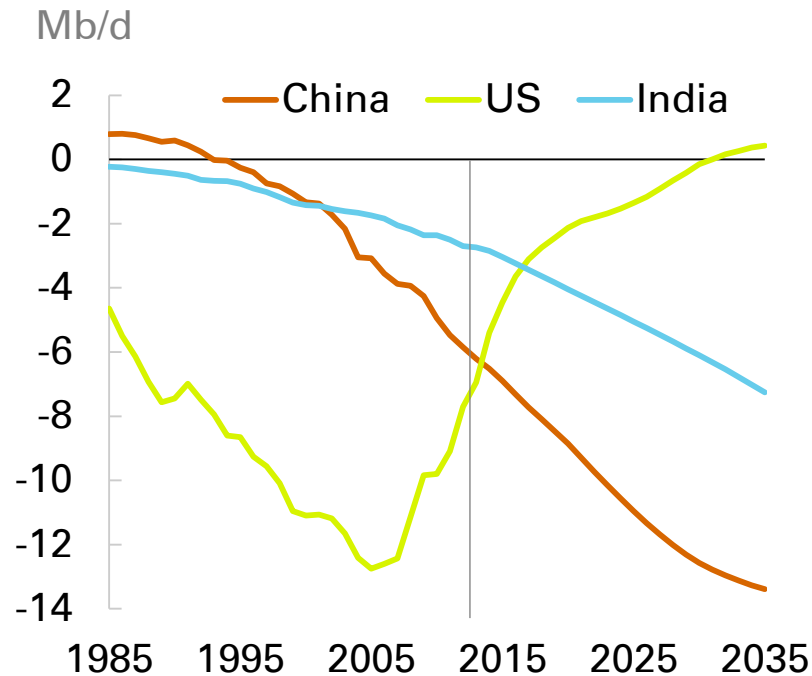


# Oil trade

## Regional imbalances



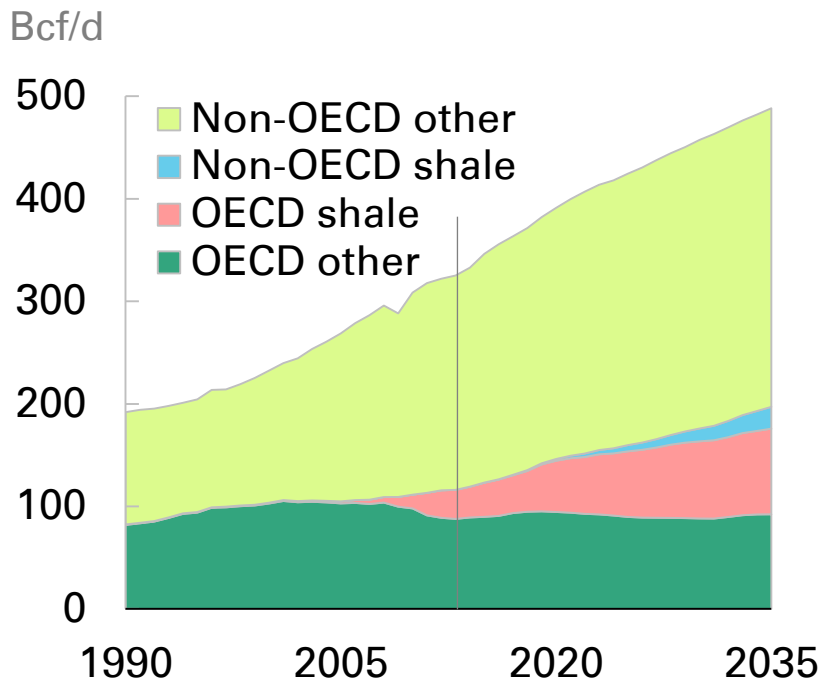
## Net exports



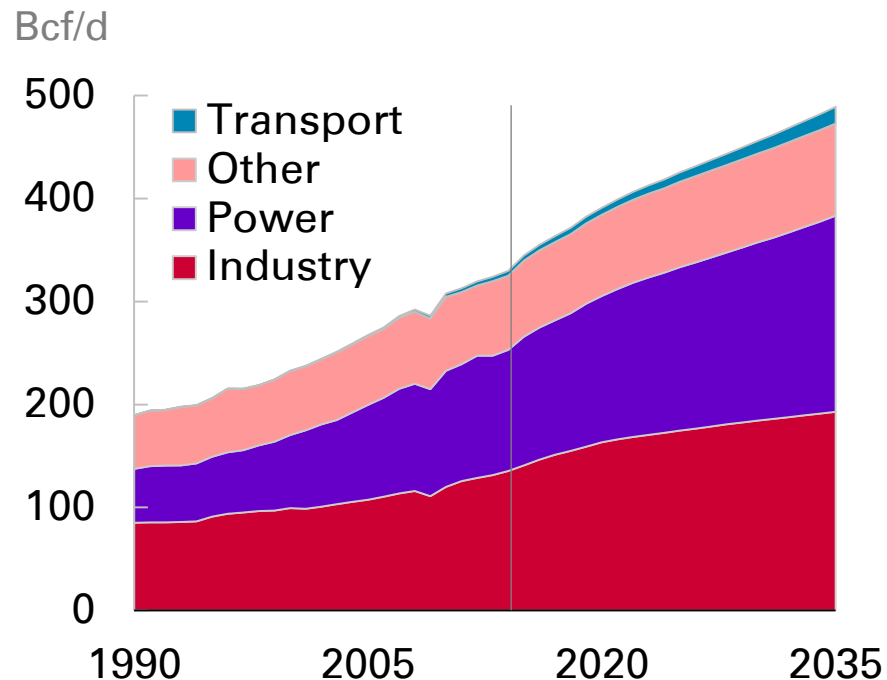
# Natural gas

# Global supply and demand for natural gas

## Production by type and region

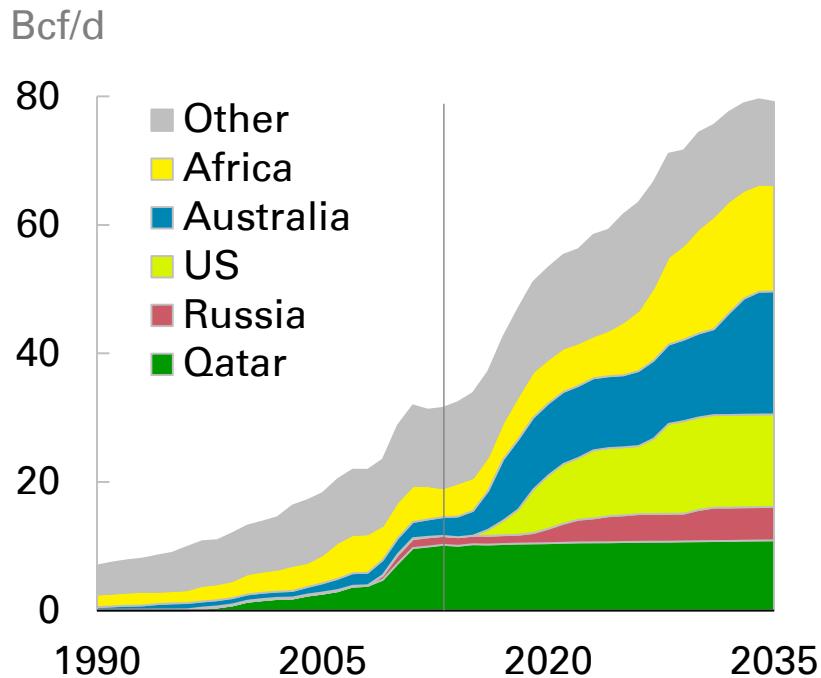


## Consumption by sector

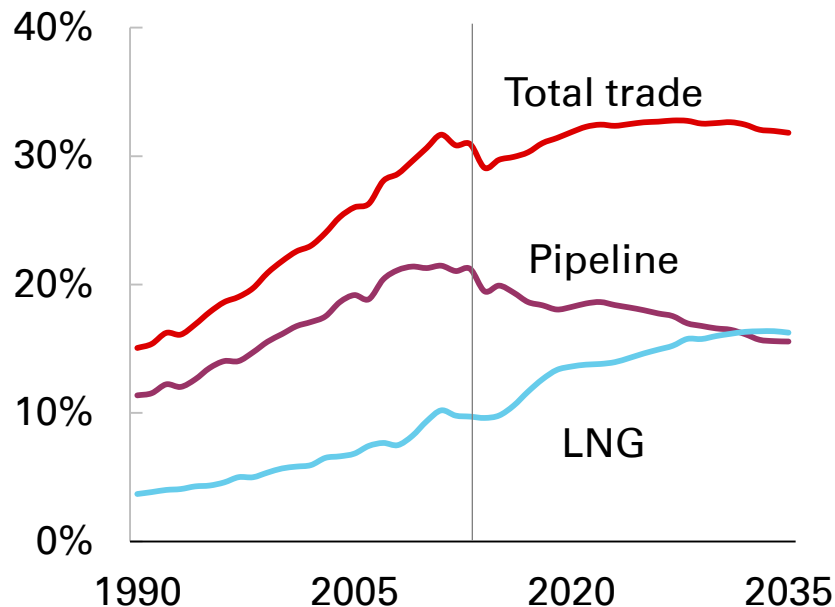


# Growth of LNG

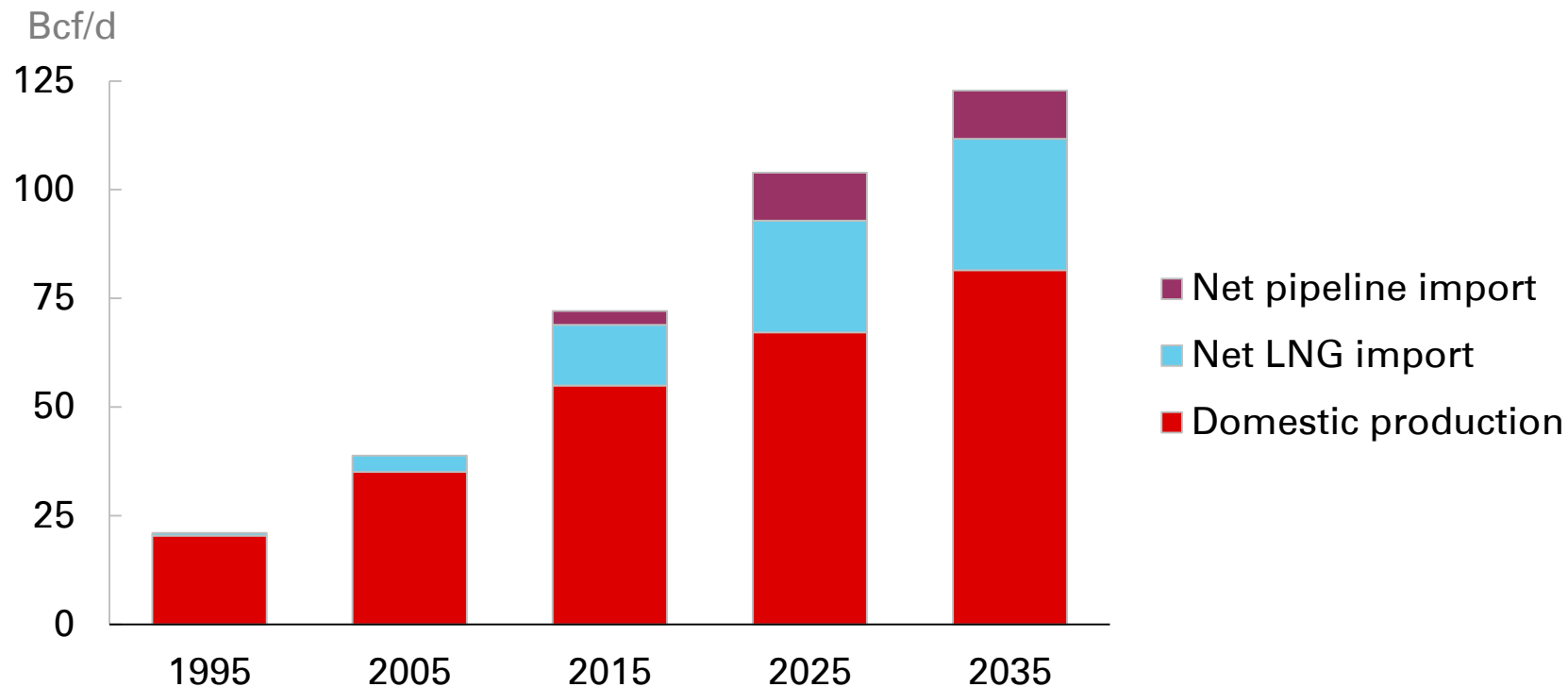
## LNG supply



## Shares of global gas consumption



## Sources of gas supply to Asia



## Key uncertainties

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### Low GDP growth

- what if growth in China and India slows more rapidly than assumed?

### Climate policies

- what if policymakers take more actions to reduce emissions?

### Geopolitics

- what are the implications of heightened geopolitical risks?

### China's electrification

- what if China's electricity use follows a different path?

## Low GDP growth

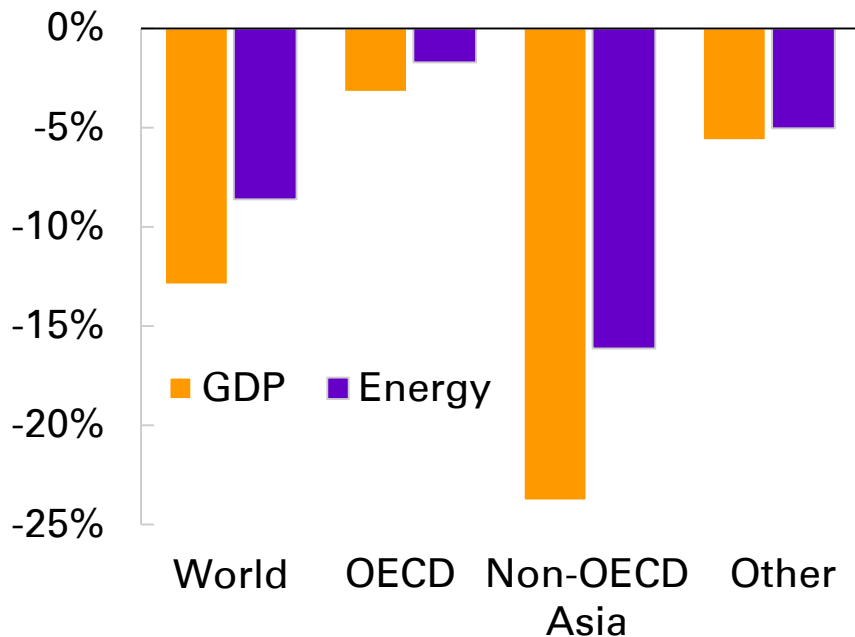
what if growth in China and India  
slows more rapidly than assumed?



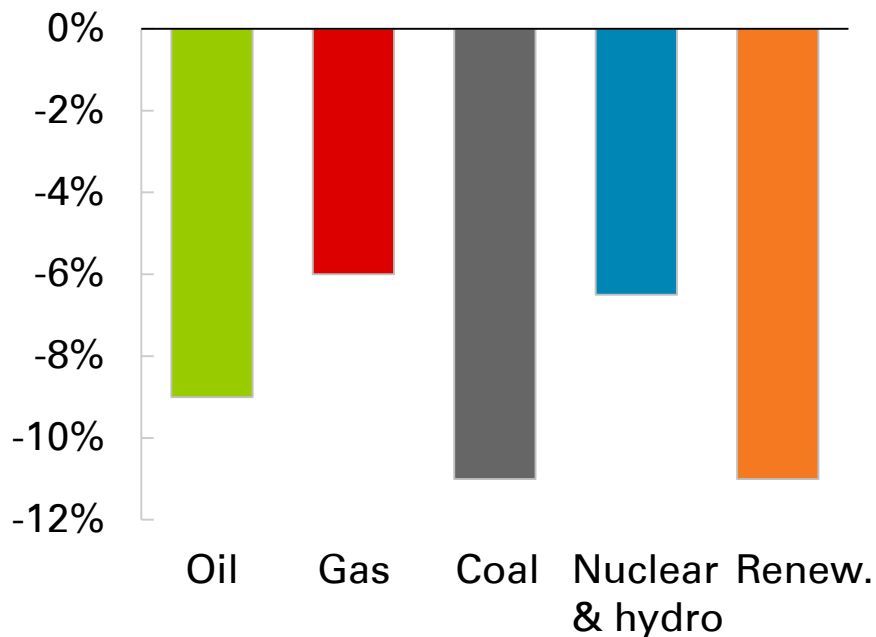
# Low GDP growth alternative

Differences from base case in 2035

GDP and energy demand



Energy demand by fuel



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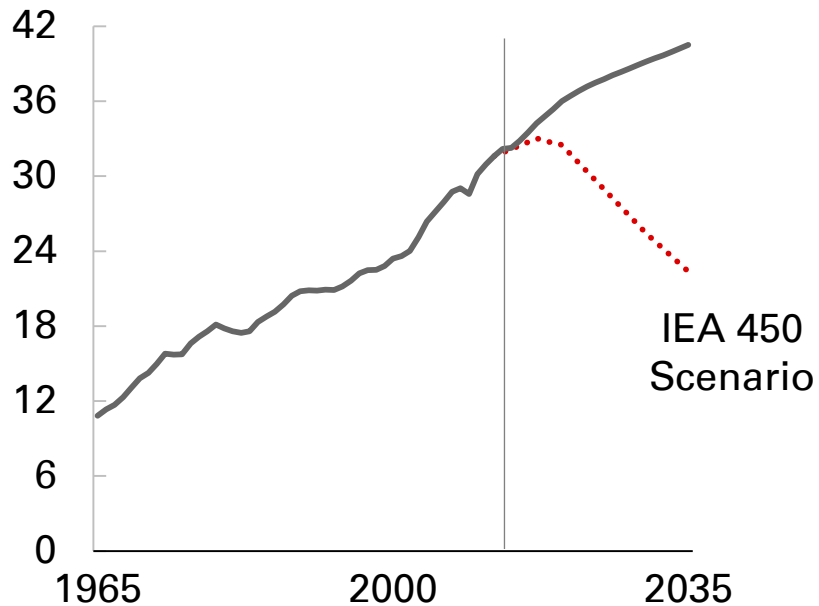
## Climate policies

what if policymakers take more  
actions to reduce emissions?

# Carbon emissions

## Global emissions

Billion tonnes CO<sub>2</sub>



# Conclusion

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## Continuous change is the norm for energy markets

- Changing energy mix

- gas fastest growing fossil fuel, coal the slowest
- continued rapid growth in renewables



- Changing energy trade patterns

- increasingly flowing from West to East

- Changing the carbon emissions path?

- no silver bullet, need action on many fronts
- let the market pick the winners



# BP Energy Outlook 2035

Q&A

[bp.com/energyoutlook](https://bp.com/energyoutlook)

#BPstats

# GDP, energy demand and carbon emissions

Index: 1990 = 100

