



BP Energy Outlook 2035

Spencer Dale, group chief economist

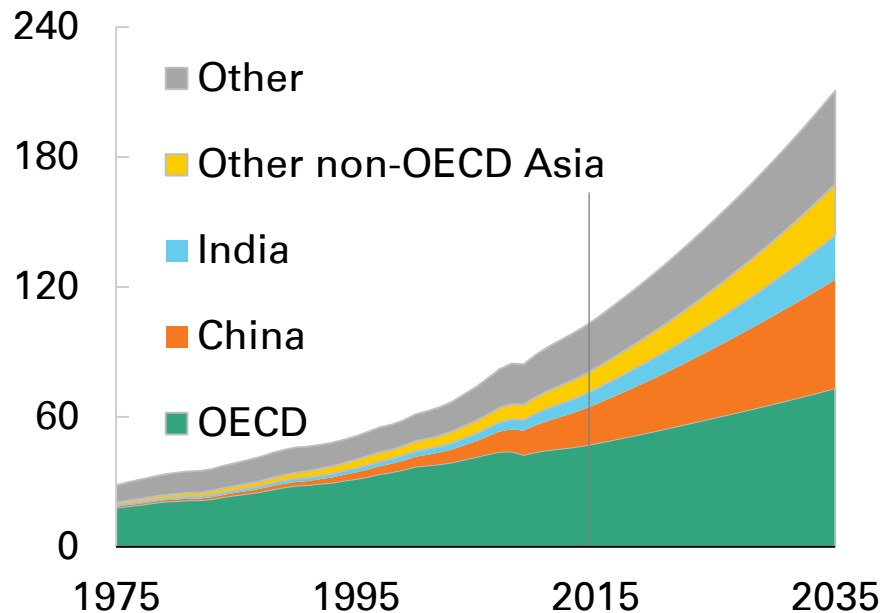
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#BPstats

Economic backdrop

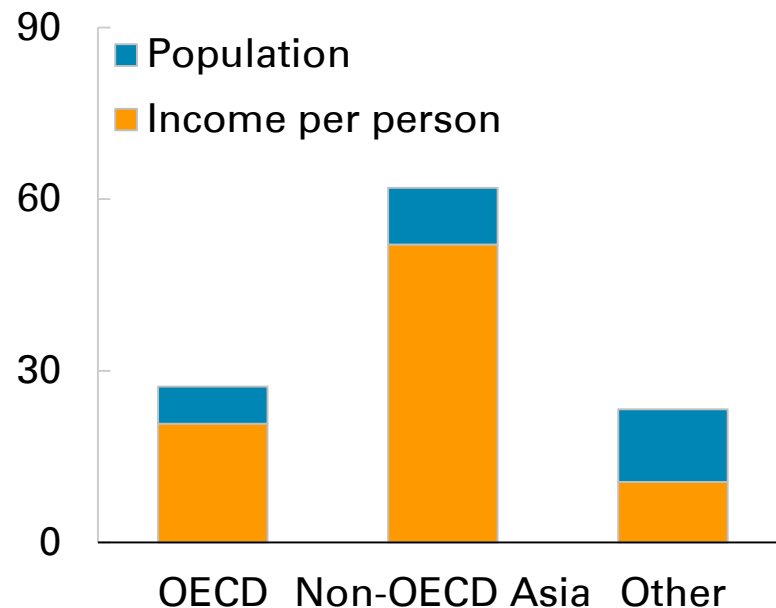
GDP

Trillion, \$2011 PPP



Contribution to GDP growth

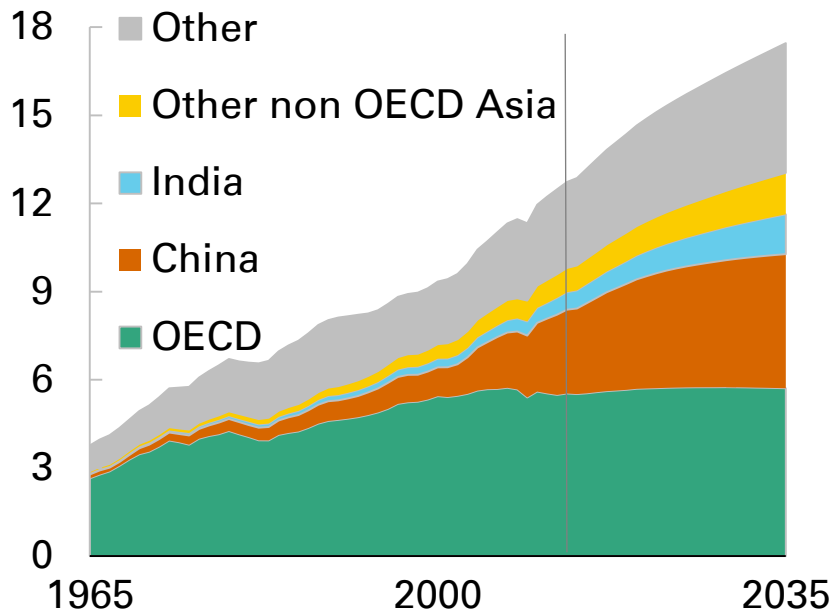
Trillion \$2011 PPP, 2013-35



Global energy demand

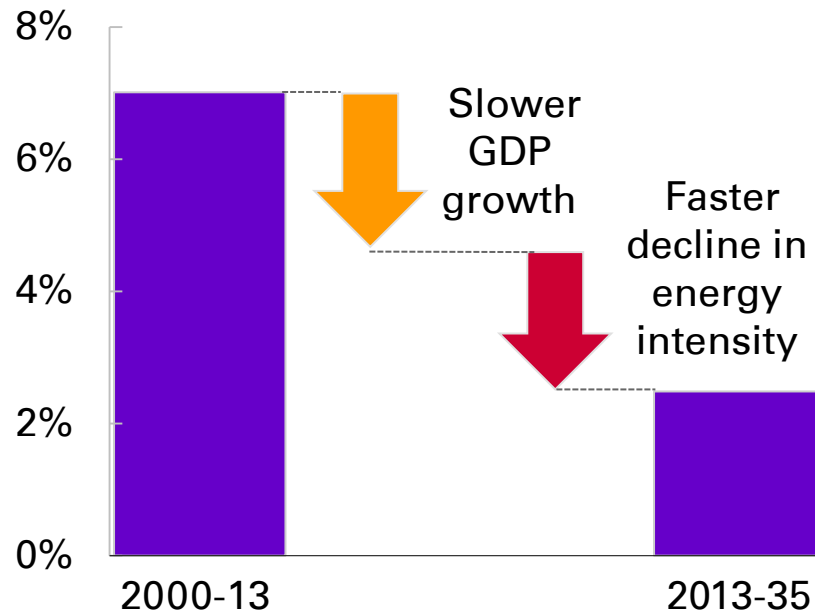
Consumption by region

Billion toe



Non-OECD Asia energy growth

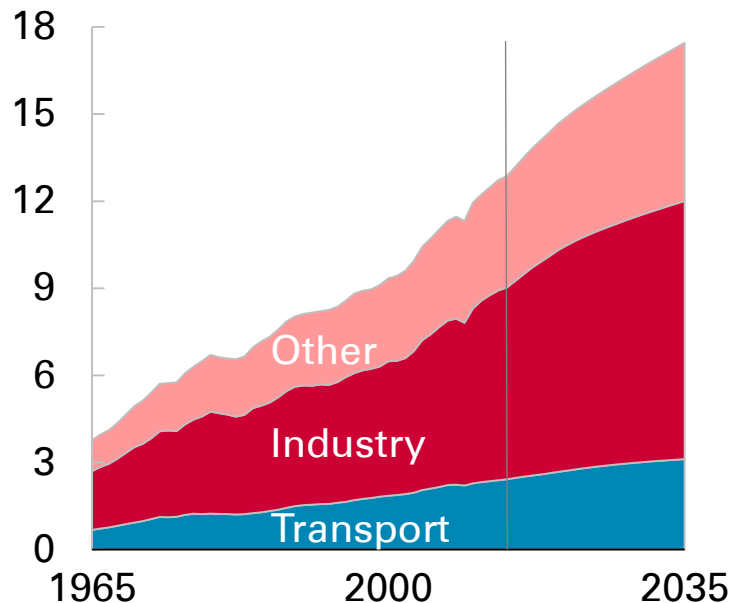
% per annum



Global energy demand by sector and fuel

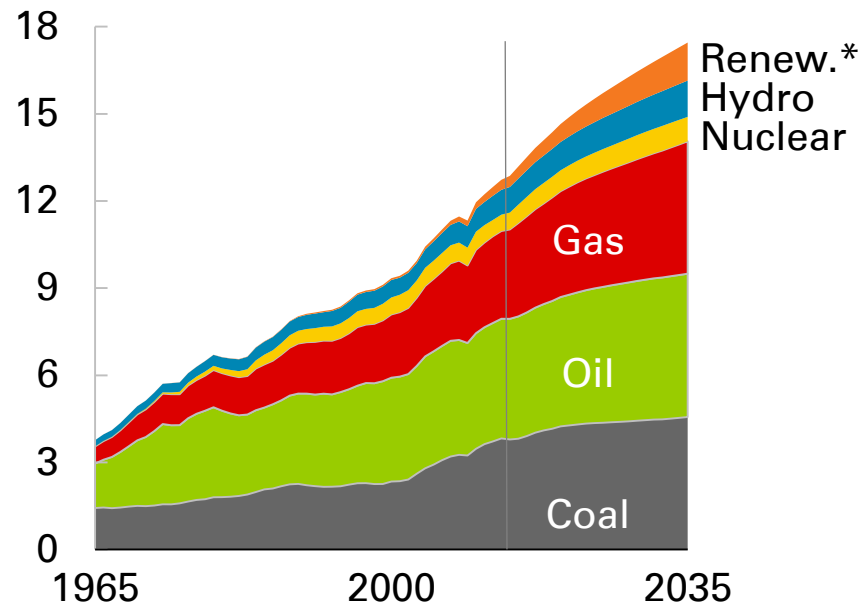
Consumption by sector

Billion toe



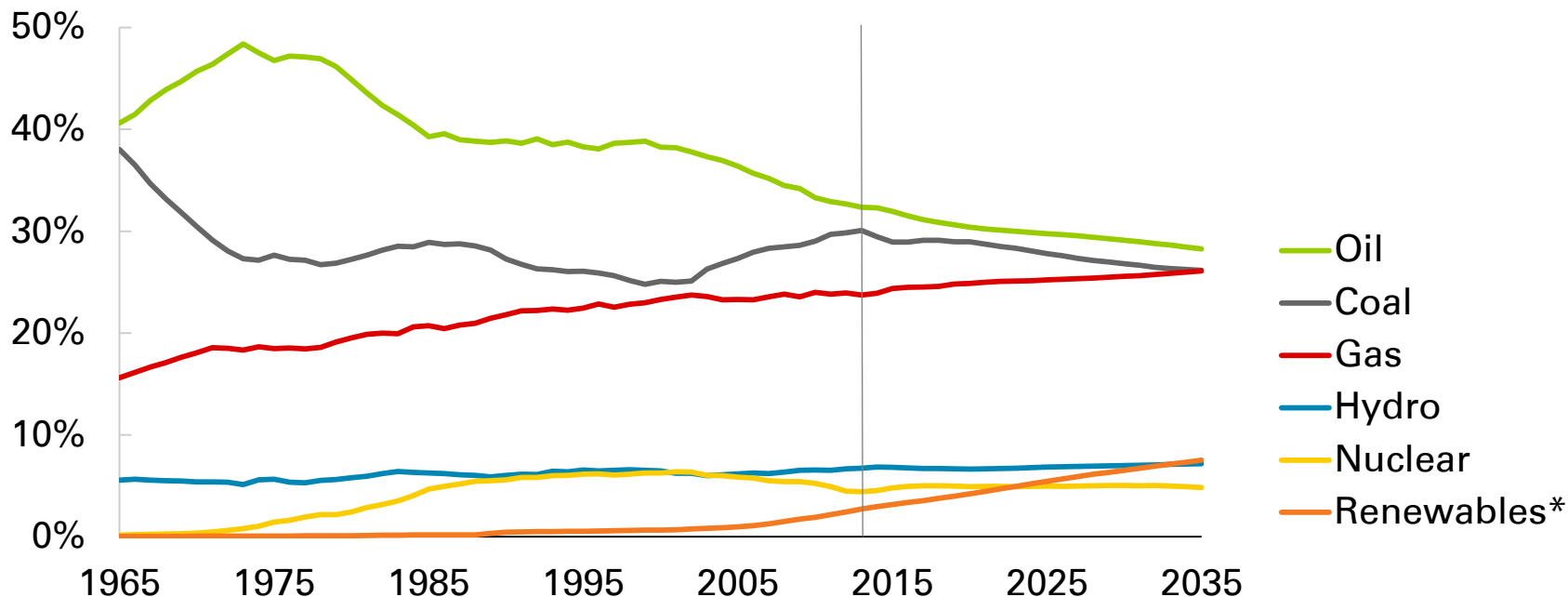
Consumption by fuel

Billion toe



*Includes biofuels

Global shares of primary energy

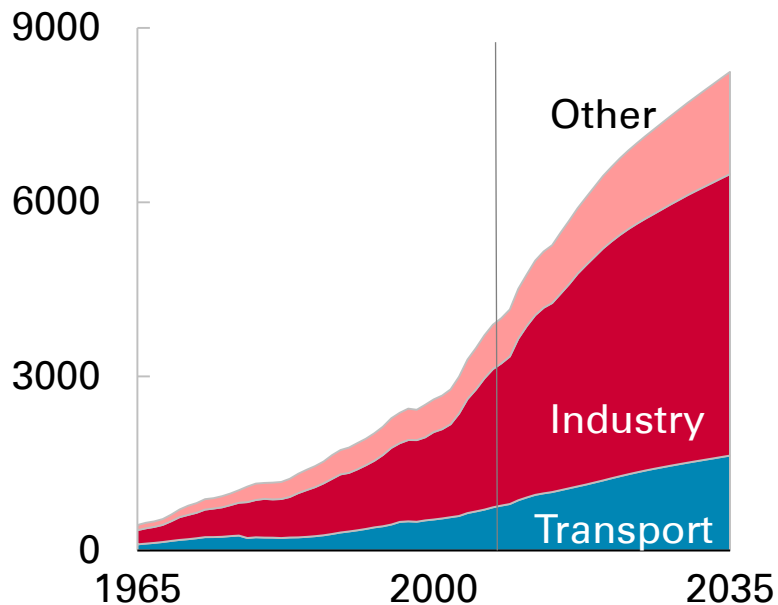


*Includes biofuels

Asia's energy demand by sector and fuel

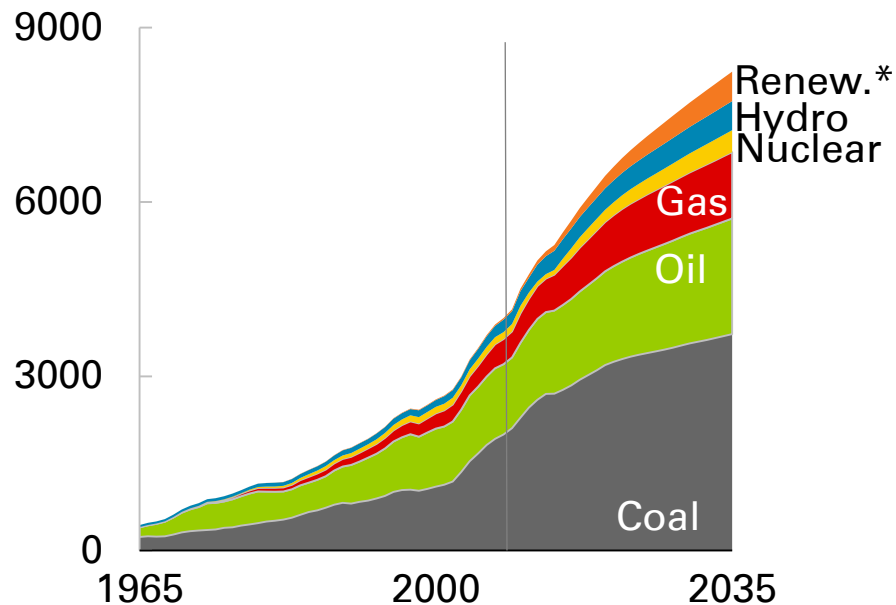
Consumption by sector

Million toe



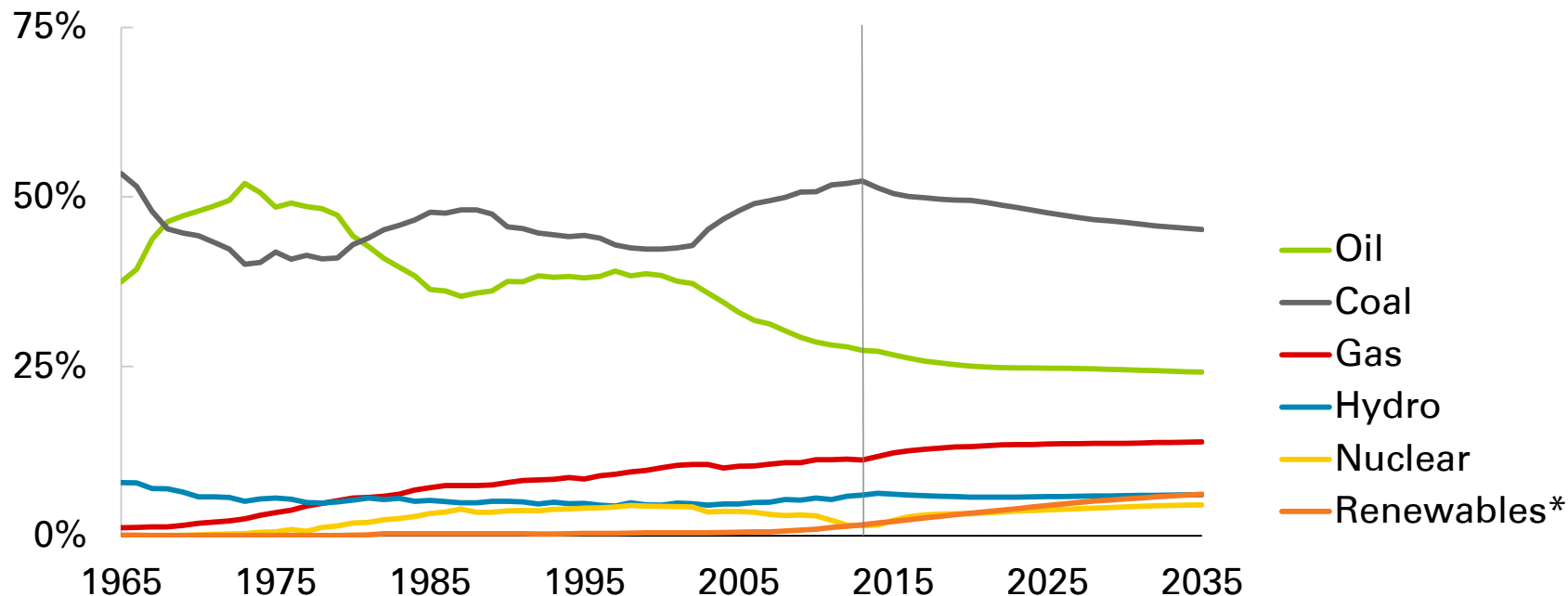
Consumption by fuel

Million toe



*Includes biofuels

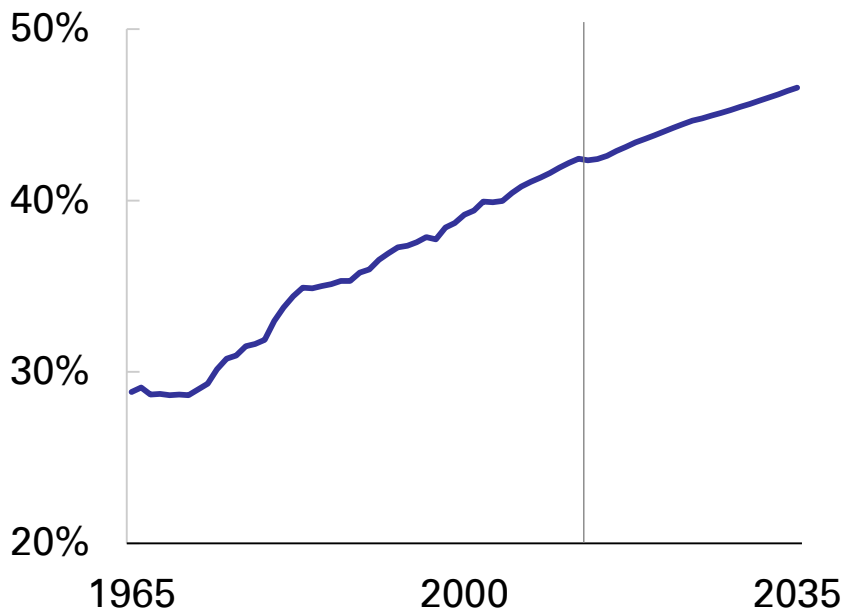
Shares of primary energy in Asia



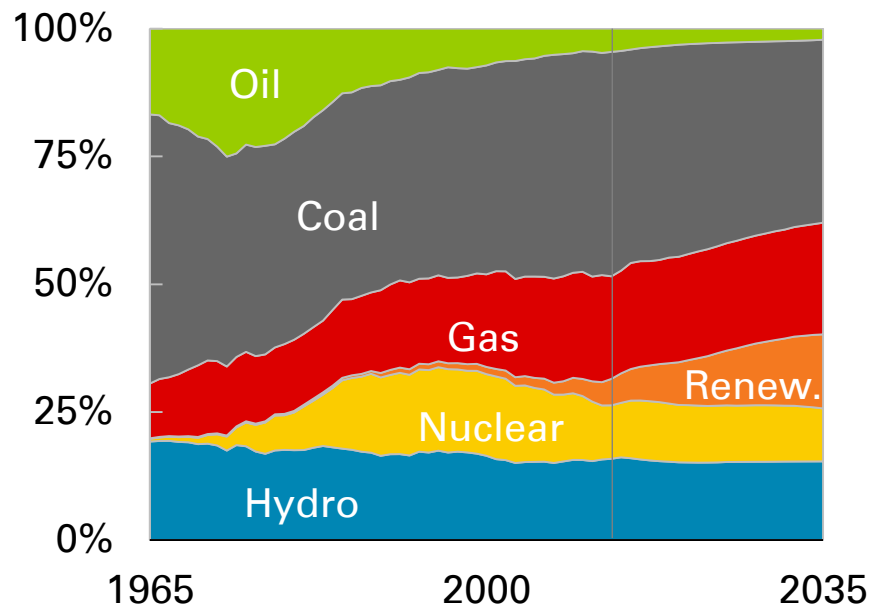
*Includes biofuels

Global power sector

Inputs to power as a share of total primary energy

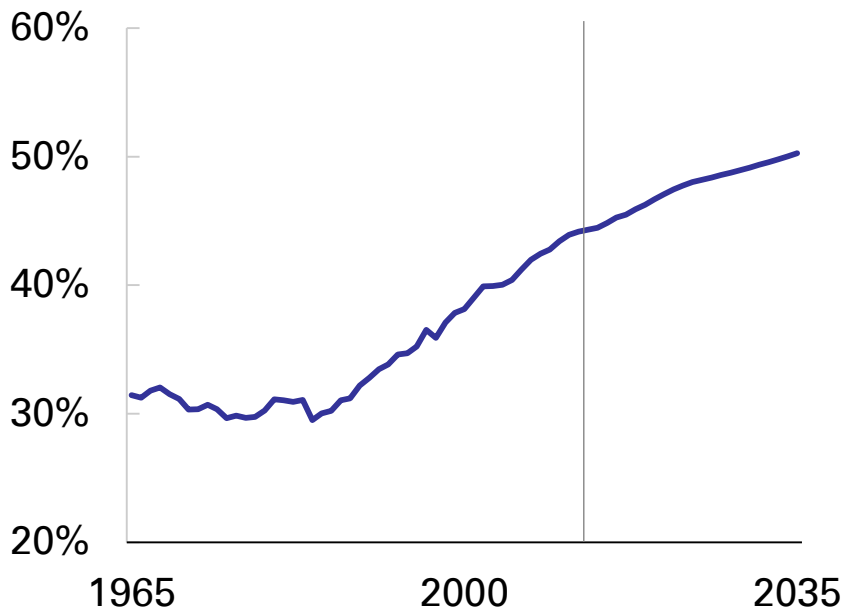


Primary inputs to power

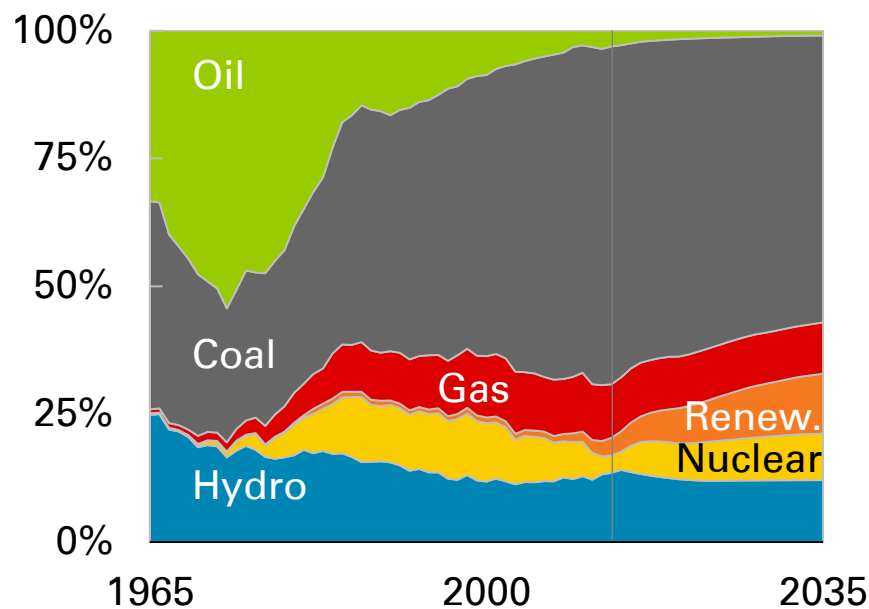


Power sector in Asia

Inputs to power as a share of total primary energy



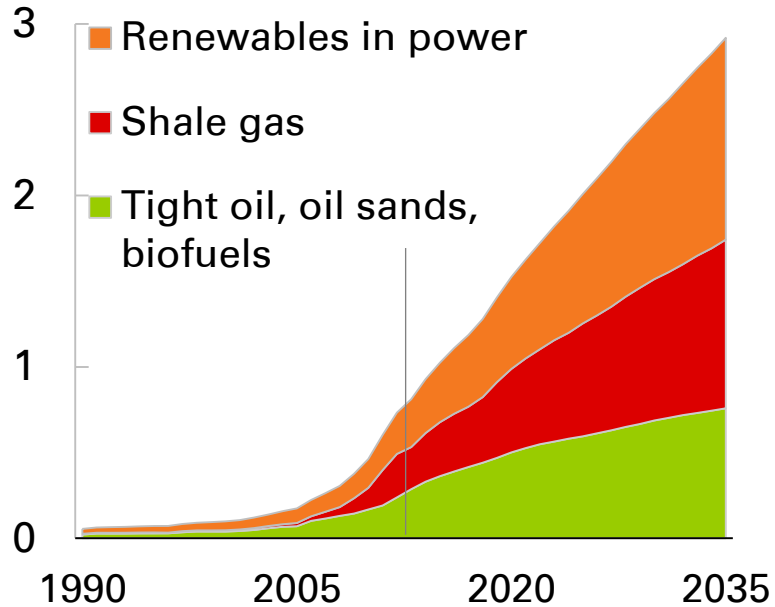
Primary inputs to power



New sources of energy supply

Production

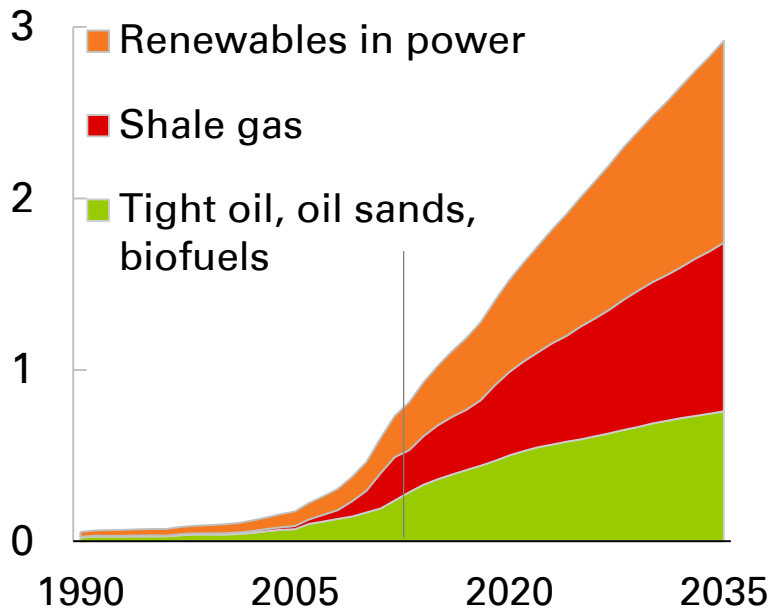
Billion toe



New sources of energy supply

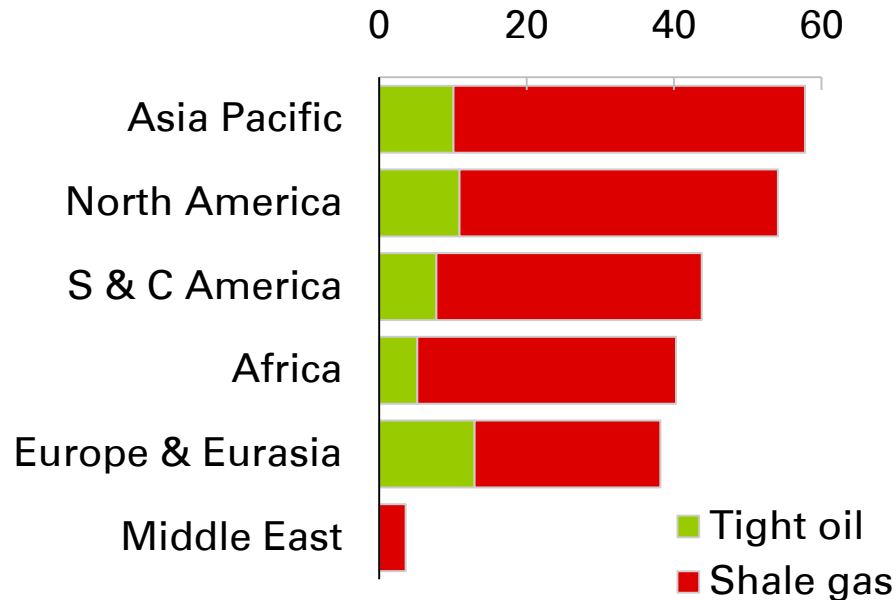
Production

Billion toe



Technically recoverable resources

Billion toe

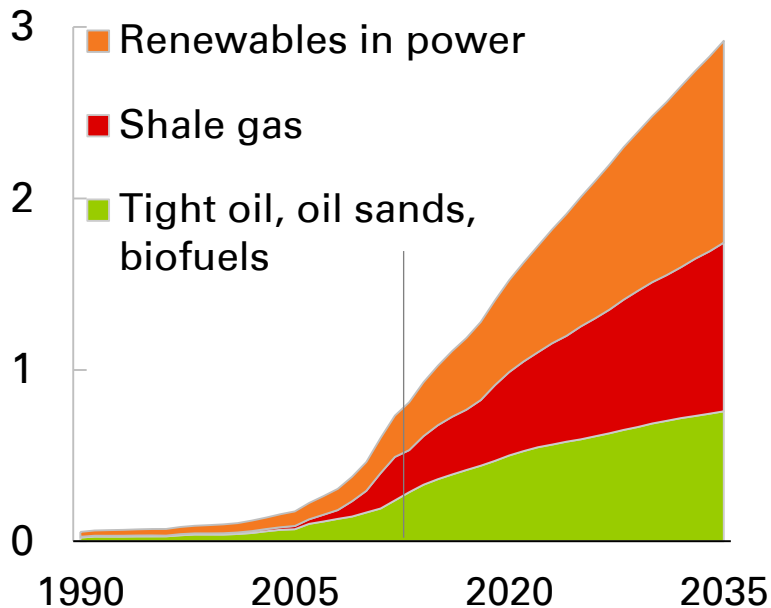


Source: © OECD/IEA 2014

New sources of energy supply

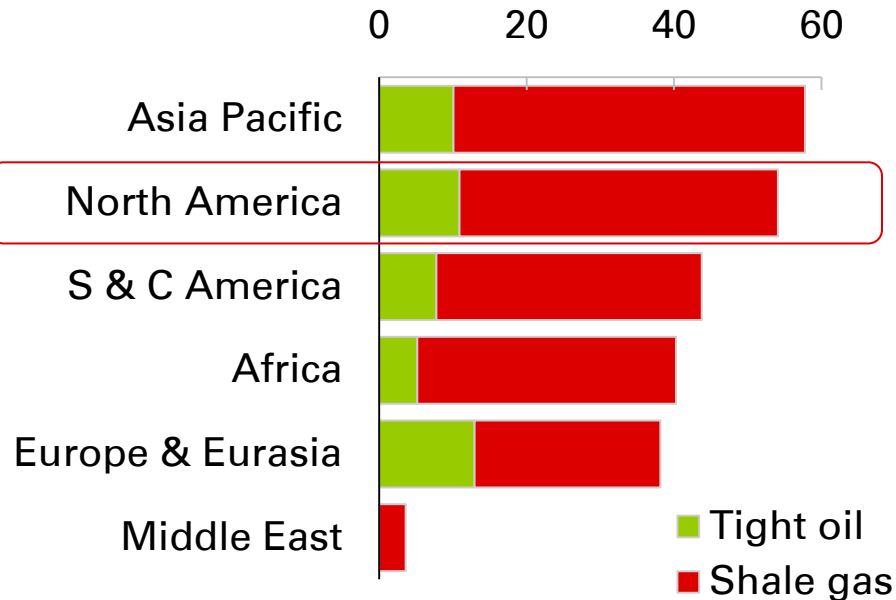
Production

Billion toe



Technically recoverable resources

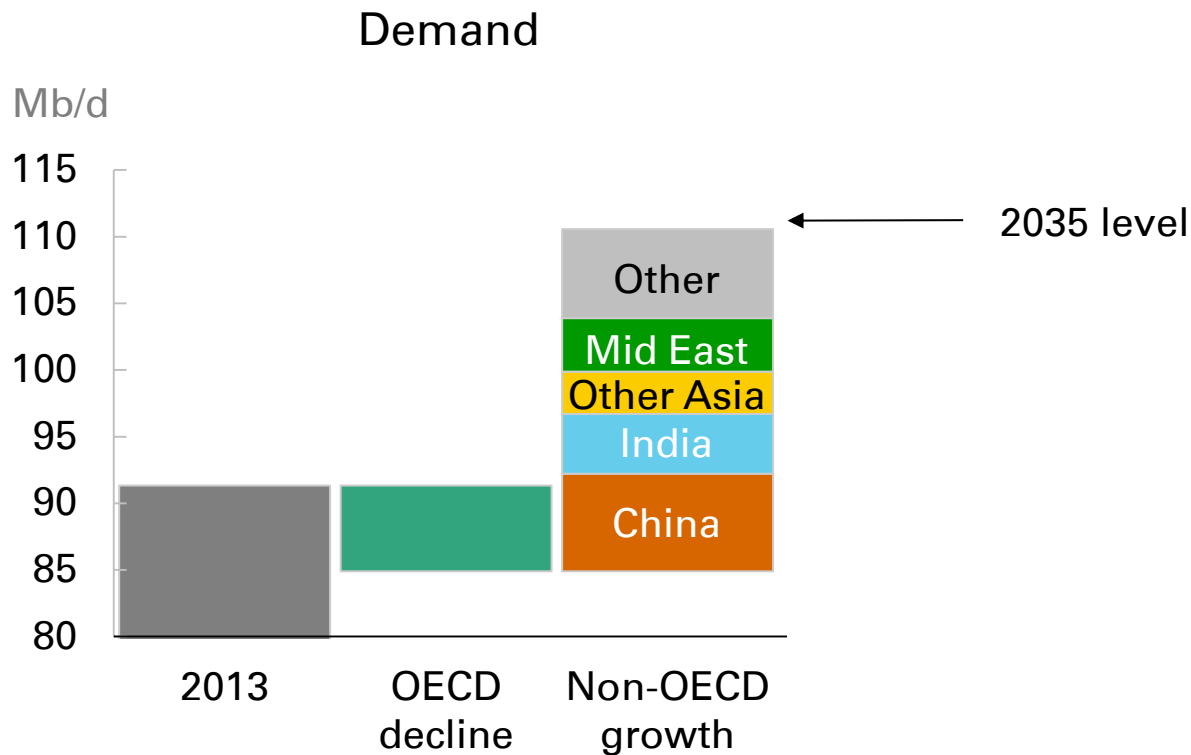
Billion toe



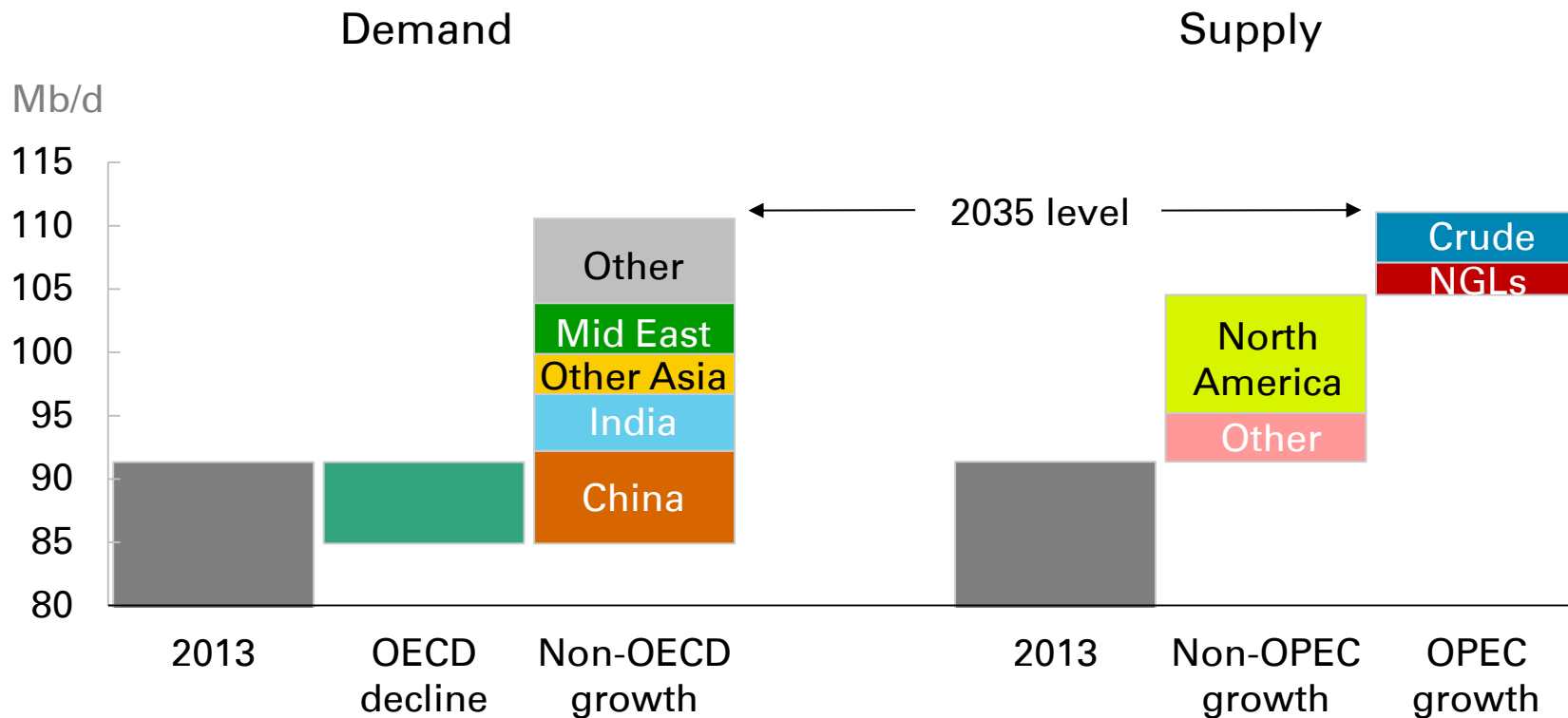
Source: © OECD/IEA 2014

Oil and other liquid fuels

Global liquids demand

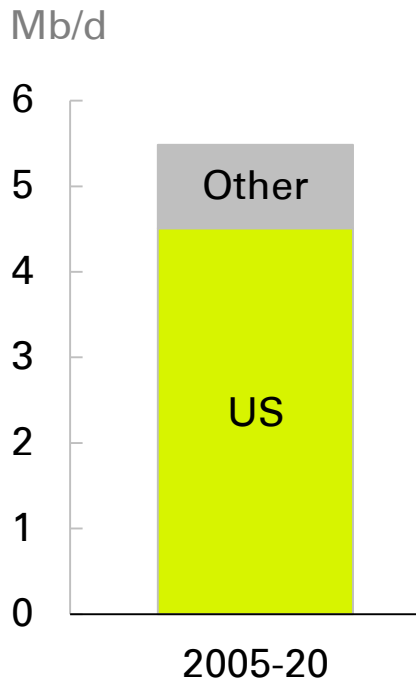


Global liquids demand and supply

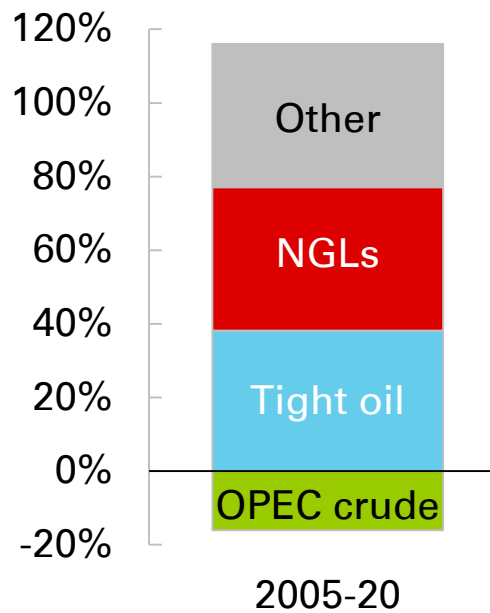


Tight oil and OPEC balance

Tight oil supply growth

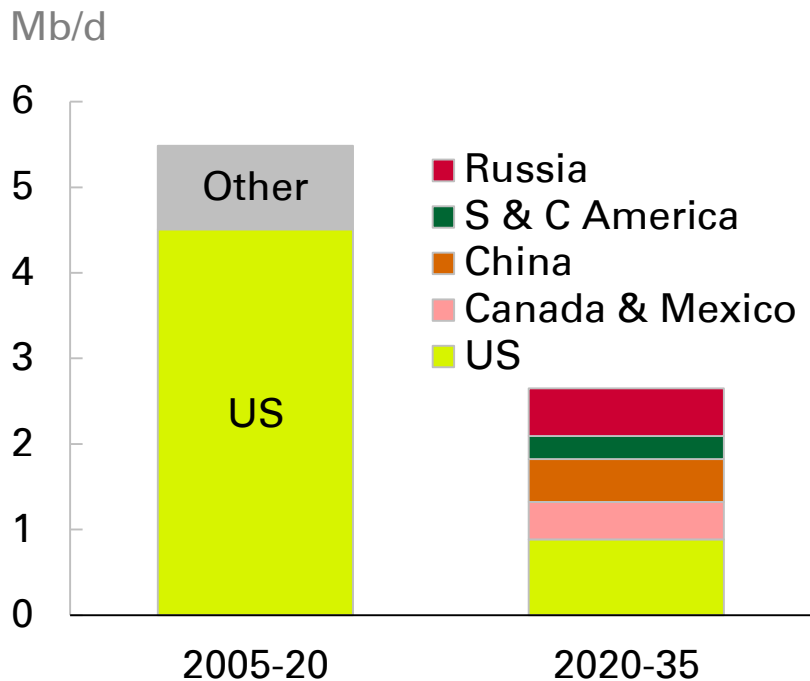


Share of global liquids growth

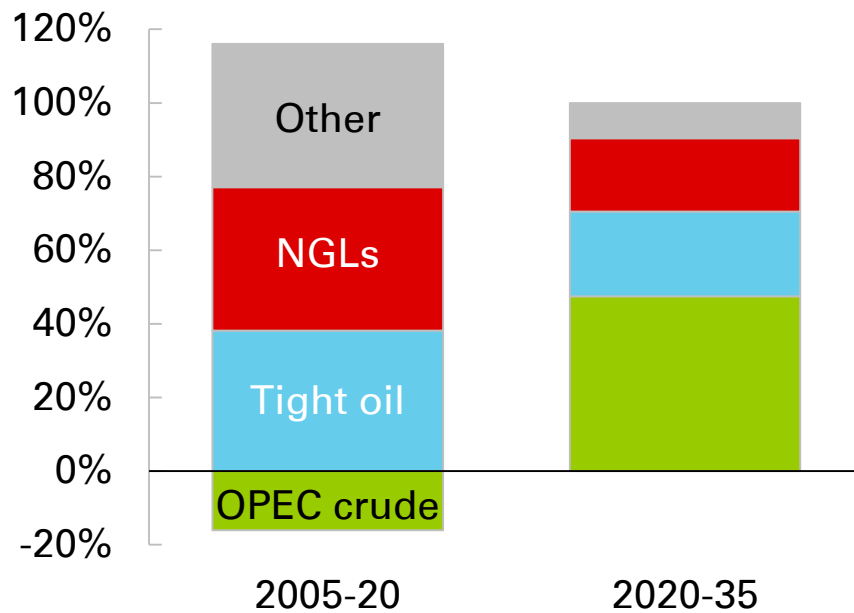


Tight oil and OPEC balance

Tight oil supply growth

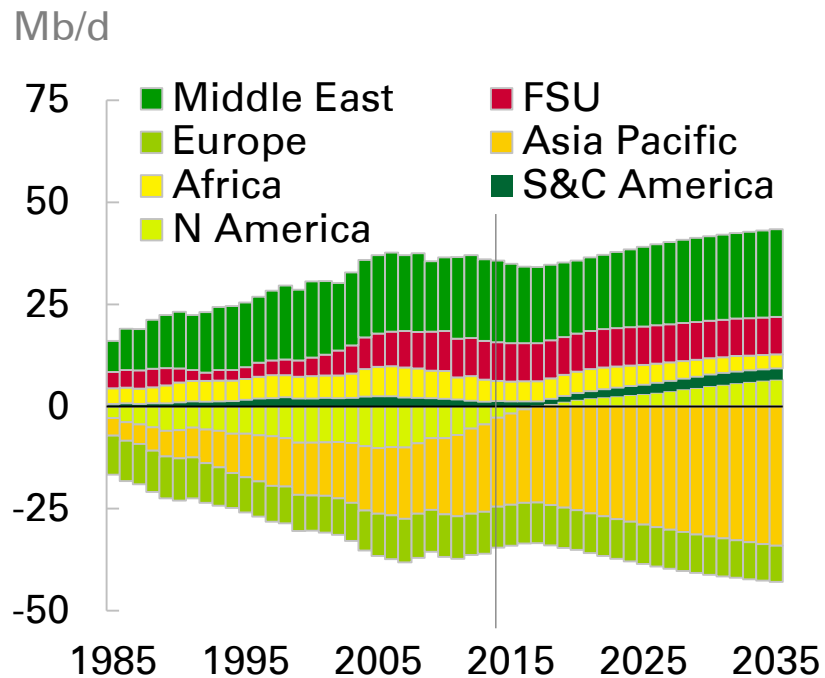


Share of global liquids growth

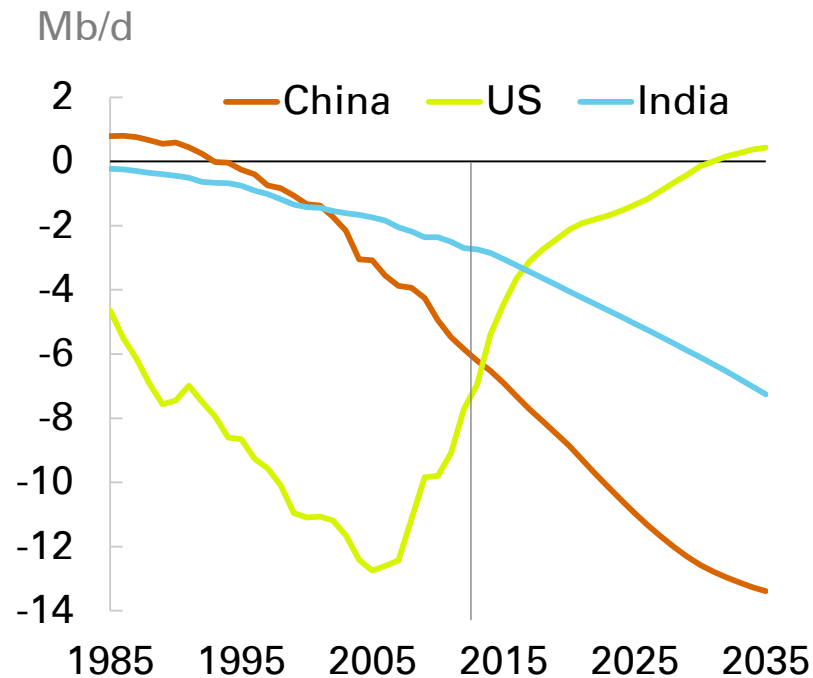


Oil trade

Regional imbalances



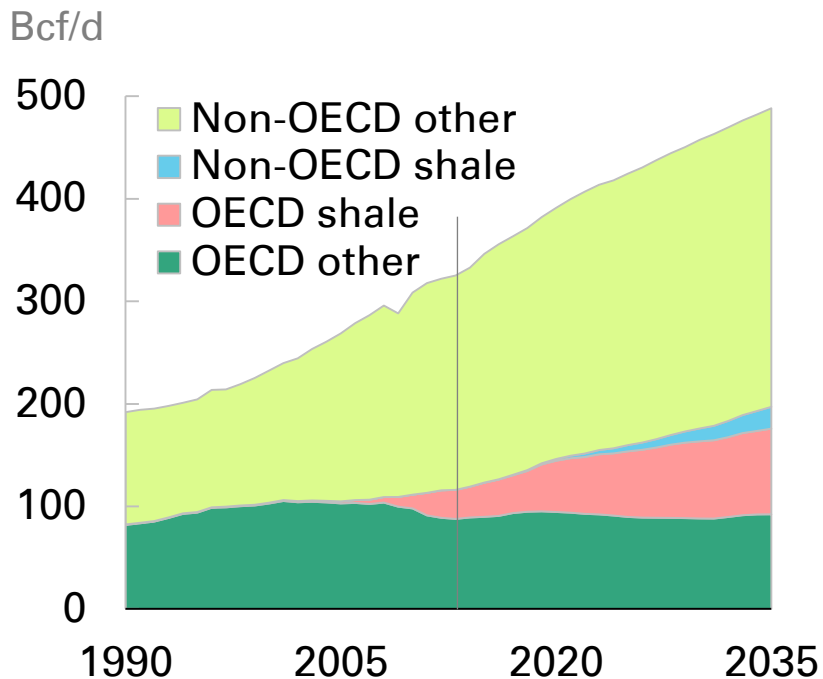
Net exports



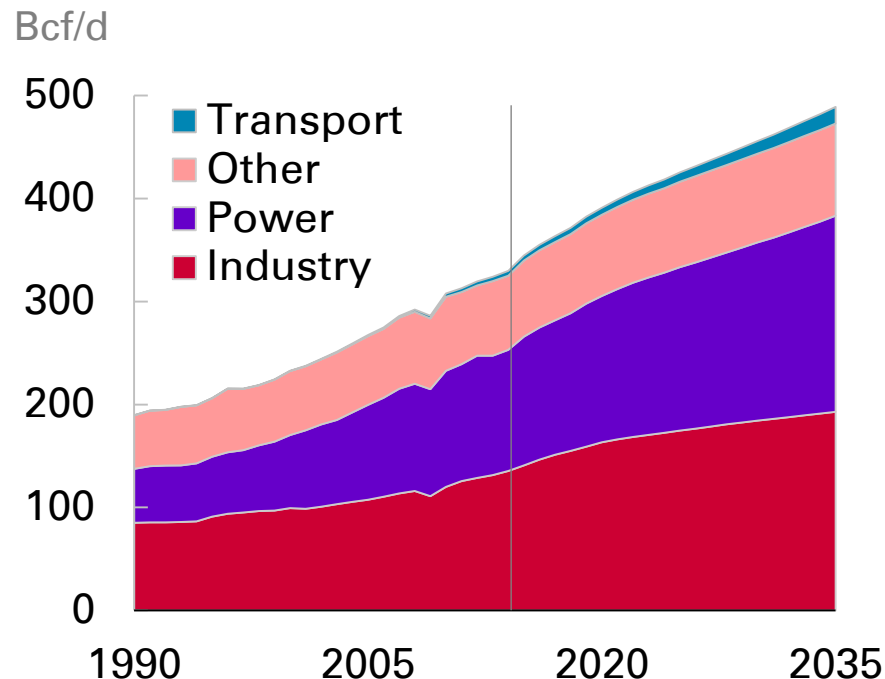
Natural gas

Global supply and demand for natural gas

Production by type and region

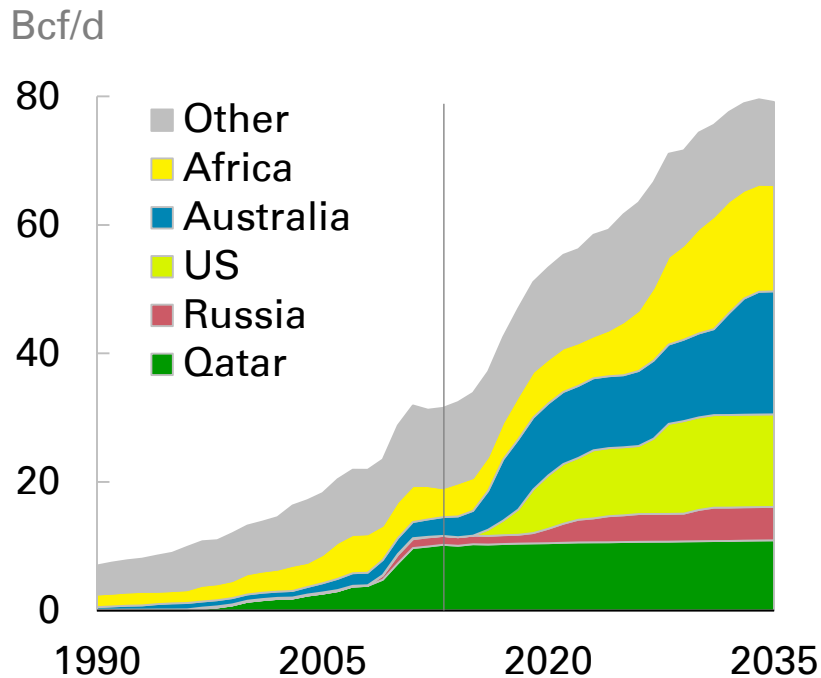


Consumption by sector

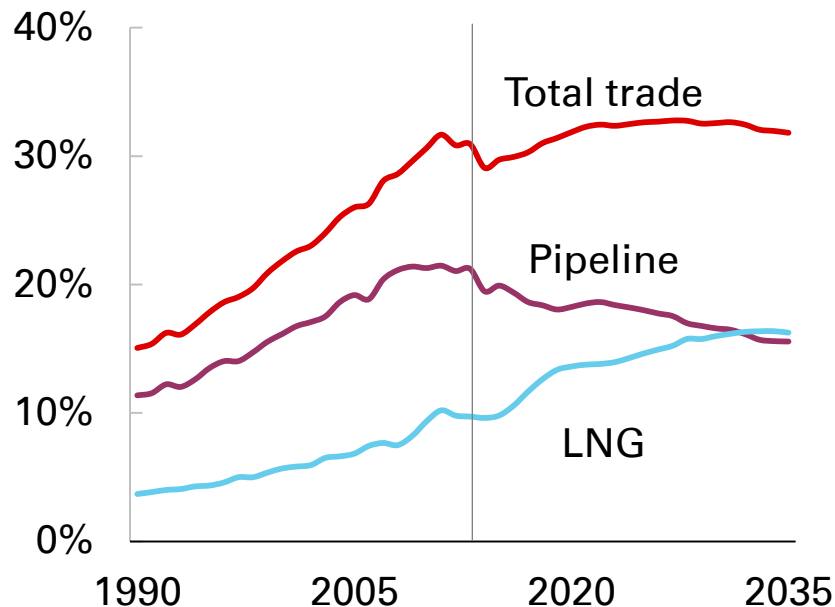


Growth of LNG

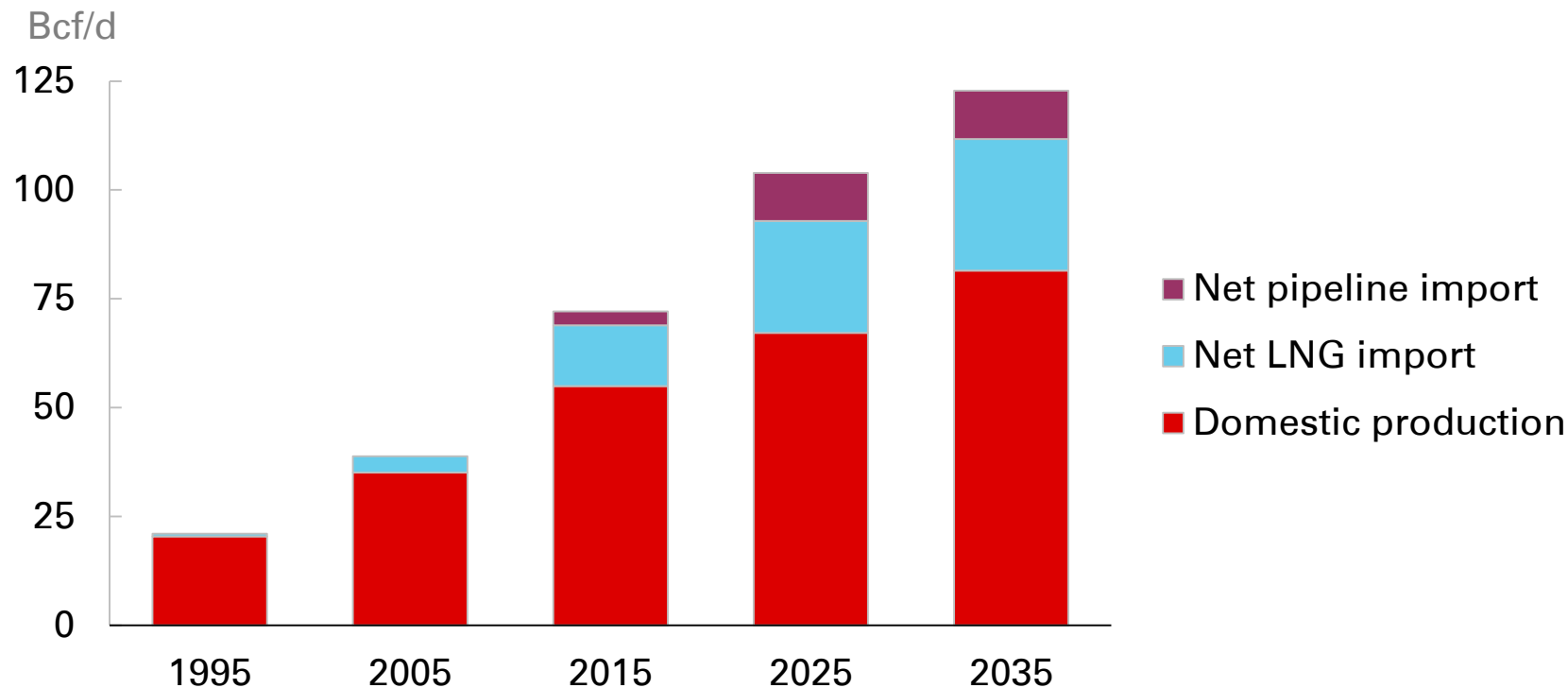
LNG supply



Shares of global gas consumption



Sources of gas supply to Asia



Key uncertainties

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?

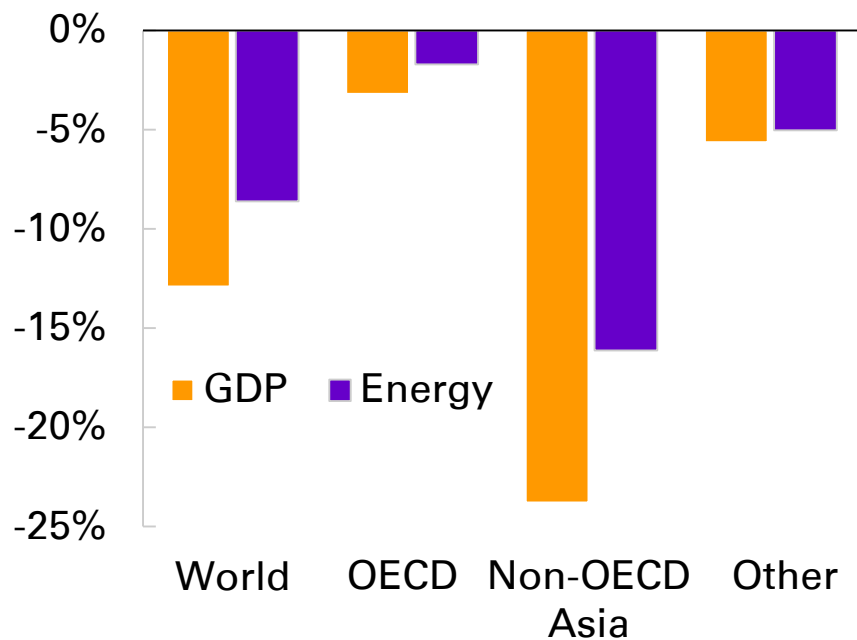
Low GDP growth

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

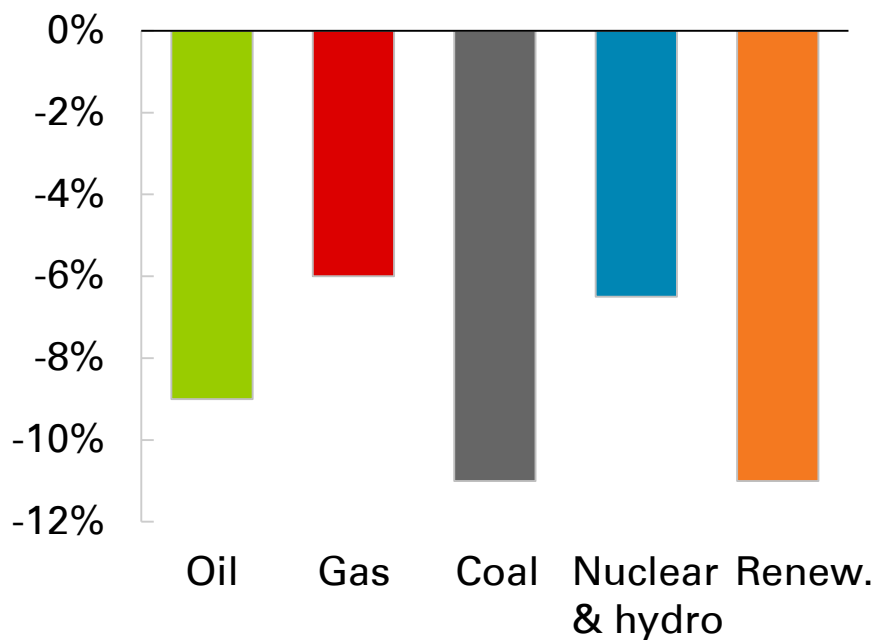
Low GDP growth alternative

Differences from base case in 2035

GDP and energy demand



Energy demand by fuel



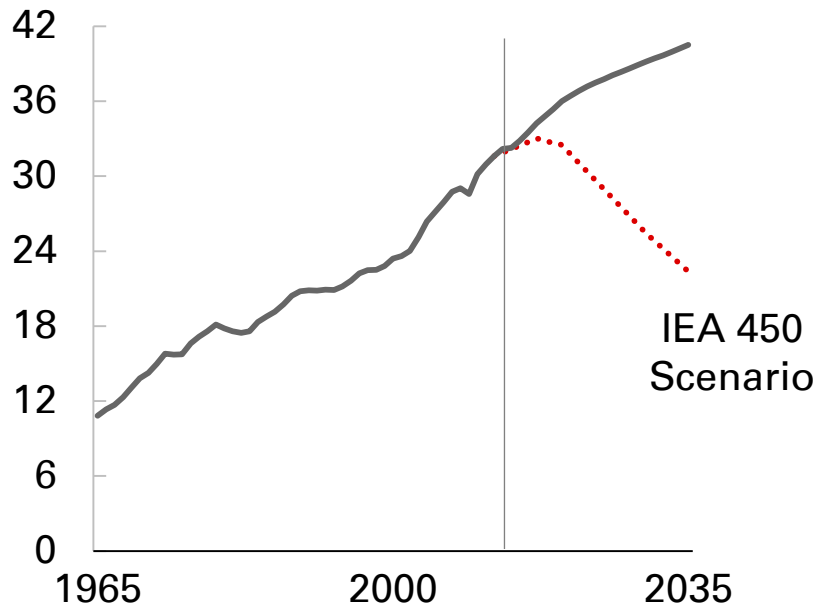
Climate policies

what if policymakers take more
actions to reduce emissions?

Carbon emissions

Global emissions

Billion tonnes CO₂



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

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GDP, energy demand and carbon emissions

Index: 1990 = 100

