

A stylized graphic of a globe is positioned on the left side of the slide. It is composed of several overlapping, light blue curved lines that represent the latitude and longitude of a globe, creating a sense of global connectivity.

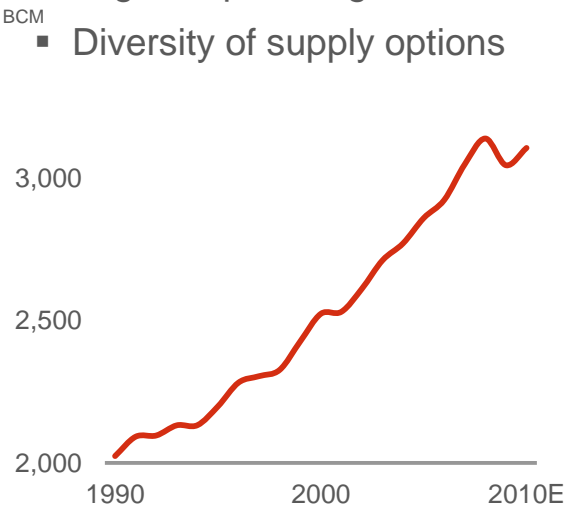
Trends in Global & European Gas Market – The Role of LNG

**CEER Workshop – LNG
6th Sept 2011, Madrid**

Natural Gas: A Destination Fuel

Available

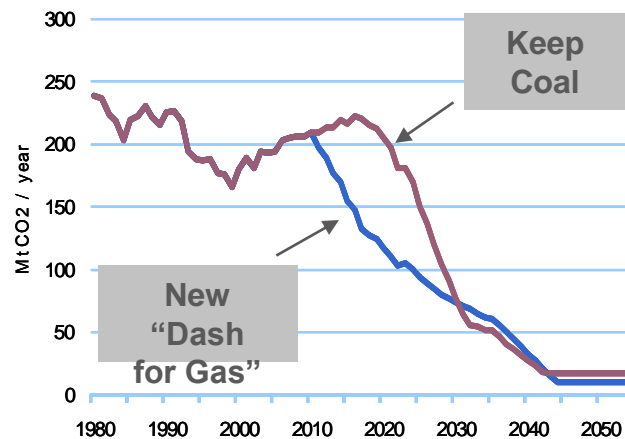
- Abundant global gas resources ~250 years reserves at current production
- Europe within reach of 70% of global proven gas reserves
- Diversity of supply options



Acceptable

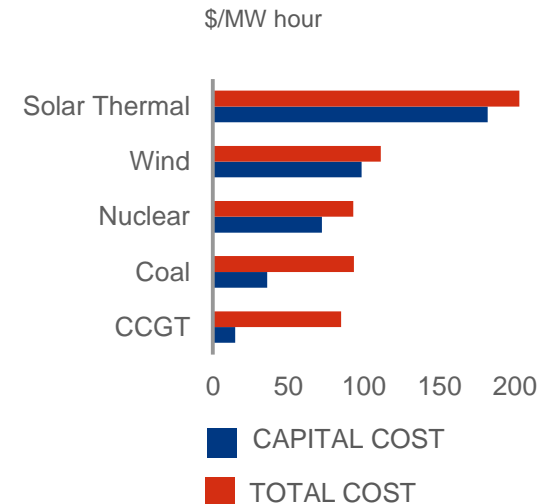
- Replacing coal with gas for electricity generation is the cheapest and fastest way to meet CO₂ reduction targets
- Gas is most efficient use of finite CCS pore space

Potential UK Power CO₂ Emissions



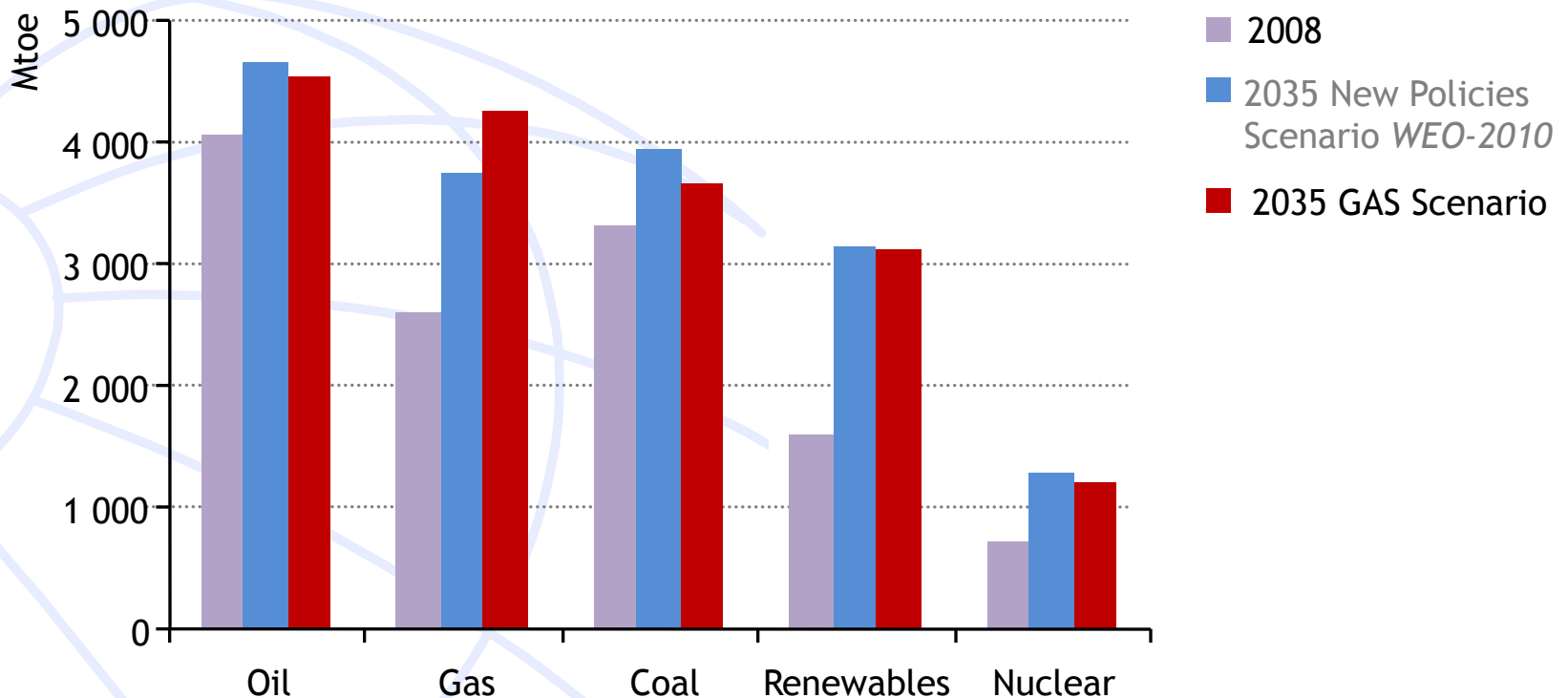
Affordable

- CCGT cheapest to build
- Similar operating cost to coal and nuclear
- Gas is cheapest to complement wind/solar
- Allows appropriate phasing of renewables expenditure & development without severe fiscal trade-offs



Global Energy Demand

World primary energy demand by fuel and scenario

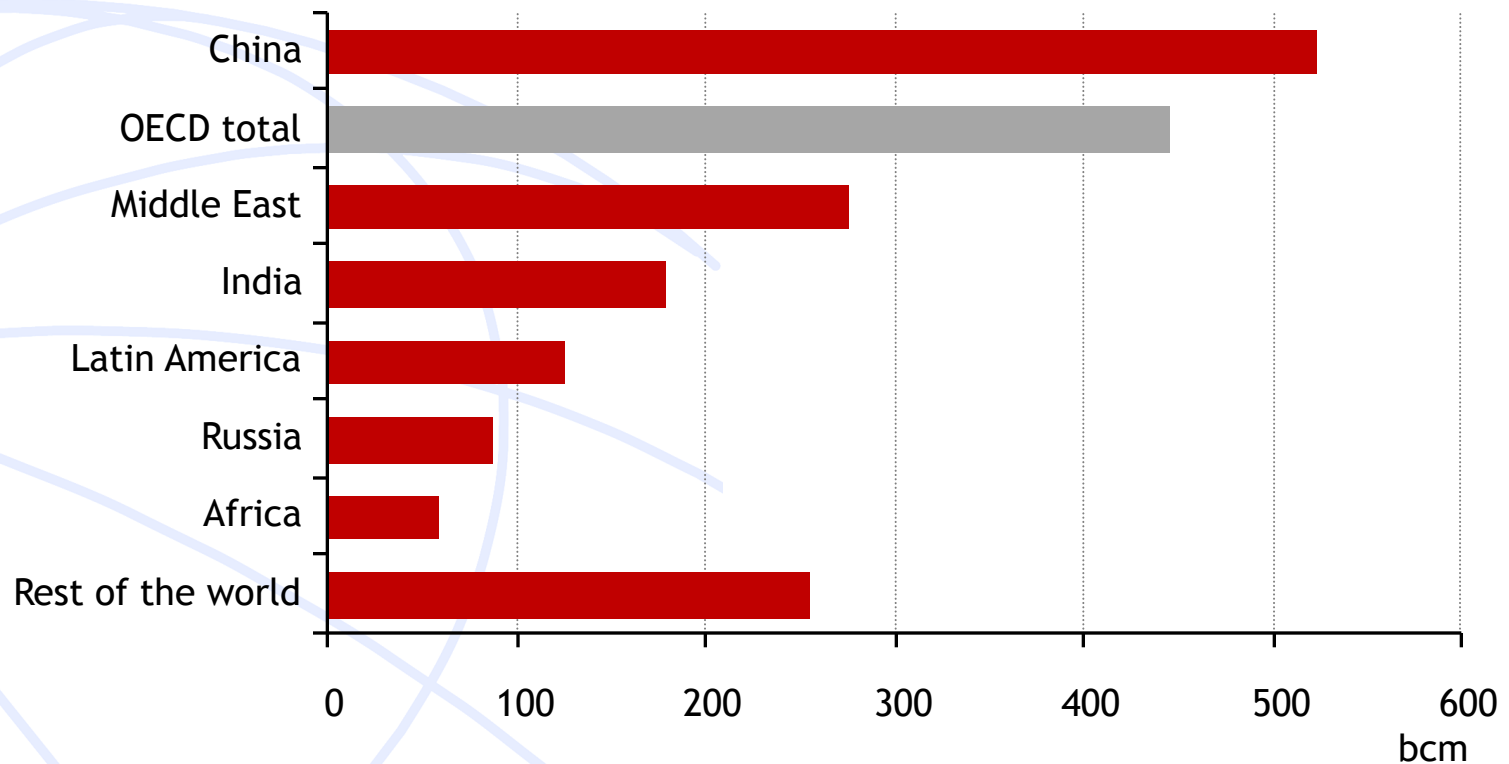


Gas demand in 2035 is 13% higher in the Gas Scenario than in the New Policies Scenario, while demand for coal, nuclear & oil declines (Ref. IEA)

Consumption grows most in developing economies

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Increase in natural gas consumption in the GAS scenario, 2010-2035

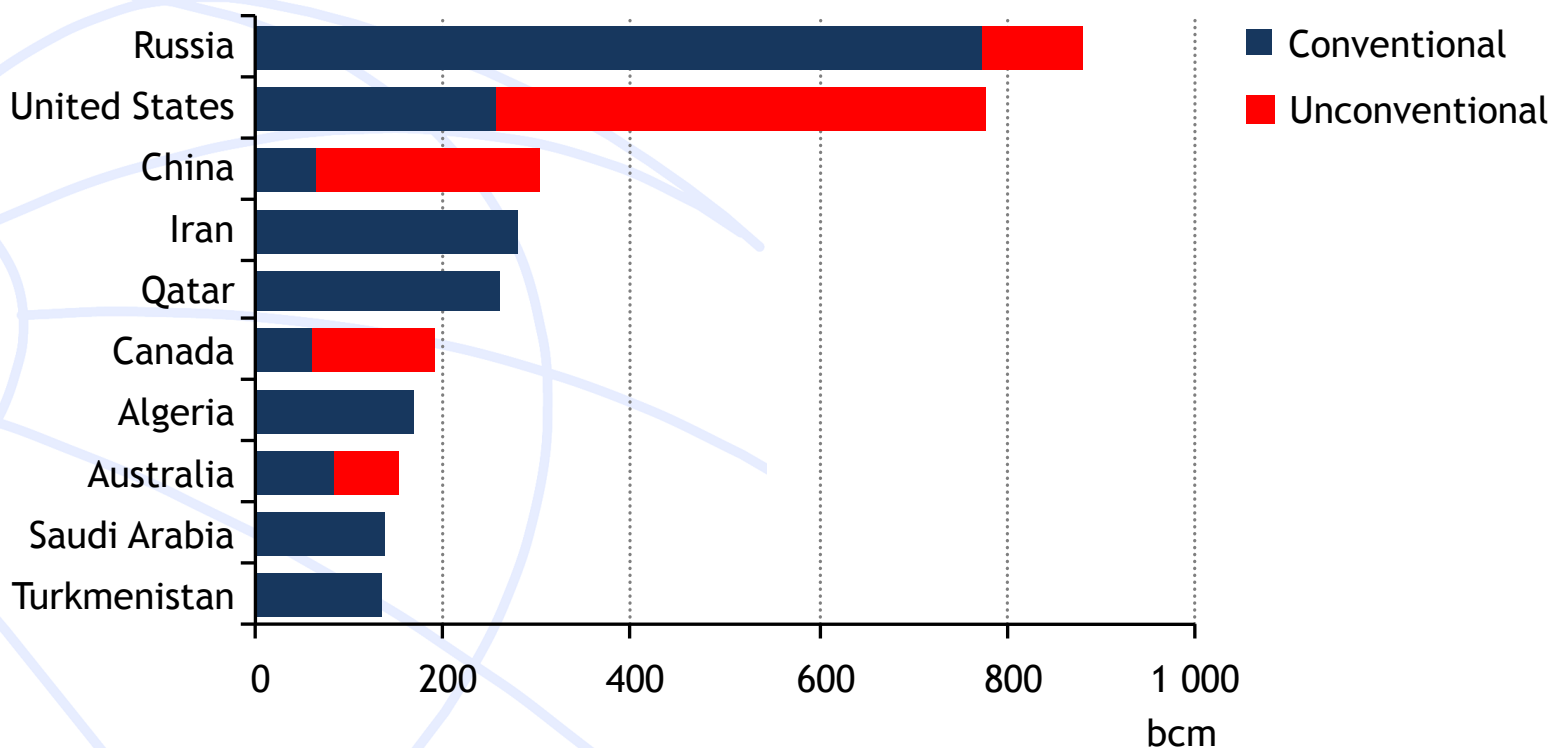


Non-OECD countries account for 80% of demand growth – China alone makes up nearly 30% of global growth & uses as much gas as the EU by 2035 (Ref. IEA)

Production of unconventional gas becomes widespread

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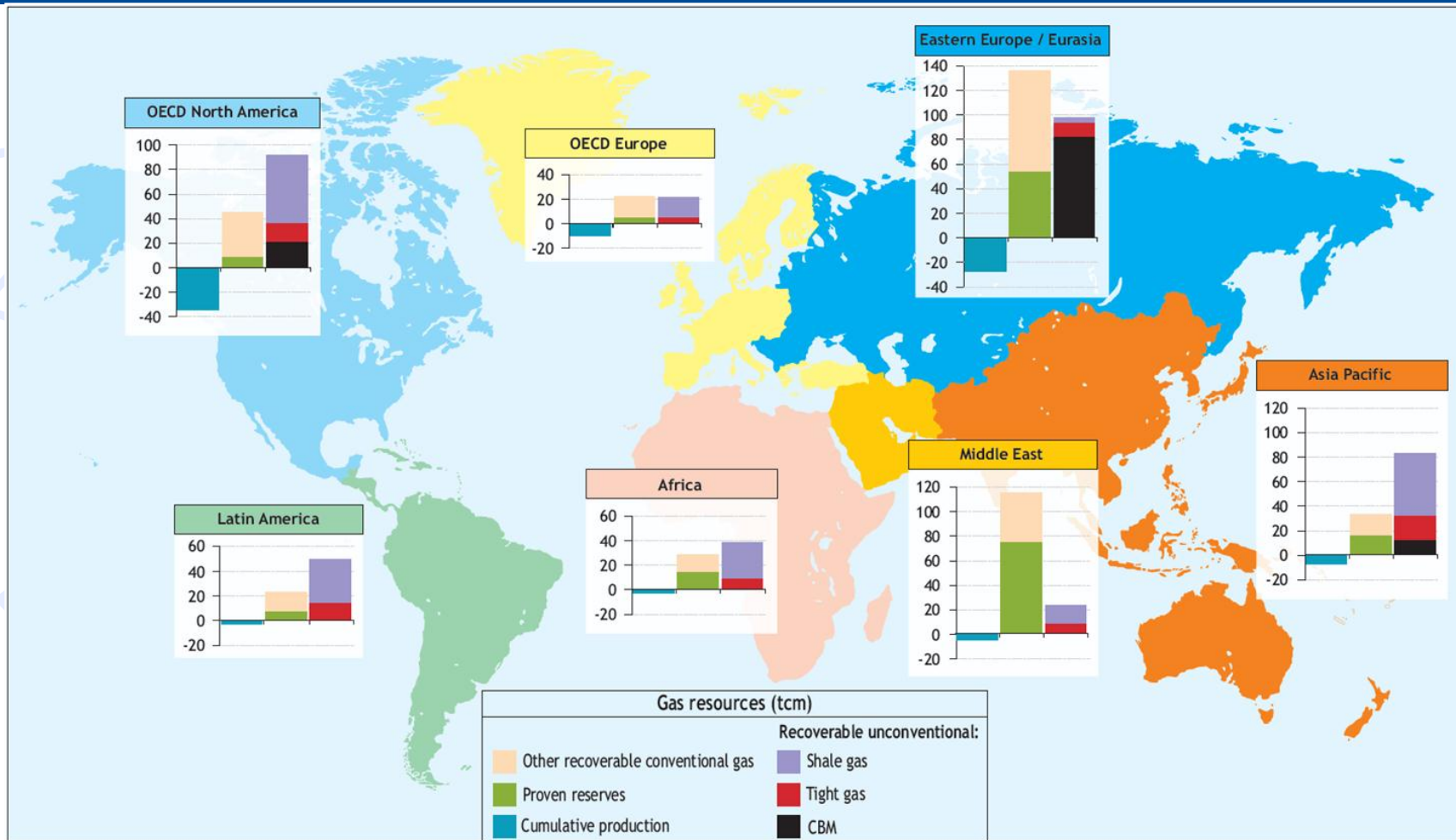
Largest gas producers in the GAS Scenario, 2035



Unconventional gas supplies 40% of the 1.8 tcm increase in gas demand to 2035, making up nearly one quarter of total production (Ref. IEA)

Natural gas: recoverable unconventional resources match conventional

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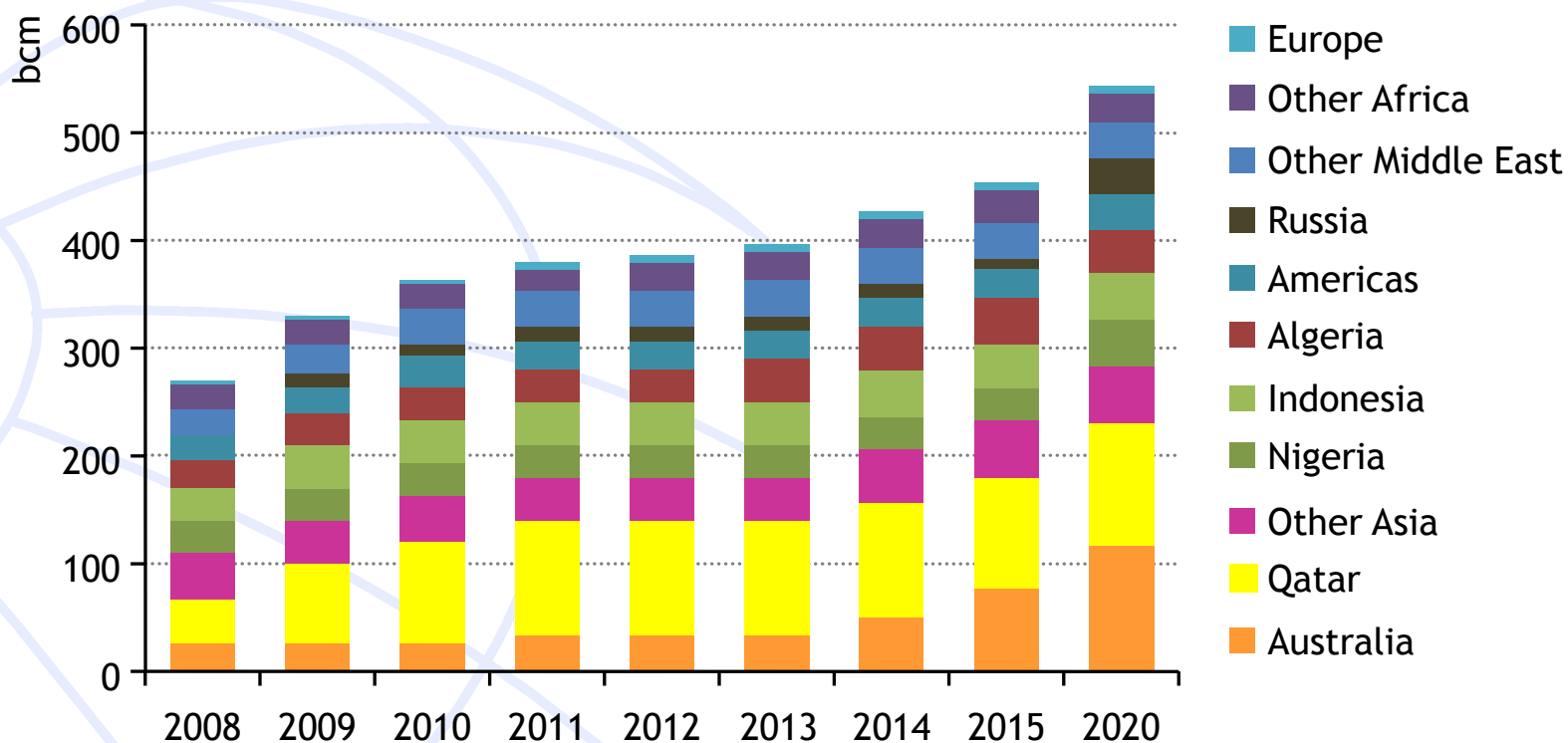


This map is for illustrative purposes and is without prejudice to the status of or sovereignty over any territory covered by this map.

Natural gas can enhance security of supply: global resources exceed 250 years of current production; while in each region, resources exceed 75 years of current consumption. (Ref. IEA)

Growing LNG enhances supply security & market flexibility

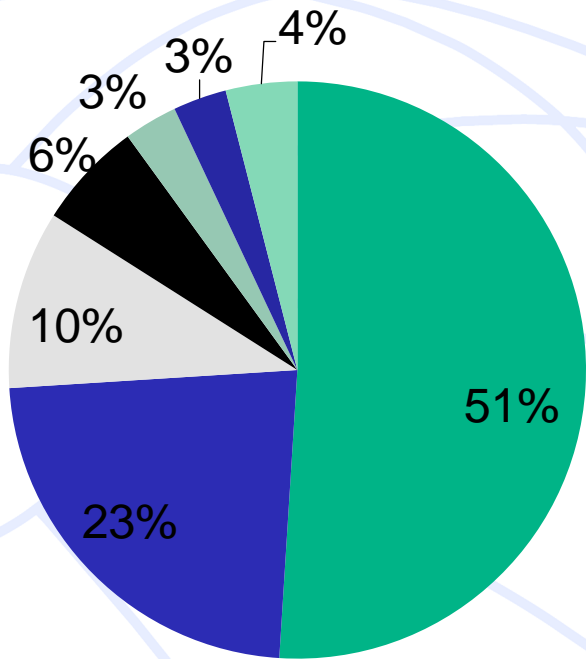
Projected LNG liquefaction capacity by country



By 2020, Australia will rival Qatar as the leading LNG supplier (Ref. IEA)

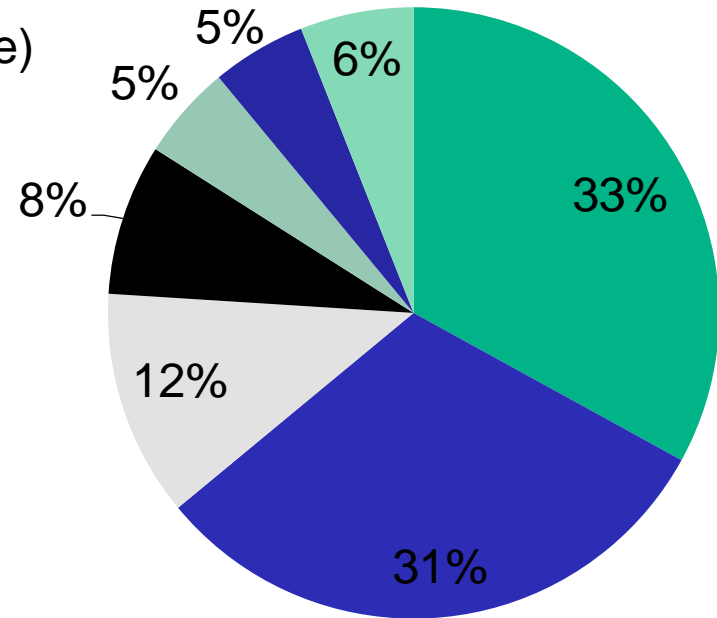
European gas Supply prospects

2010
Total = 570 bcm



LNG share: 15%

2020
Total = 670 bcm



LNG share: 24%

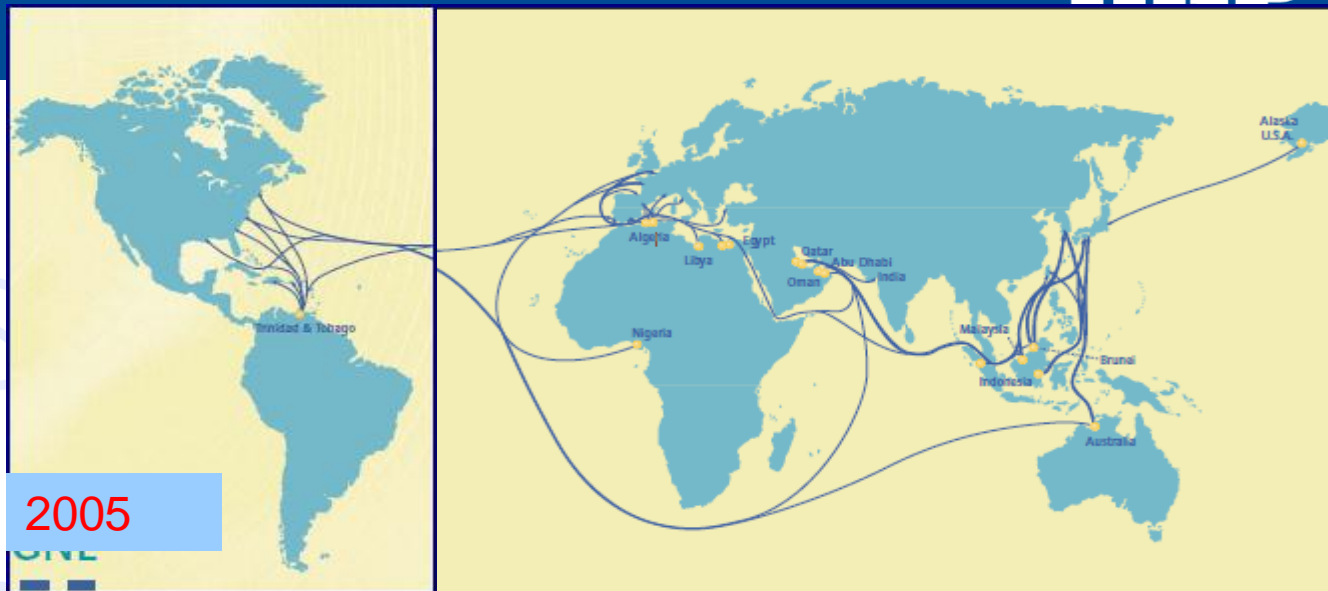
Source: Cedigaz

LNG trade: from regional to global



2005:

13 exporters
15 importers
59 flows



2010:

149 flows



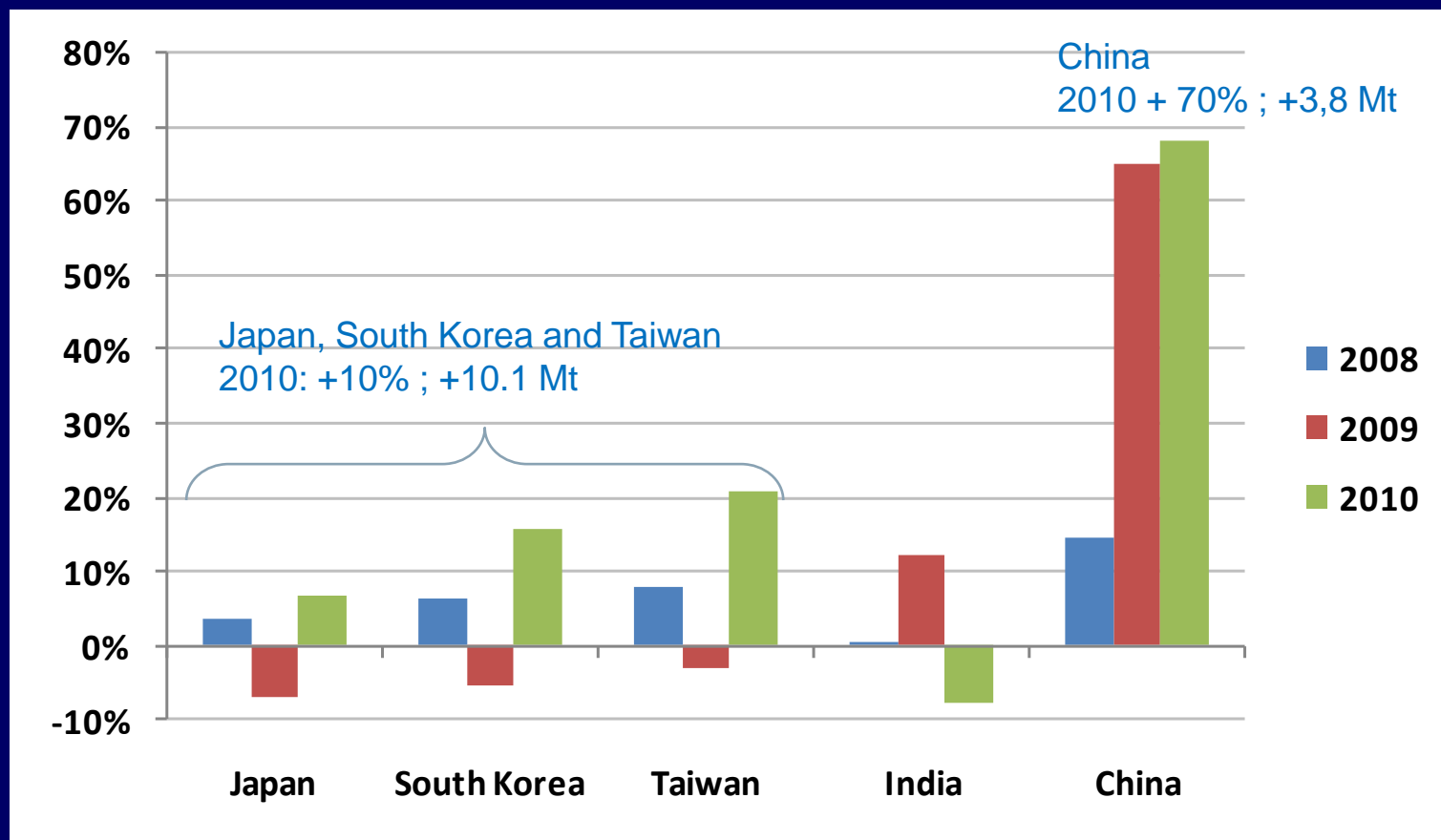
**Numbers of flows
has more than
doubled
in 6 years**

LNG brings more
flexibility and
integration to gas
markets

Source: GIIGNL

In 2010, LNG demand had already recovered in Asia...

Annual Growth in LNG imports

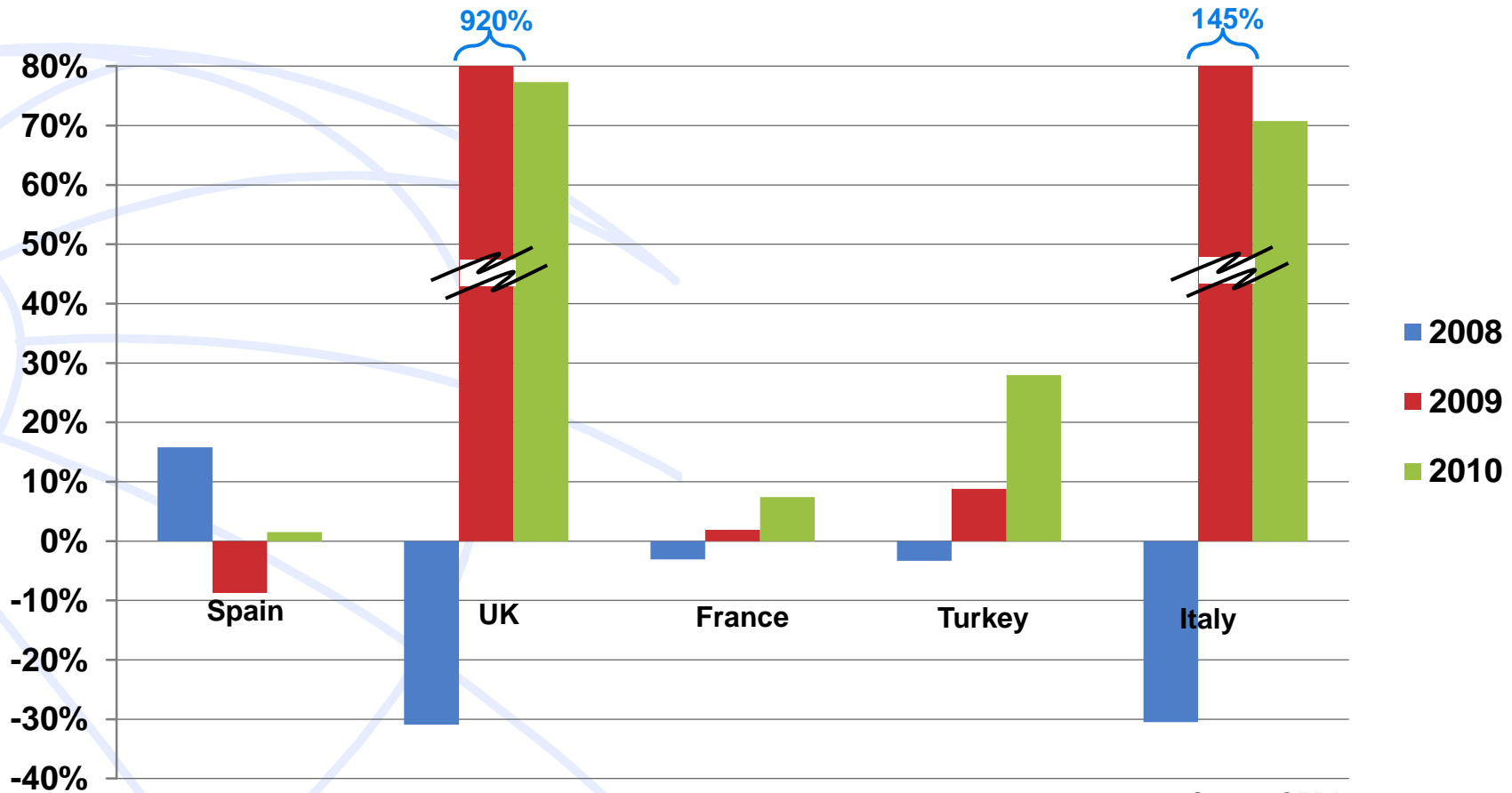


Source: CERA



....and in Europe too

Annual Growth in LNG imports



Source: CERA

- **Expected double digit growth rate in LNG Trade**
- **Supply Growth led by Qatar (>60%)**
- **Indonesian LNG exports decline c. 15%**
- **UK overtook Spain as the world's 3rd largest importer after Japan and Korea**
- **Imports to Belgium and France growing**

Messages

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- ❑ **LNG has become an important contributor in satisfying European gas supply security, predicted growth from 15% in 2010 to 24% in 2020**
- ❑ **LNG trade has continued to grow through the economic crisis, assisted by new production capacity and ability to compete effectively with pipeline gas**
- ❑ **LNG global flows are becoming more diverse; new importers in South America, the Middle East and Asia emerging**
- ❑ **LNG imports into North America will remain depressed with sustained growth in unconventional pipeline gas**
- ❑ **LNG future distribution to Asia and Europe becoming complex – key influences will be: pace of gas demand growth in Asia, Europe's success in limiting growth in gas demand, regional competitiveness and logistical factors**

Messages

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- ❑ **LNG markets will not be totally globalised in 2020 due mainly to extensive use of shale gas in the US and possible declining import dependence in Asia.**
- ❑ **Development of unconventional pipeline gas and LNG can meet global gas demand**
- ❑ **By 2012 Qatar will reach 77 mtpa, when will Australia reach it's planned 100 mtpa – 2020?**

THE END

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Thank You.

