

GAS

Medium-Term Market Report 2015

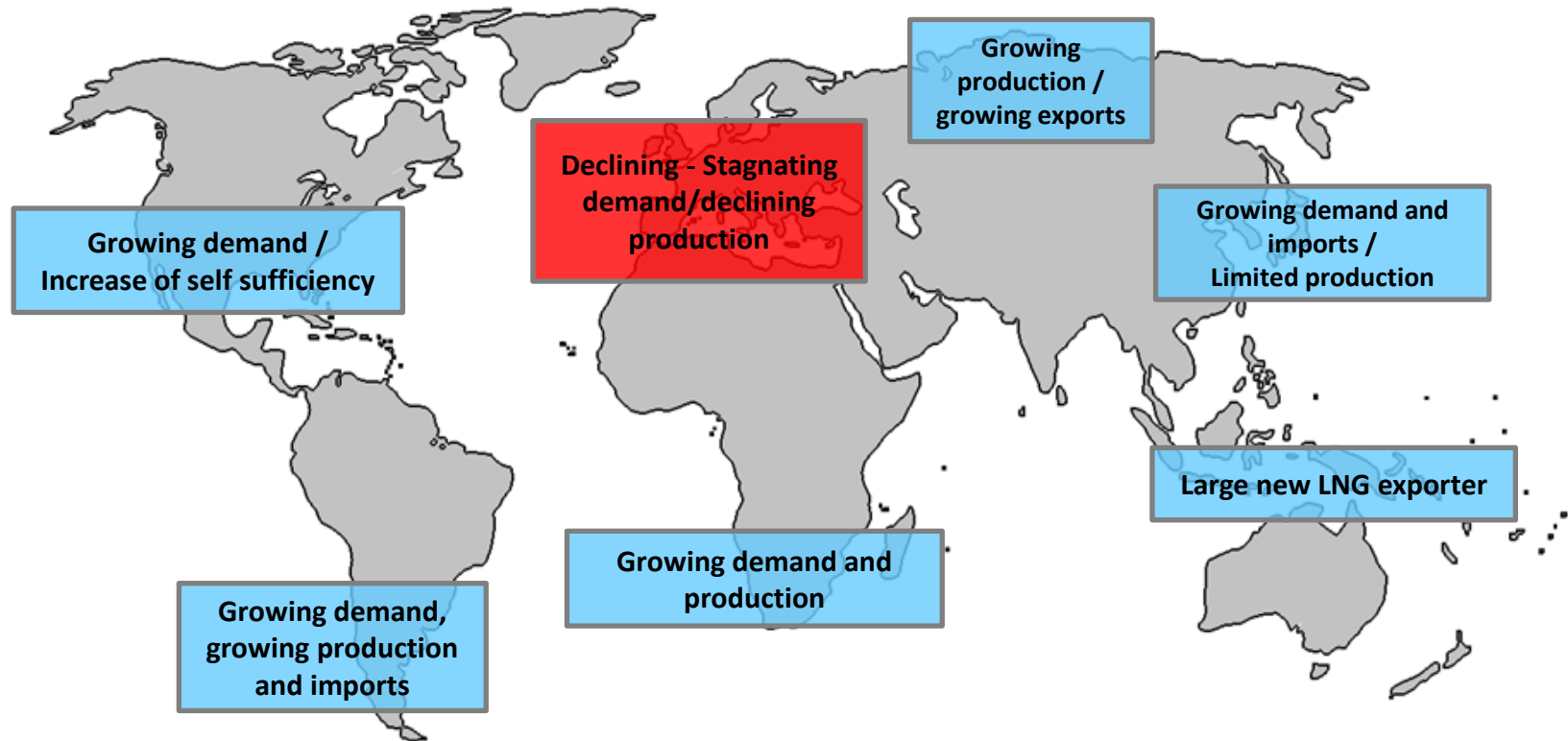


The European Gas Market 2015-2020

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Market Analysis and Forecasts to 2020

Europe: an atypical market



Prices

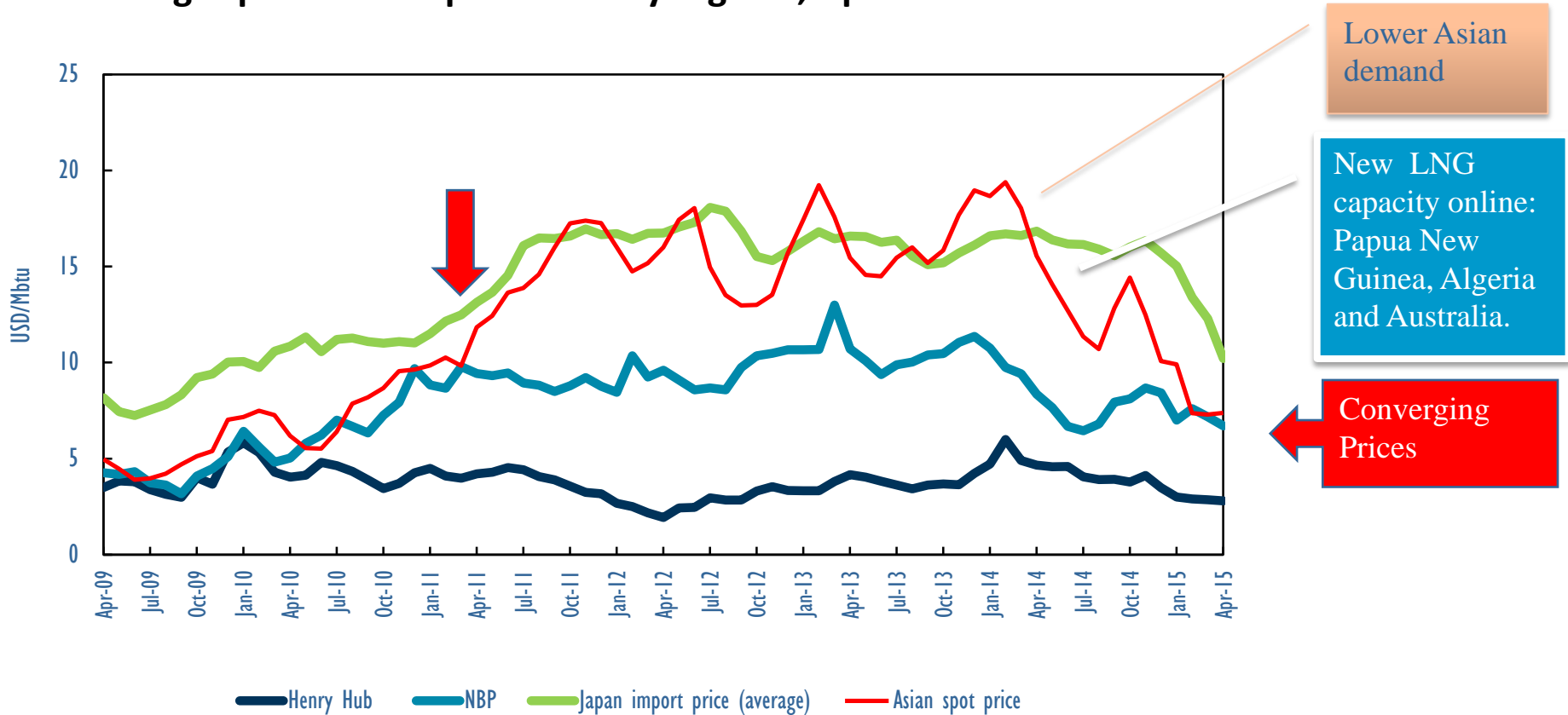
Demand/supply
balance

Suppliers **2020**

A New reality: Collapsing LNG prices

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Global gas price development in key regions, Apr 2009 - Feb 2015

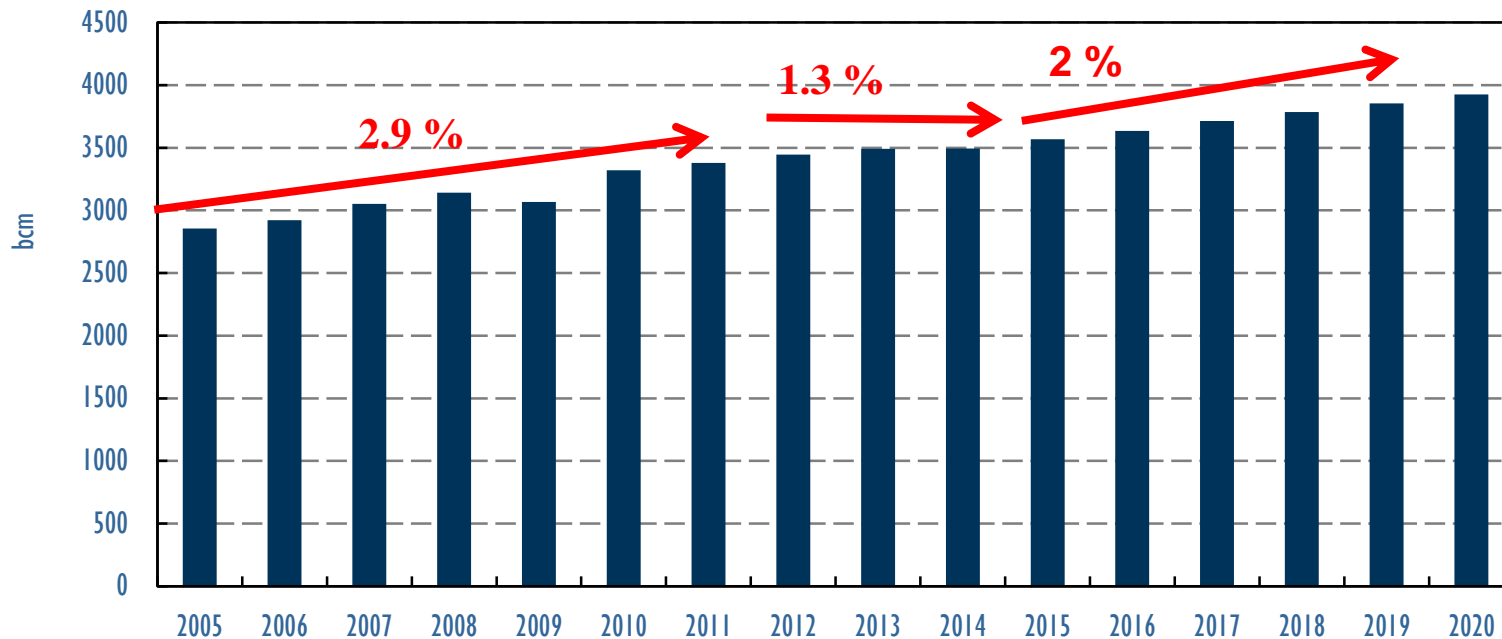


- Strong relation oil and gas prices: 80% of all contracts oil-indexed, production associated gas and major oil & gas companies

Gas demand is going to accelerate again due to lower prices

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Trend of global gas demand, 2005 - 2020

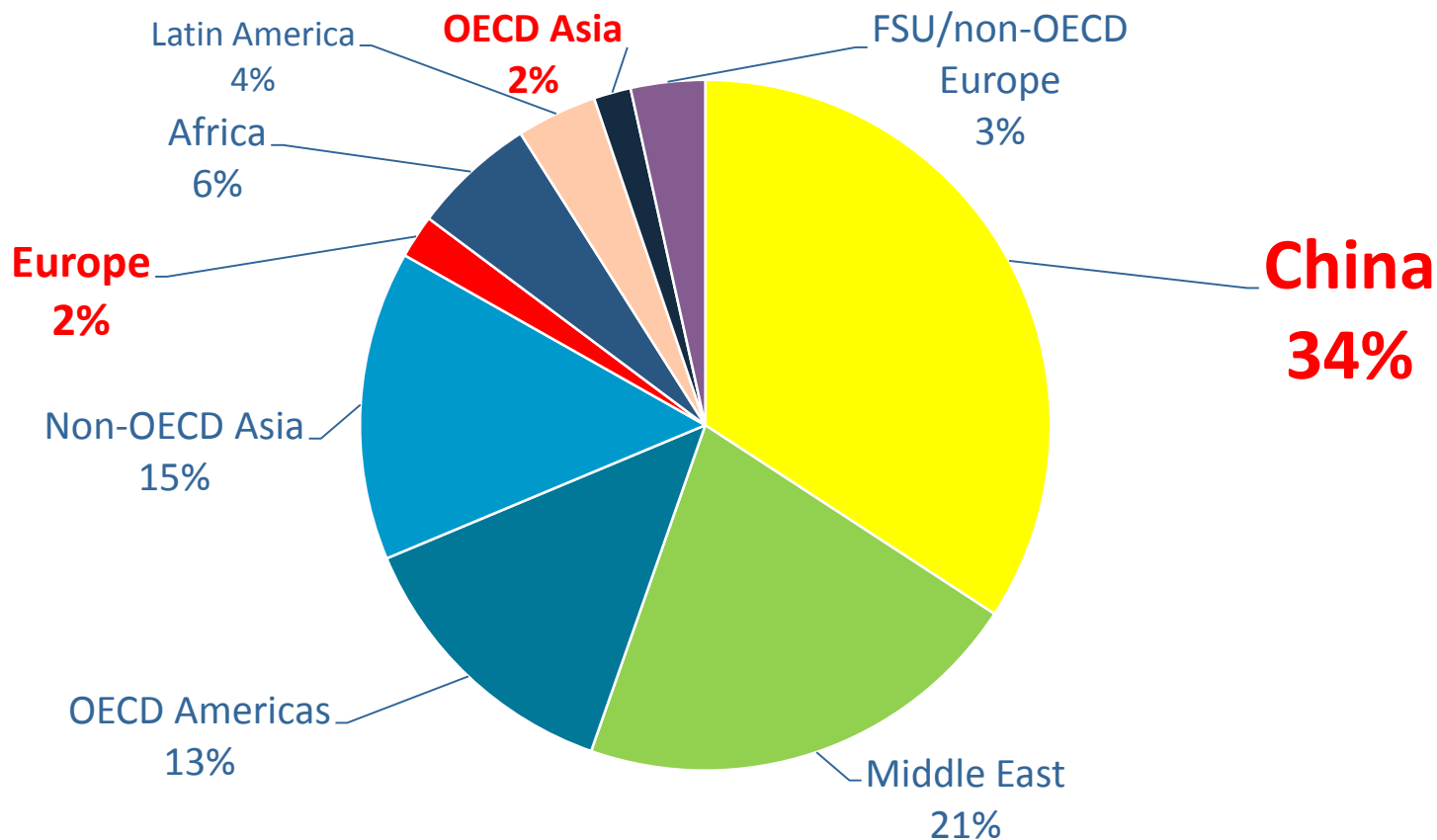


- Very high import prices in 2013 and 2014 have undermined gas consumption growth, especially in the power sector.
- Several Asian countries took active steps to limit the share of gas usage in their power mix, using more coal.

98% of global gas demand growth outside Europe

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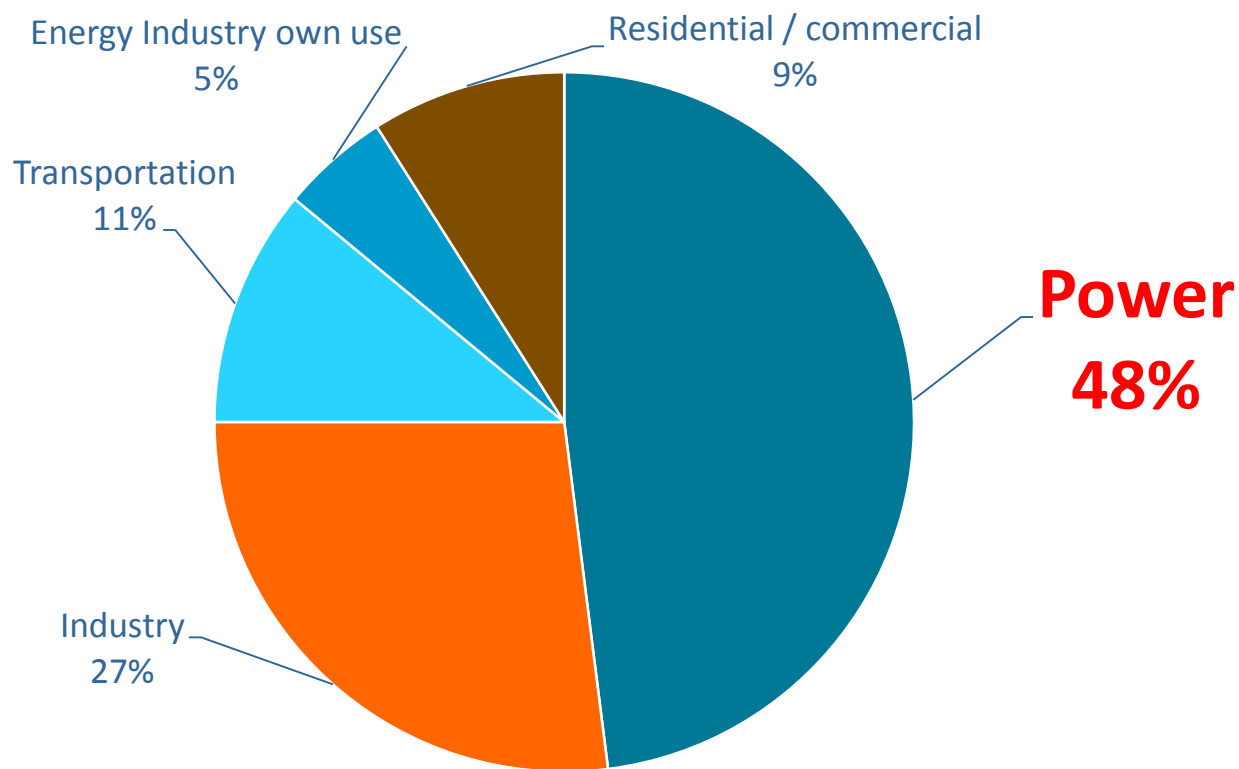
Regional share in incremental global gas demand growth , 2015- 2020



The power sector drives global demand growth

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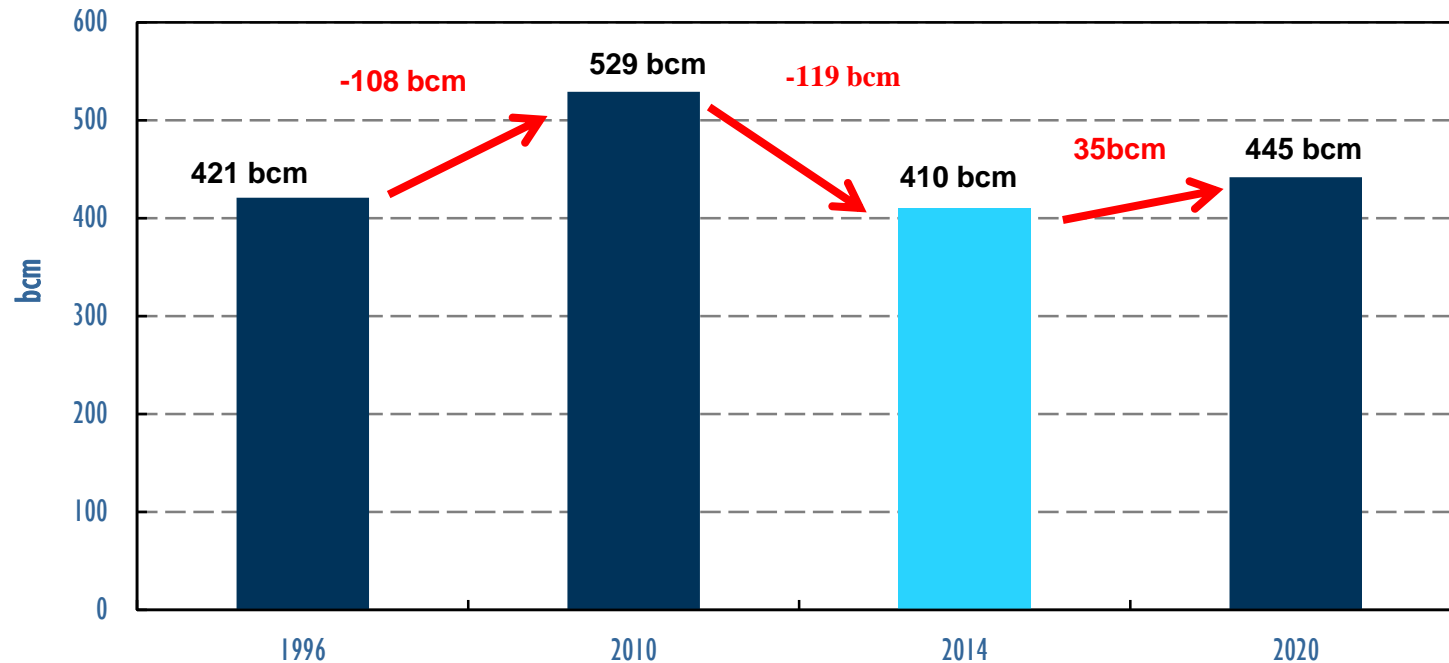
Incremental global gas demand by sector, 2015- 2020



OECD Europe (without Turkey): slight recovery after a dramatic fall in demand

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Trend of gas demand in OECD Europe



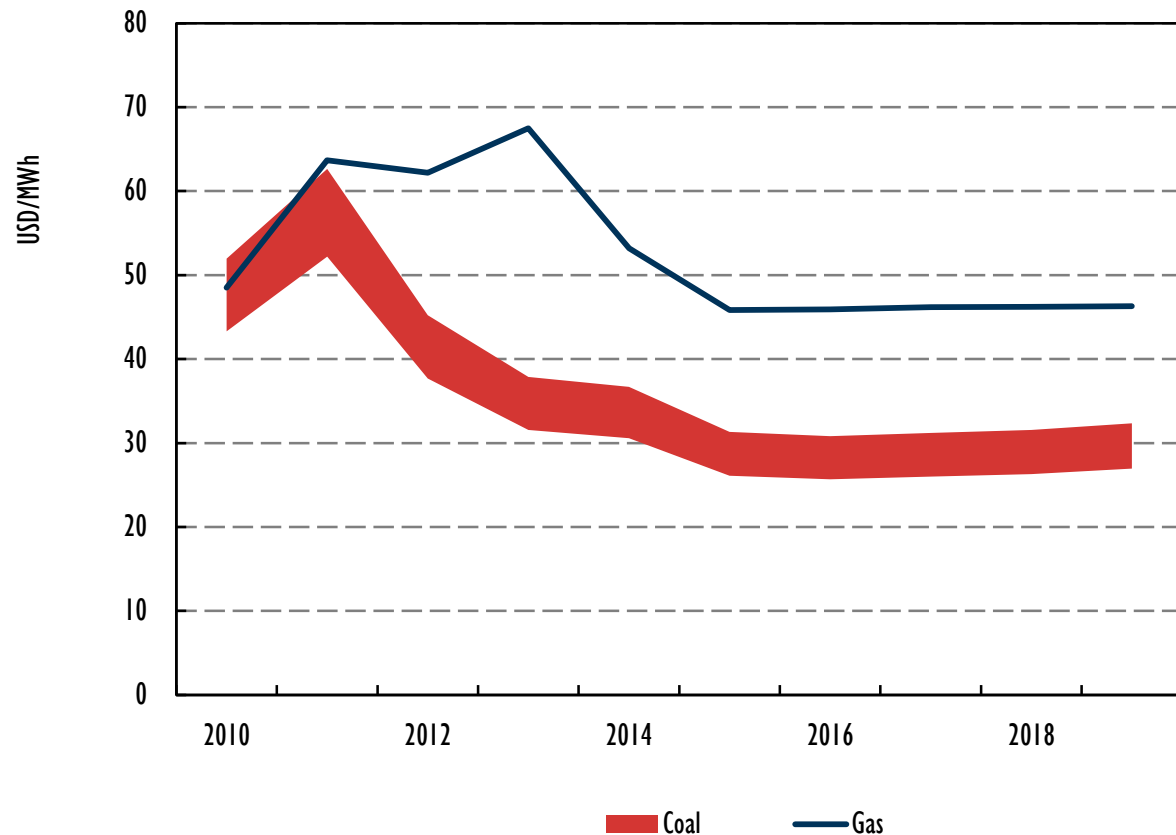
- Demand in weather-adjusted terms will show a mild recovery, mostly driven by the power sector.
- Also decommissioning of old coal power plants will contribute to a slight recovery.

Coal will keep affecting gas

Average Price:

- Coal futures: 60 USD/per tonne
- Gas futures 7 USD/mbtu
- CO2 Futures 7 USD/per tonne

Generation costs based on futures Gas, Coal and CO2



➤ Generation costs:

- Gas and CO2 round USD 45 /MWh
- Coal and CO2 around USD 32 /MWh

A different approach: the case of the UK

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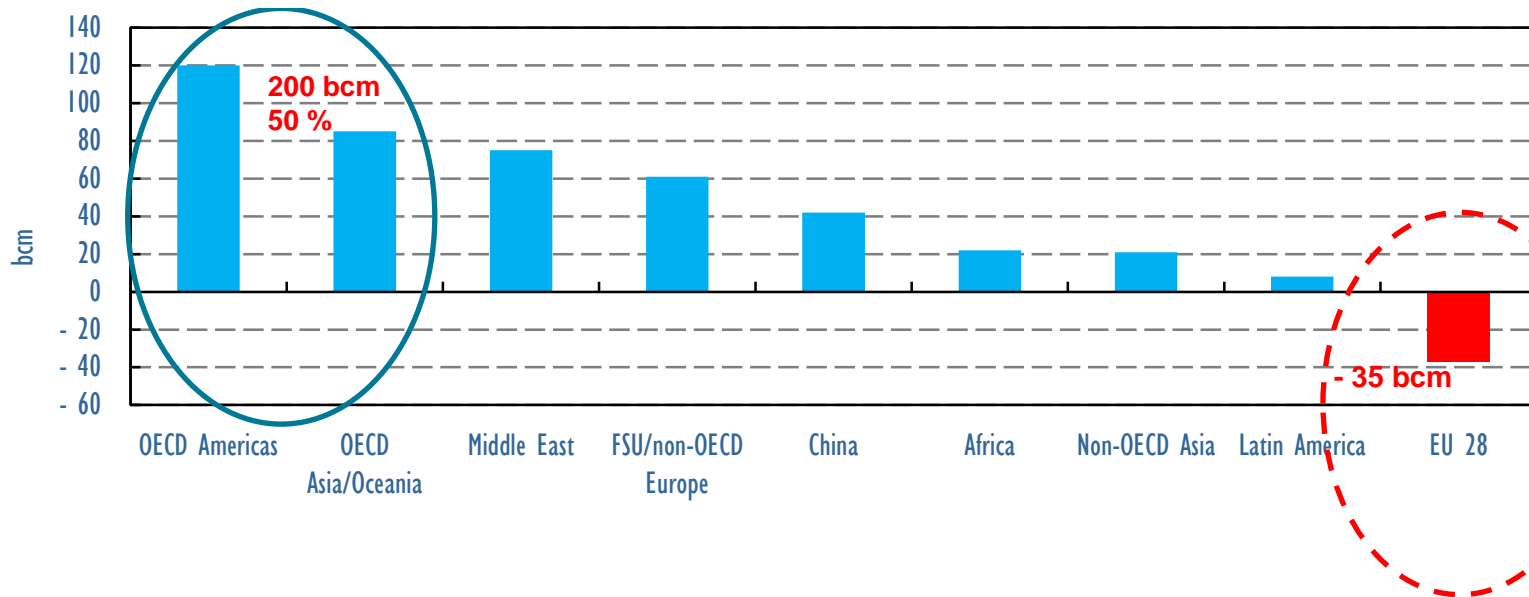


- Emissions Performance Standard (EPS)
- National Carbon Price Floor (2013)
- Capacity Market Mechanism

- A part of remaining 19 GW of coal power plant capacity will be reduced due to increase of Carbon Price floor from £ 9.54 to £ 18.08.
- Including the ETS price total price will be £ 23 per tonne. (€ 32 per tonne CO₂)

Europe: the only region with a declining production

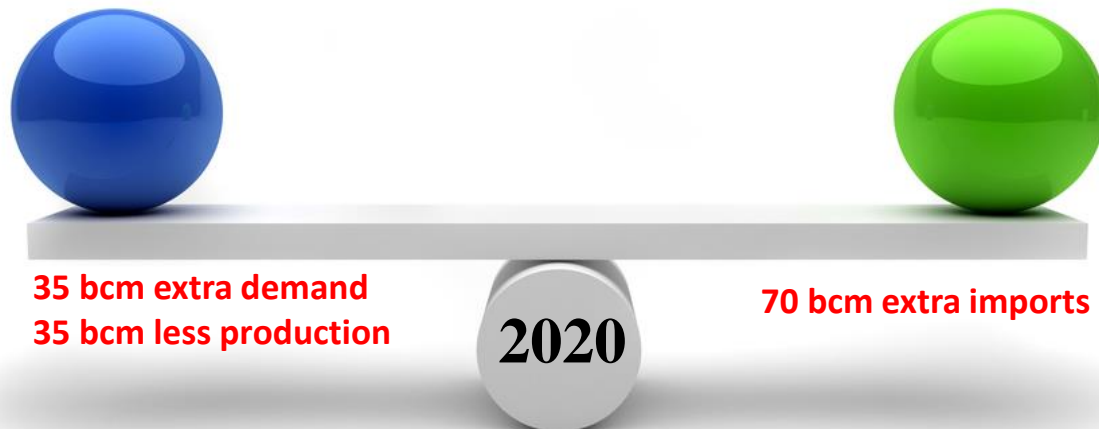
Regional share in incremental production by 2020



- The only region with a declining trend is Europe, going down from around 254 bcm in 2014 to 217 bcm in 2020 .
- Almost 50% of the incremental growth of the production will take place in the US, Canada and Australia.

The need to increase gas imports

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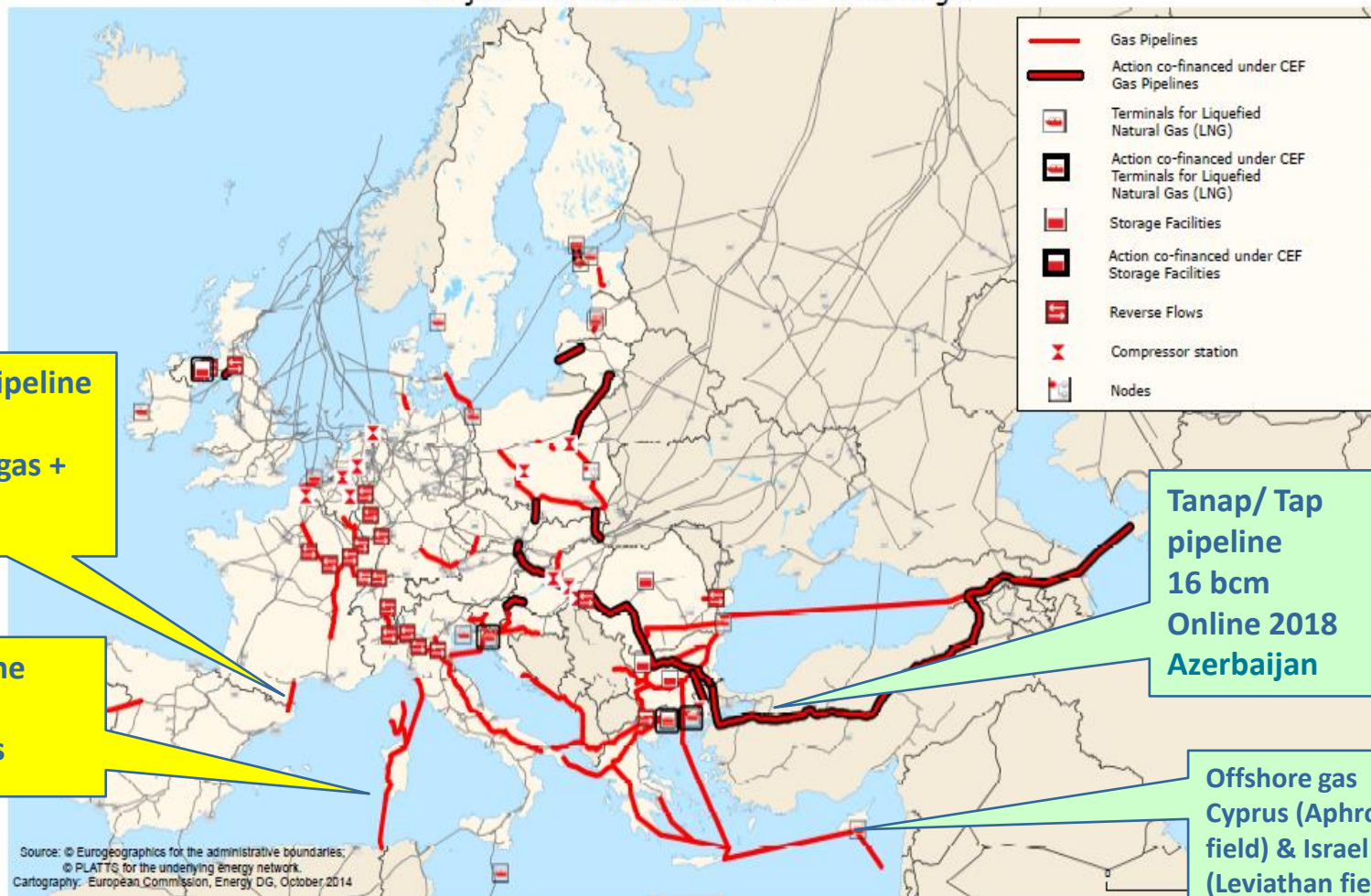


Who is going to deliver the needed volumes?

The New Energy Union and the projects of common interest

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Projects of common interest – Natural gas



Russia has still capacity to deliver more gas supply when the European demand will be there

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Nord Stream 2
55 bcm
Online 2019

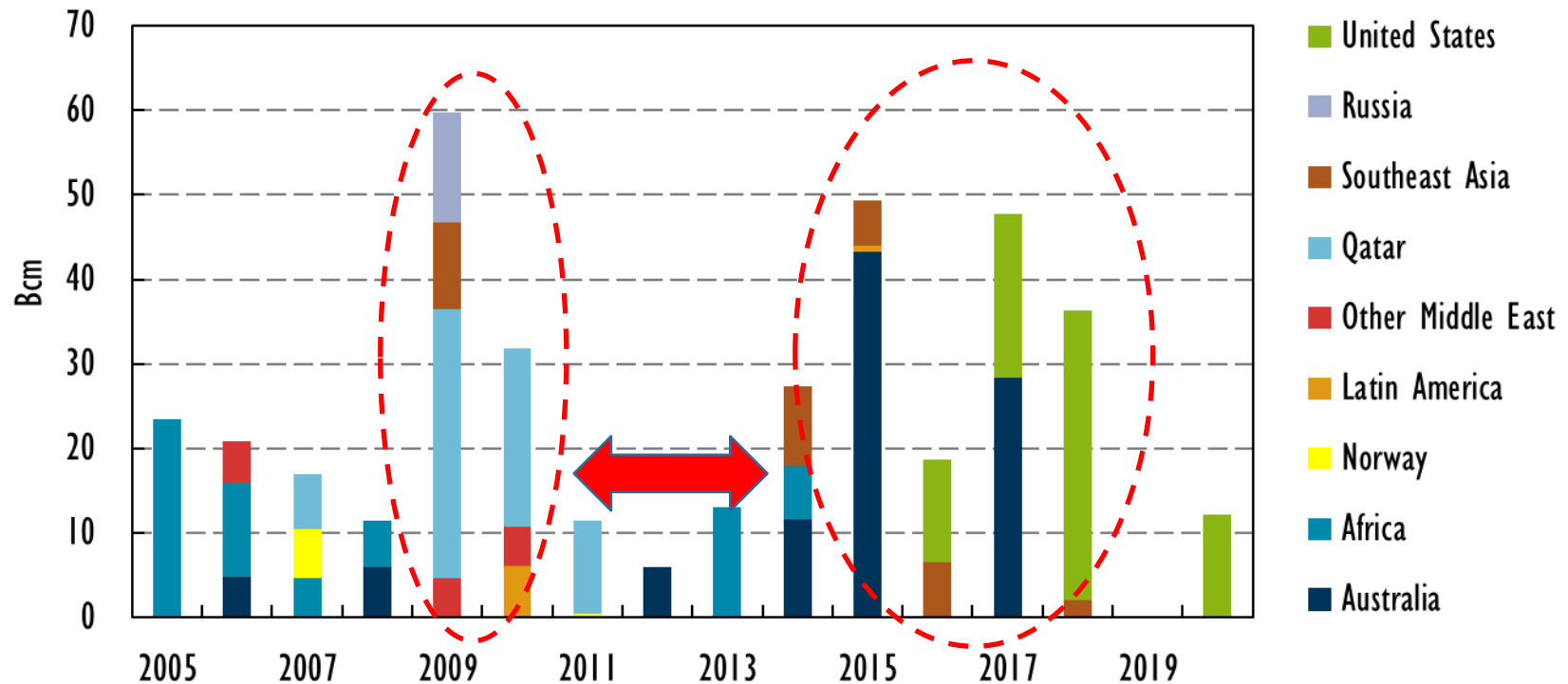


Turk Stream
60 bcm

- Europe will remain the main destination of Russian gas. Around 120-130 bcm by 2020
- With the extension of Nord Stream (consortium Gazprom, Shell, Germany's E.ON and Austria's OMV) and Turk Stream Russia aims to bypass Ukraine by 2019.

Second wave of additional LNG supply is coming soon

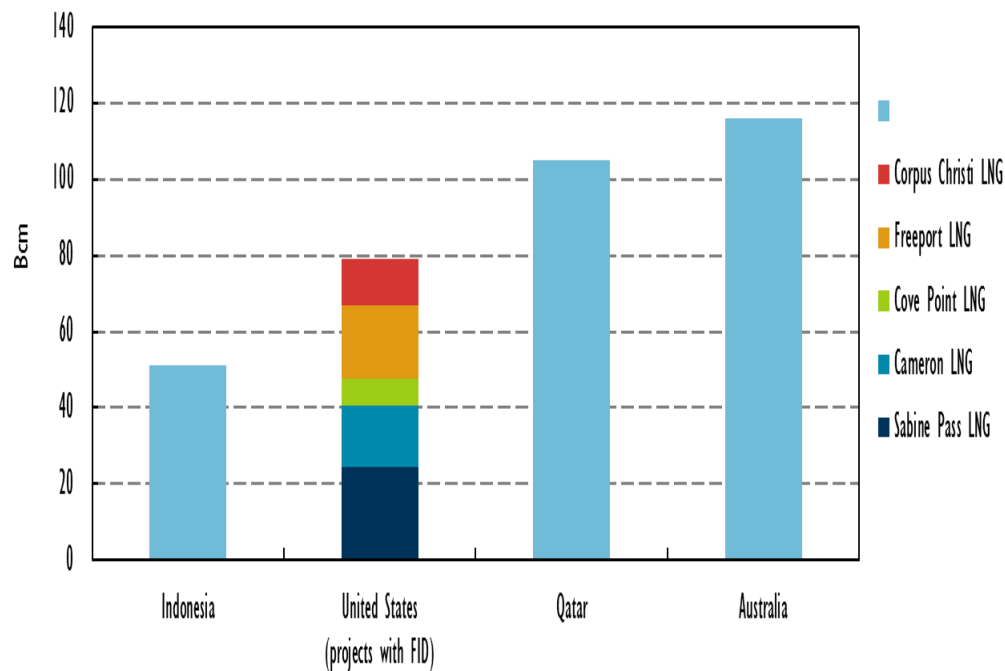
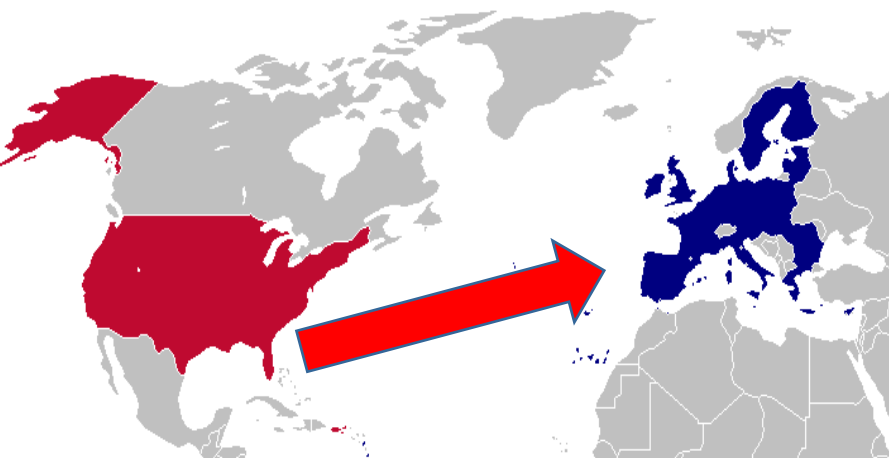
Additional LNG capacity , 2005 - 2015 (bcm)



- 17 new projects with total export capacity of 175 bcm are under construction as of today, with Australia and the United States accounting for roughly 80% of total.

Is Europe going to cook on American shale gas?

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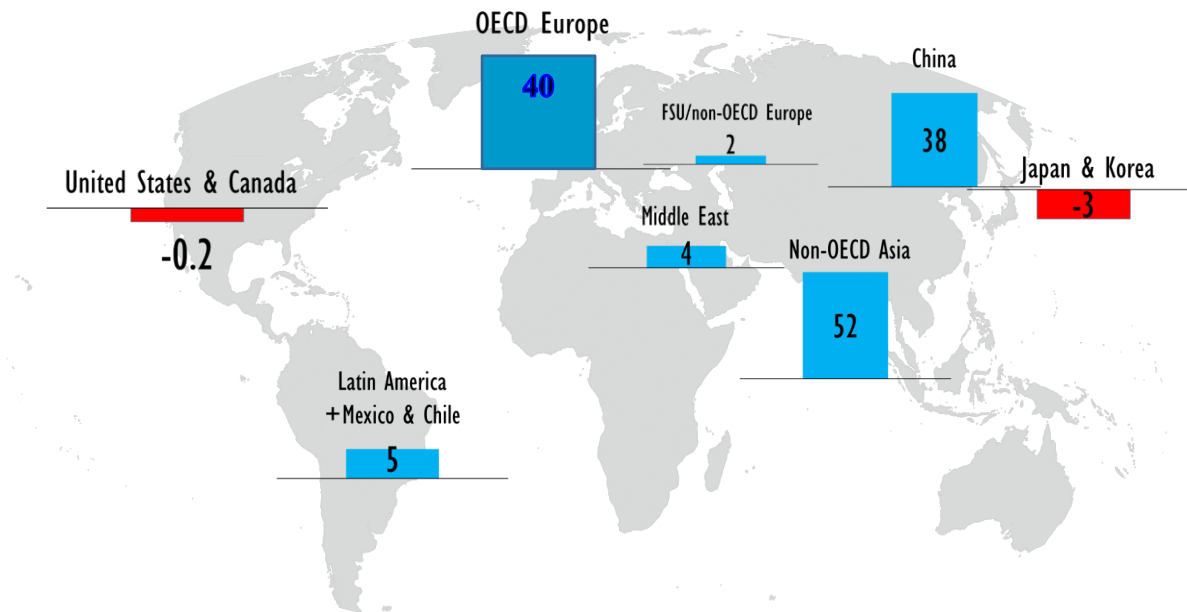


- Some European companies have signed contracts for delivery of US gas. Contracts without destination clauses. Because of converging prices the destination could be Europe.

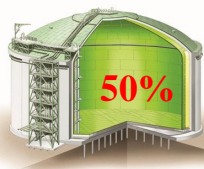
Global LNG Trade flows will shift: Europe ready to import 80 bcm by 2020

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Change in LNG imports: 2014-20 (bcm)

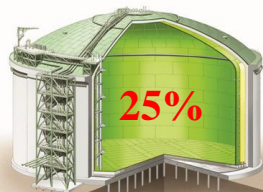


Capacity 180 bcm



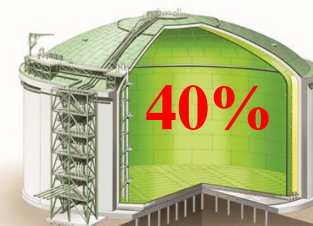
2010

Capacity 200 bcm



2014

Capacity 220 bcm

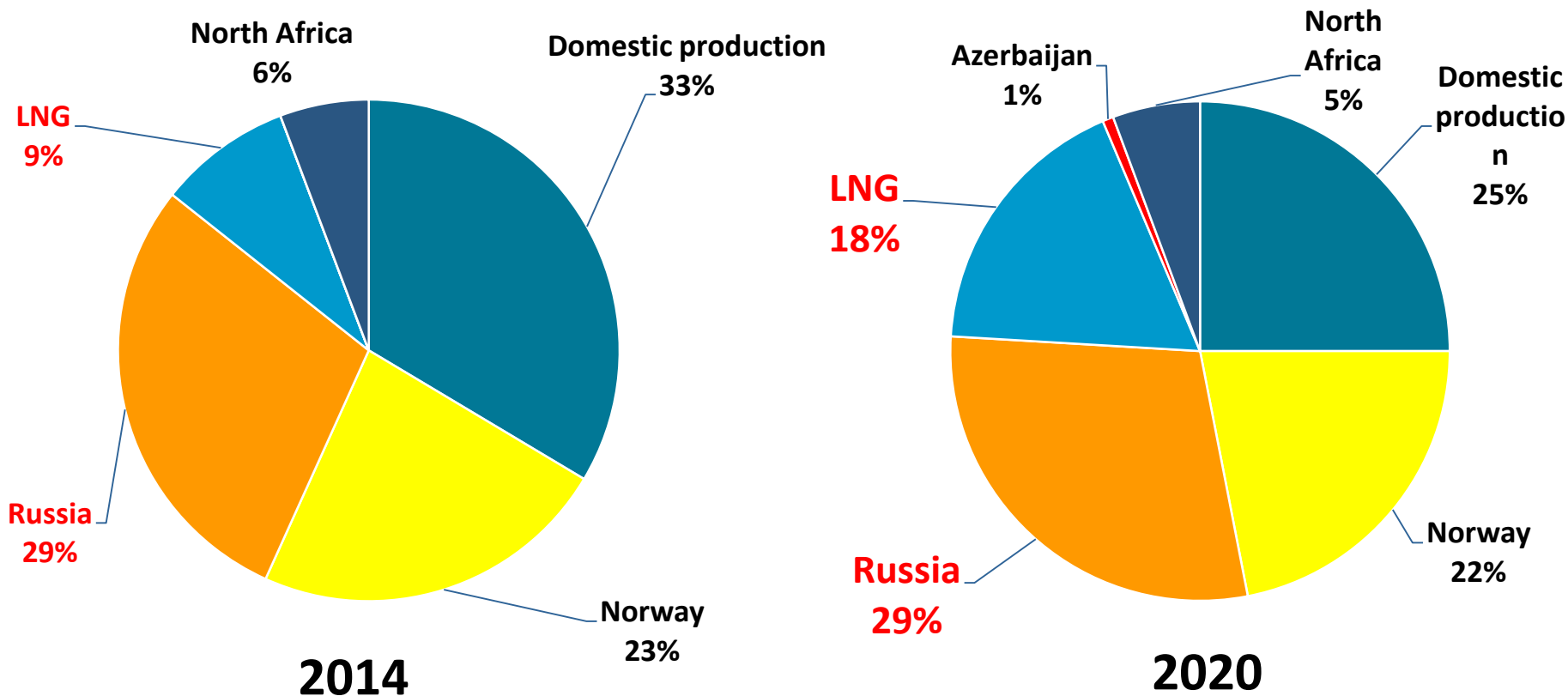


2020

An increasing import dependency but a more diversified portfolio

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Regional share in the supply of Europe, 2014-2020



Key highlights

- **Global gas demand is projected to grow around 2% on average by 2020.**
- **The declining demand trend in Europe will stop and a slight recovery will take place**
- **Competitiveness of gas in Europe will be challenged again by other fuels such as coal.**
- **Europe options to diversify are limited, despite supportive policy of the European Union.**
 - **Russian gas remains a large component of Europe's supplies,**
 - **LNG is the only alternative. LNG imports will double by 2020.**
 - **The bulk of new LNG supplies from Australia and the United States will provide more comforts to the market. LNG prices will remain relatively low.**