Gas Market and Supply Security Trends - Implications for Europe

Peter Fraser, Head of the Gas, Coal and Power Division

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IEA

Gas in today's world

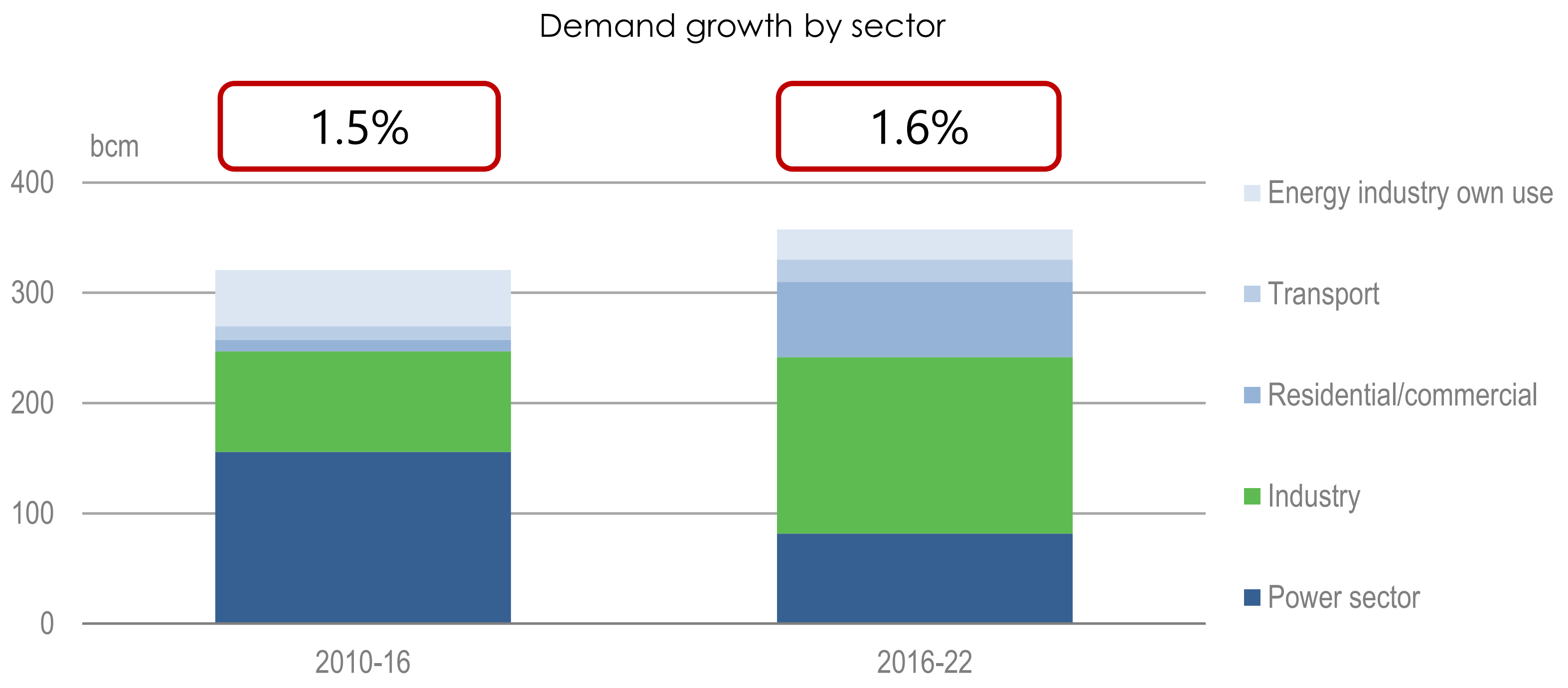
- **The contribution of gas**
  - Versatile fuel within the energy system, helping to address environmental concerns
  - In 2016 gas became the leading power generation source in the US

- **An abundant fuel, but strong competitive pressures, especially in Asia**
  - Space for gas squeezed between renewables and coal in some markets

- **A second natural gas revolution is underway, this time caused by LNG**
  - A new surge in LNG export capacity is helping unconventional gas go global
  - Low prices continue, bringing new LNG-importing countries into the market

- **Strategic & environmental role of gas deserves attention from policy makers**

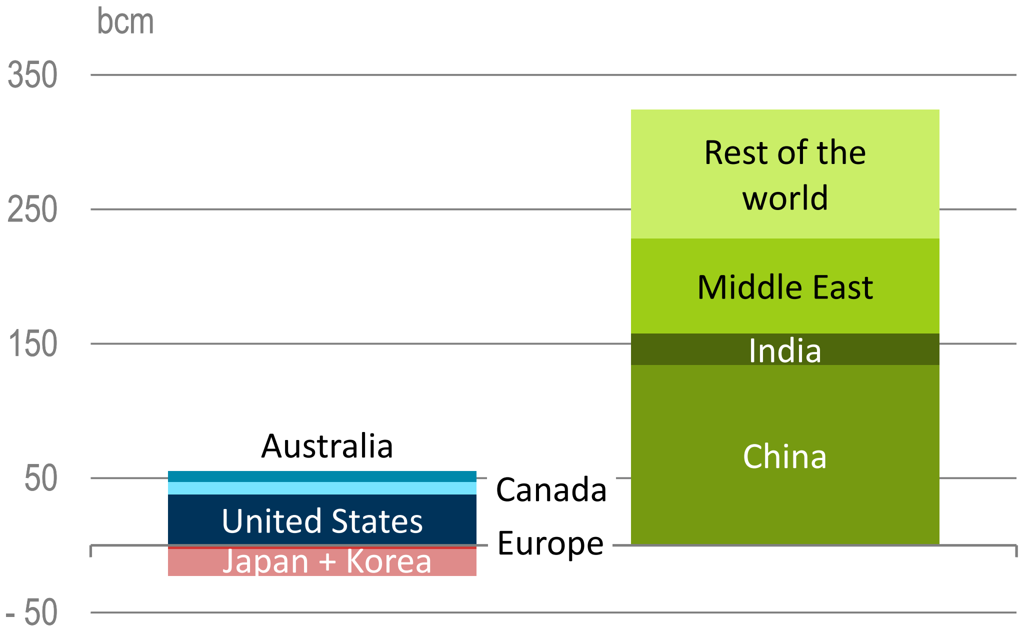
Demand growth moves from power generation to industrial sector



China, US and India account for half of the growth in industry sector, driven by chemicals and fertilisers

Demand growth **focuses** in developing countries

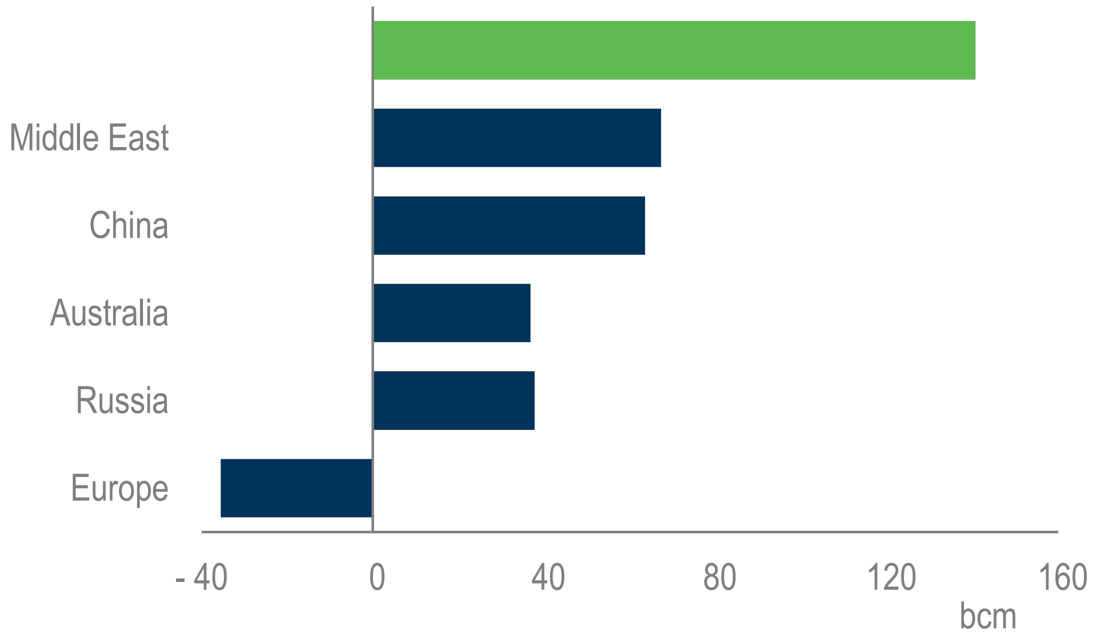
Global demand growth is around 360 bcm in 2016-22



Developing countries account for around 90% of the incremental demand
The United States accounts for most of the growth in the developed economies

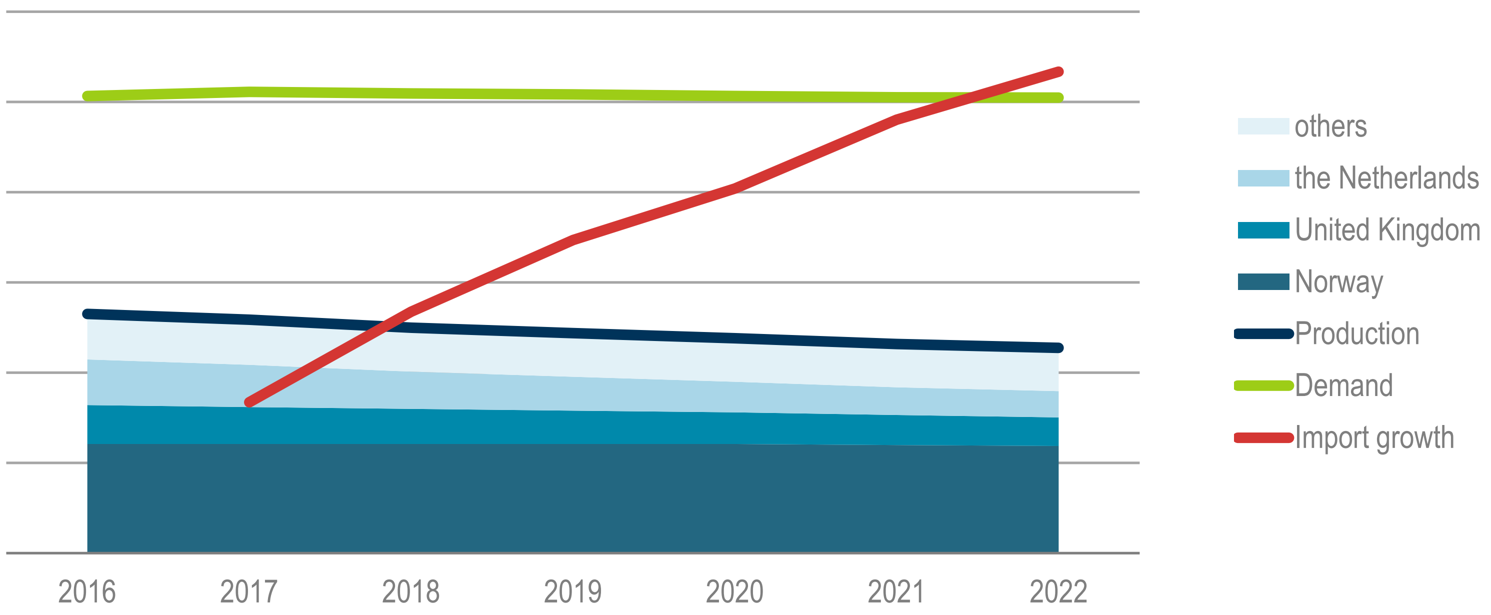
The United States accounts for 40% of global production growth

Global production growth, 2016-22



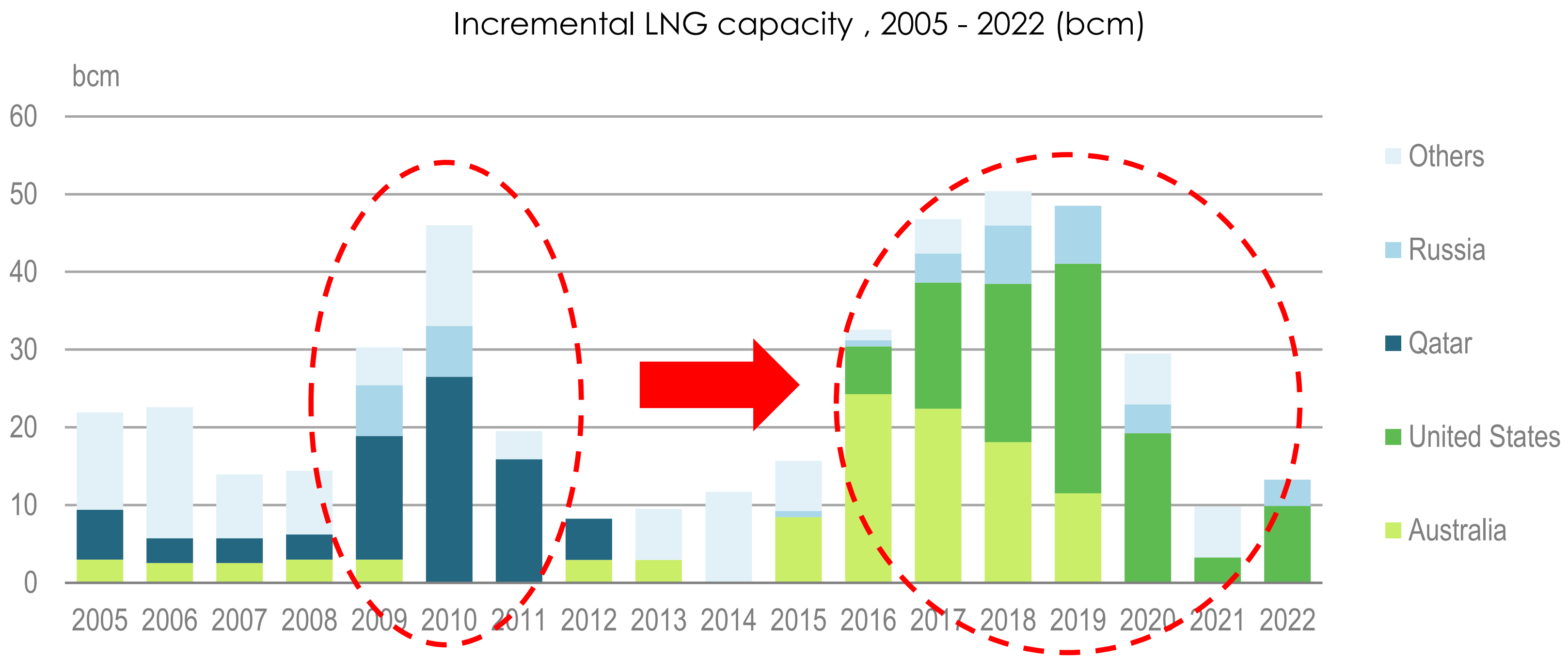
The Middle East will continue its production growth
China will become the 4th largest gas producer

Decreasing European production, increasing import needs



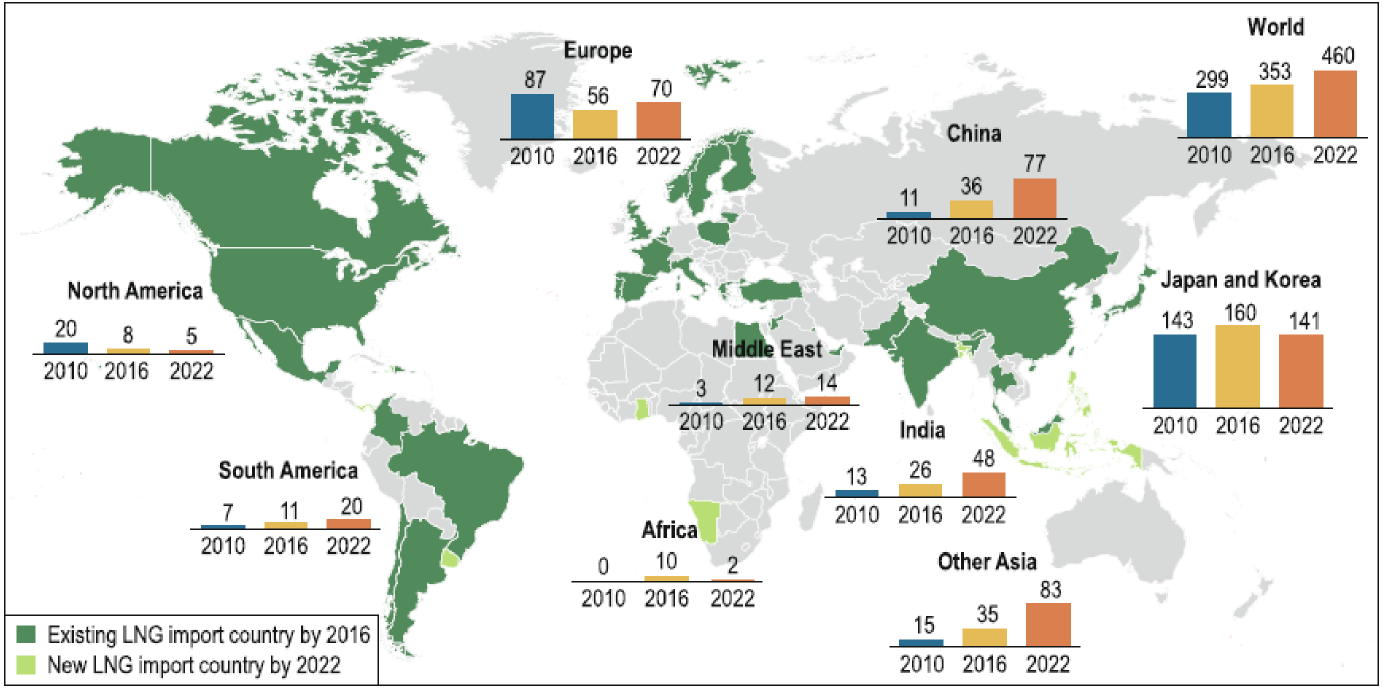
European import requirement grows steadily with flat demand and declining production
It is up to competition between pipeline and LNG to fill this gap

Second wave of additional LNG supply is already coming online



15 new projects with total export capacity of around 140 bcm are now under construction
Australia and the United States account for 75% of them

Asia, Europe and South America will drive LNG import growth

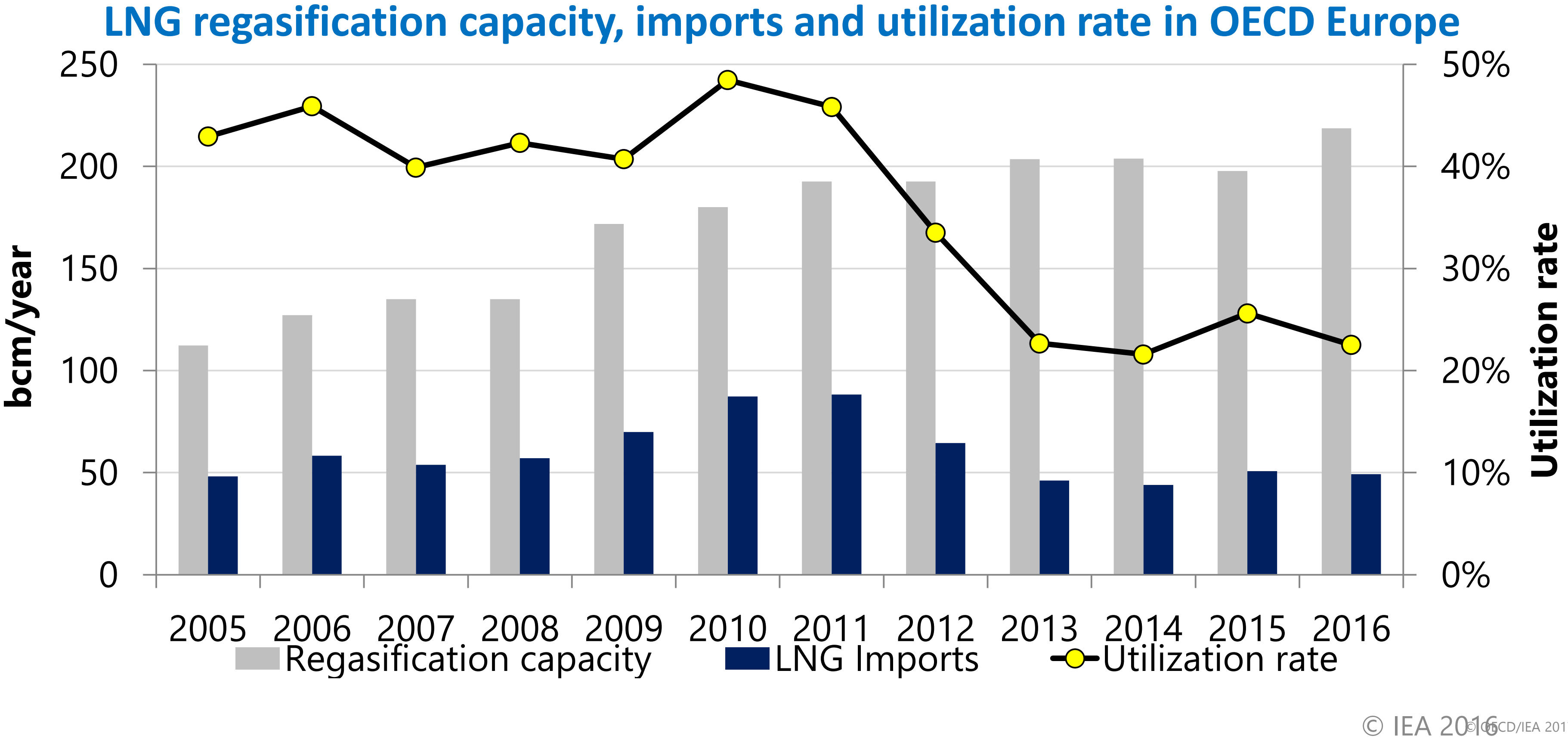


This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries, and to the name of any territory, city or area.

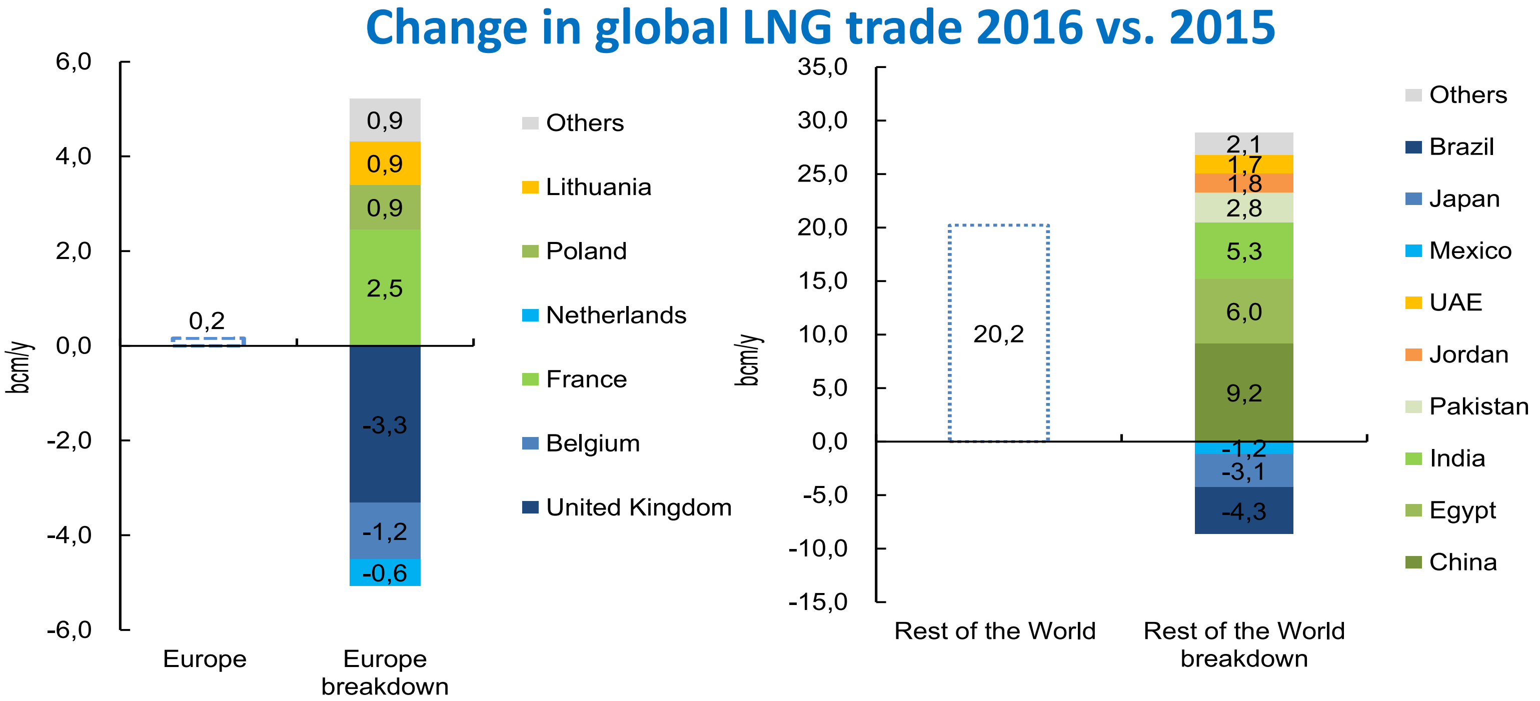
China and India together will double their LNG imports

Smaller and new LNG import markets will add more than 40 bcm to global LNG imports

Europe has ample spare regasification capacity



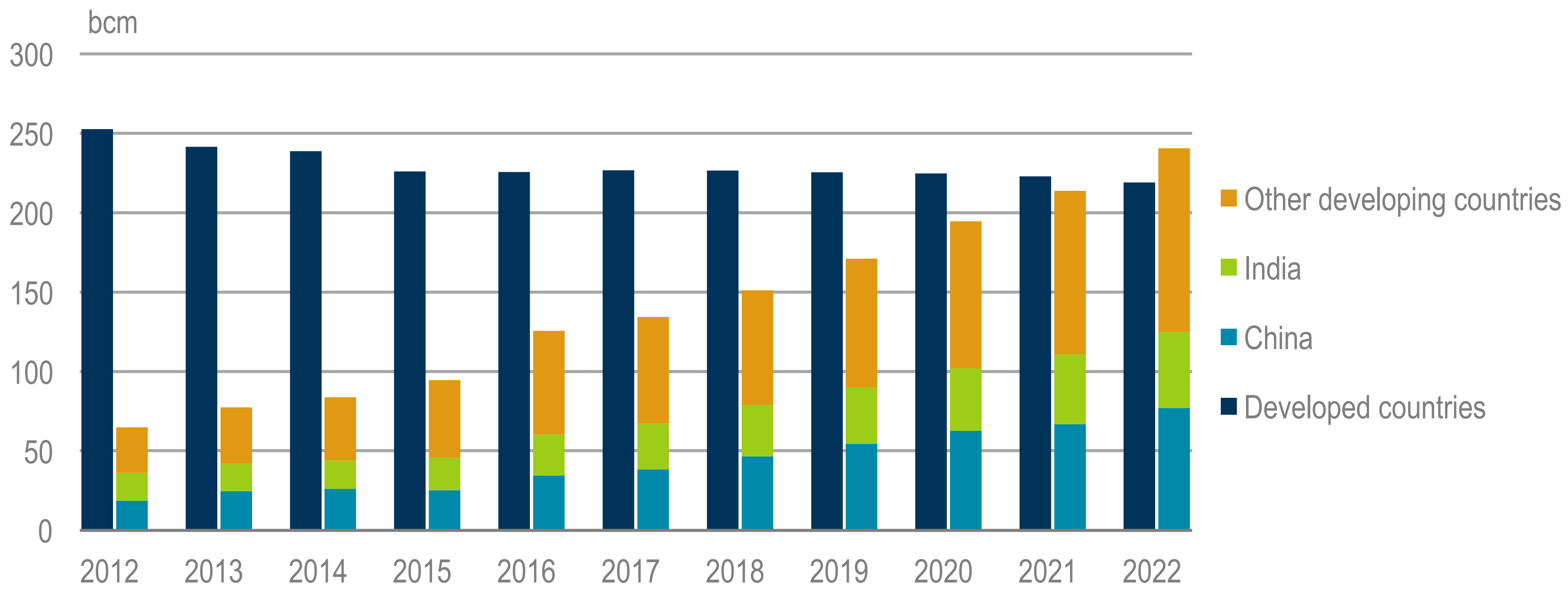
....But LNG is heading somewhere else



China + India account for half of the incremental LNG trade while the remaining half comes from MENA countries + Pakistan

Demand in developing countries reshaping the LNG market

LNG import volumes , 2012 - 2022 (bcm)

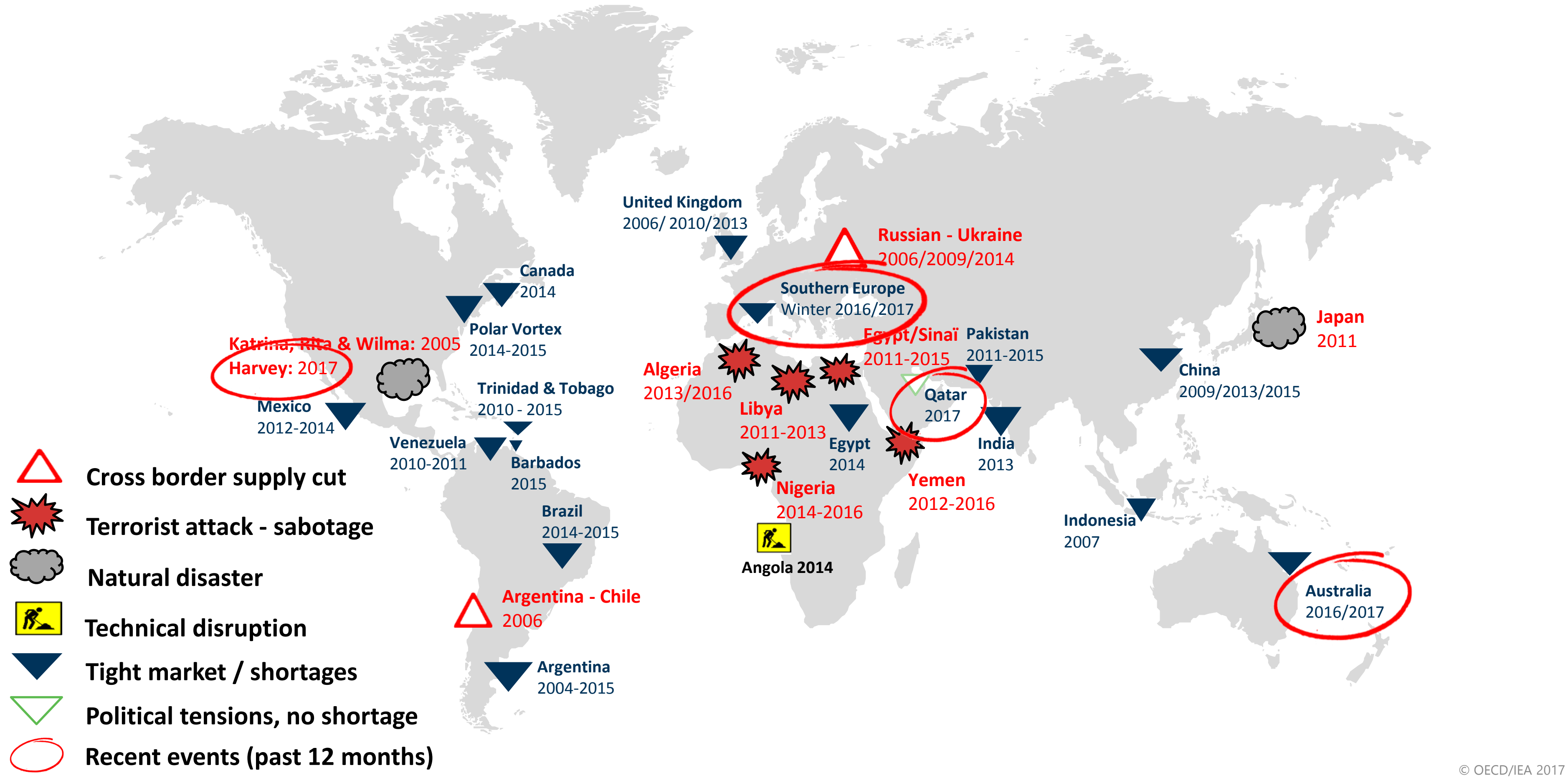


China, India and other developing countries will import more than 50% of all LNG by 2022

Global Gas Security Review 2017

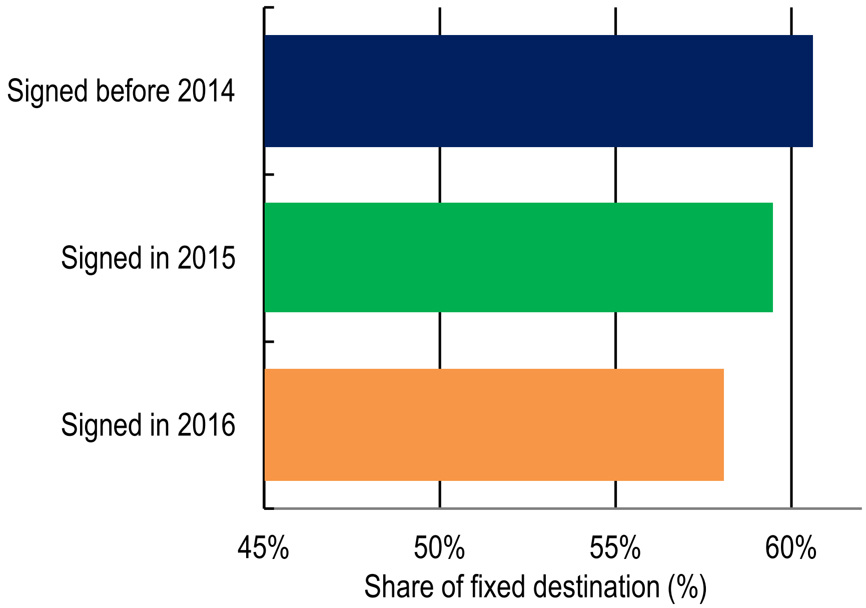
How is LNG Market Flexibility Evolving?

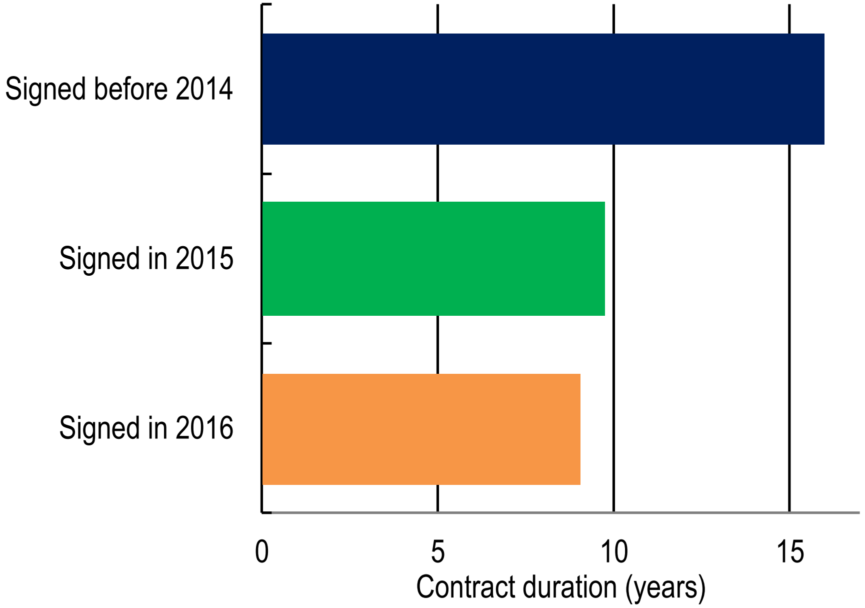
Gas security of supply remains a live issue



LNG trade flexibility keeps on improving

Recent evolution in LNG contracts



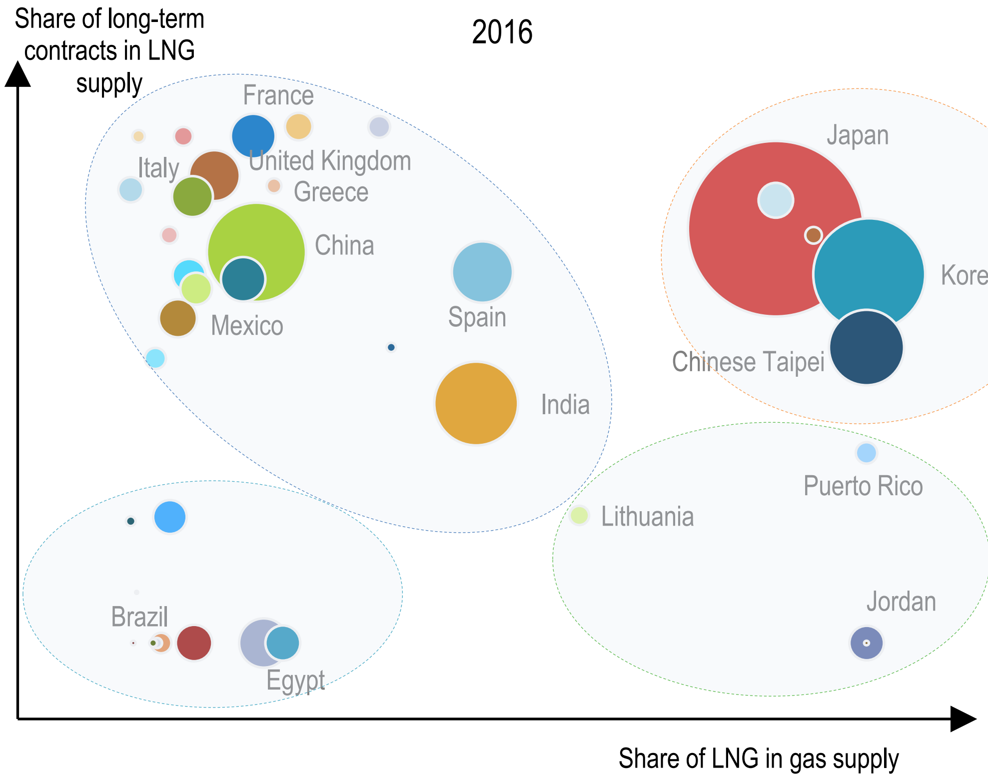


Trends from new signed contracts – more destination flexible and shorter – show proof of increasing LNG trade flexibility

LNG buyer types and characteristics

2. Diversity
19 countries
131 Bcm

3. Reserve
10 countries
25 Bcm



1. Dependence
5 countries
184 Bcm

4. Price
4 countries
7 Bcm

LNG buyers segment into four different types according to security of supply needs

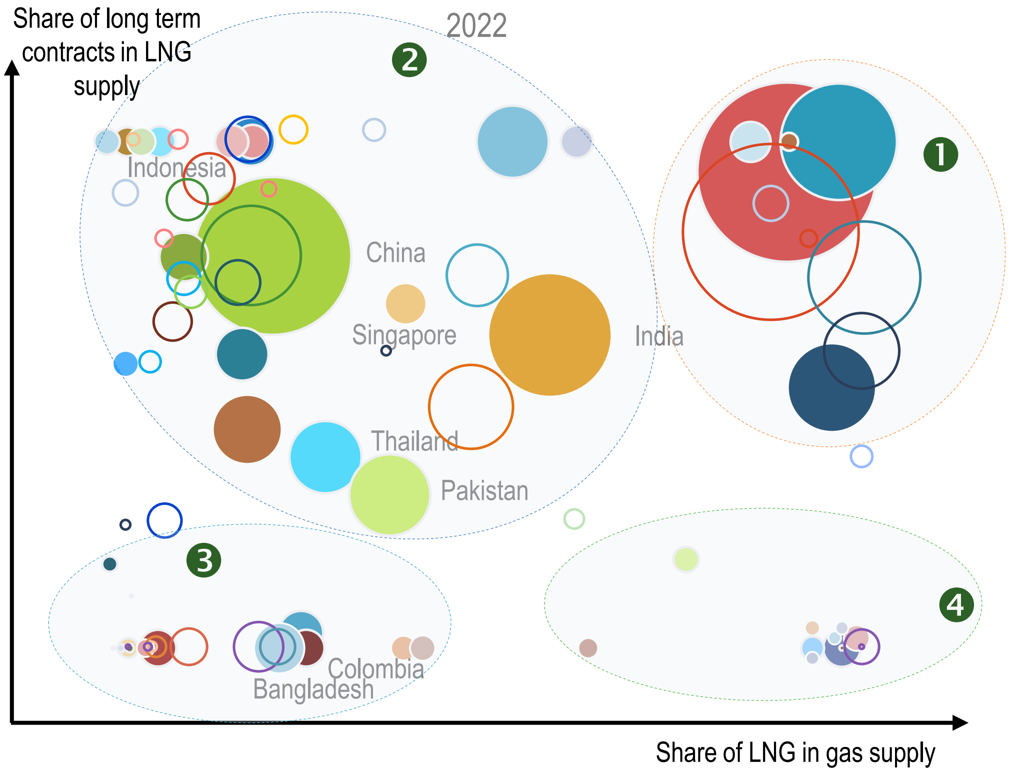
Increasing LNG buyer diversification and LNG dependency by 2022

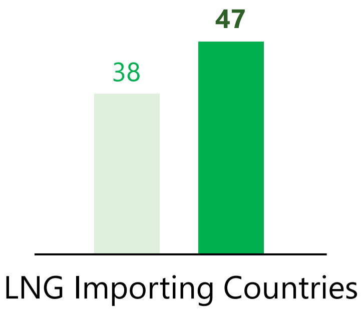
1. Dependence
5 countries
172 Bcm (-12 Bcm)

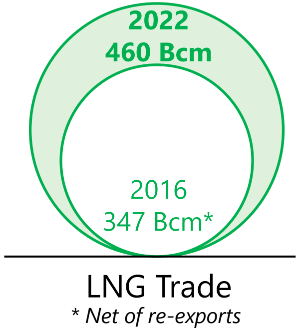
2. Diversity
19 countries
243 Bcm (+114 Bcm)

3. Reserve
13 countries
30 Bcm (+5 Bcm)

4. Price
10 countries
13 Bcm (+6 Bcm)







LNG trade grows from additional importing and exporting countries
Share of LNG dependency increases in countries' supply mix

Conclusion

- **Lower prices help gas to strengthen its foothold in Asia**
  - Developing countries account for 90% of demand growth, China alone for 40%
  - Industrial consumers take over from power generation as the main source of growth
  - Europe flat demand with increasing imports

- **Low LNG prices creating new diversity to global supply & trade, with new entrants on demand & supply side**
  - Developing countries key to growth
  - Glut putting pressure on markets
  - Competitive LNG will take a share of increased European imports

- **Even though markets remain well supplied, recent events remind us that gas security cannot be taken for granted**
  - Weather, technical and political concerns remain
  - Gas security coupled to electricity security
  - LNG market flexibility is evolving, placing different emphasis on long-term security of supply