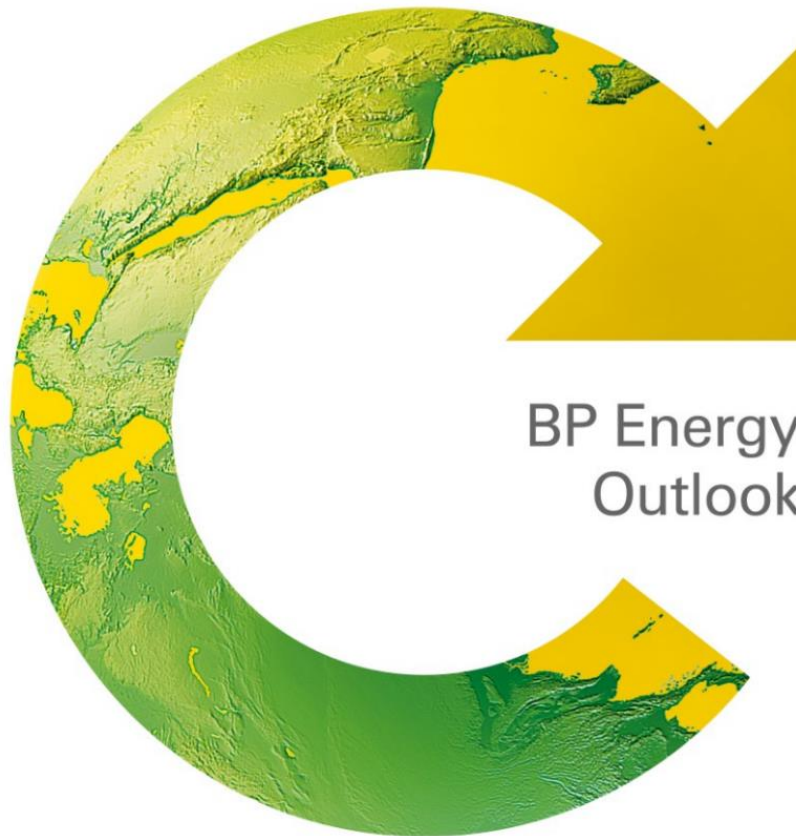




# BP Energy Outlook

2018 edition



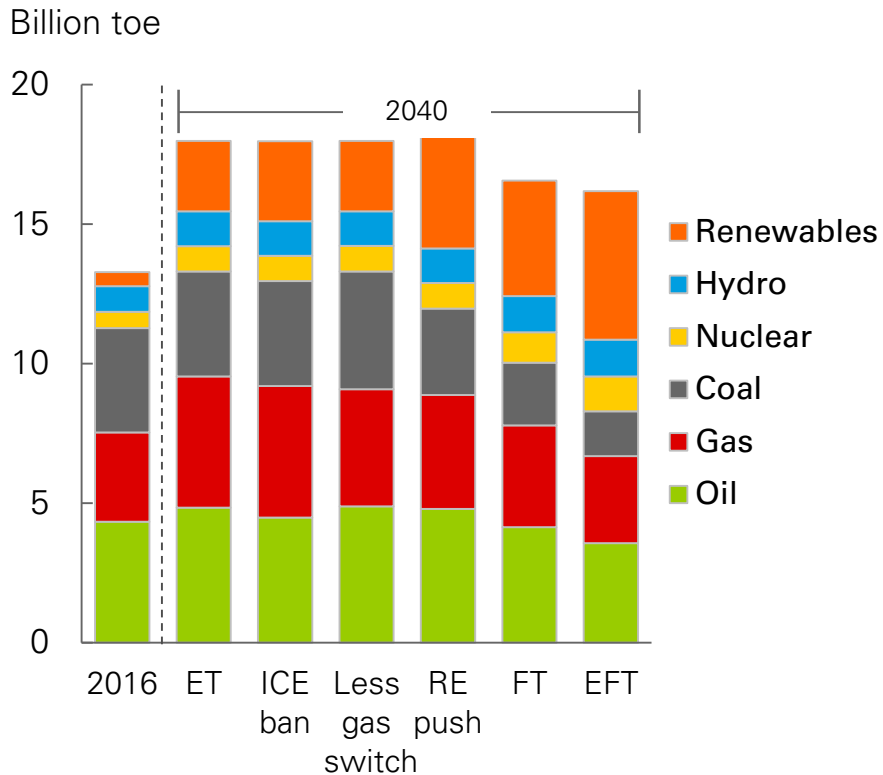
BP Energy Outlook | 2018 edition

**Spencer Dale**  
Group chief economist

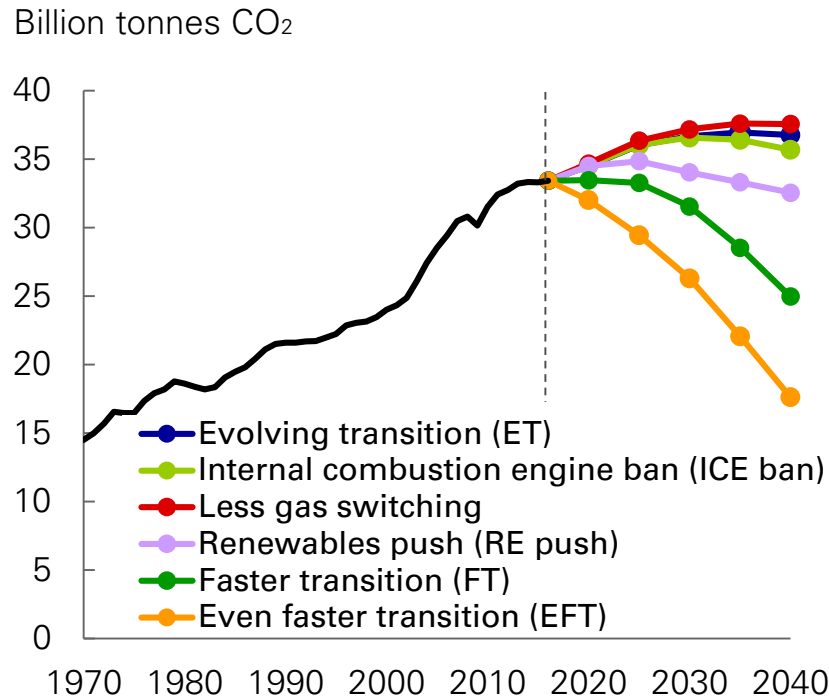
# Alternative scenarios



## Primary energy consumption by fuel

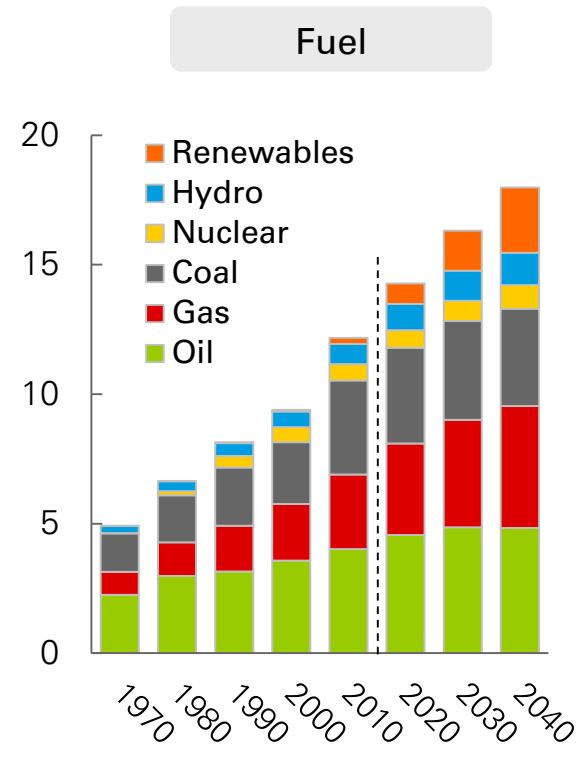
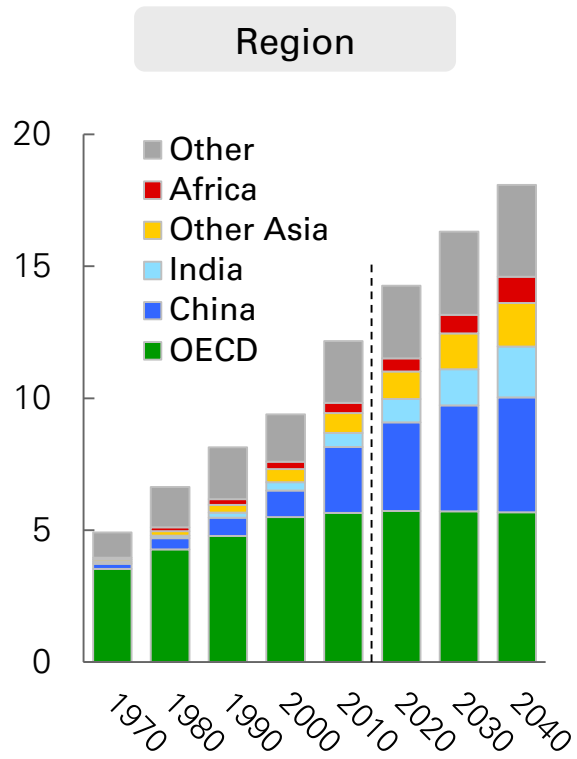
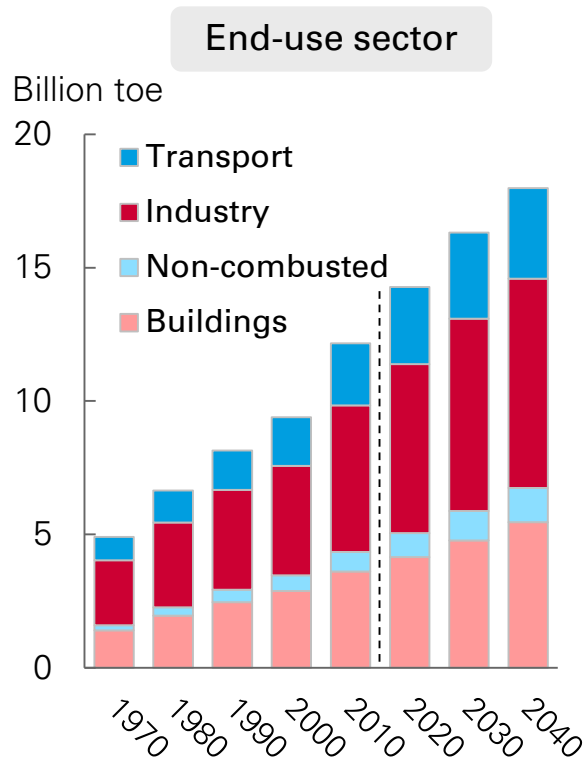


## Carbon emissions



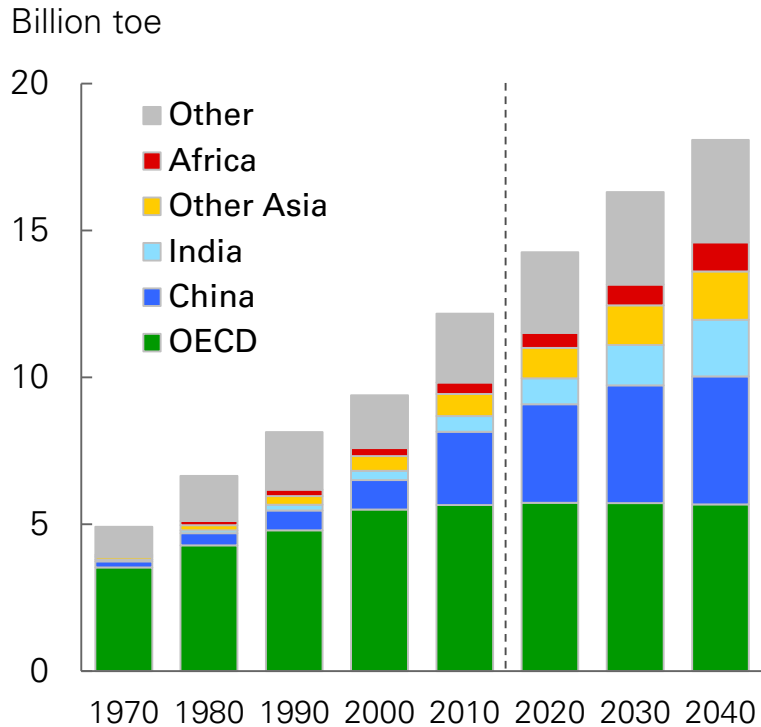
# Three windows on the energy transition

## Primary energy demand

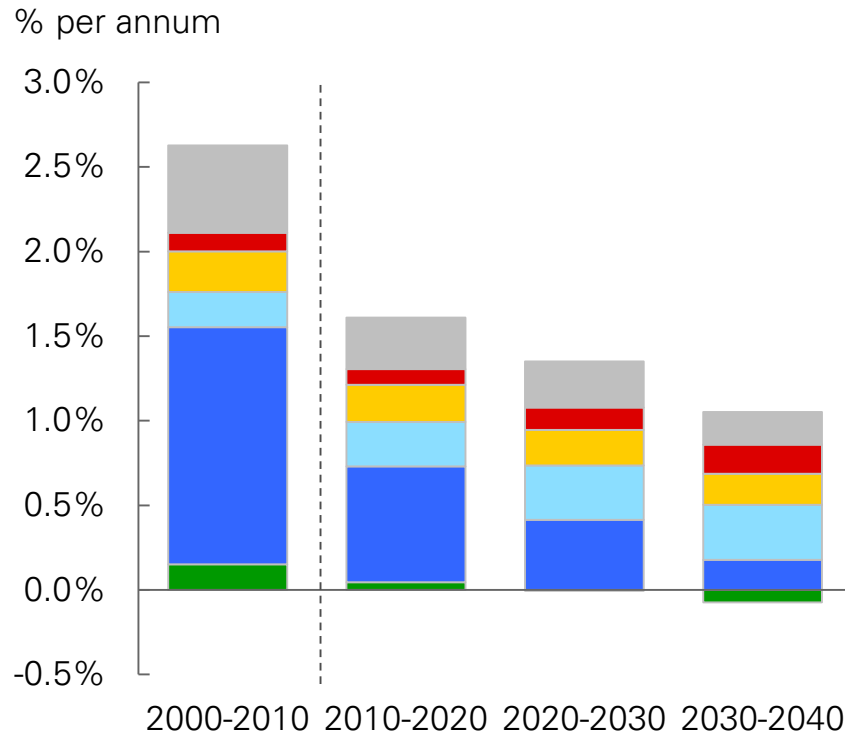


# Regional energy demand

## Primary energy consumption by region

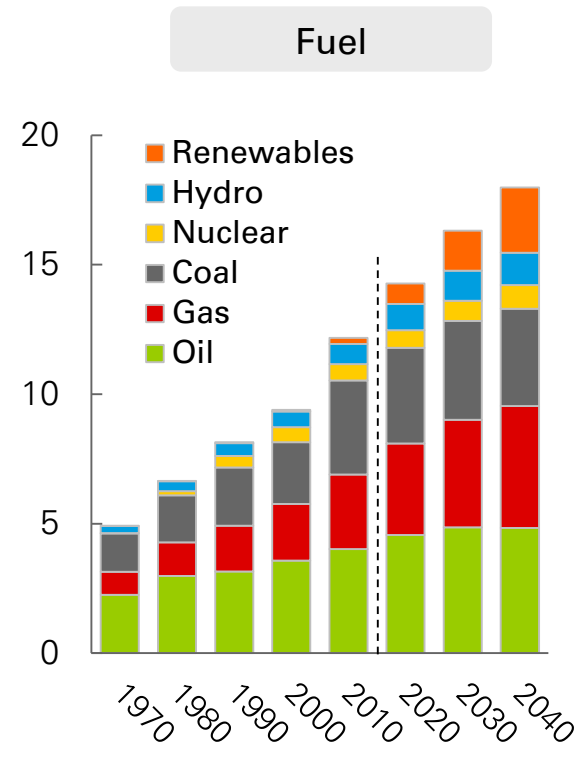
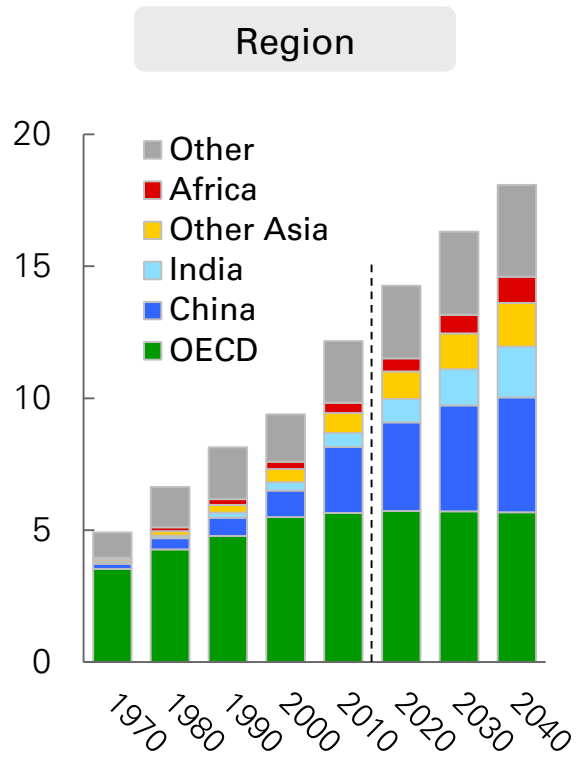
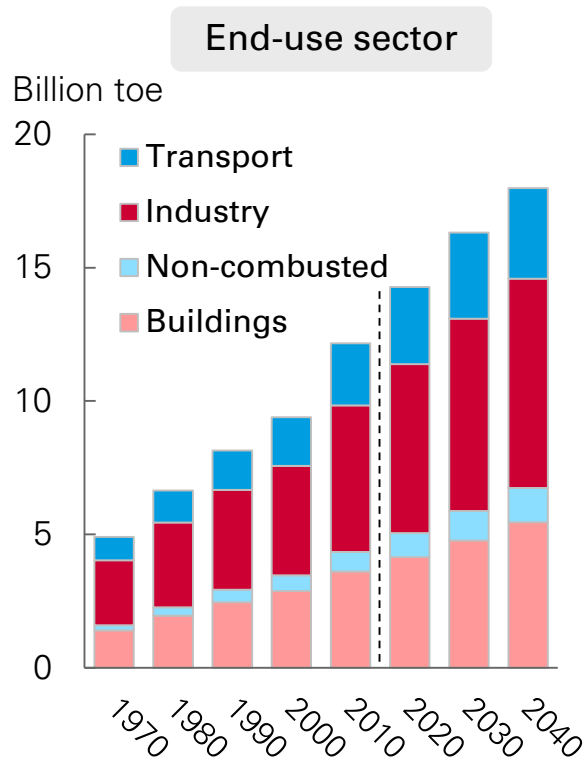


## Primary energy growth and regional contributions



# Three windows on the energy transition

## Primary energy demand

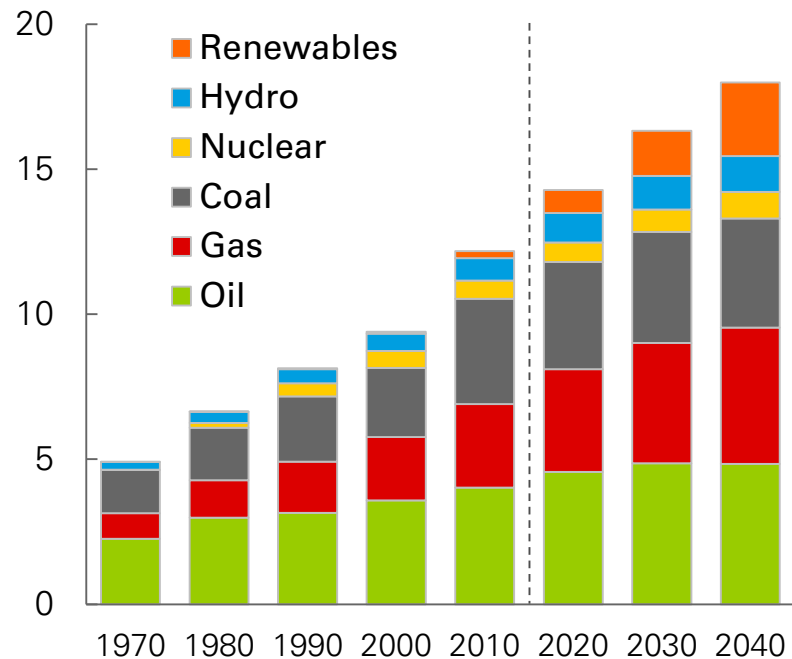


# Global energy by fuel

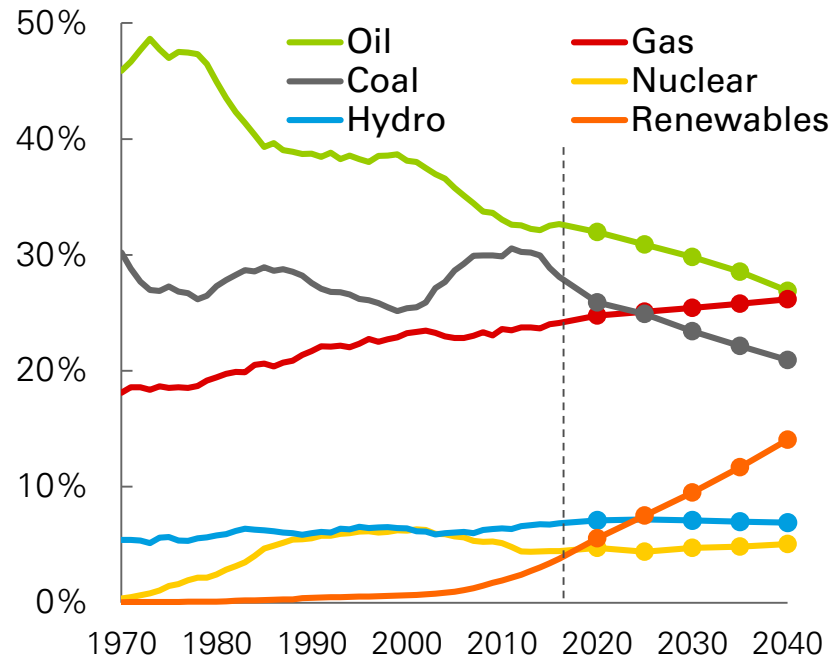


## Primary energy consumption by fuel

Billion toe



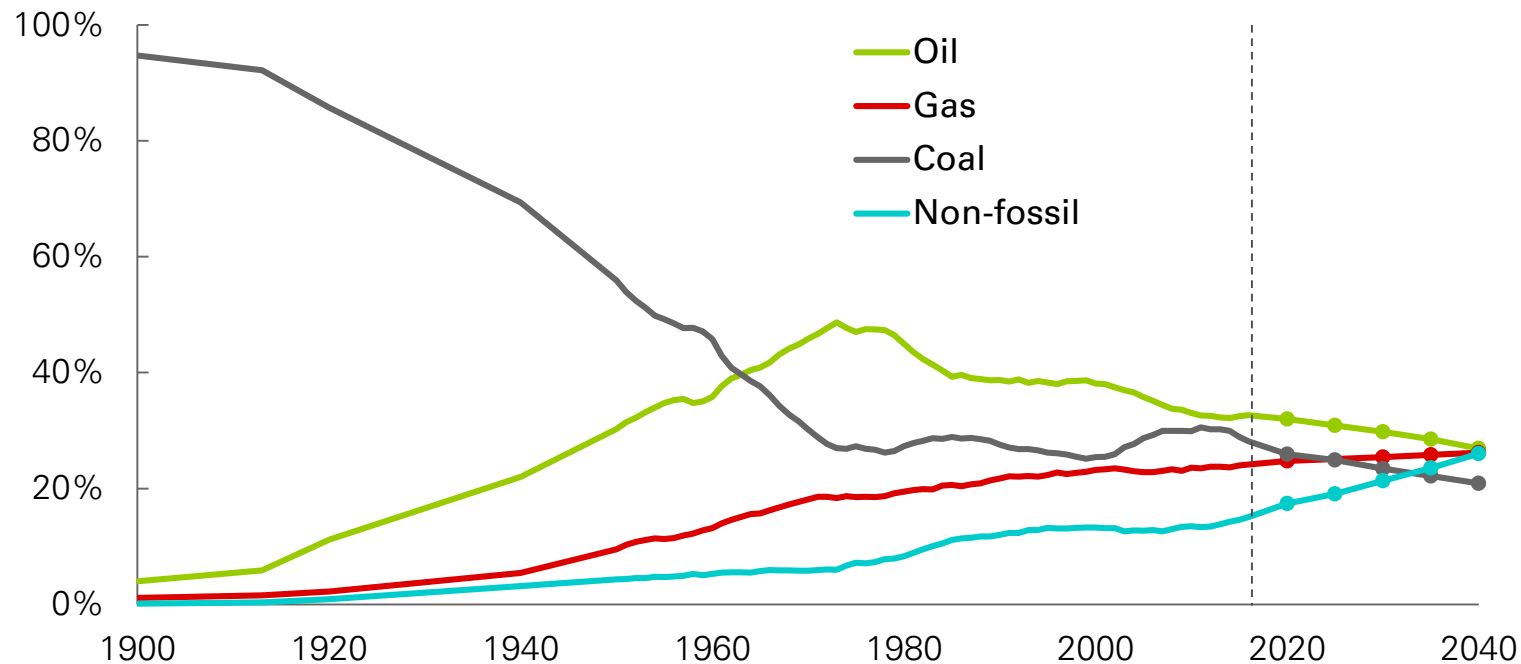
## Shares of primary energy



# Diversified fuel mix



## Shares of primary energy



# Five key policy questions

- What have we learnt about electric cars and the mobility revolution?
- When is global oil demand likely to stop growing?
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- Is the transition to a lower carbon energy system happening fast enough?
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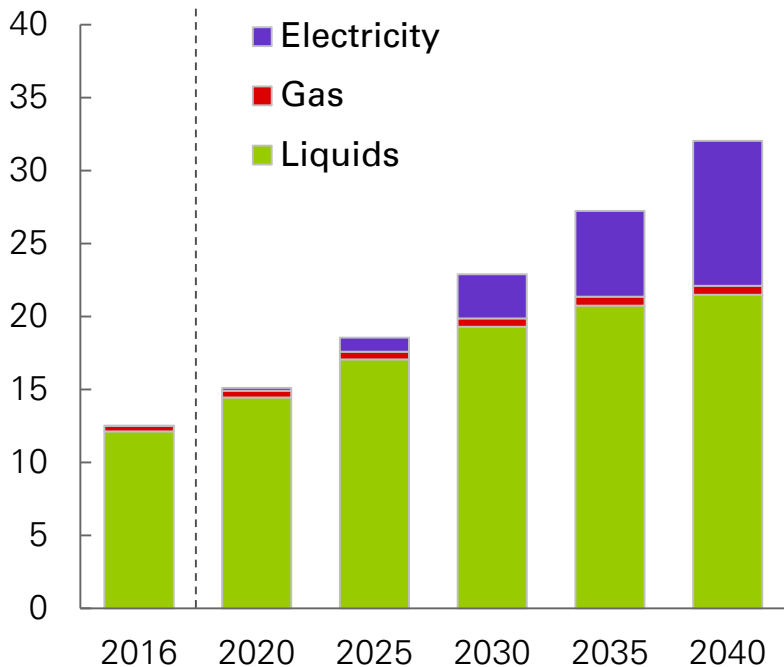
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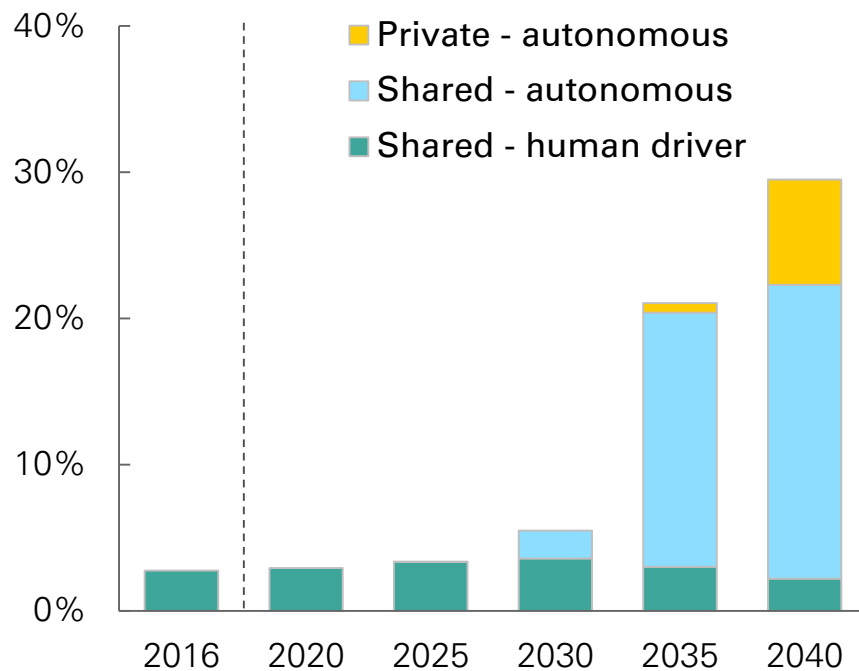
# Electric cars, shared mobility and autonomy

## Car kilometres by fuel type

Trillion km

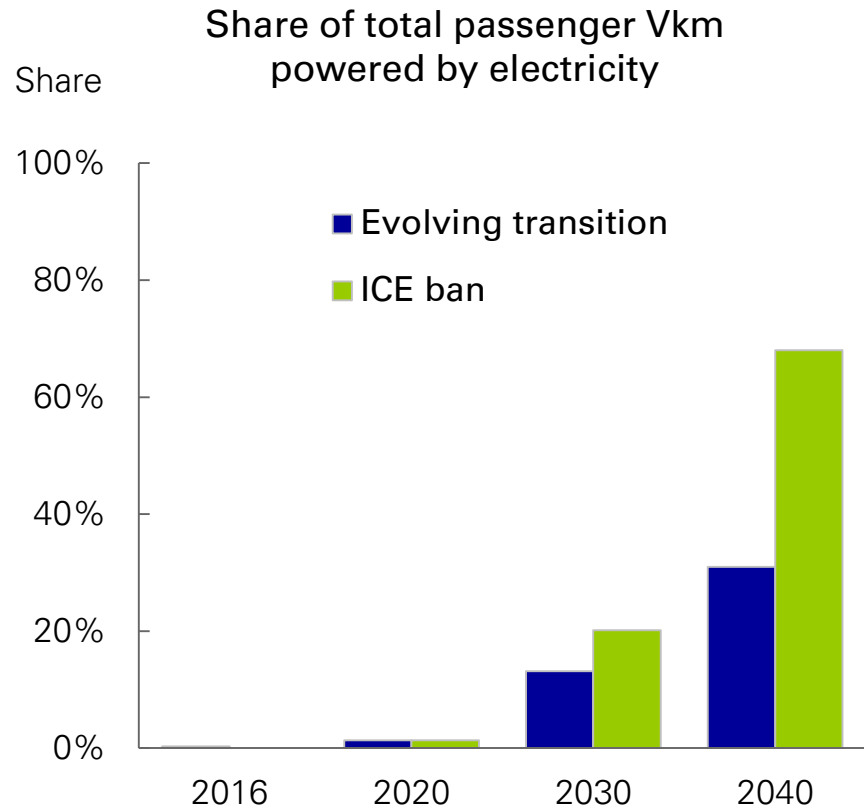
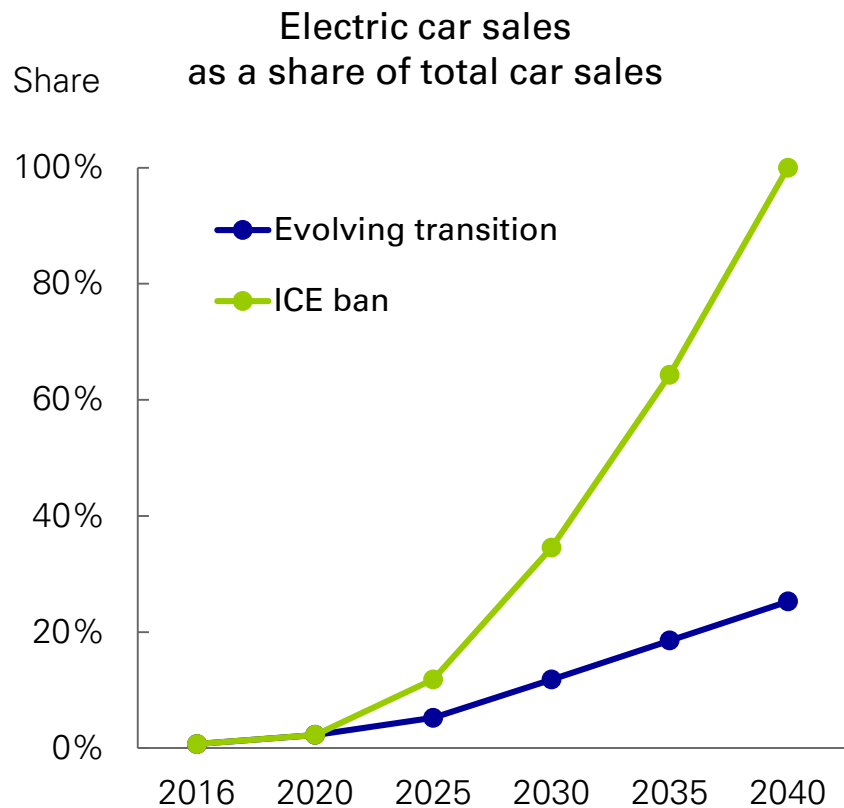


## New mobility share of Vkm



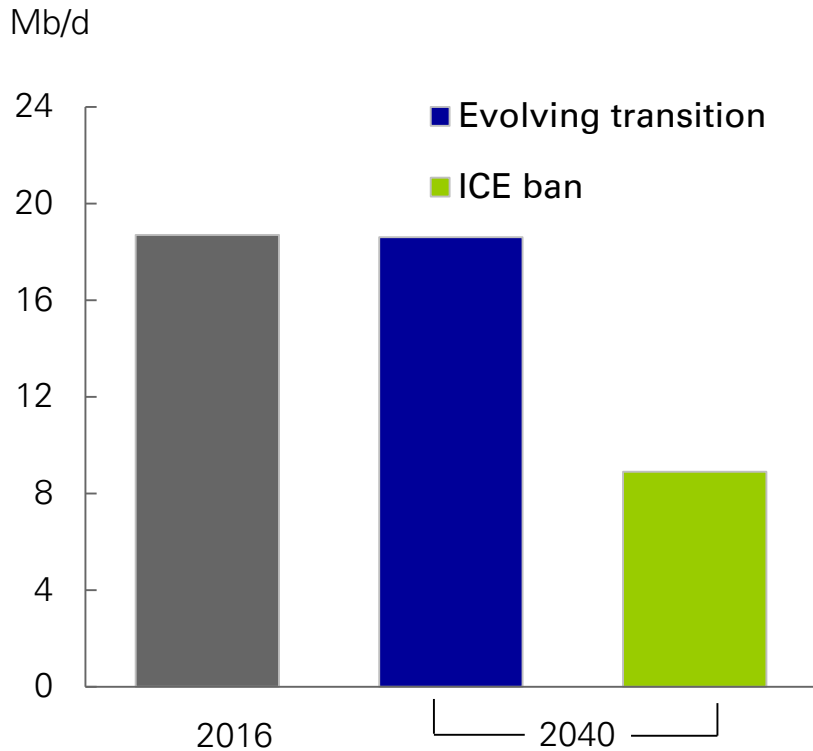


# Global ban on internal-combustion engine (ICE) cars

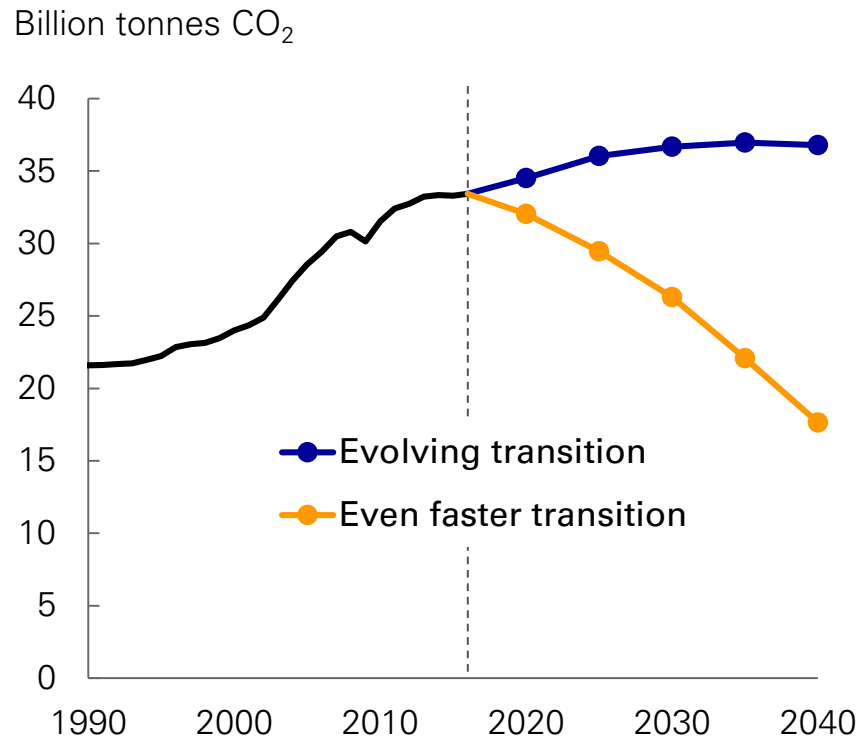


# Impact of ICE ban

## Passenger cars liquids demand

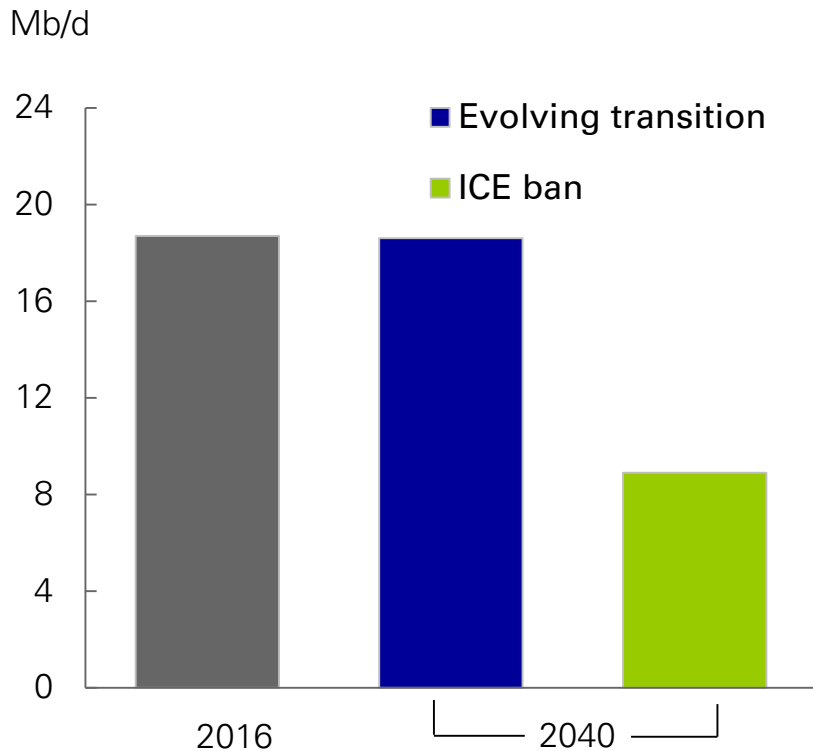


## Carbon emissions from energy

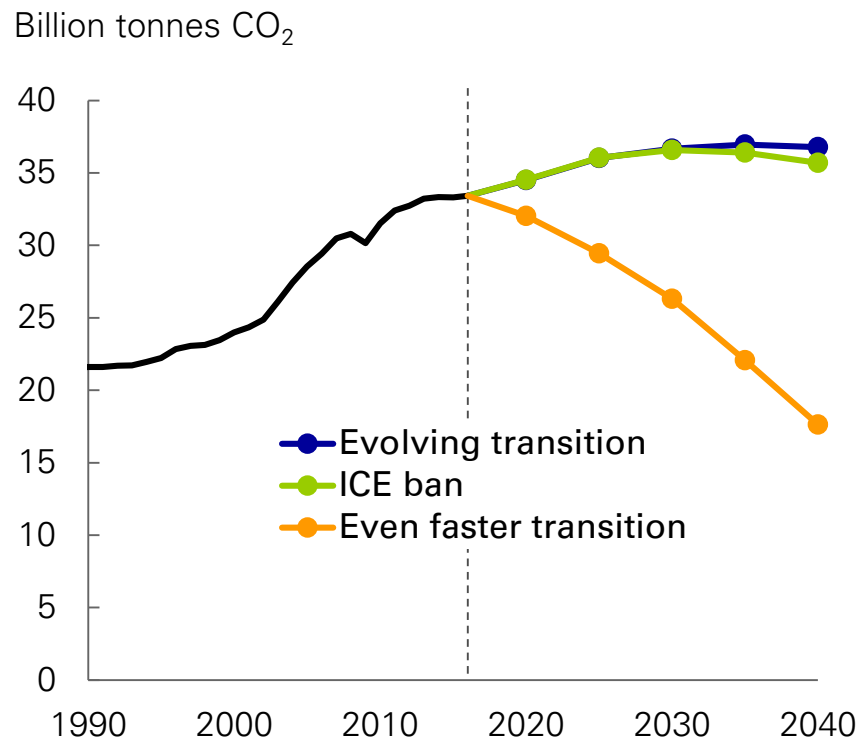


# Impact of ICE ban

## Passenger cars liquids demand



## Carbon emissions from energy

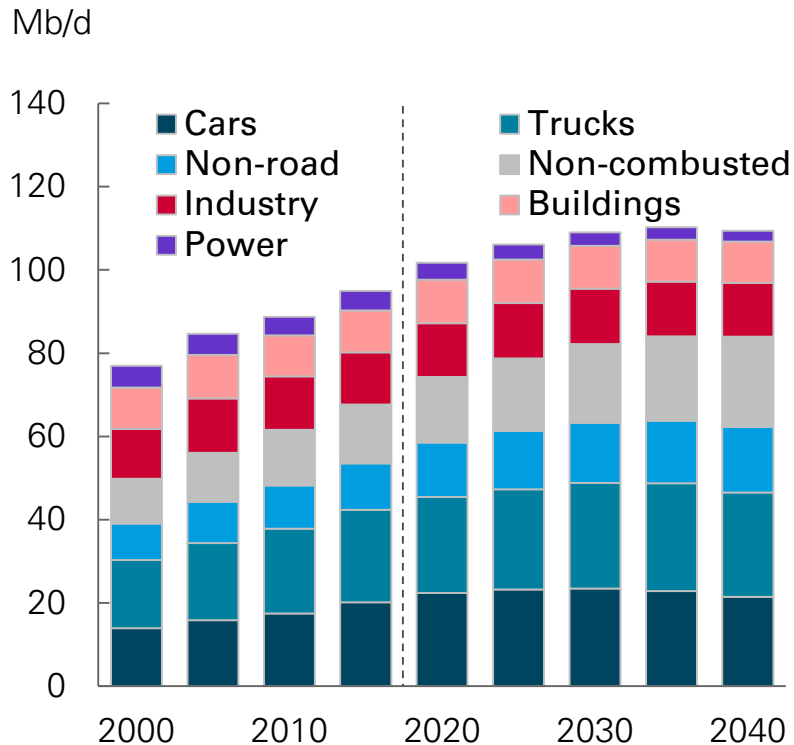


# Five key policy questions

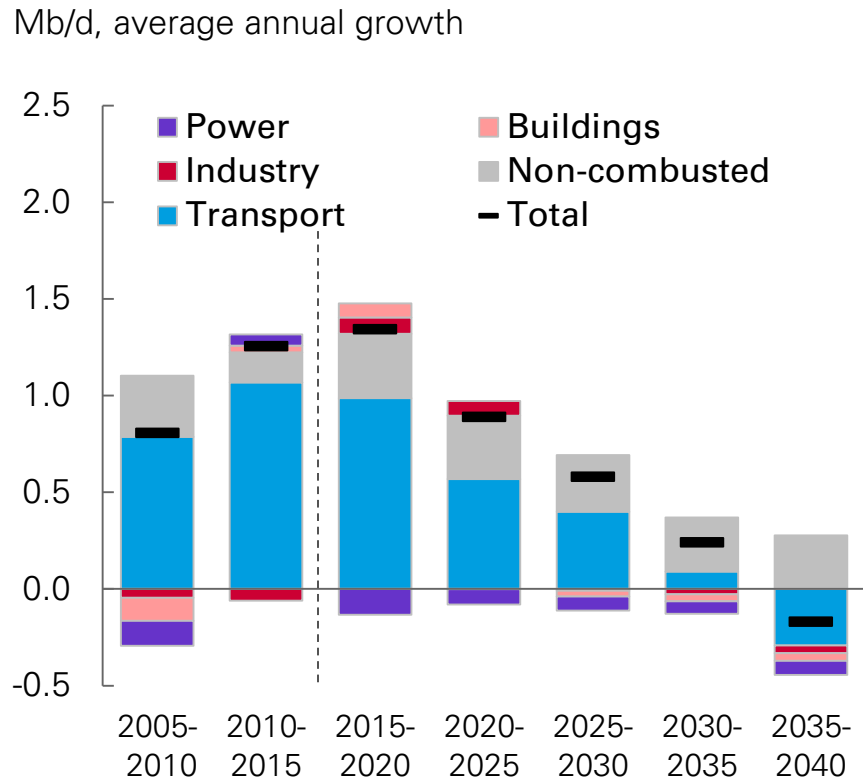
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# Demand for oil and other liquid fuels

## Liquids demand

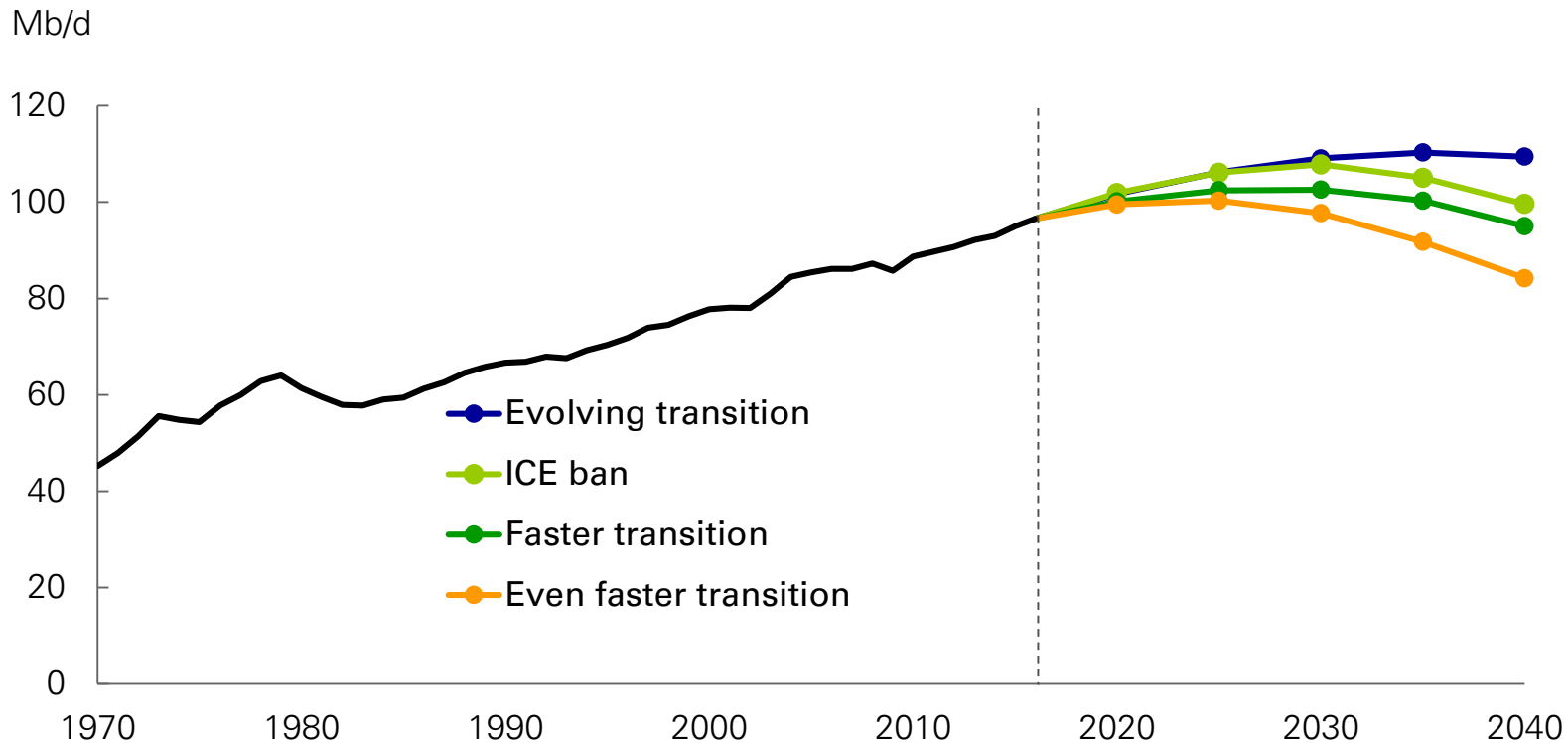


## Liquids demand growth



# Demand for oil and other liquid fuels

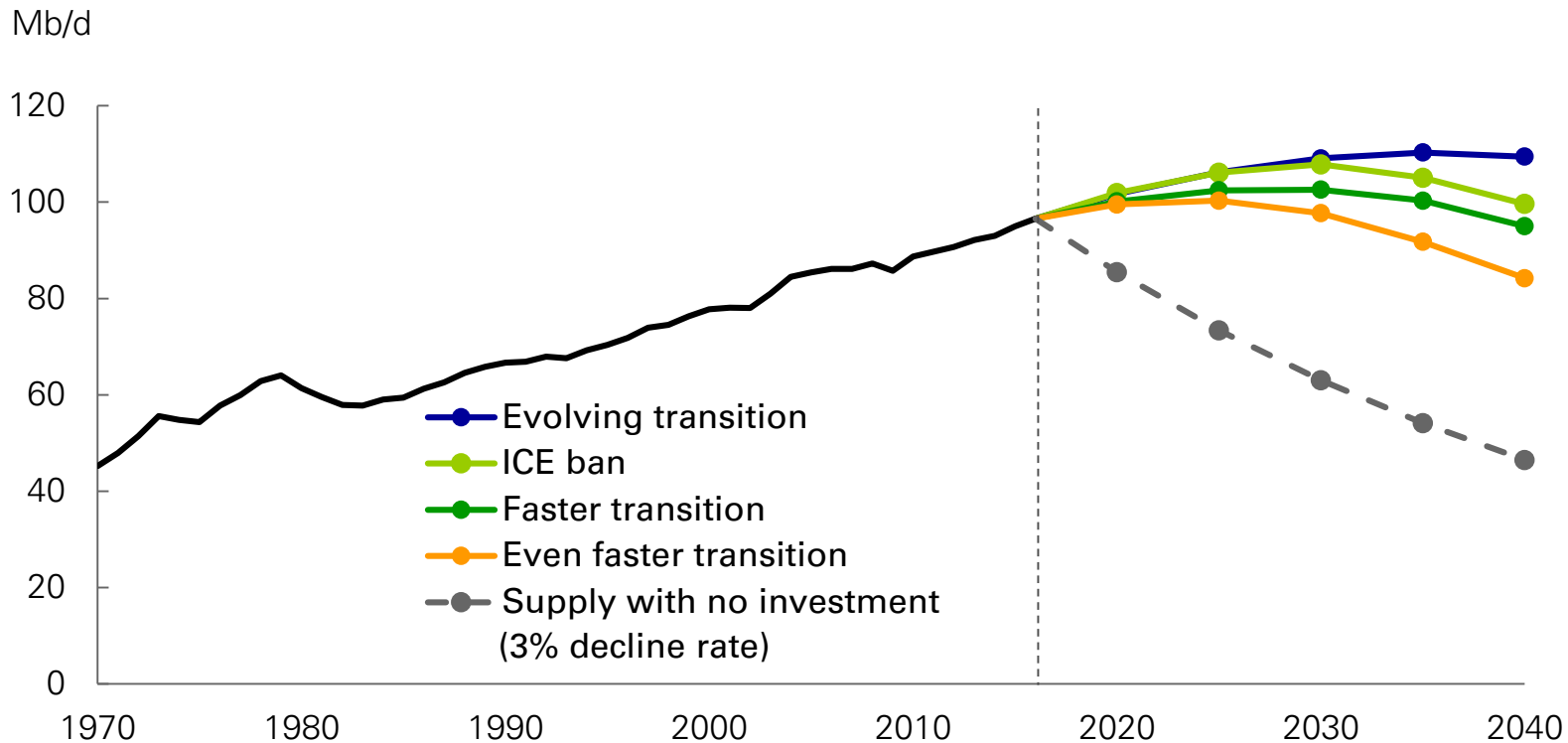
Liquids demand





# Demand for oil and other liquid fuels

Liquids demand

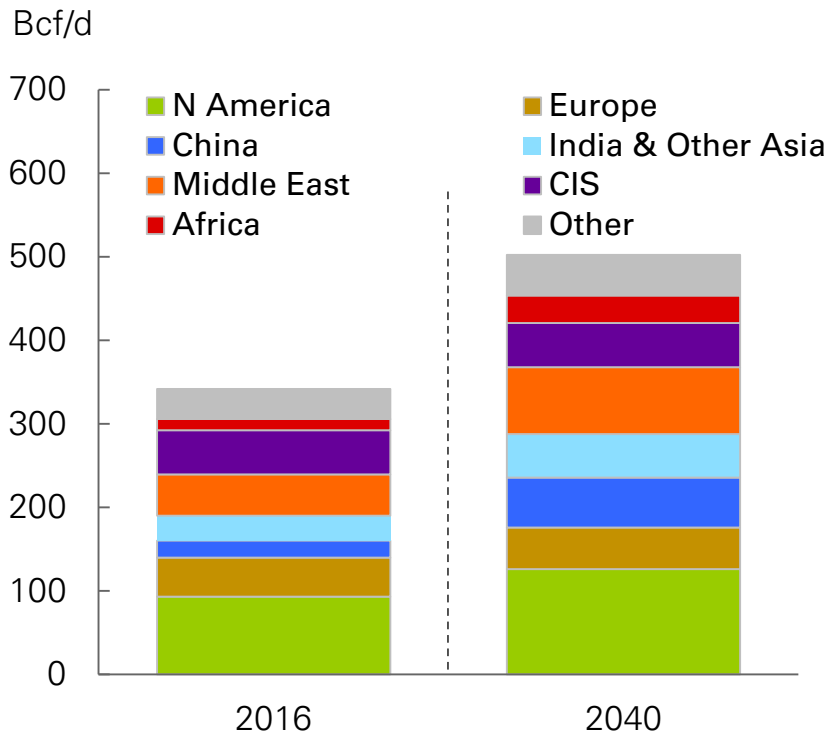


# Five key policy questions

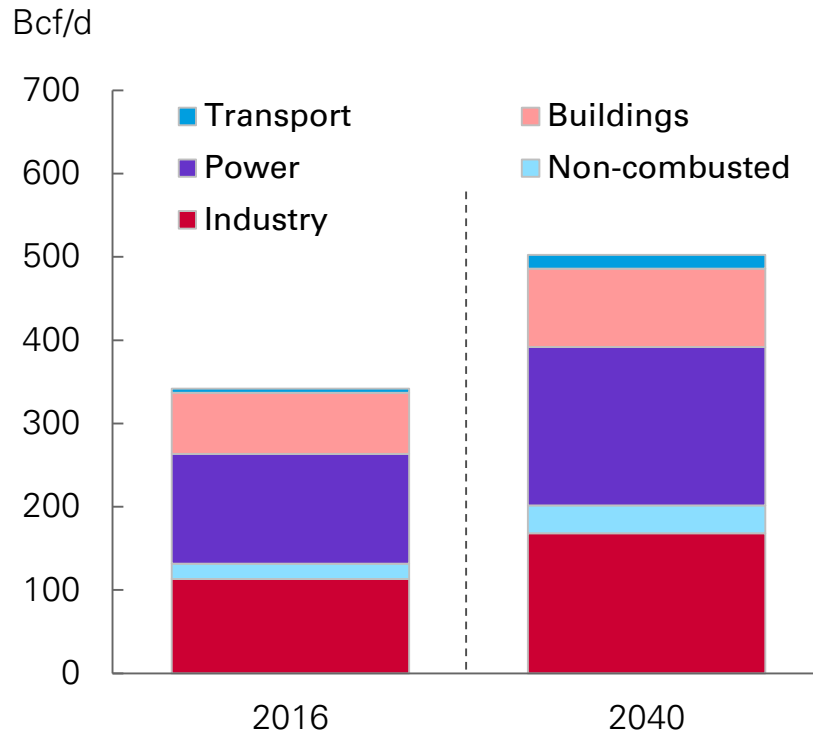
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# Growth in natural gas demand

## Gas consumption by region



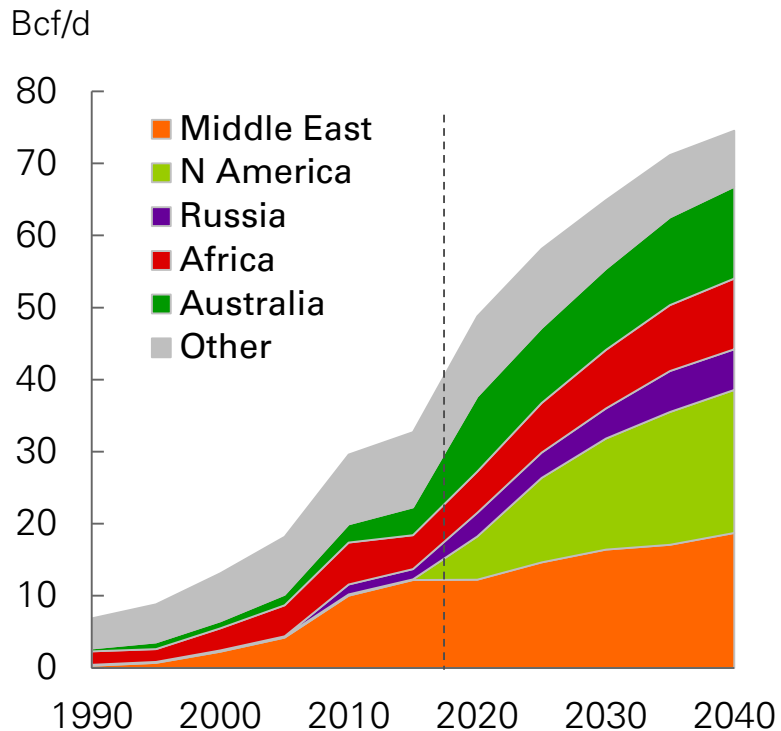
## Gas consumption by sector



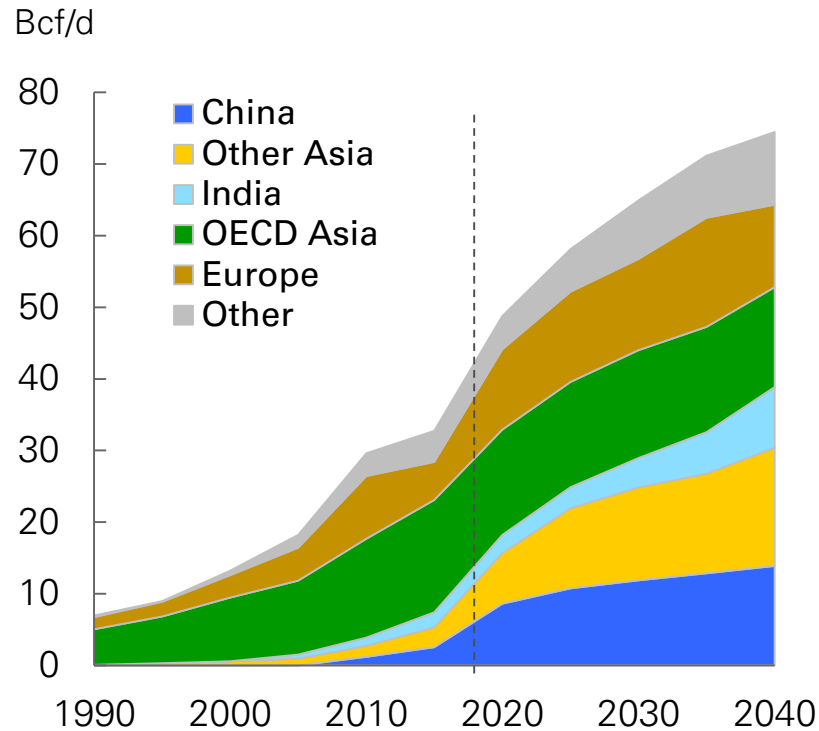
# LNG continues to grow



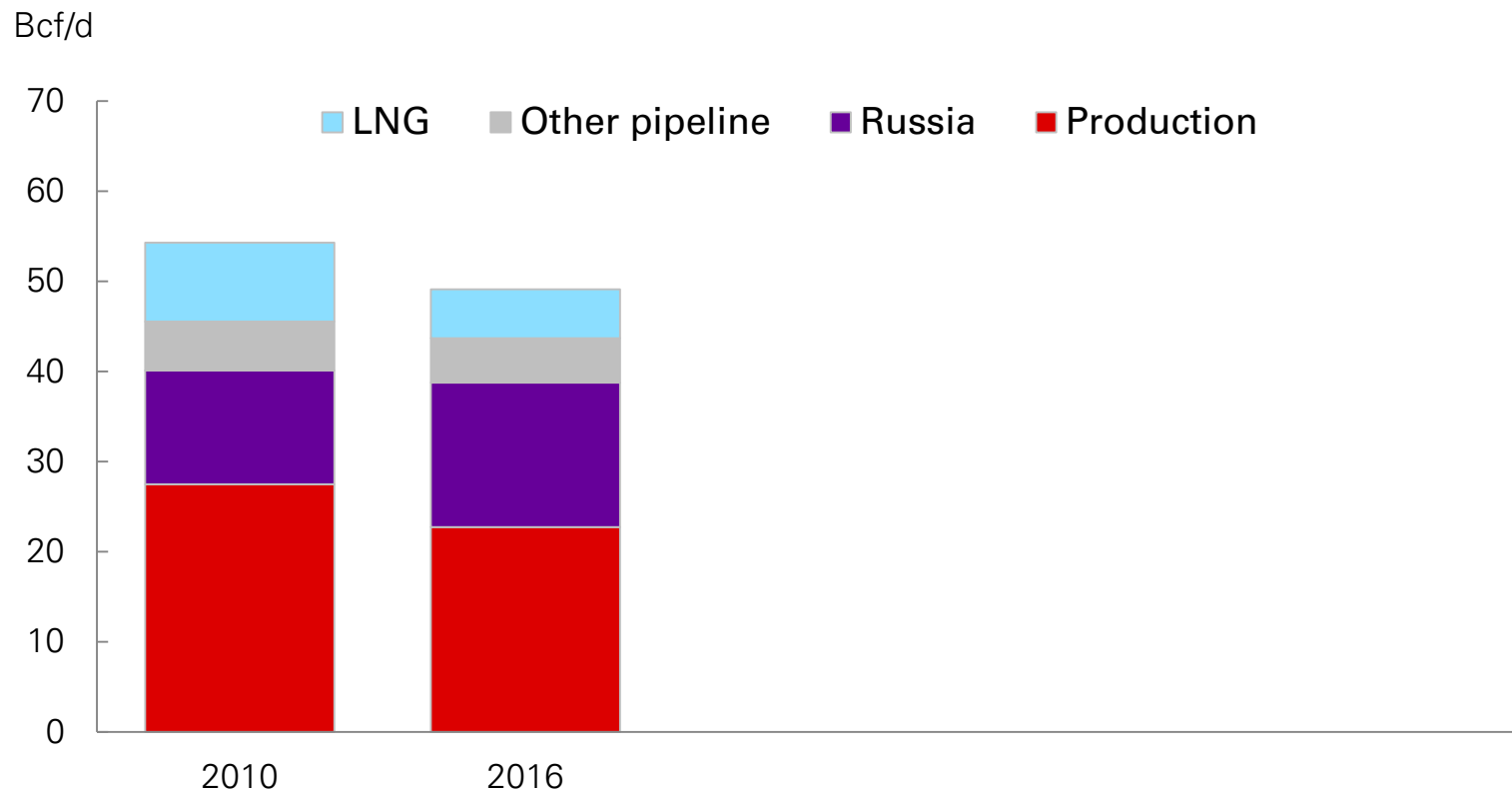
## LNG exports



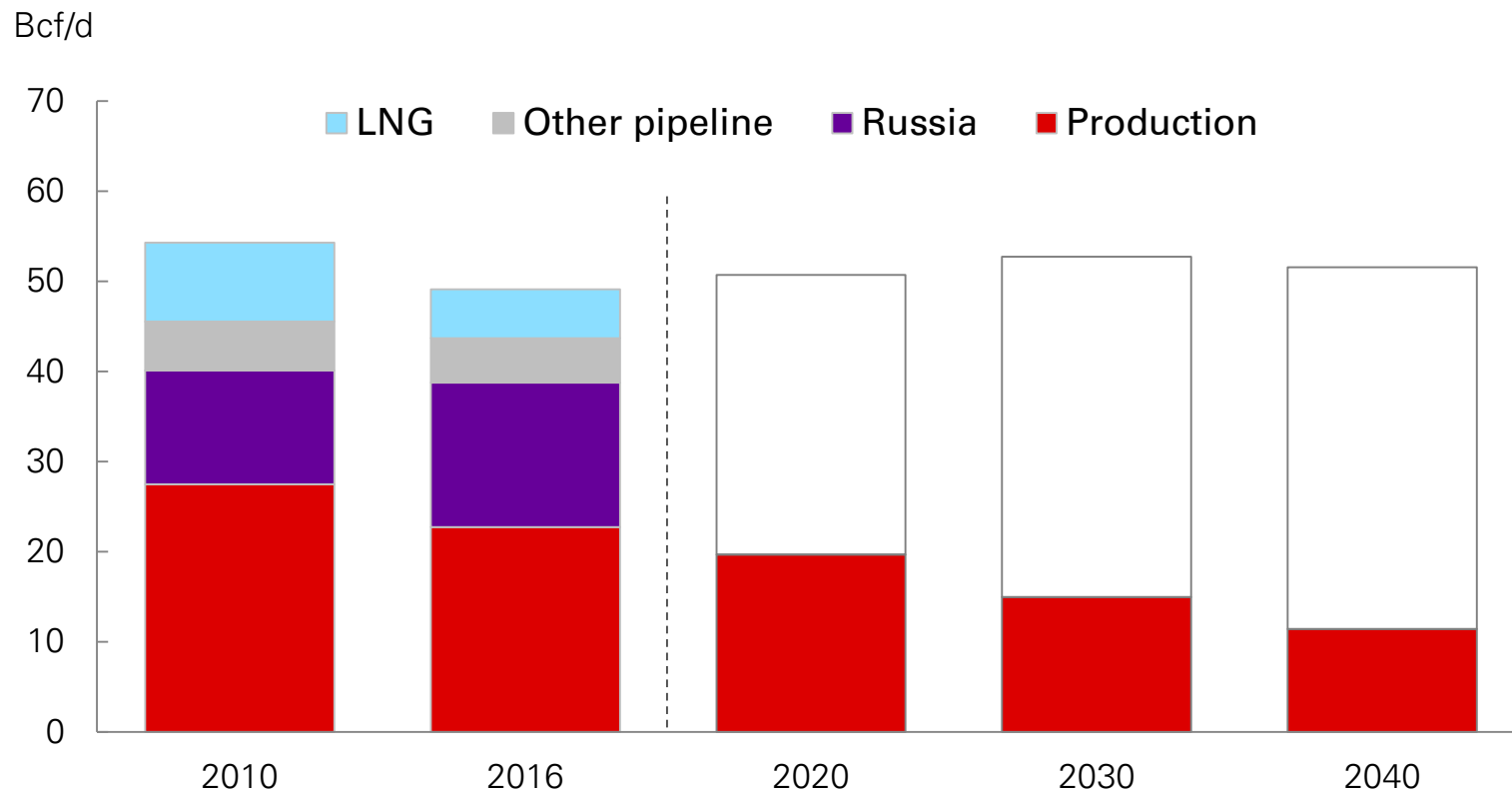
## LNG imports



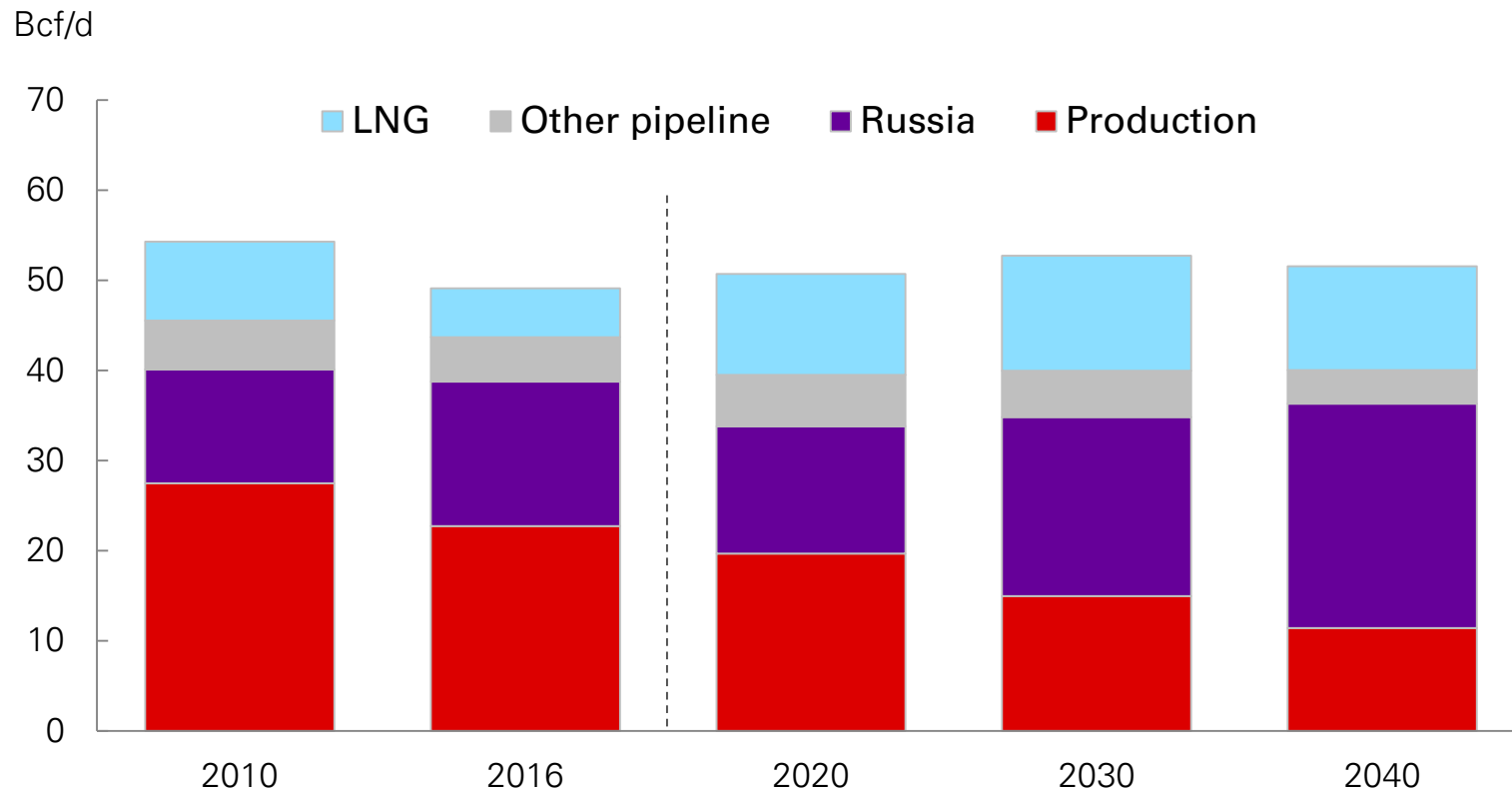
# Gas supply to Europe



# Gas supply to Europe

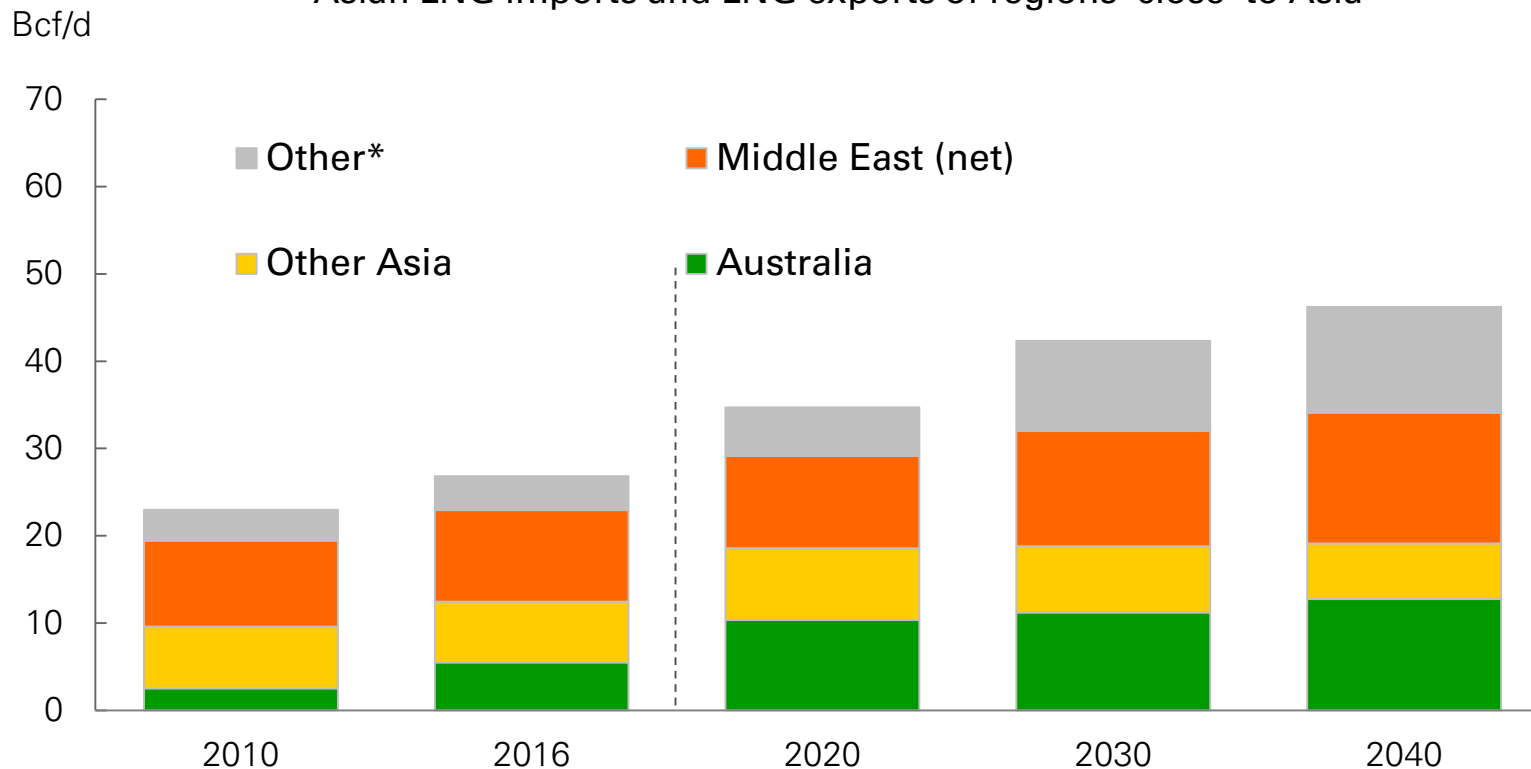


# Gas supply to Europe



# Asian demand for US LNG

Asian LNG imports and LNG exports of regions 'close' to Asia

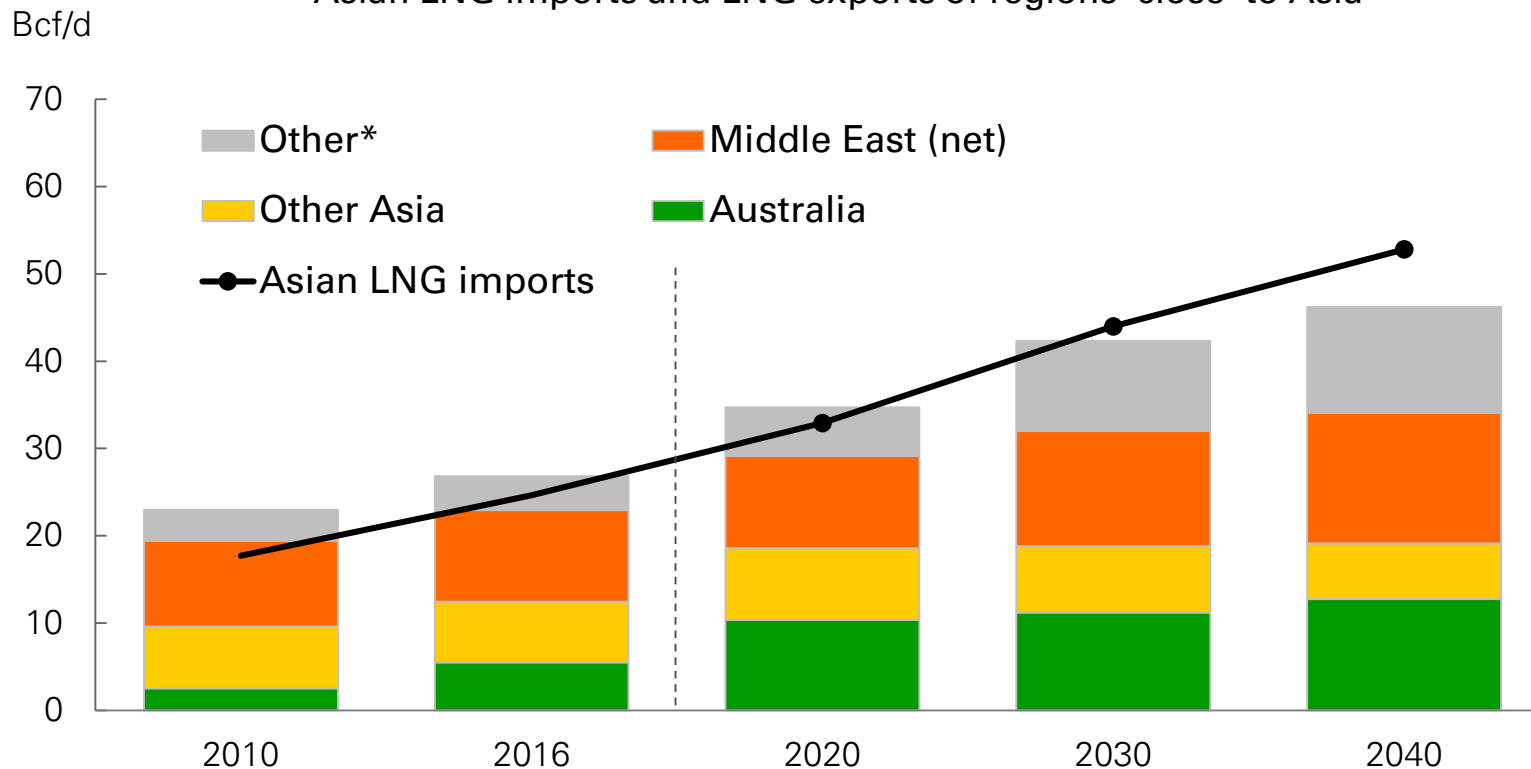


\*Other includes Peru, Canada, East Africa, Angola, parts of West African and Russian gas supplies



# Asian demand for US LNG

Asian LNG imports and LNG exports of regions 'close' to Asia



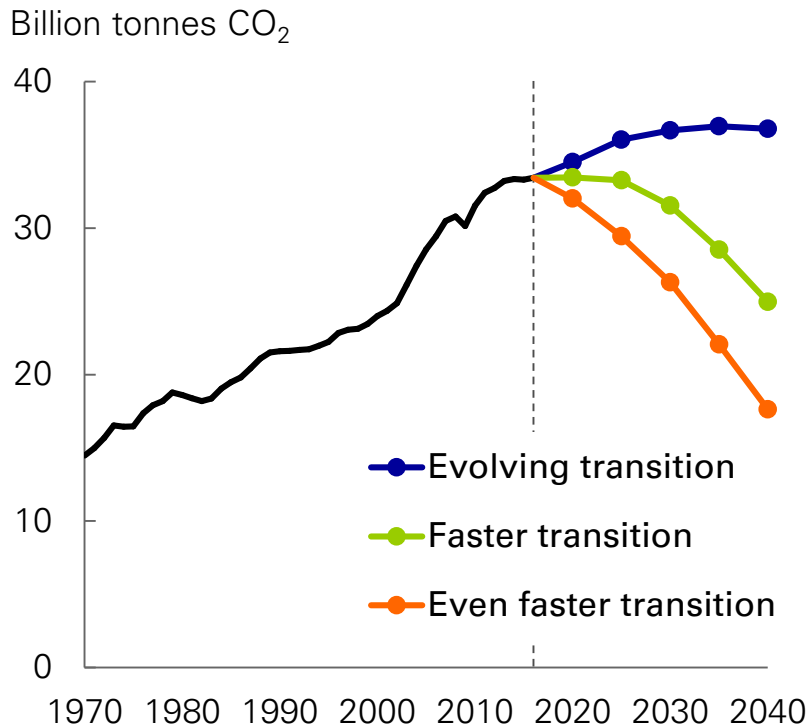
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## Five key policy questions

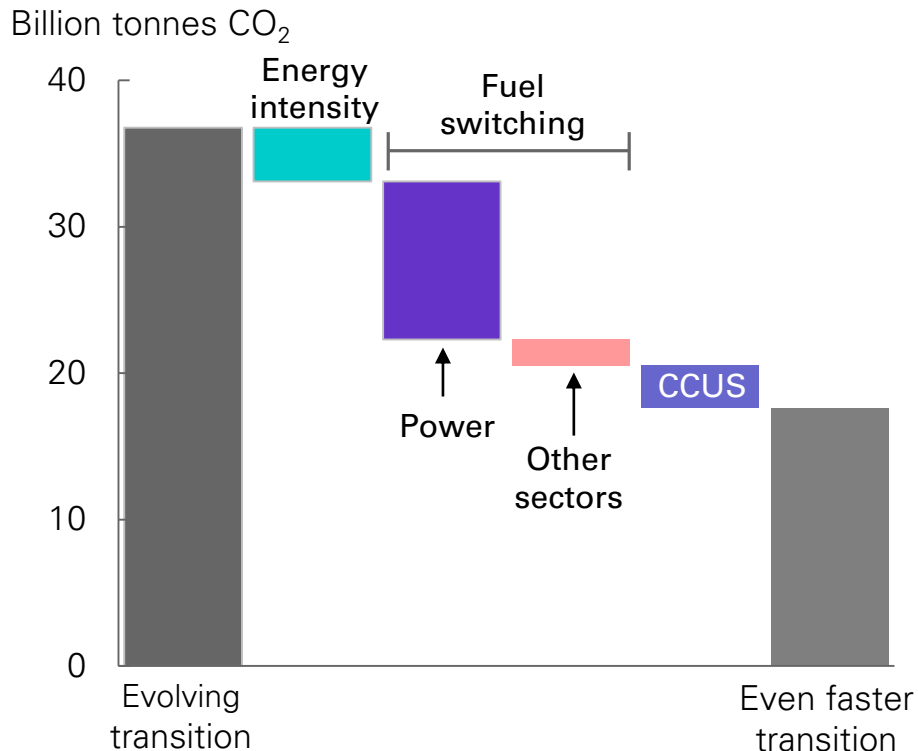
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# Carbon emissions continue to rise in the ET scenario

Carbon emissions



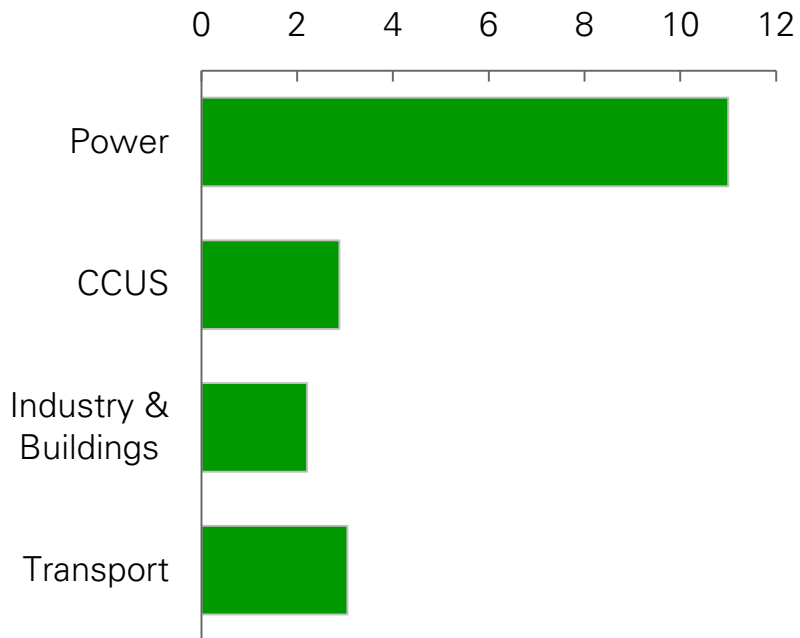
Carbon emissions in 2040:  
EFT versus ET scenario



# Impact of faster transition on global energy system

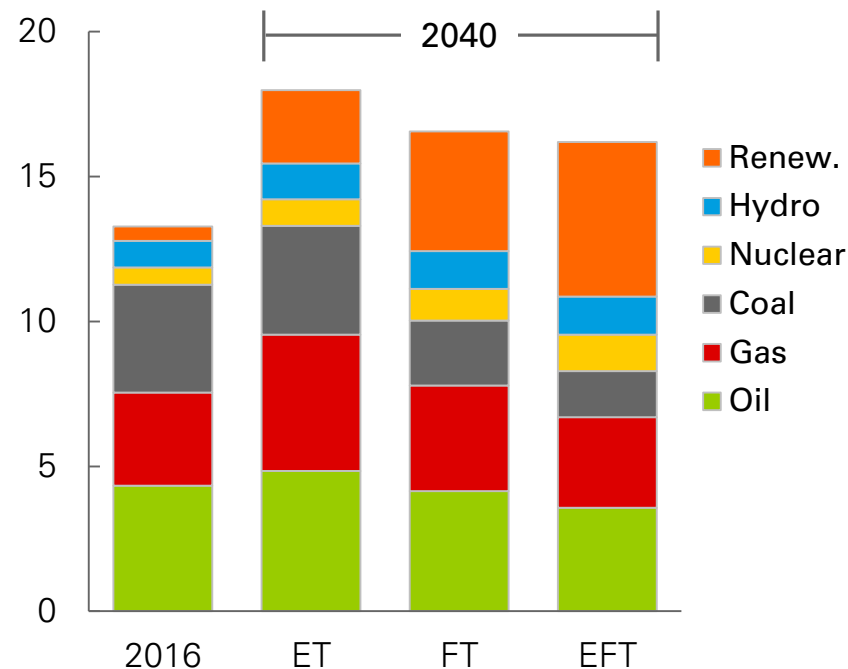
Reductions in carbon emissions:  
EFT versus ET scenario

Billion tonnes CO<sub>2</sub> in 2040



Primary energy consumption under  
different scenarios

Billion toe

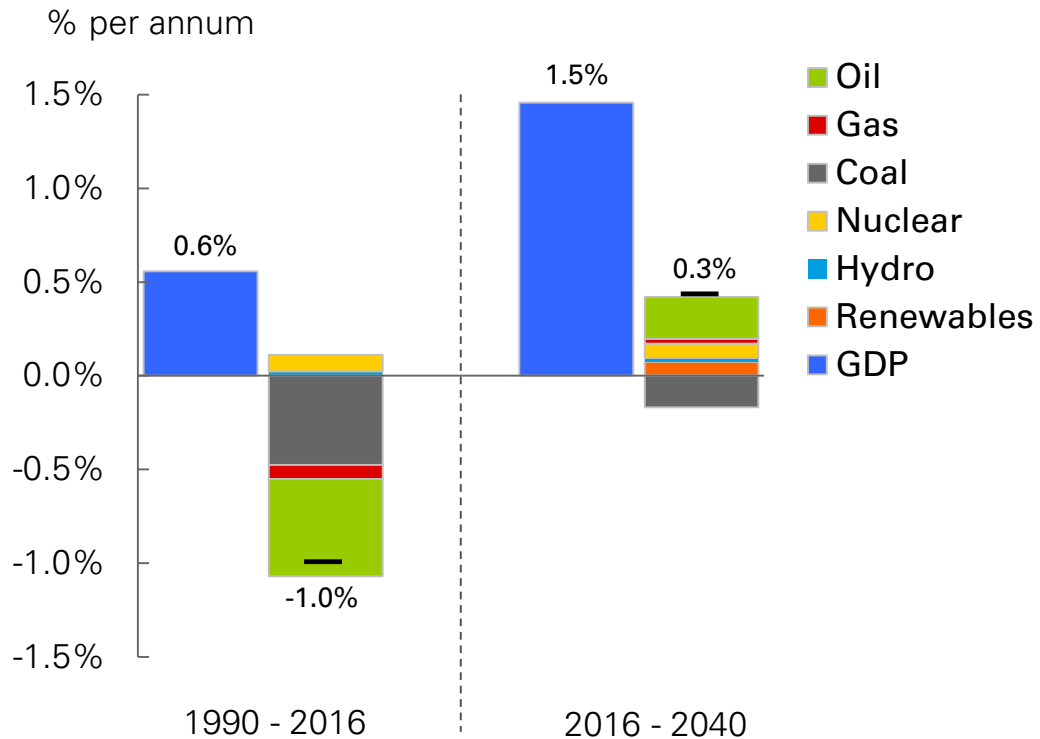


# Five key policy questions

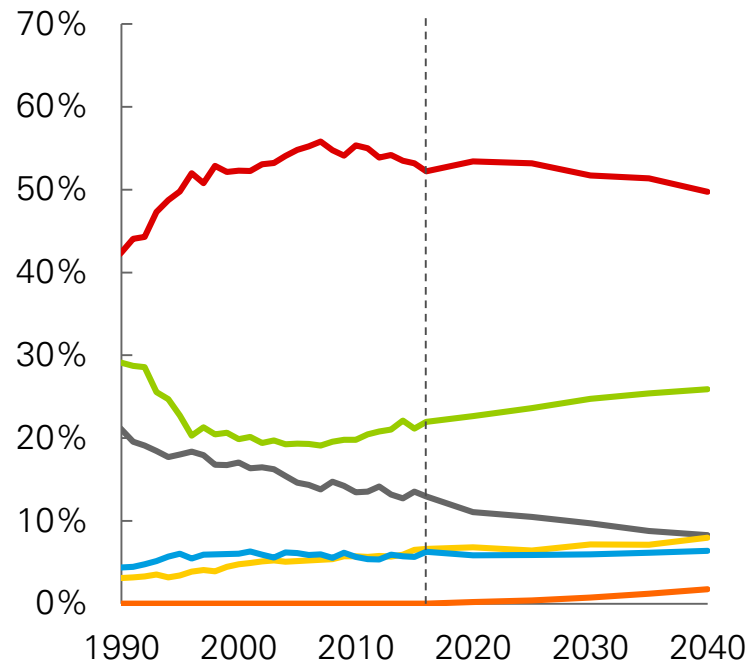
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# Implications for Russia

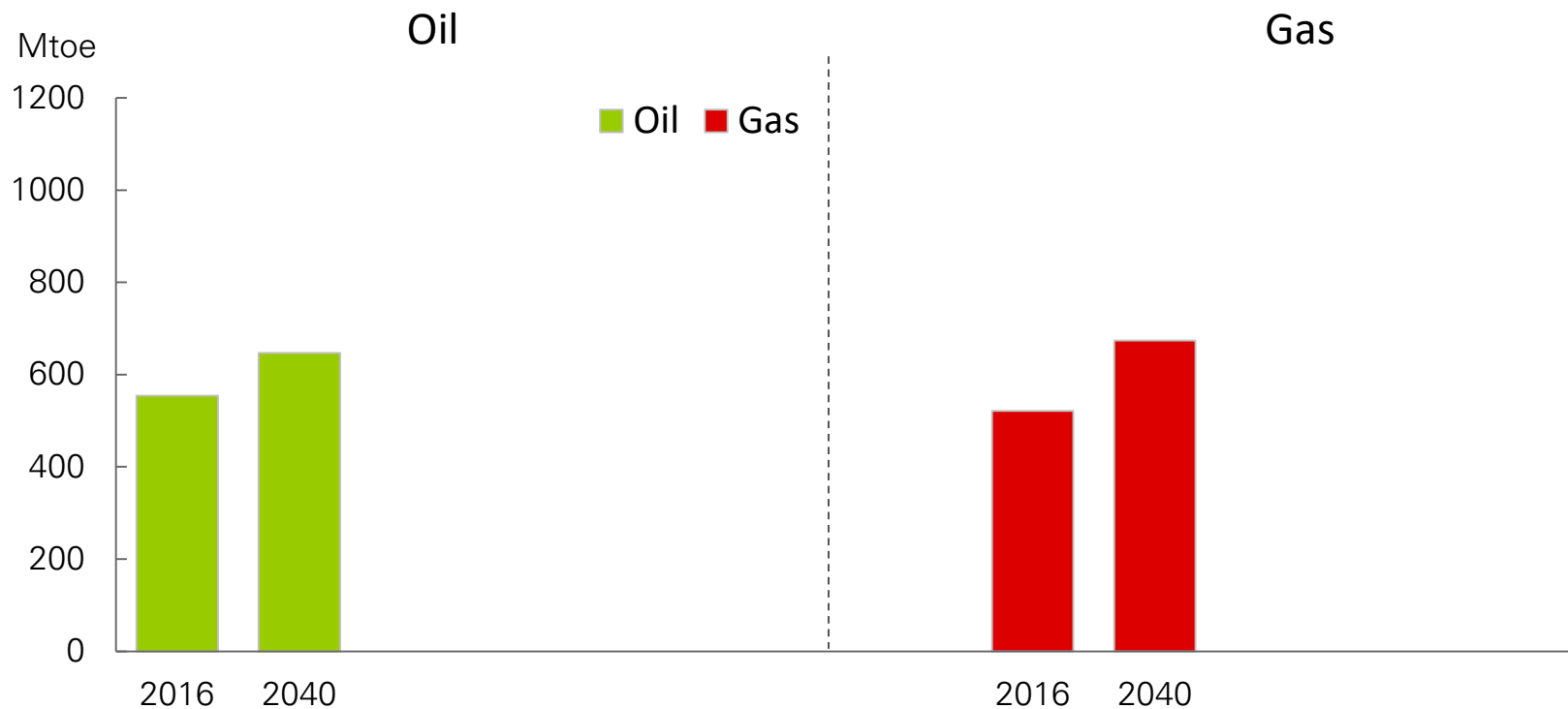
## Growth of GDP and primary energy



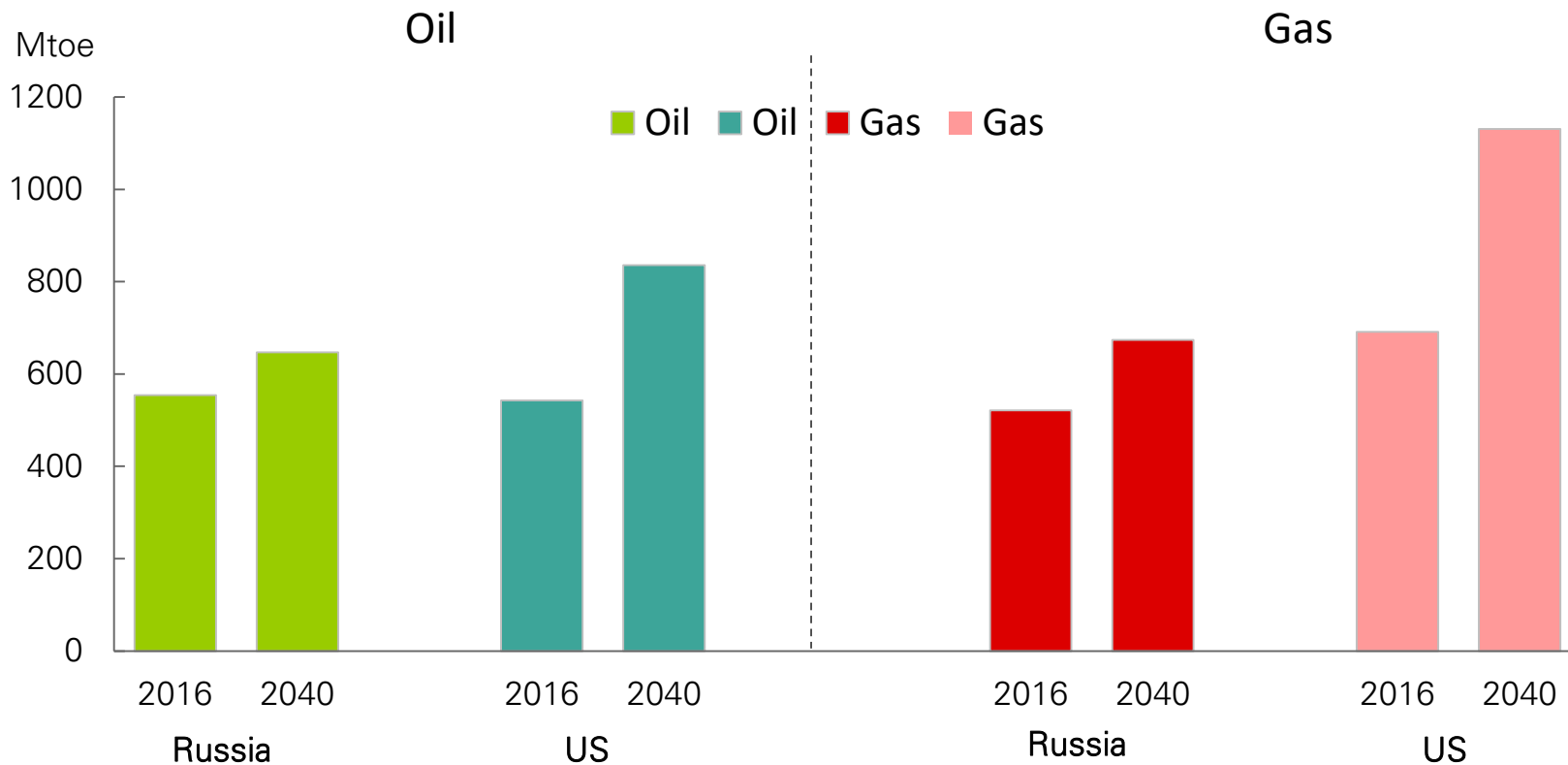
## Shares of primary energy



# Russia's oil and gas production

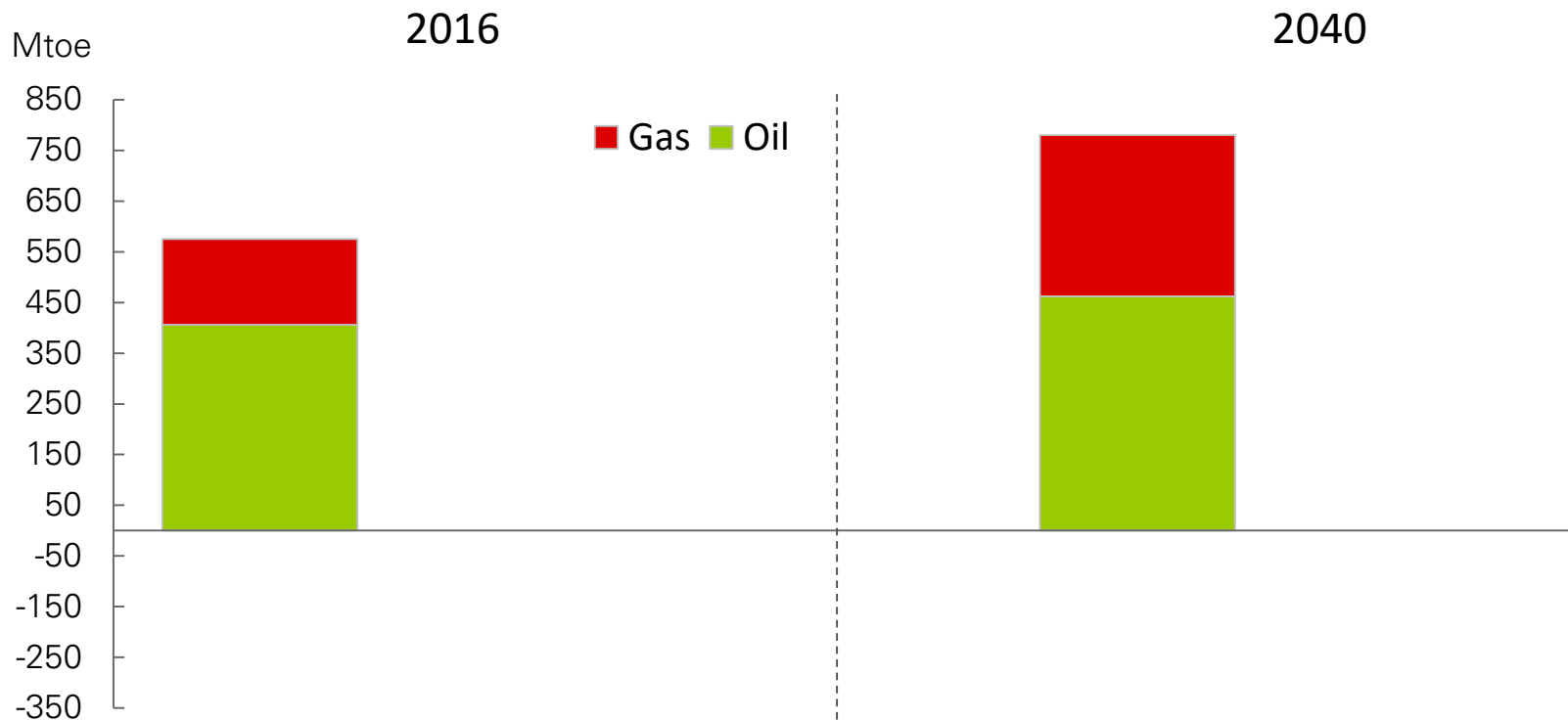


# Russia and US oil and gas production

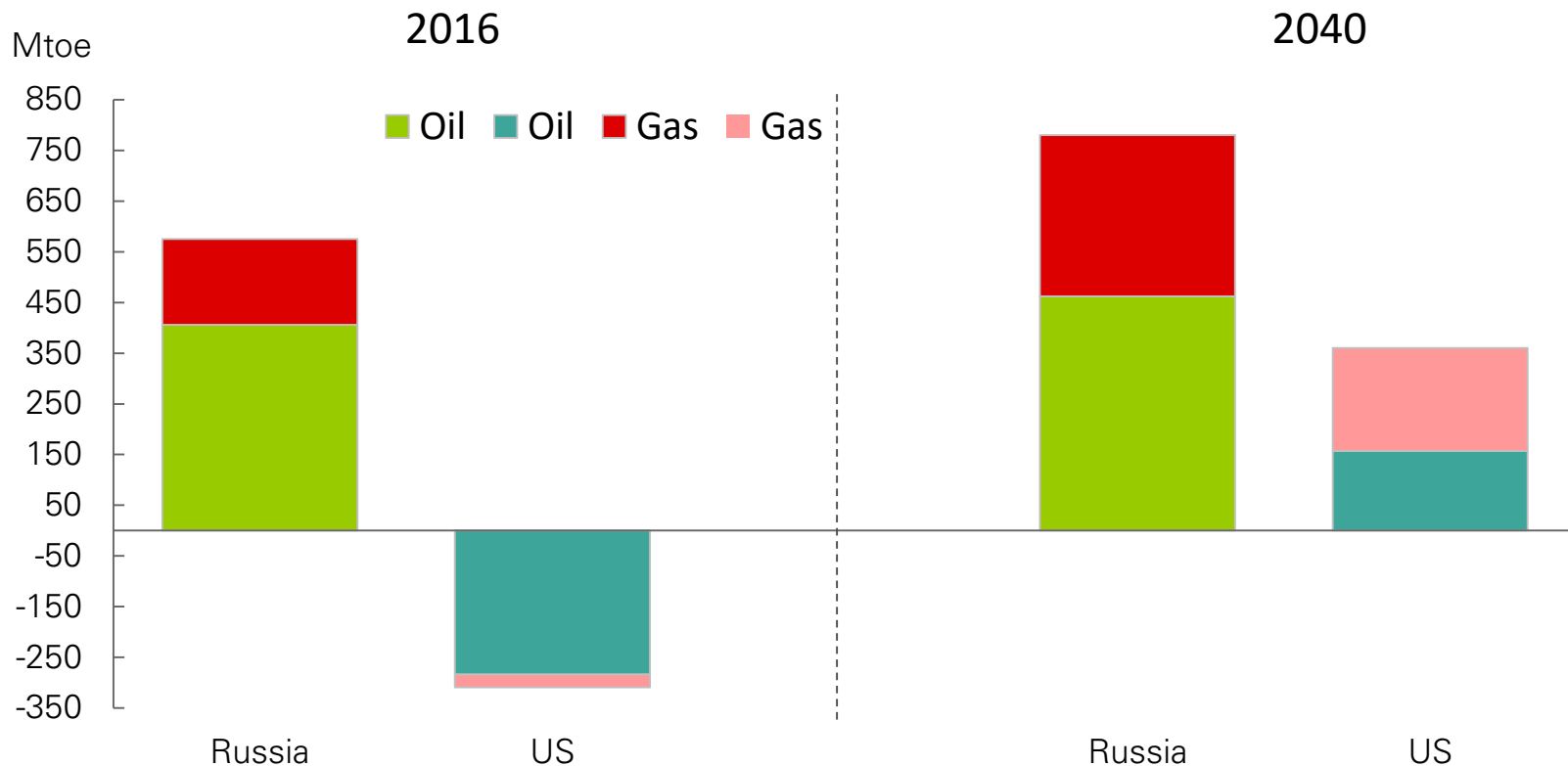




# Russia's net exports



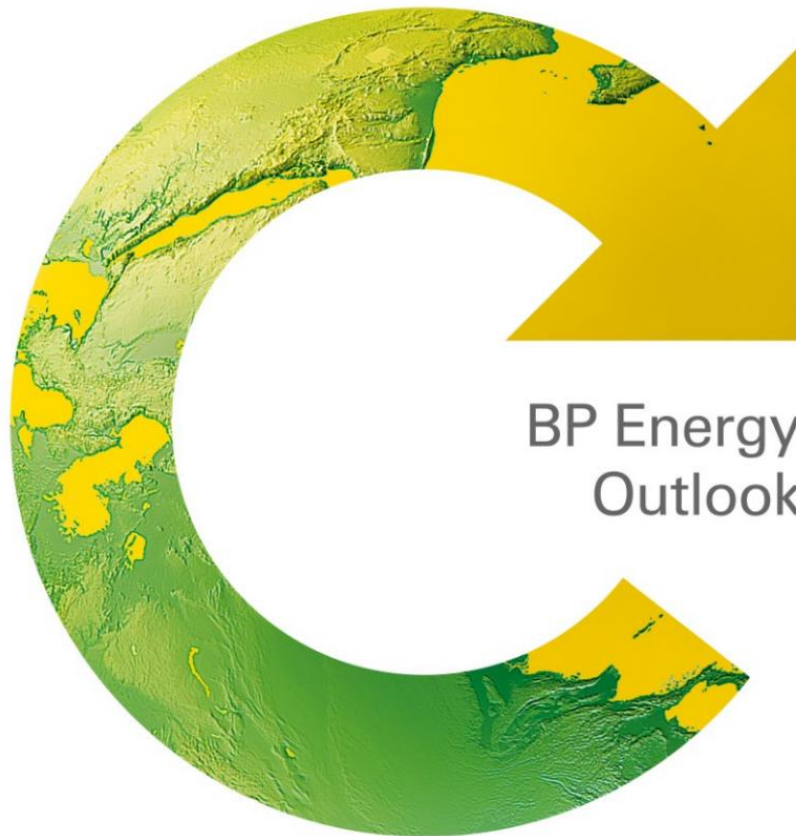
# Russia and US net exports





# BP Energy Outlook

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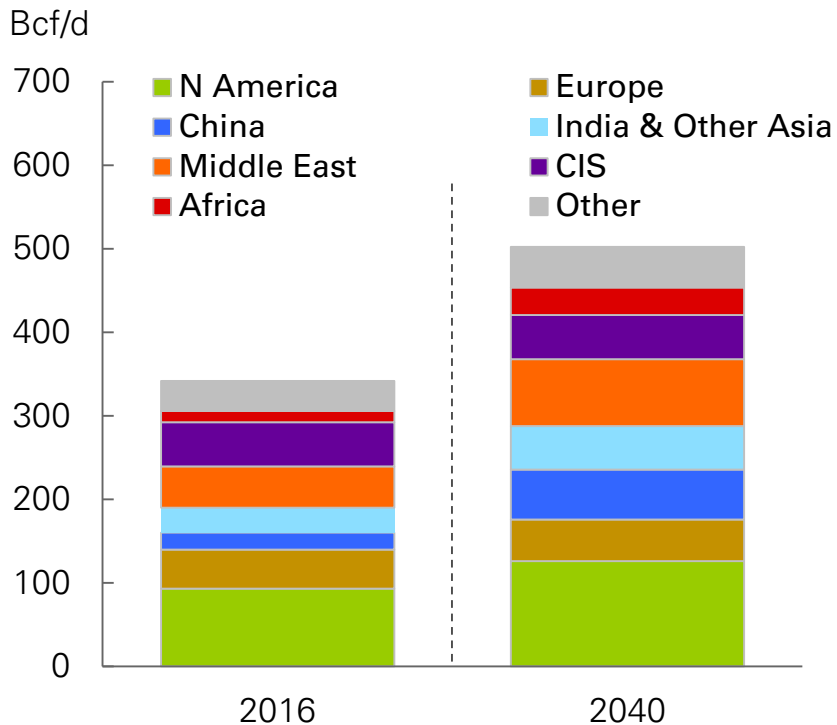


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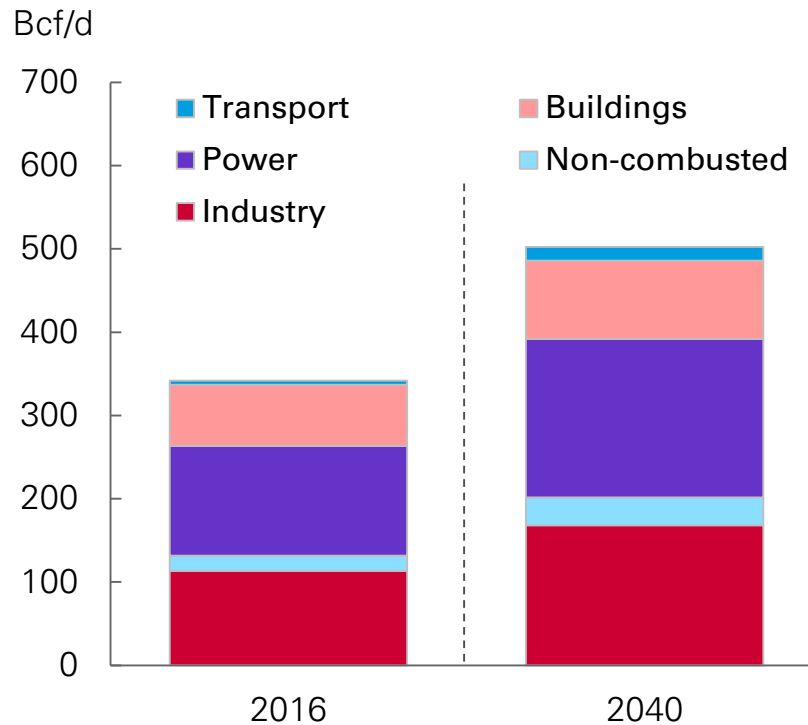
**Spencer Dale**  
Group chief economist

# Growth in natural gas demand

## Gas consumption by region

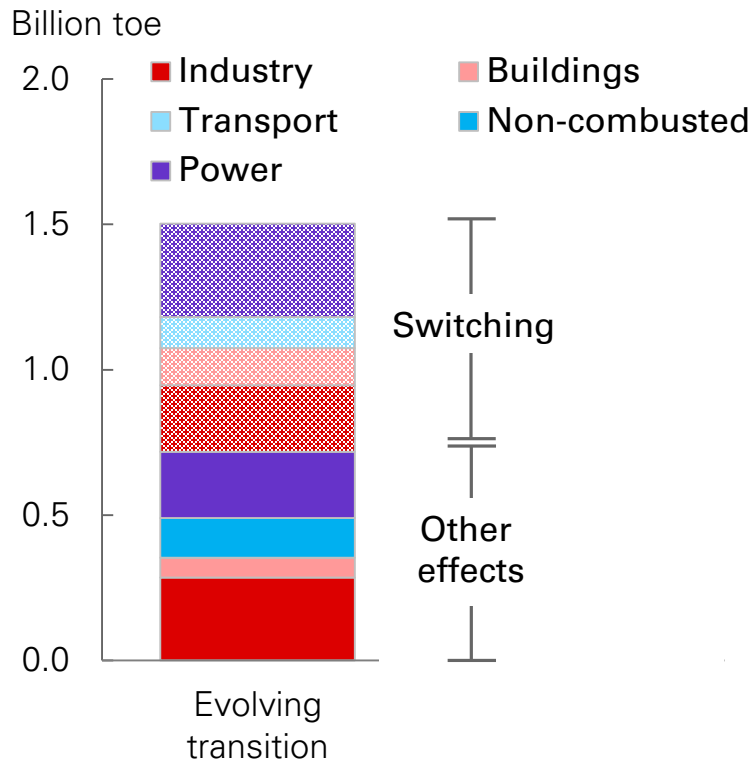


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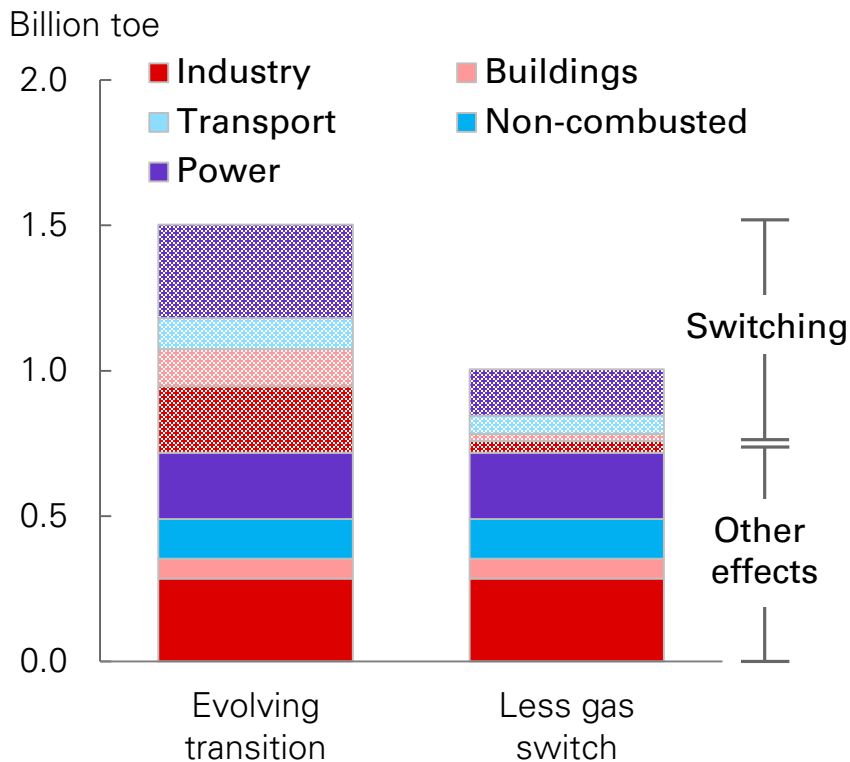
# Possible risks to the outlook for natural gas

Gas demand increase  
2016-2040

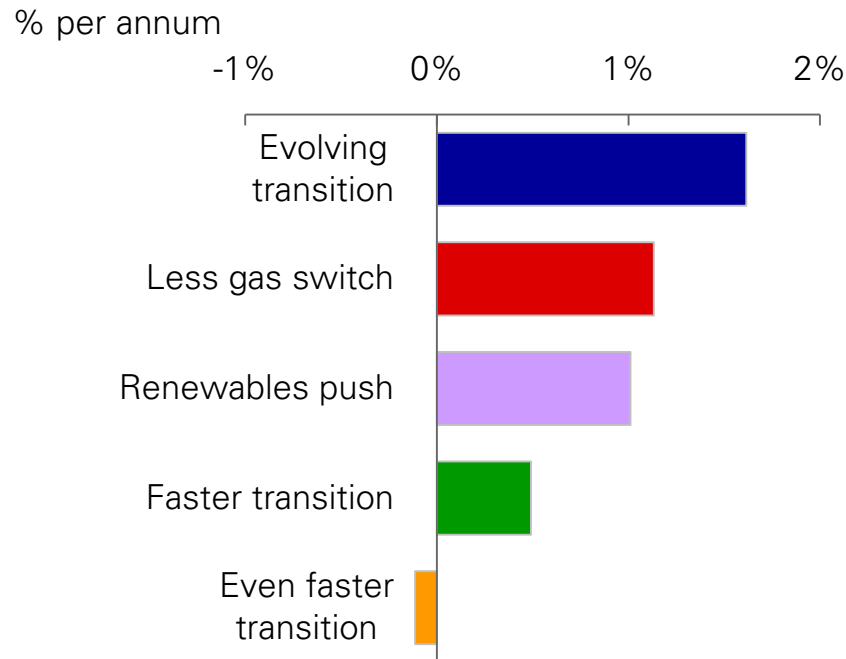


# Possible risks to the outlook for natural gas

Gas demand increase  
2016-2040



Gas demand growth  
2016-2040



# Liquid fuel demand from passenger cars

Changes in liquids demand from cars: 2016-2040

