



BP Energy Outlook 2030

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Alistair Smith, BP Integrated Supply & Trading

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Outline



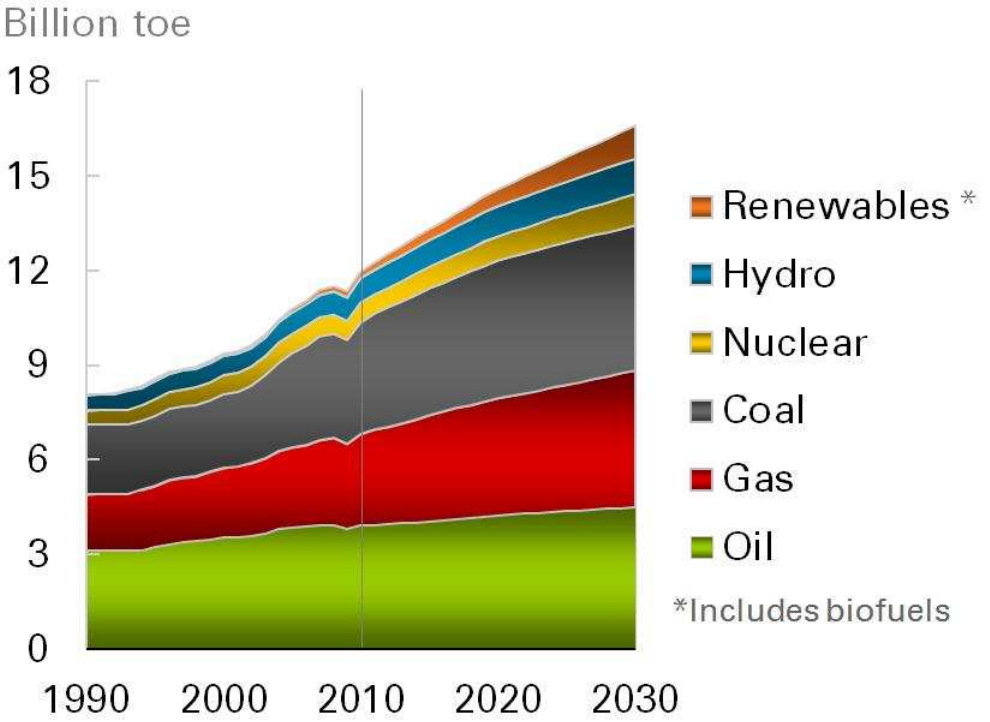
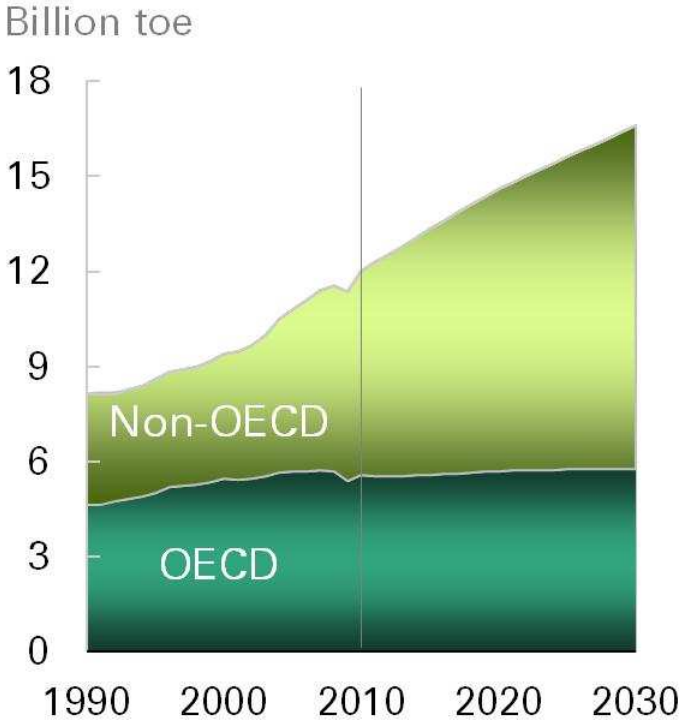
Global energy trends

Outlook 2030: Fuel by fuel

Key determinants

Risks and unknowns

Non-OECD economies continue to drive consumption growth

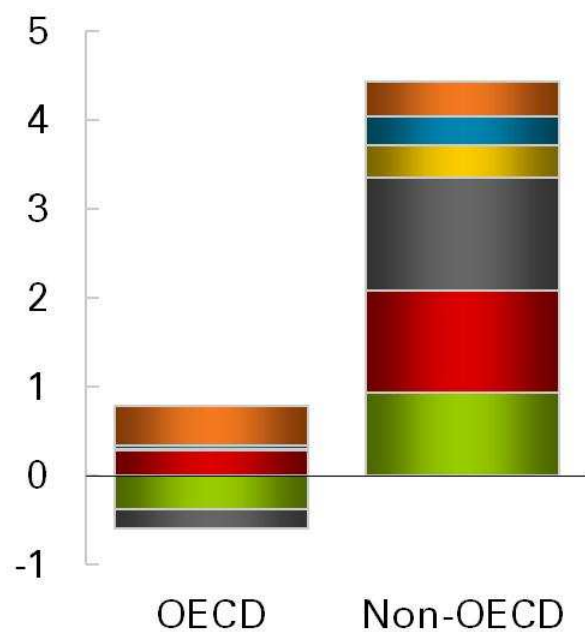




Fuel substitution is the main story in the OECD

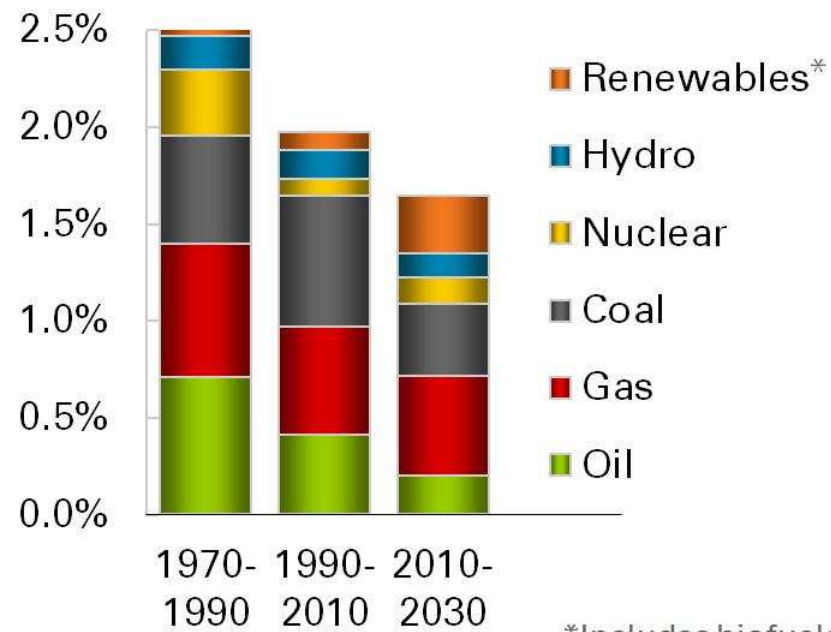
By fuel and country grouping

Change 2010 to 2030, Billion toe



Contributions to global growth

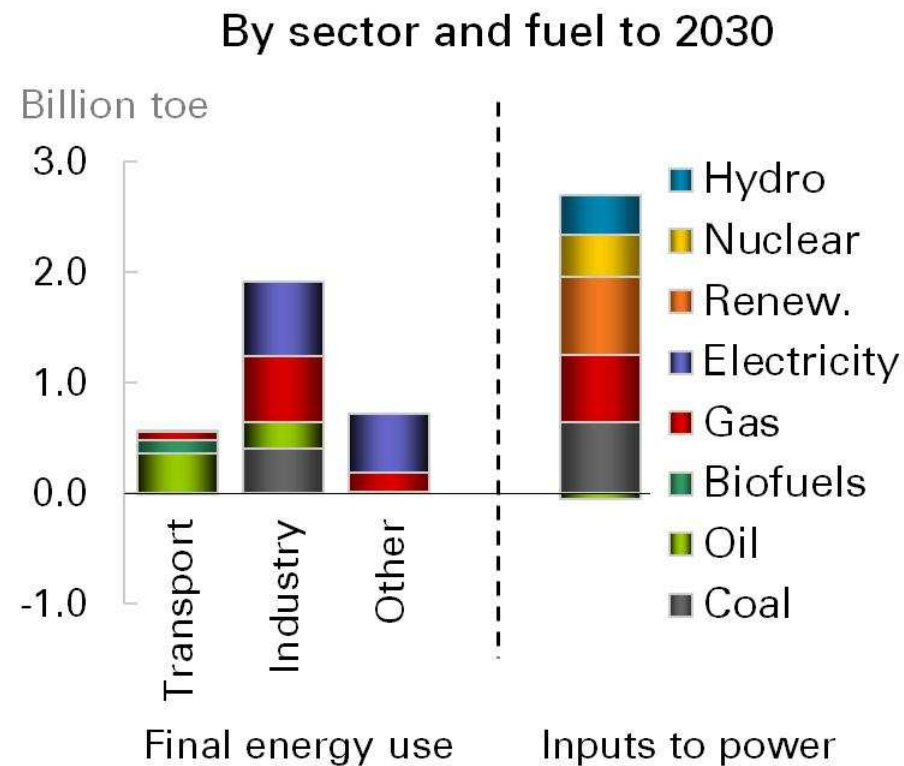
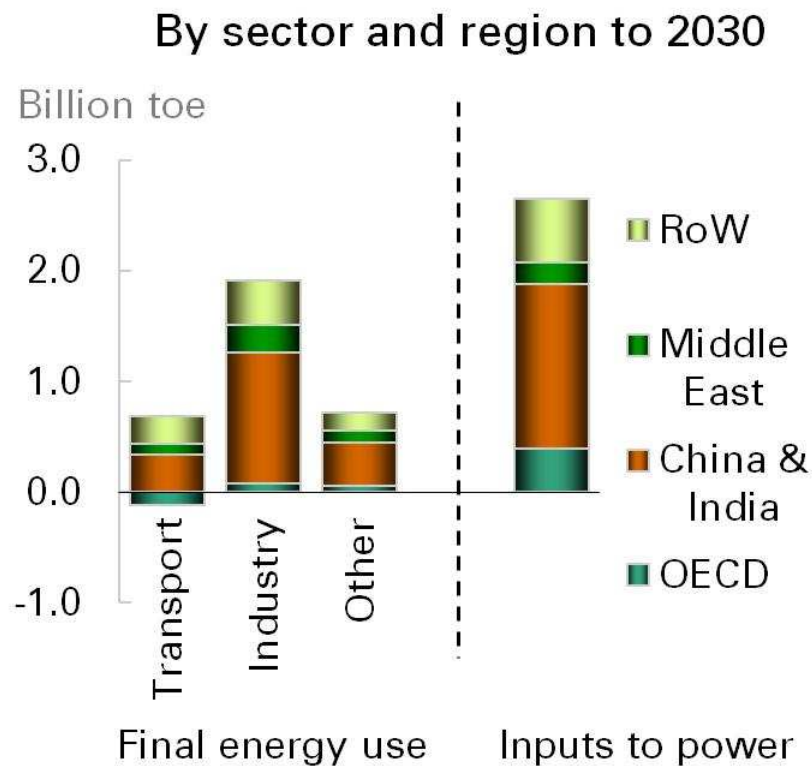
% p.a.



*Includes biofuels

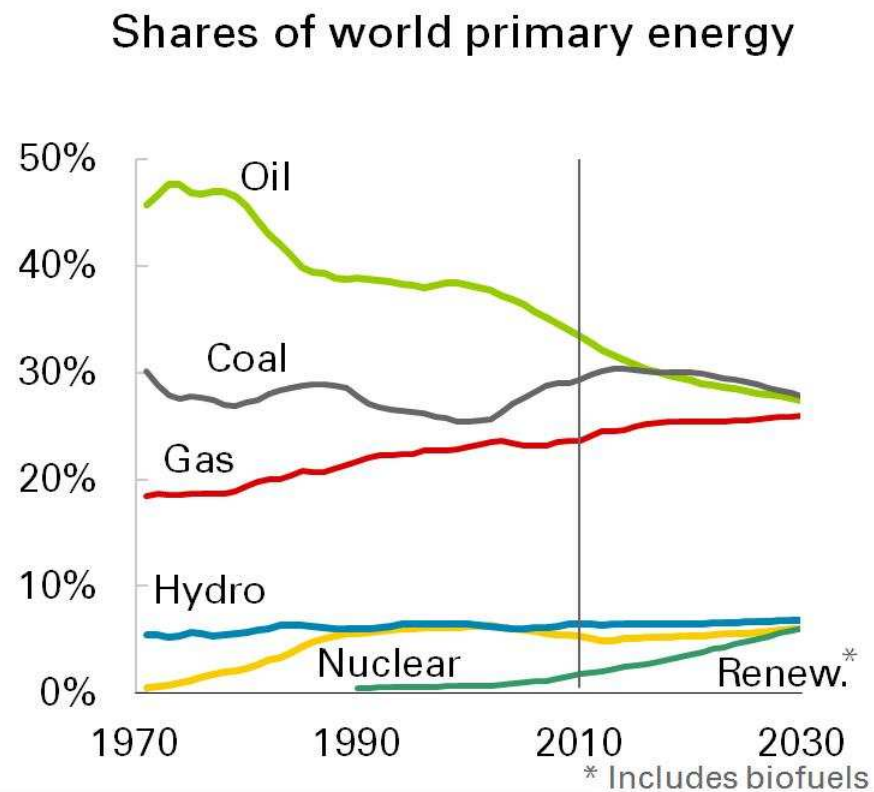
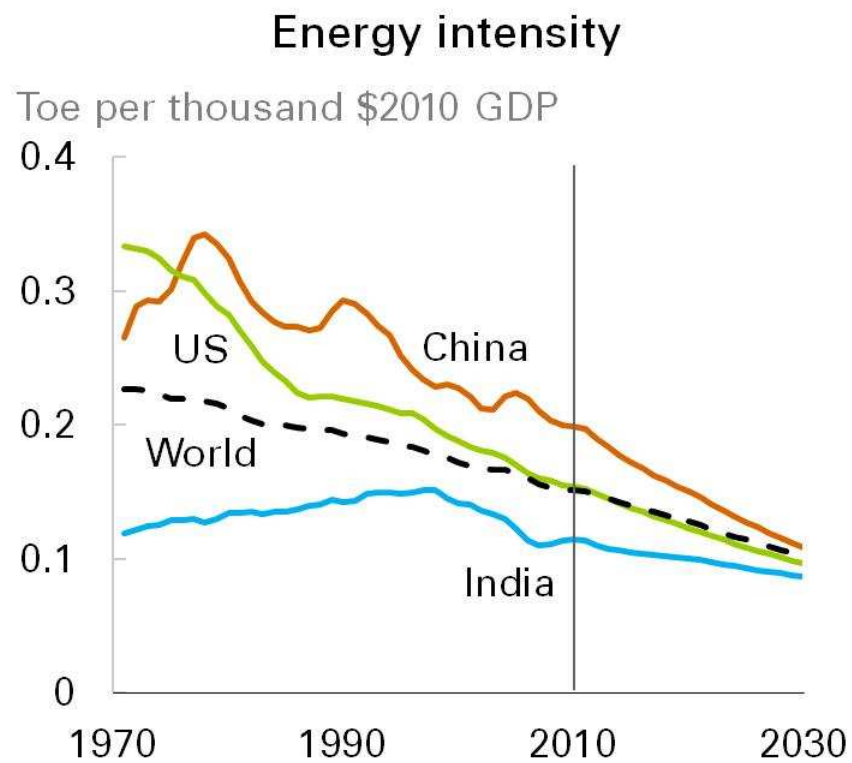


Energy consumption growth by sector





Convergence of energy intensity and fuel shares



Outline



Global energy trends

Outlook 2030: Fuel by fuel

- Liquid fuels

- Natural gas

- Coal

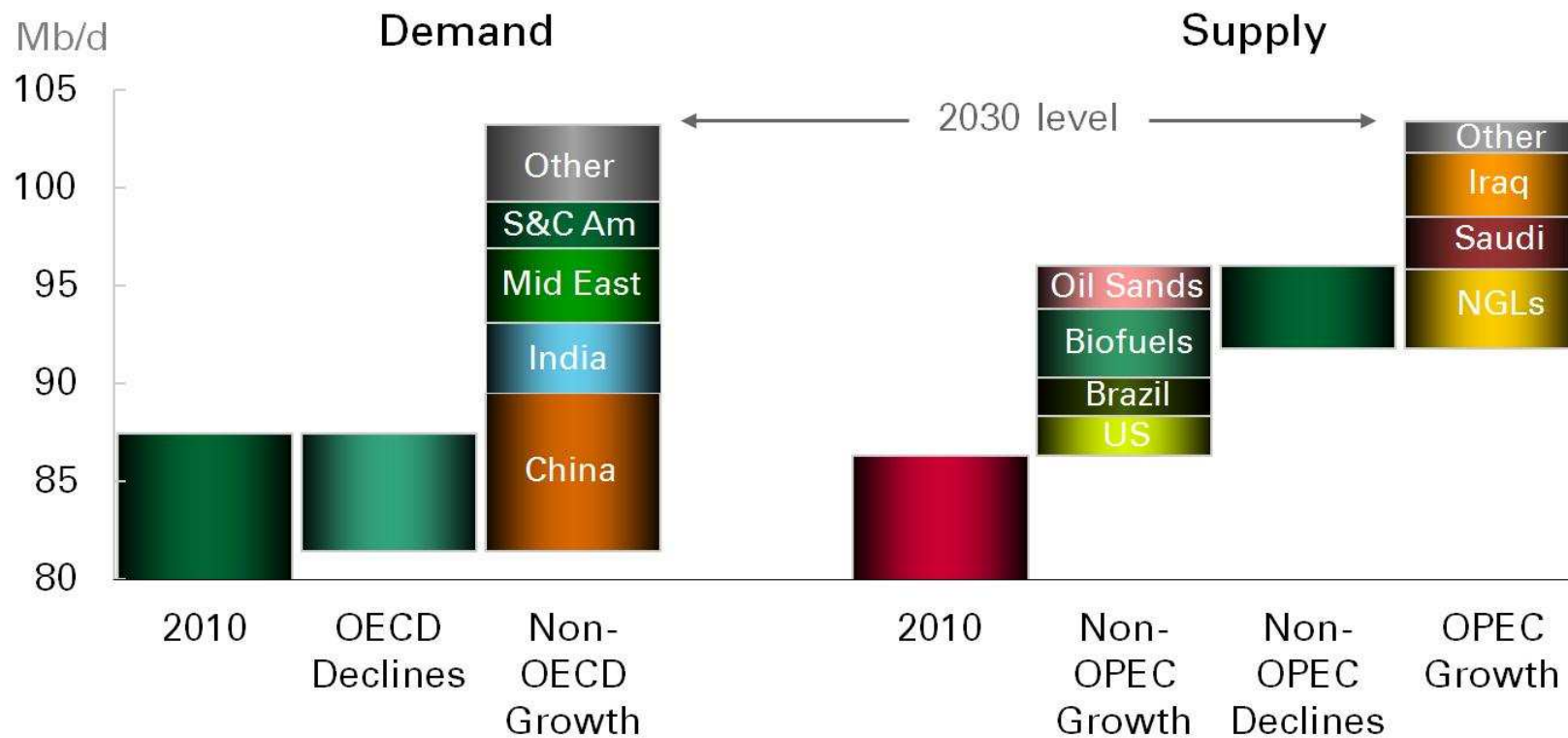
- Non-fossil fuels

Key determinants

Risks and unknowns



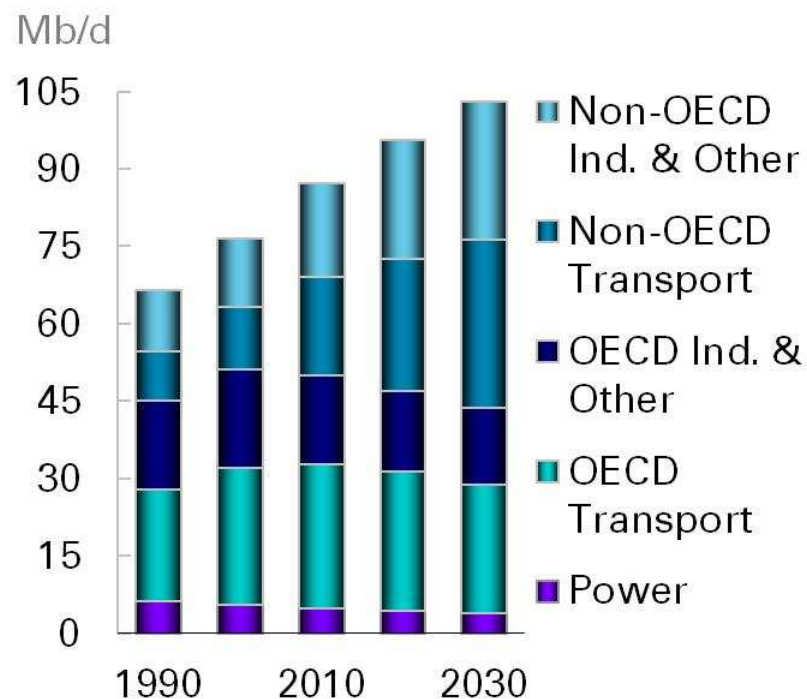
Global liquids – demand and supply



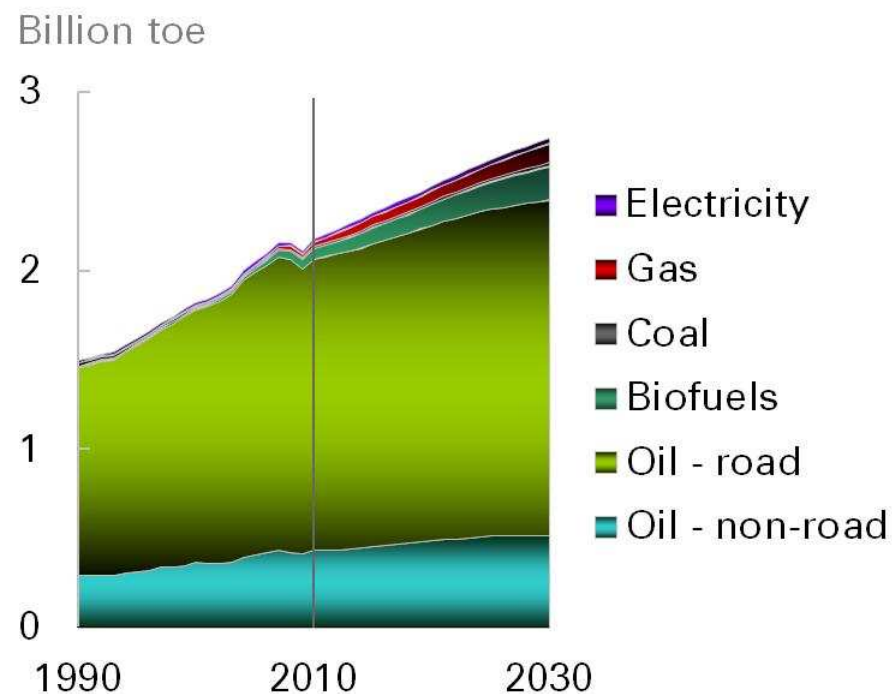


Liquids demand growth is driven by non-OECD transport

Liquids demand by sector



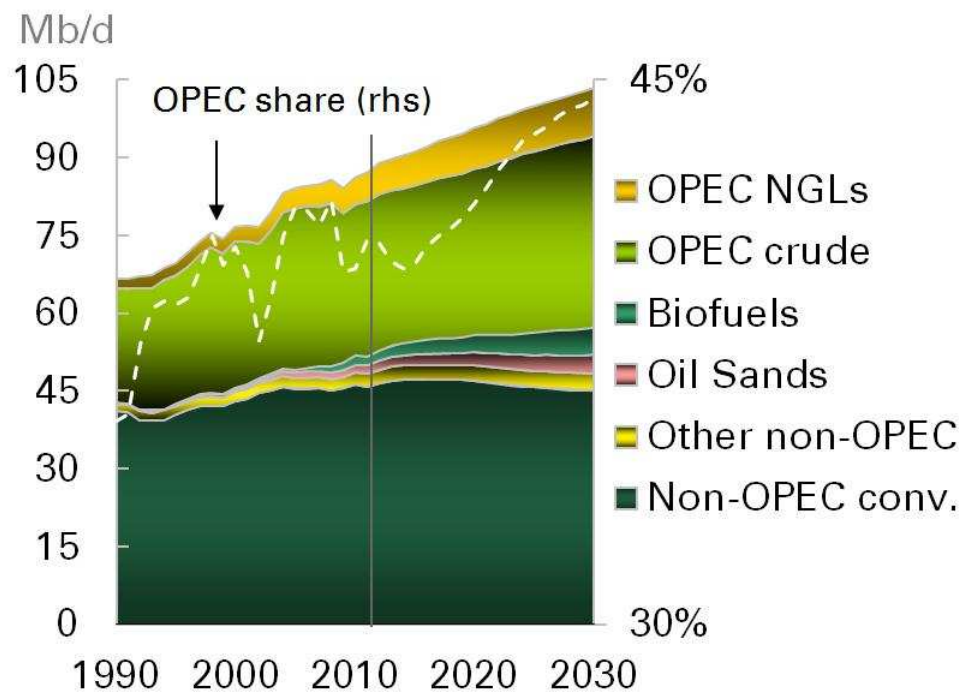
Transport demand



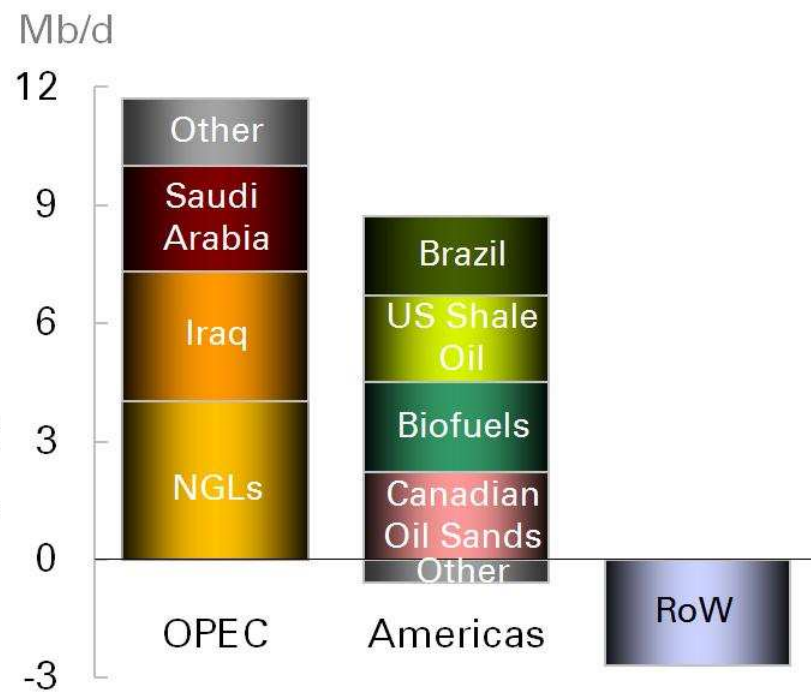


Liquids supply growth - OPEC and North America

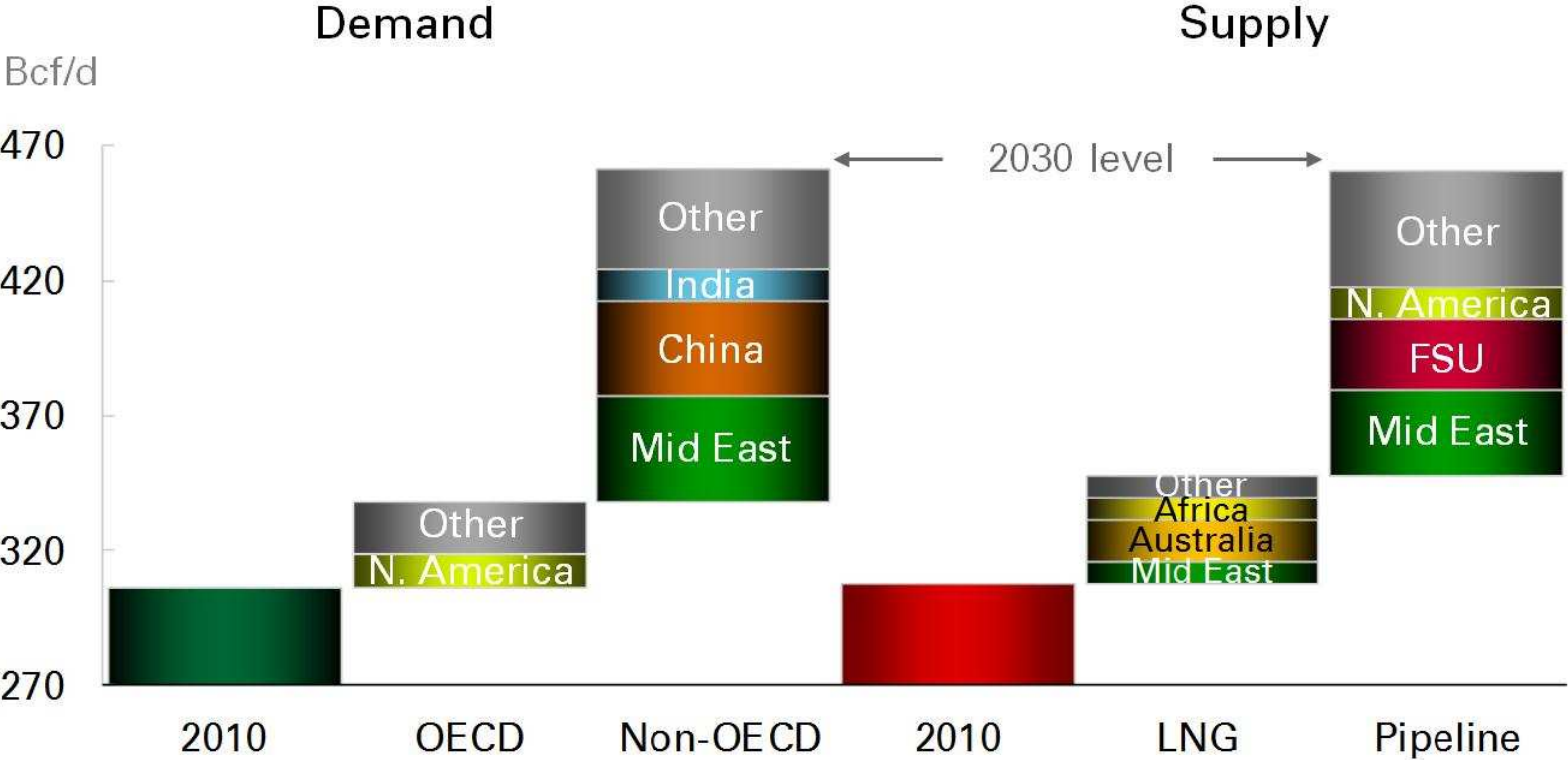
Liquids supply by type



Growth from 2010 to 2030



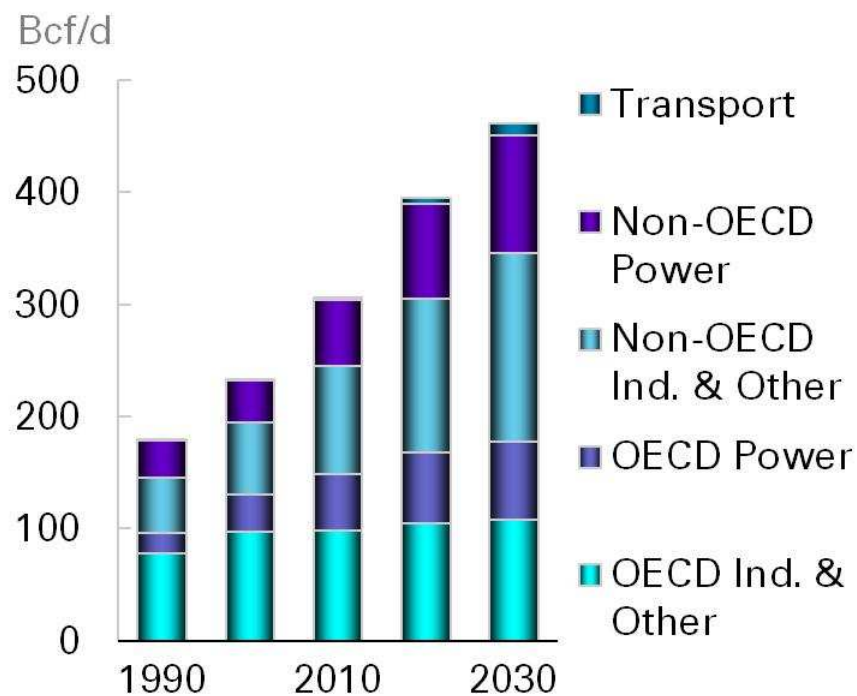
Natural gas demand growth is concentrated in the non-OECD



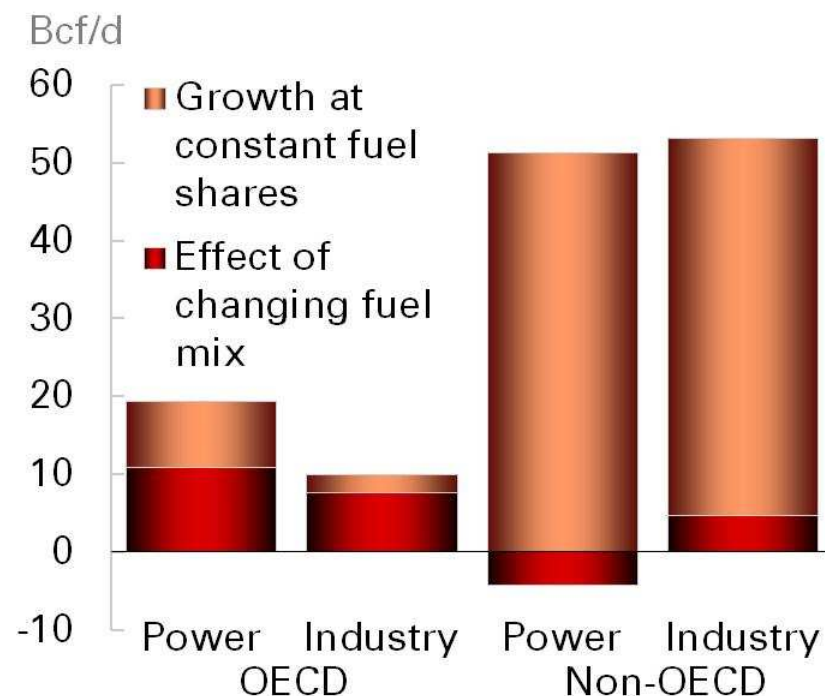


Fuel substitution in power and industry

Demand by sector



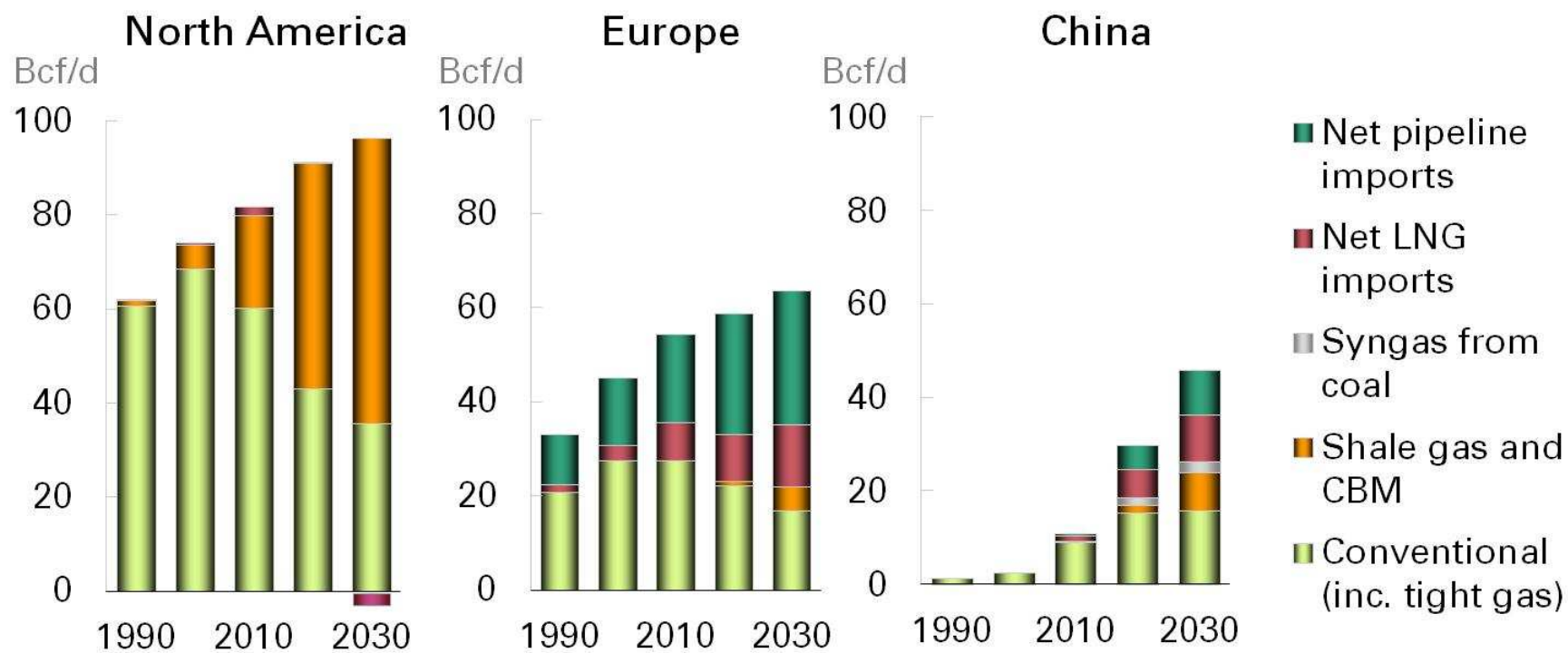
Gas demand growth 2010-30





Unconventional gas will play a growing role

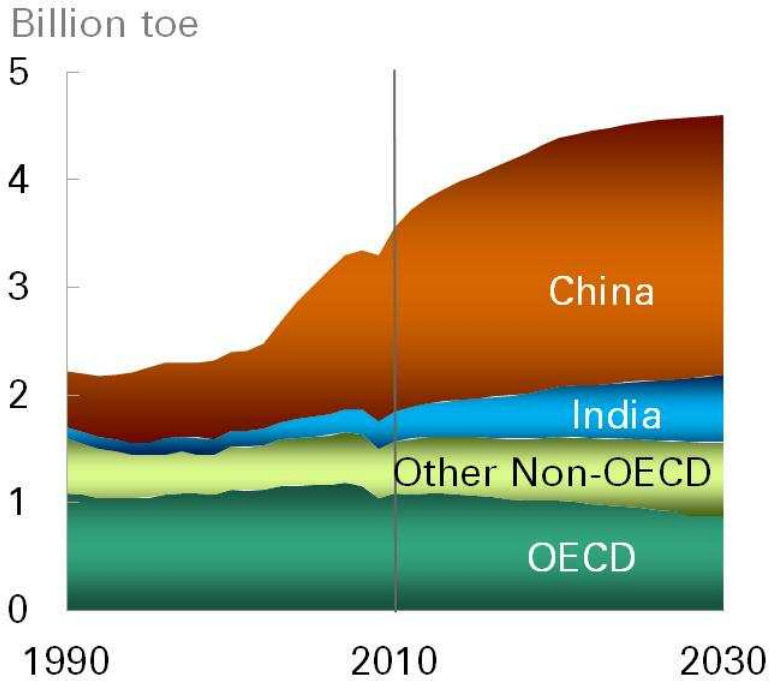
Gas supply by region



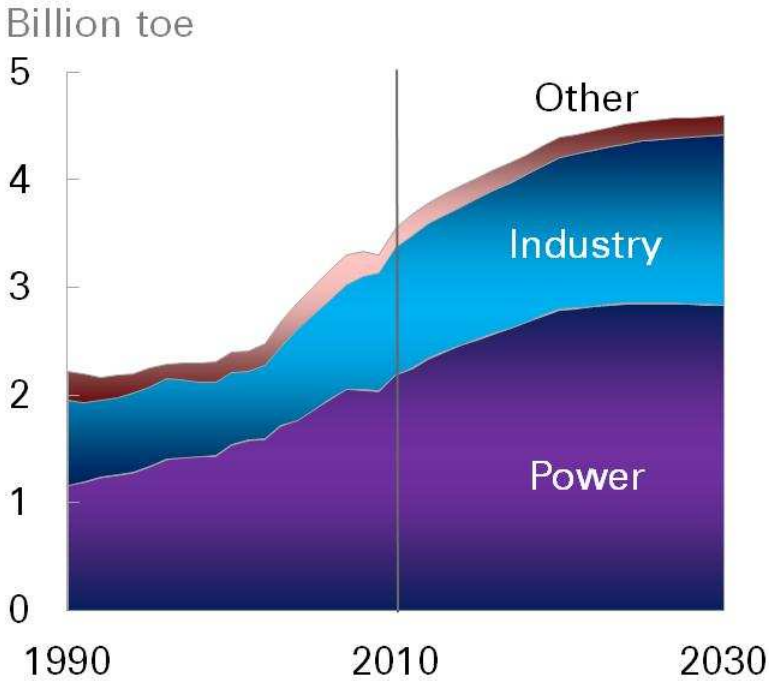
Coal consumption levels off after 2020



Coal demand by region

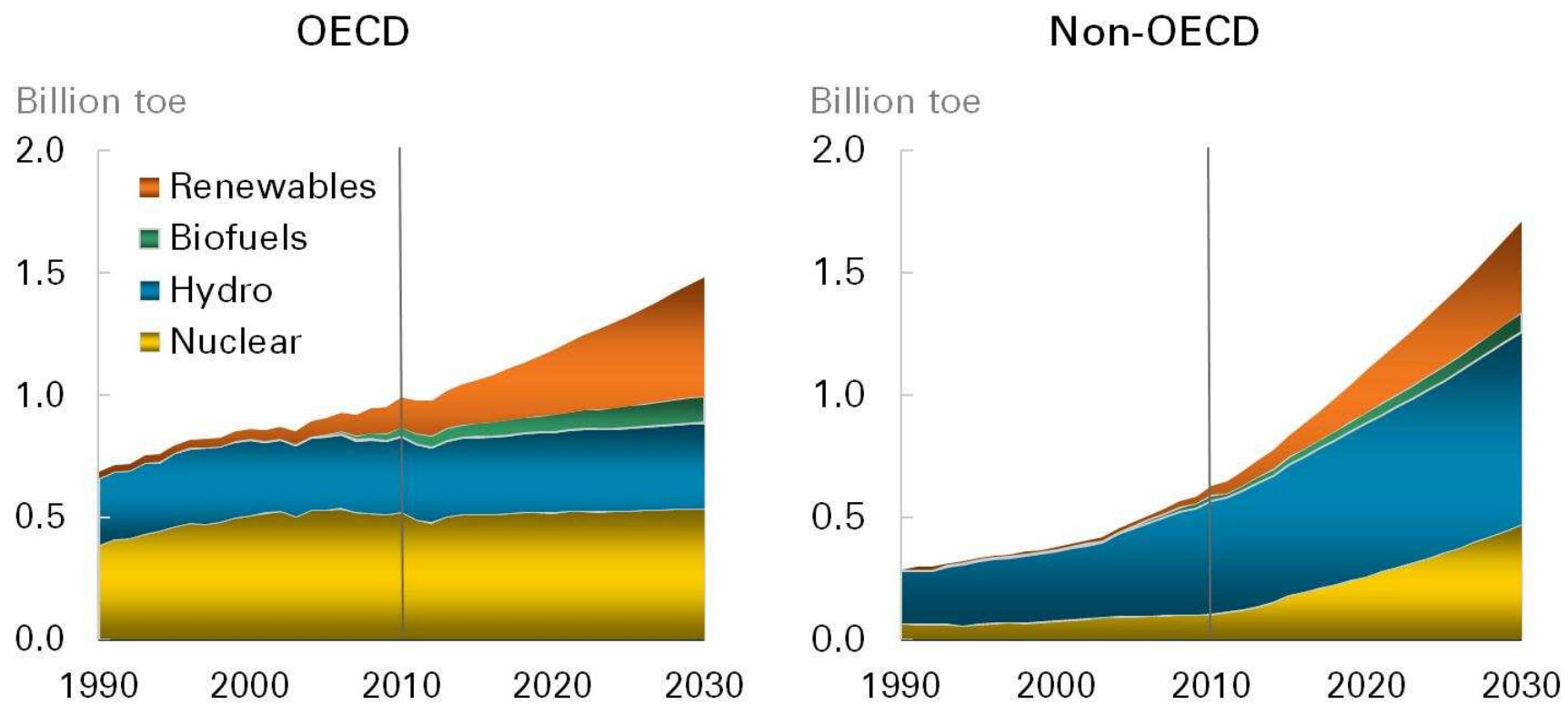


Coal demand by sector





Non-fossil fuels growth is led by renewables in the OECD



Outline



Global energy trends

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Key determinants

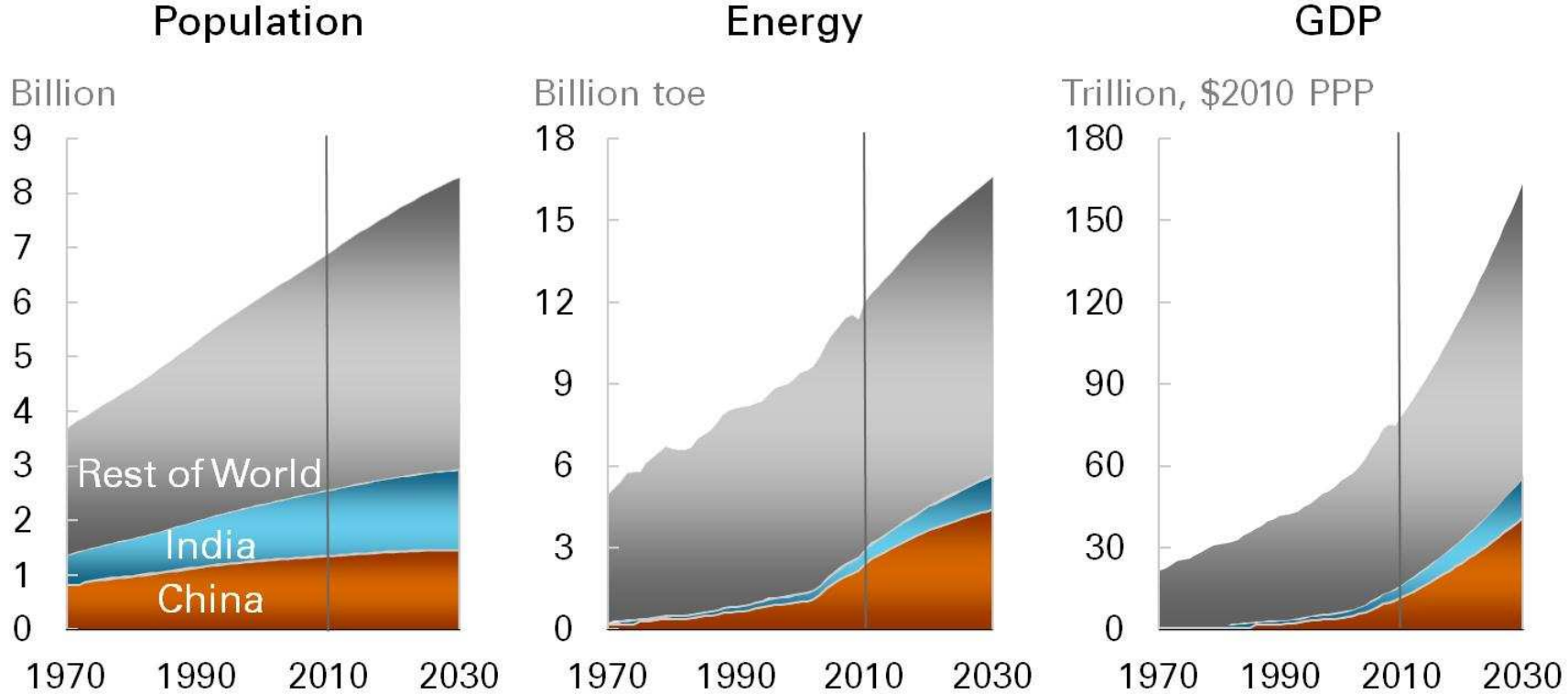
China and India

Middle East

Transport

Risks and unknowns

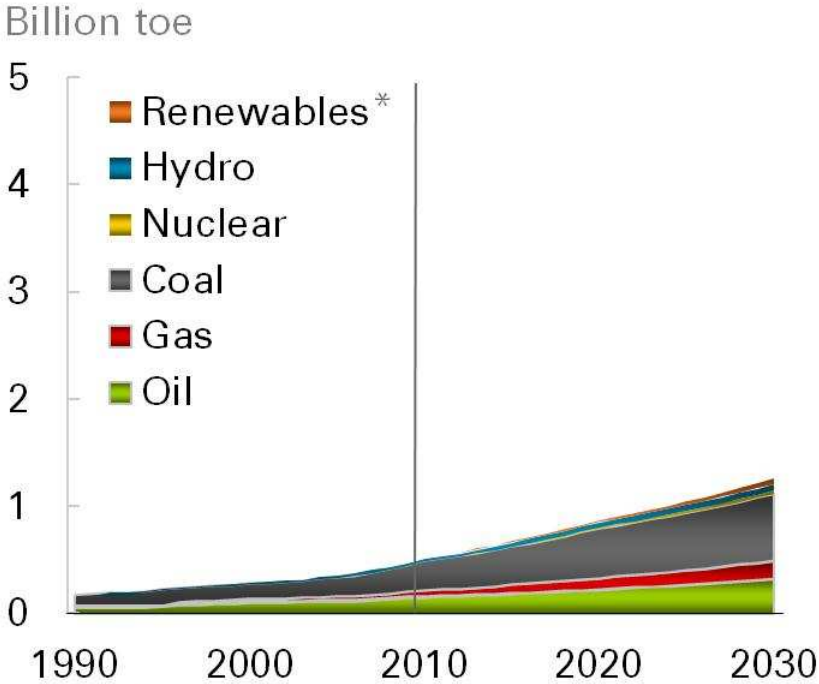
Pace and scale of development in India and China



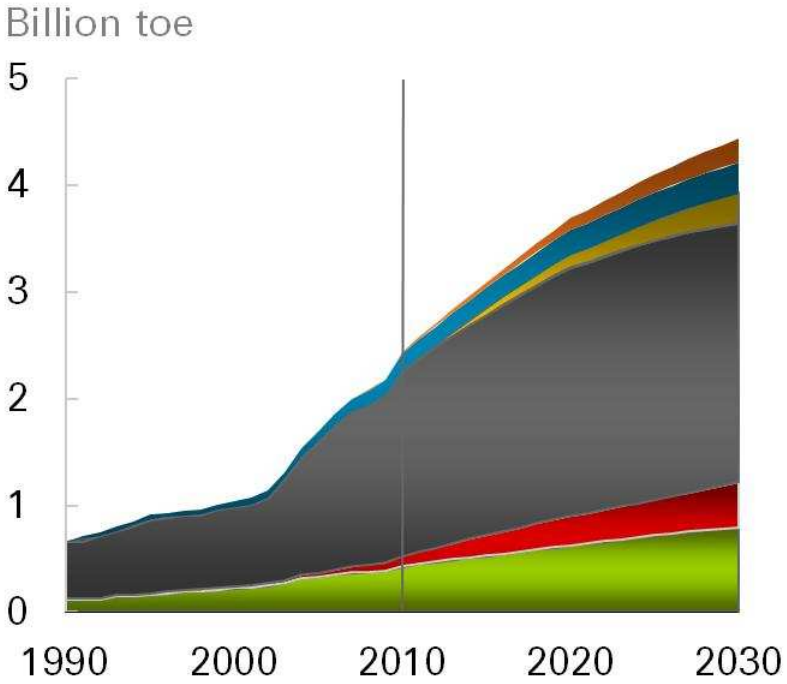
Energy consumption growth in India and China



India



China

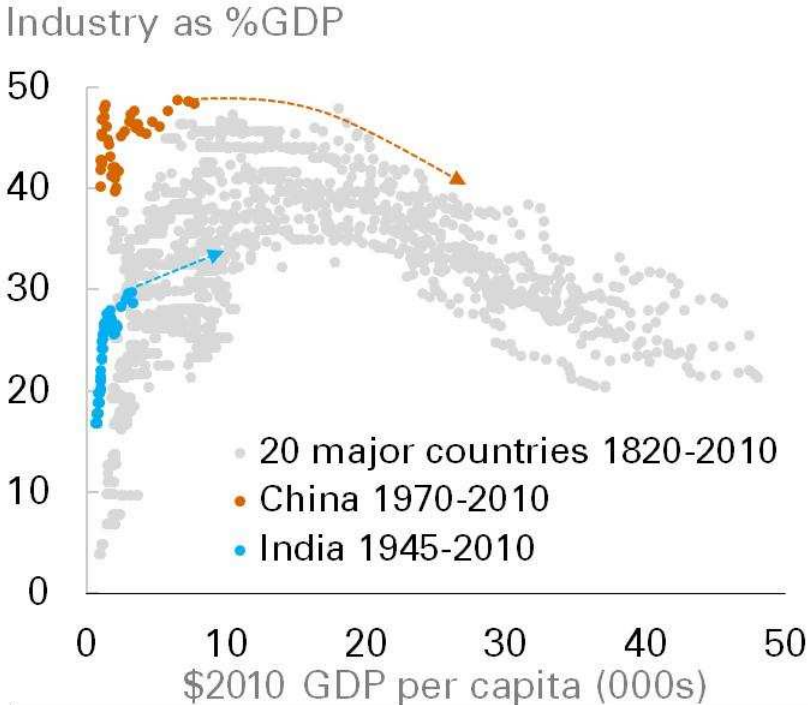


*Includes biofuels

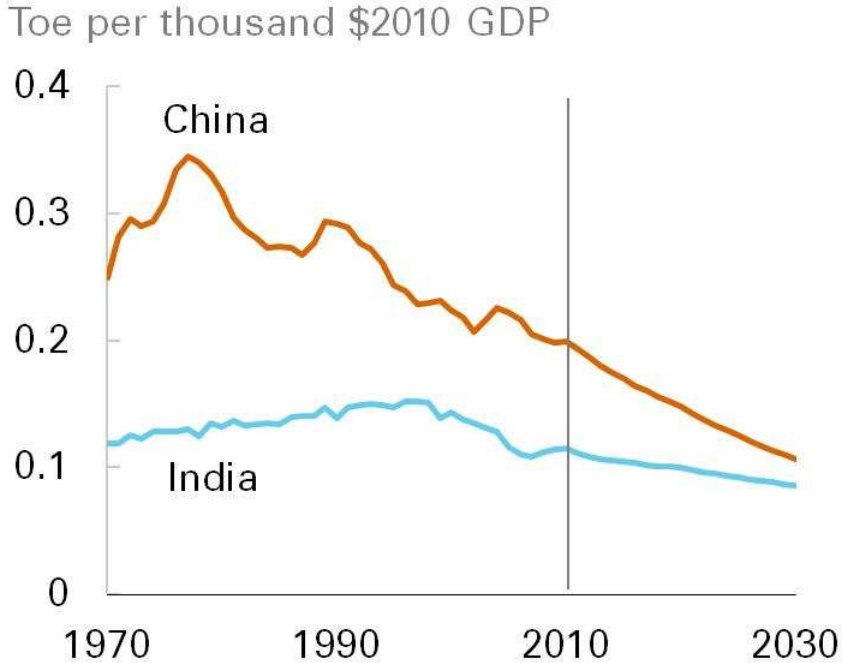
Patterns of development



Industrialisation



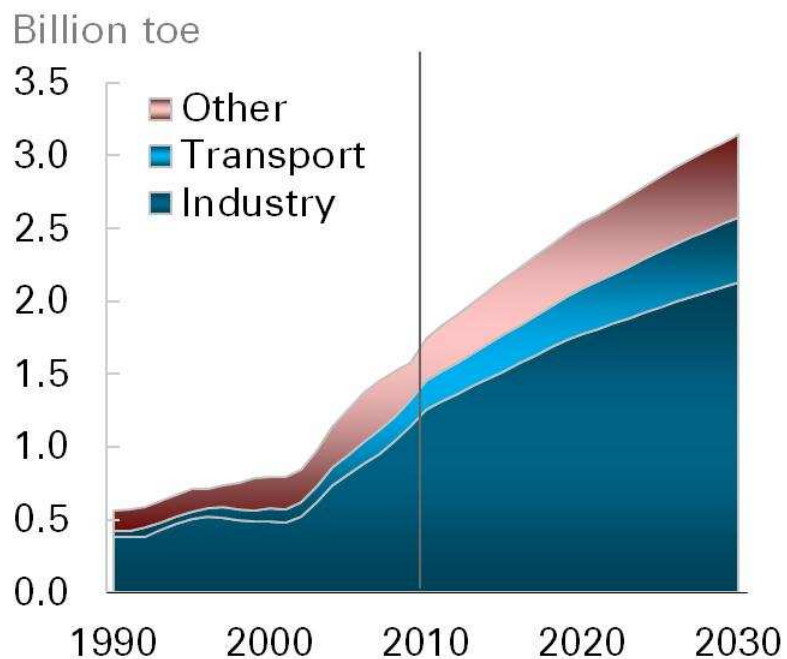
Energy intensity





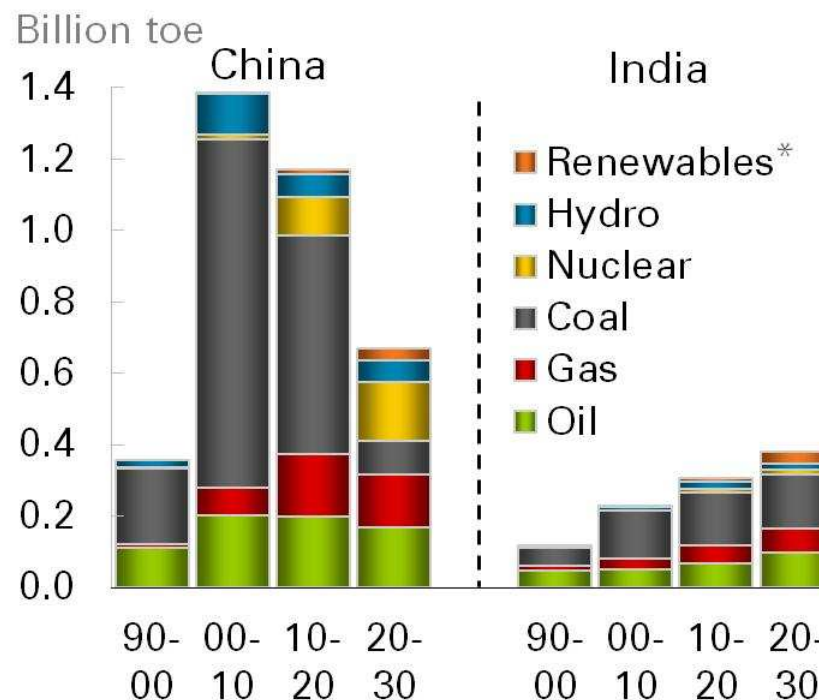
Industry causes energy demand to decelerate

China: final energy demand by sector



*Includes biofuels

Primary energy growth by fuel



Outline



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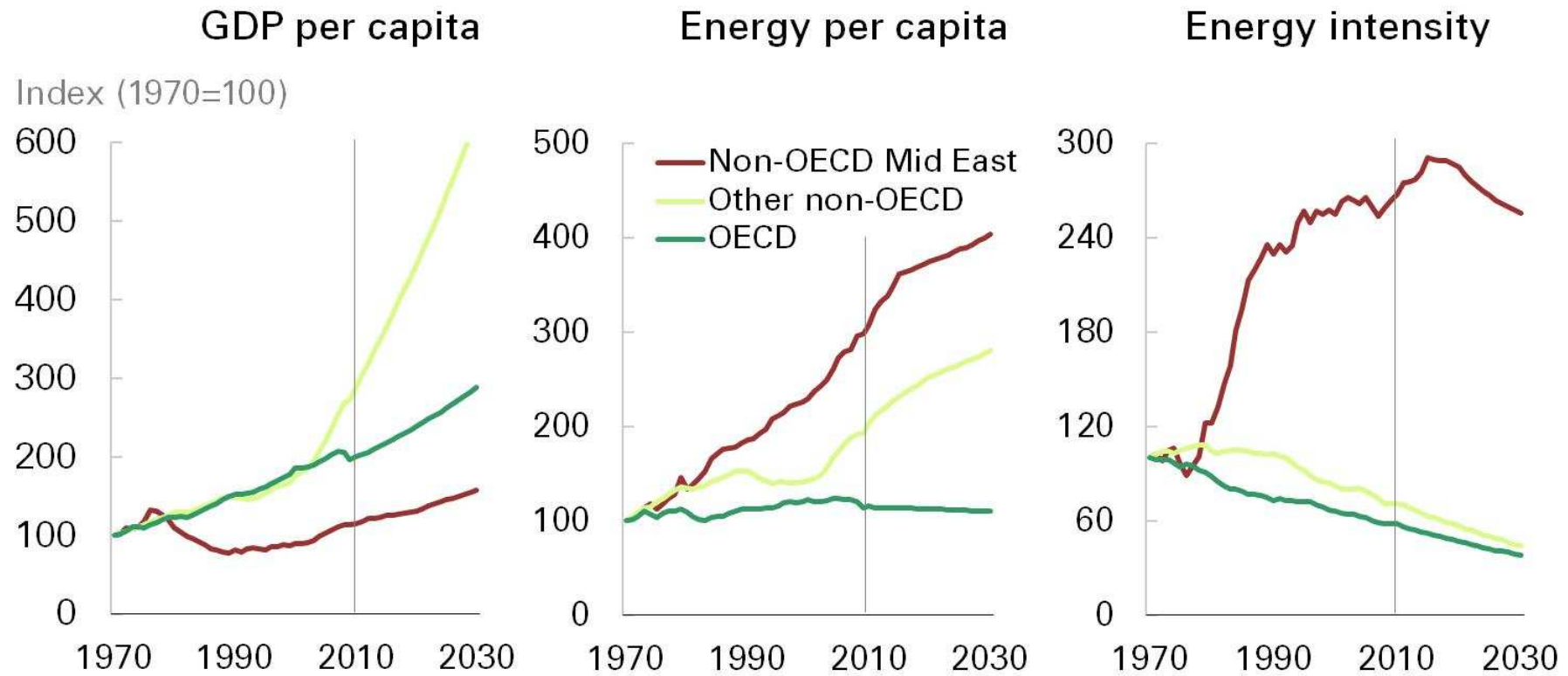
China and India

Middle East

Transport

Risks and unknowns

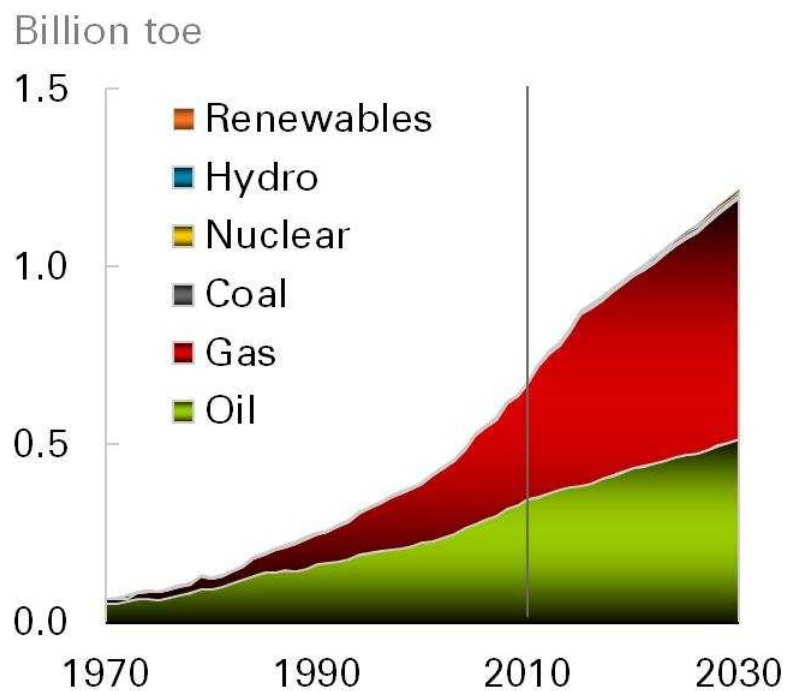
Resource availability defines the Middle East



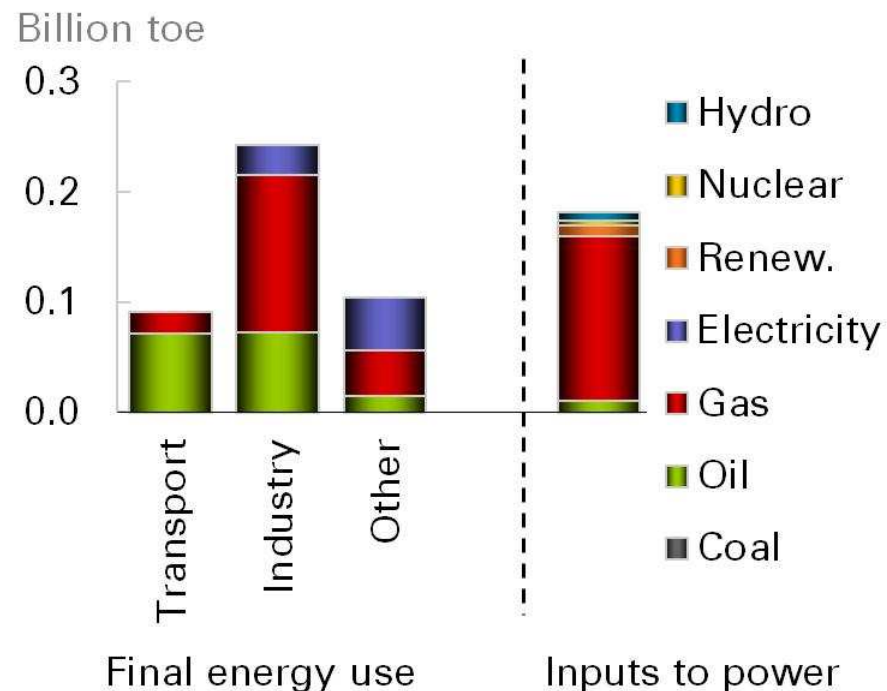


Gas will play a key role in domestic demand

Regional demand by fuel



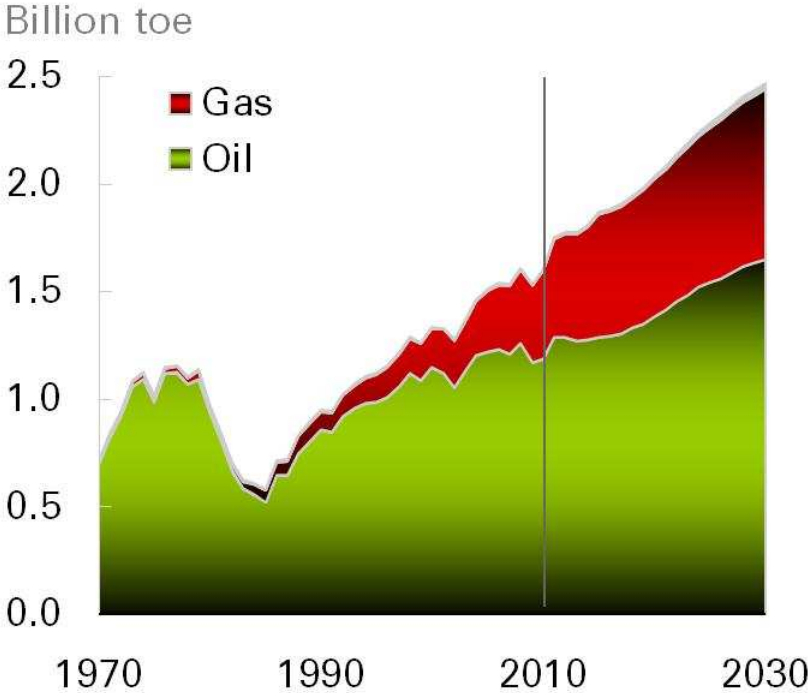
2010-30 growth by sector and fuel



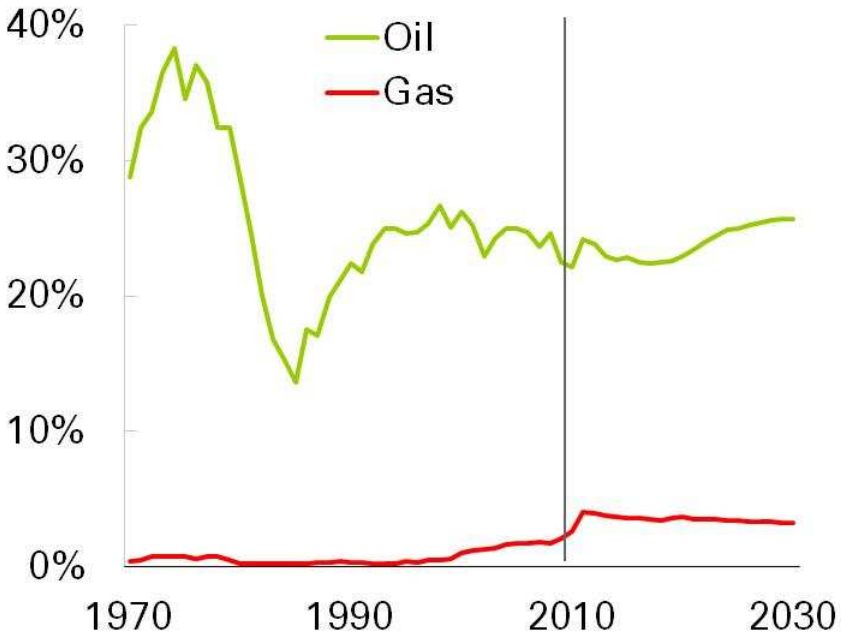
The region's role in global oil markets will continue



Supply by fuel



Exports as share of global demand (excl. Mid East)



Outline



Global energy trends

Outlook 2030: Fuel by fuel

Key determinants

- China and India

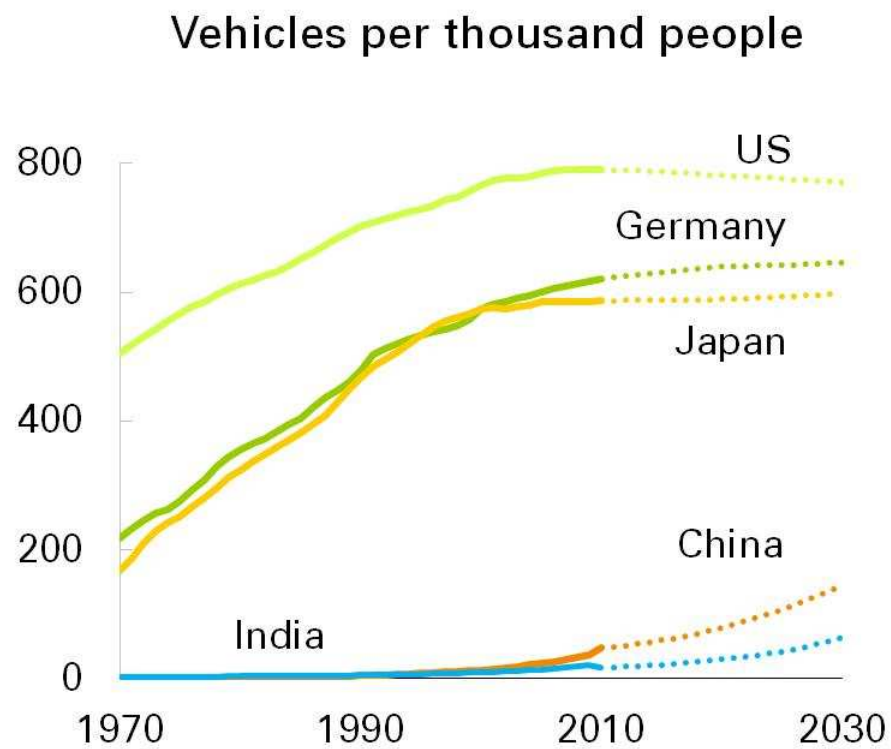
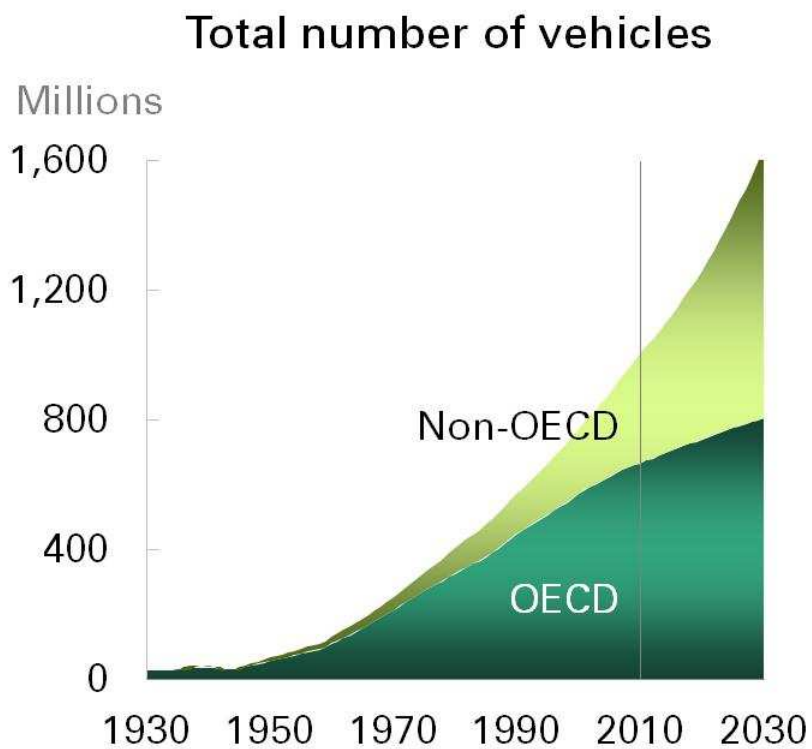
- Middle East

- Transport**

Risks and unknowns



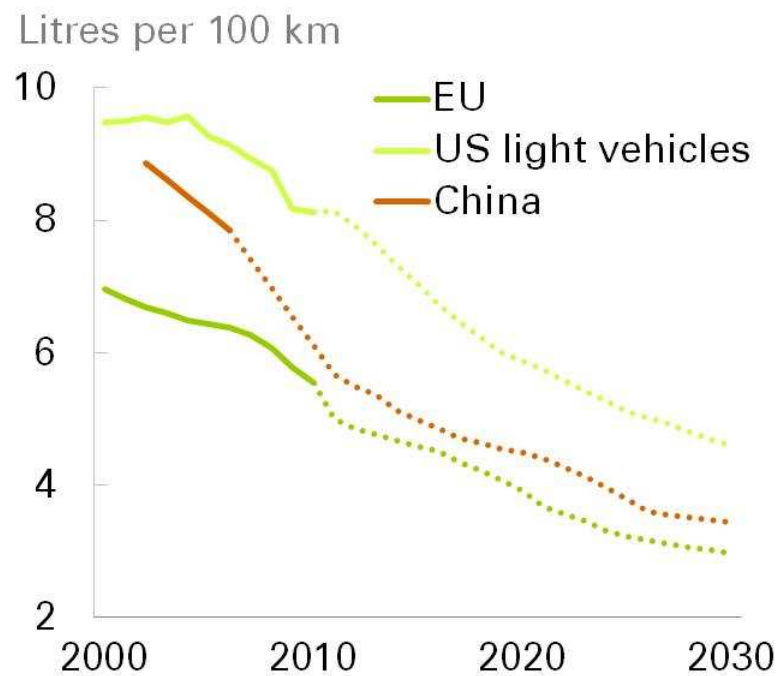
Vehicle numbers are set to grow rapidly in the Non-OECD



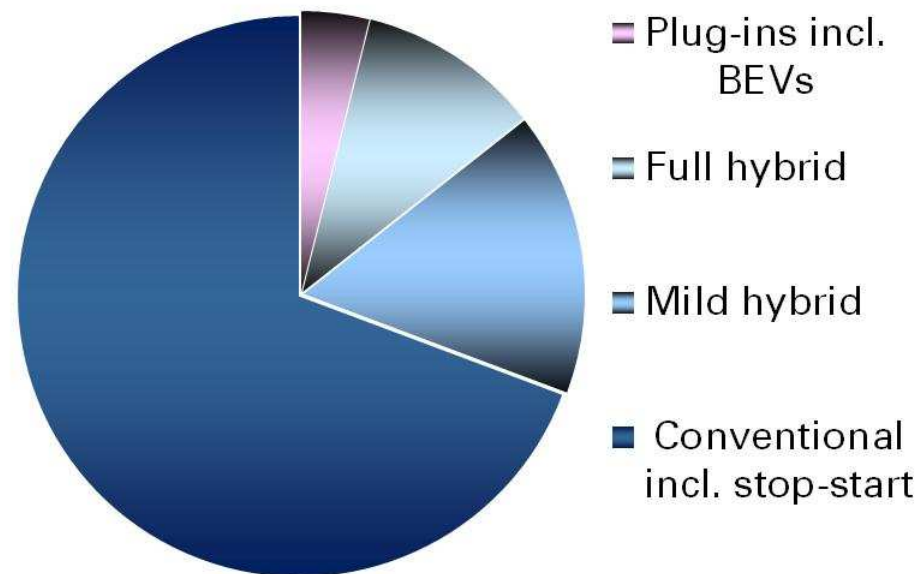


Policy and technology enable efficiency improvements

Projected car efficiency

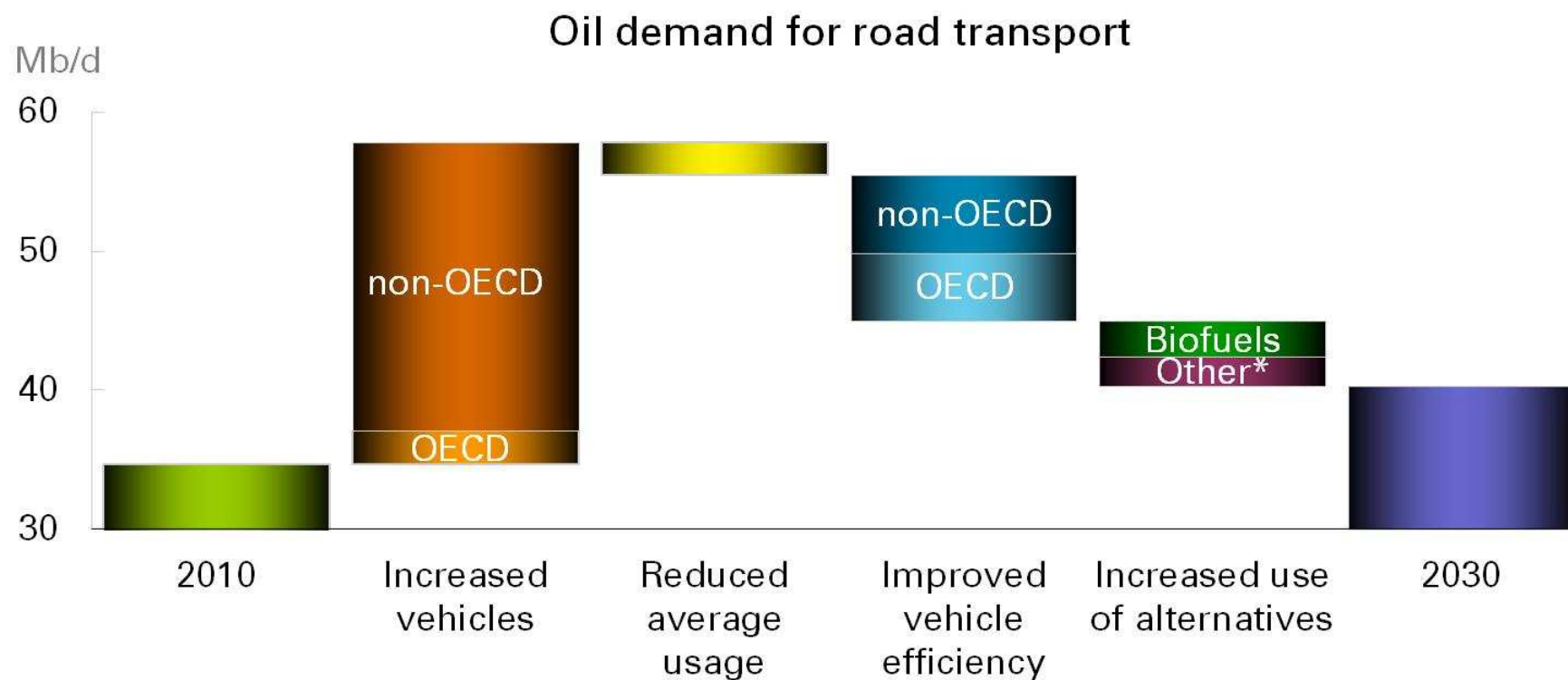


Global vehicle fleet in 2030





Efficiency gains have the biggest impact on oil demand



* Includes GTL, CTL, CNG, LNG and electricity

Outline



Global energy trends

Outlook 2030: Fuel by fuel

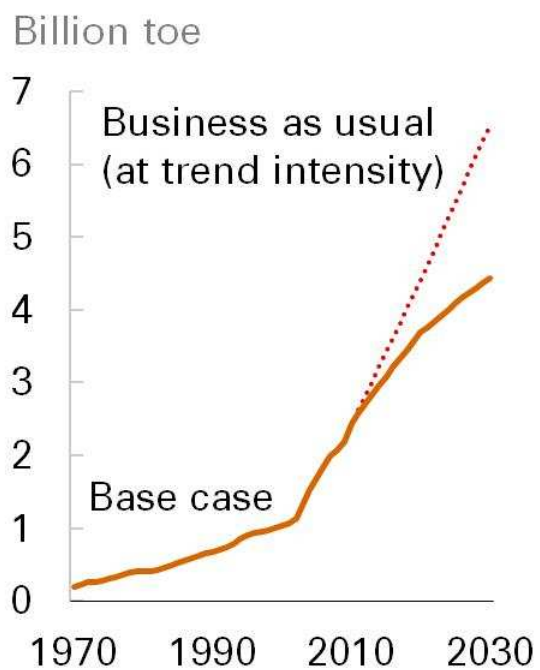
Key determinants

Risks and unknowns

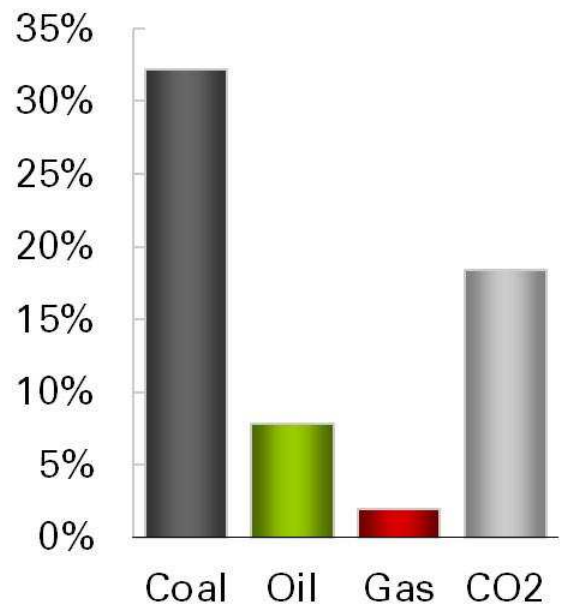


The impact of "business as usual"

...for China, and its global fuel impact

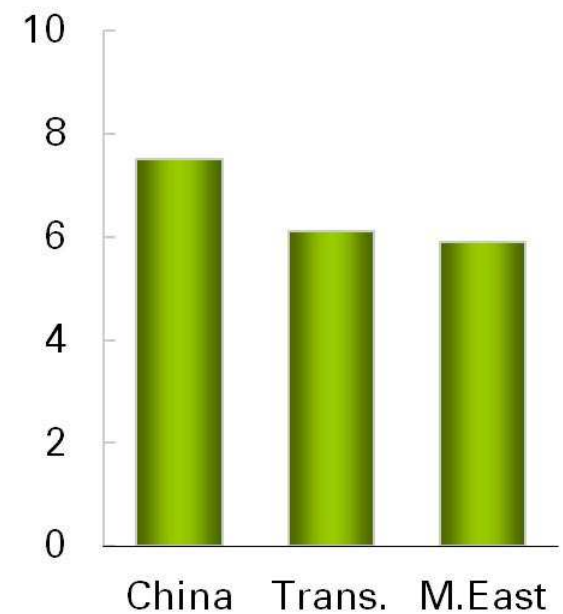


% of world demand in 2030



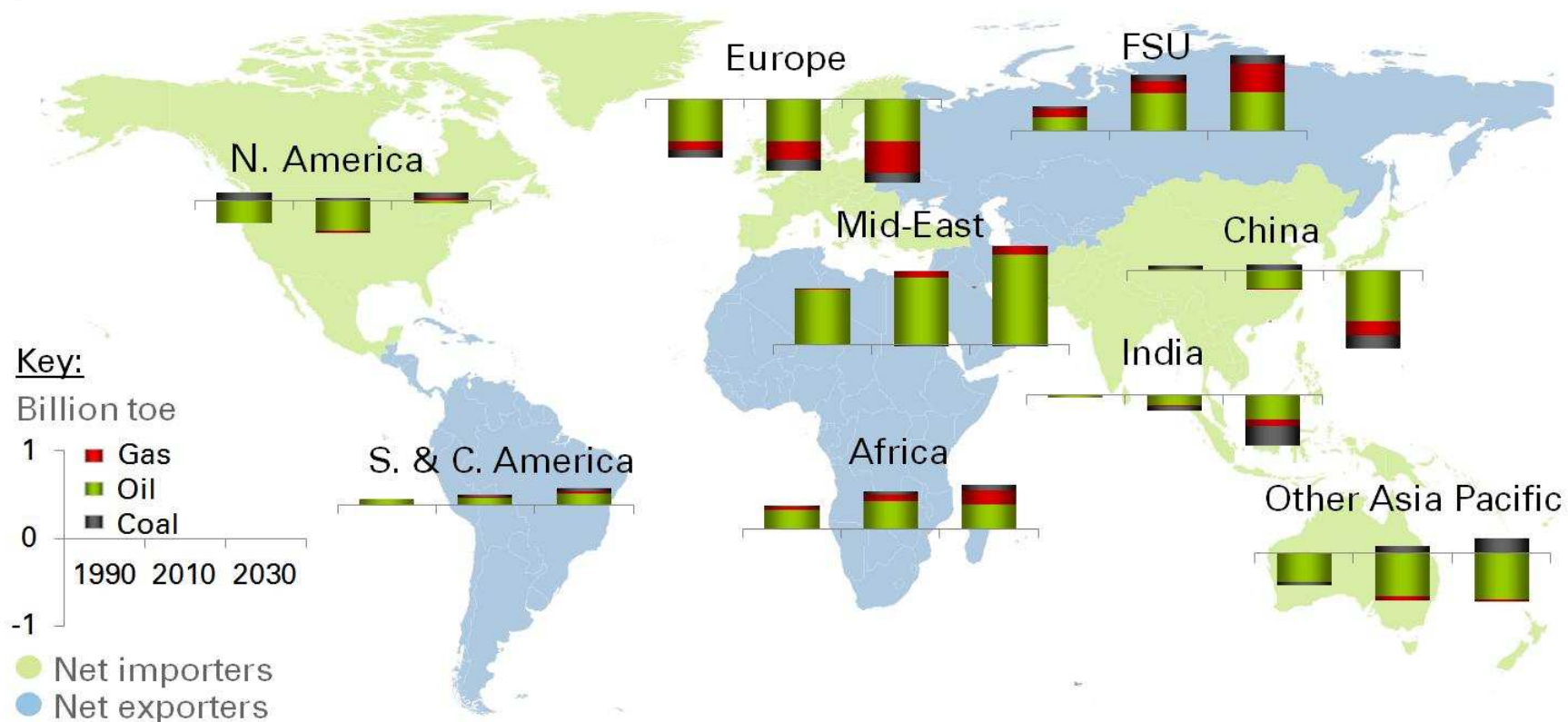
...and in oil markets

Mb/d in 2030



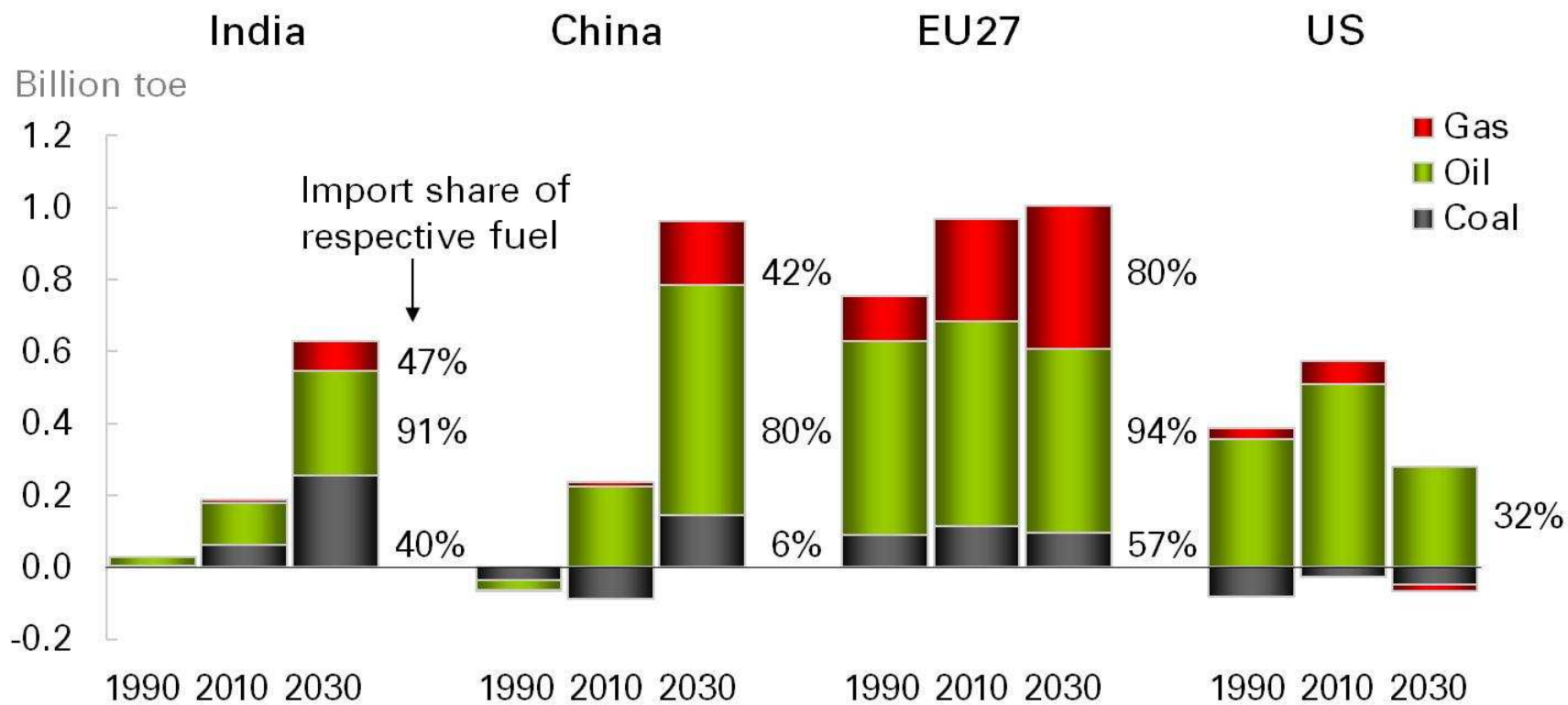


Energy imbalances improve in the Americas





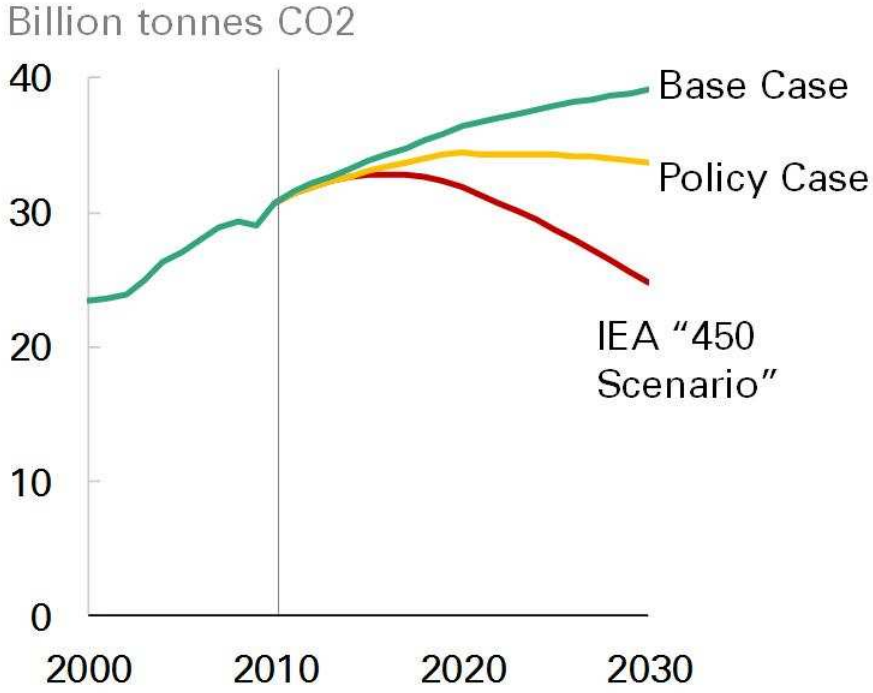
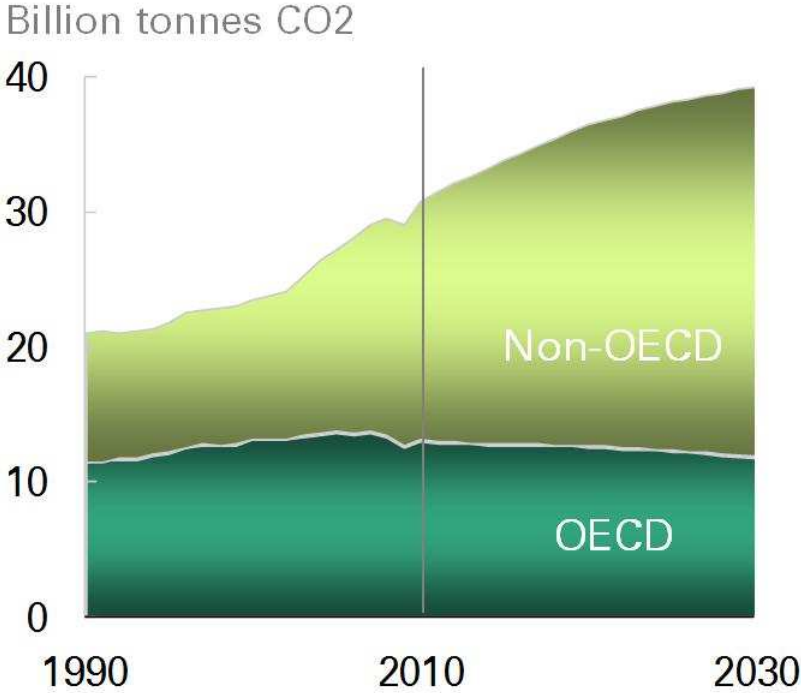
Import dependency rises in Asia and Europe



Carbon emission growth slows, but more action is needed



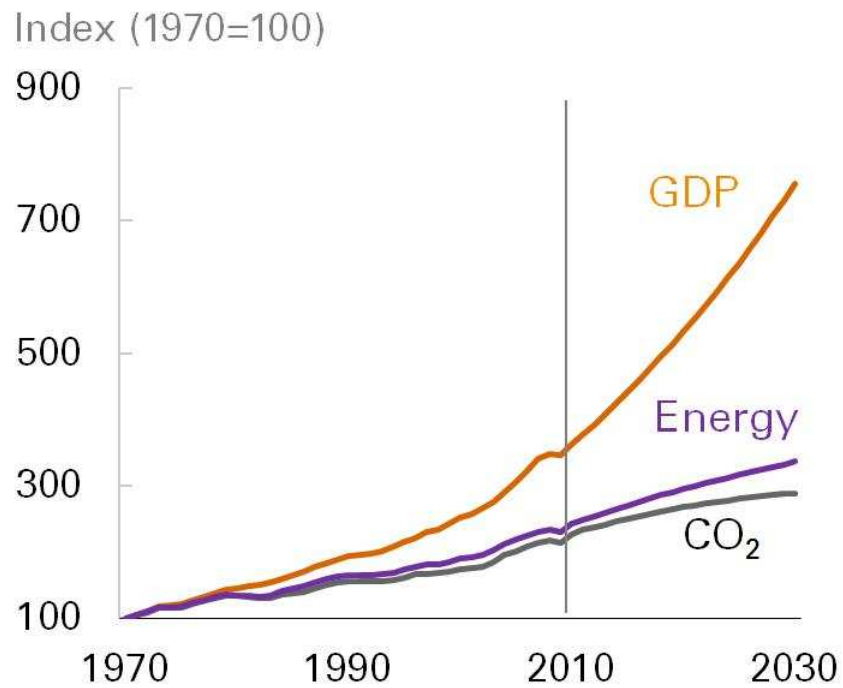
Global CO₂ emissions from energy use



Conclusion



GDP, Energy and CO₂



- Energy can be available and affordable
 - Competition
 - Innovation
 - Regulation
- Energy security an issue
- CO₂ emissions not on track



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<http://www.bp.com/energyoutlook2030>