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**Recent developments in
natural gas market**

by

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The views expressed are those of the author and do not necessarily reflect the views of
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About Gas Centre

A Gas Centre dedicated to economies in transition

The UNECE Gas Centre was launched in 1994 as a technical cooperation programme.

“Promotion and Development of a Market-Based Gas Industry in Economies in Transition - the Gas Centre”. It was established to assist governments and gas companies in Central and Eastern Europe in their efforts to create more decentralized and market-based gas industries.

Today, in addition to contributing to institutional capacity development and training for the benefit of economies in transition, the Gas Centre activities are focussed on:

- Exchange of information and data between the member companies on the gas markets and gas industry and especially between member companies with experience in free-market conditions and companies in countries with an economy in transition;
- Exchange of information and views between the gas industry, the ECE and government on policy issues;
- Serving as a platform for discussions on topics of interest and policy development.





About Gas Centre

The programme is extra-budgetary and financed by some 20 major gas companies, state-owned and private, from Europe, the United States and the Mediterranean Basin, namely:

AFRIQUIA GAZ (Morocco) – **BOTAS Petroleum Pipeline Corporation** (Turkey) – **EDF** (France) – **EDISON** (Italy) – **Egyptian Natural Gas Holding Company (EGAS)** (Egypt) – **Eni Gas and Power** (Italy) – **GAIL** (India) – **GasNatural Fenosa** (Spain) – **GAZNAT** (Switzerland) – **GAZPROM** (Russia) – **GDF Suez** (France) – **KazMunaiGaz** (Kazakhstan) – **MOL/FGSZ Ltd** (Hungary) – **NJSC NAFTOGAZ/UKRTRANS GAS AC** (Ukraine) – **OMV Gas & Power GmbH** (Austria) – **PLINACRO** (Croatia) – **ROMGAZ** (Romania) – **PLINOVODI** (Slovenia) – **SOCAR** (Azerbaijan) – **SRBIJAGAS** (Serbia) – **STEG** (Tunisia) – **SWISSGAS** (Switzerland)

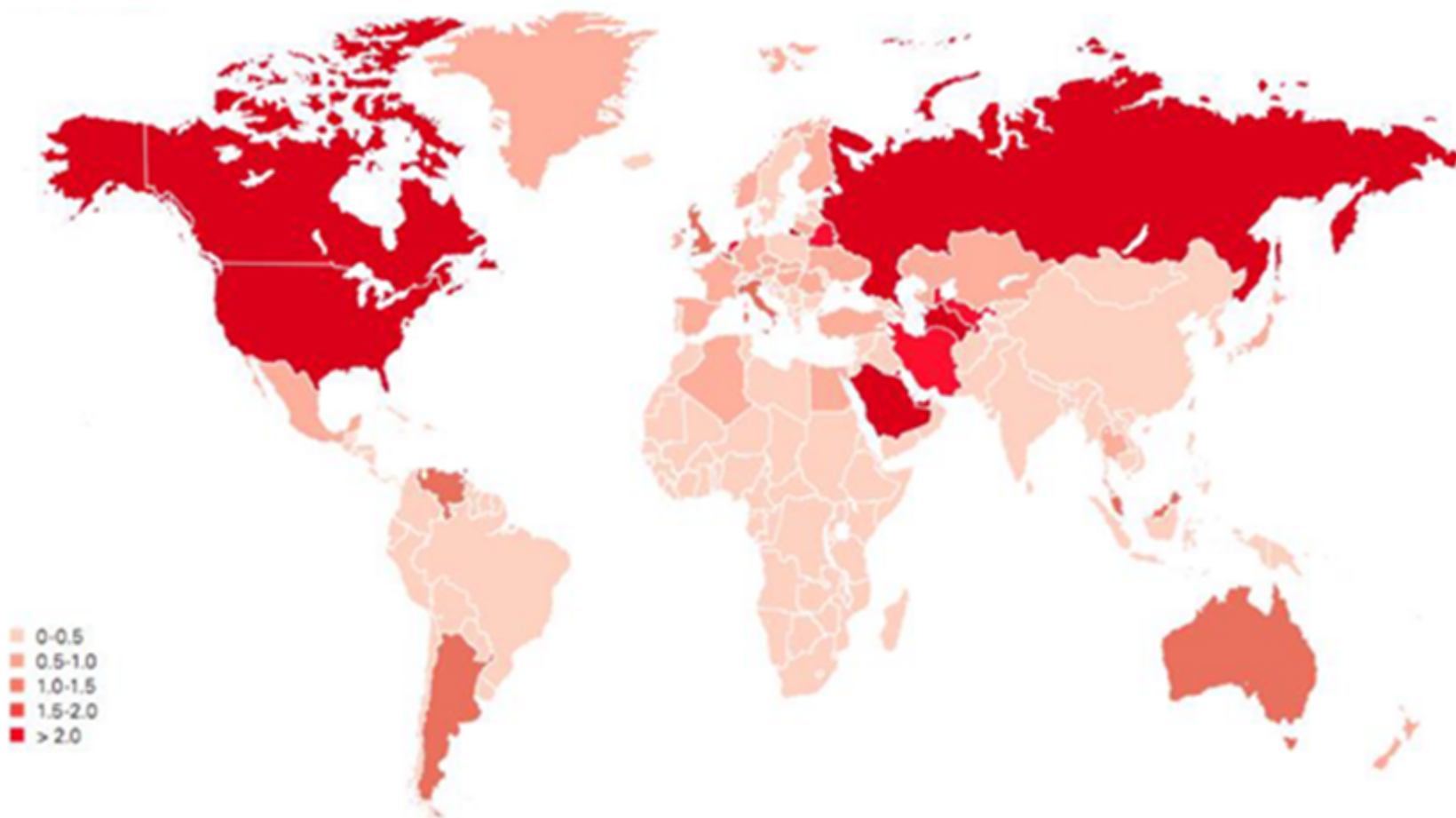




Natural gas: global market under construction

Source: BP Statistical Review 2013

Consumption per capita 2012
Tonnes of equivalent



Source: Includes data from Cedigaz.

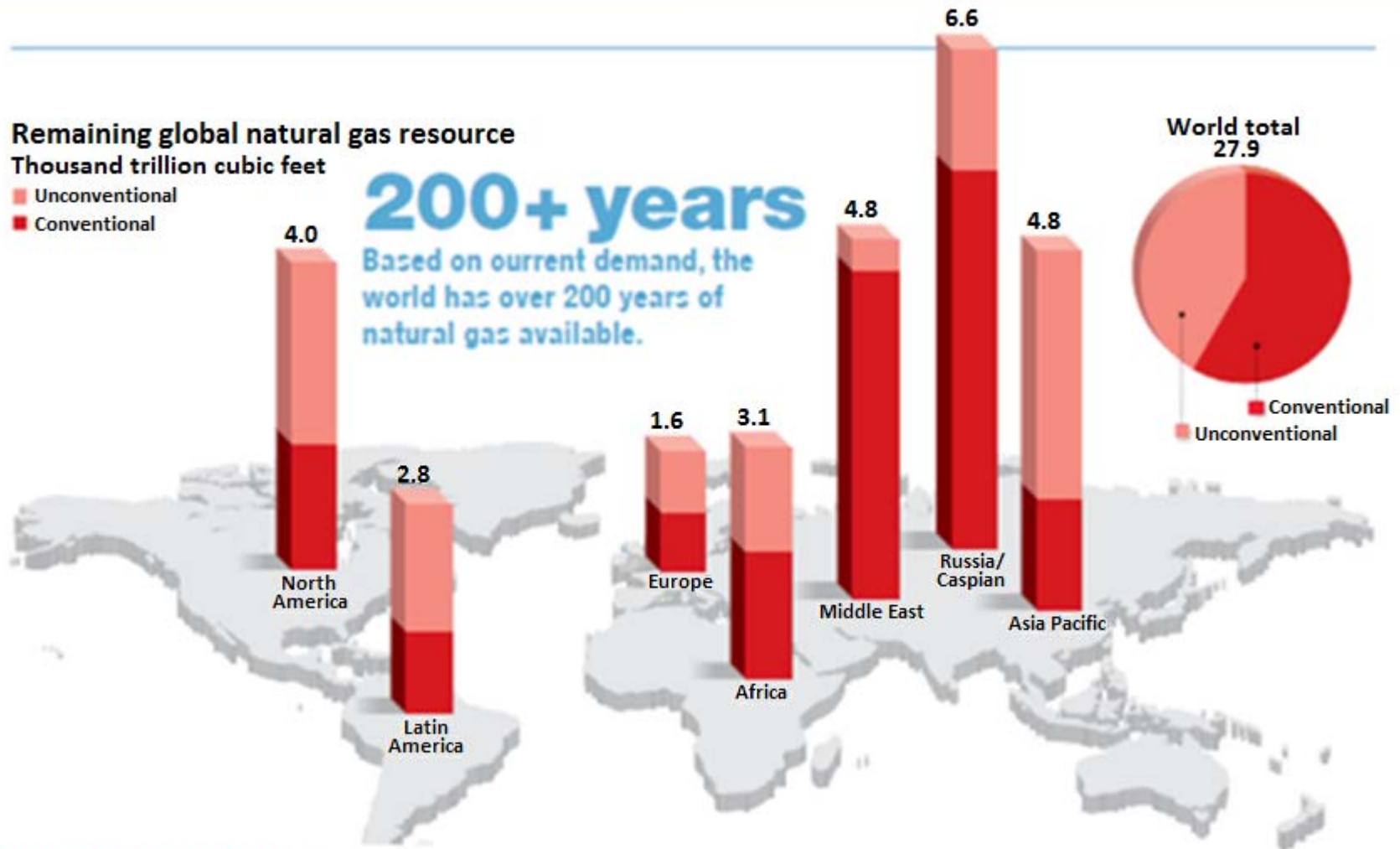
Gas is available – and widely distributed

Remaining global natural gas resource Thousand trillion cubic feet

- Unconventional
- Conventional

200+ years

Based on current demand, the world has over 200 years of natural gas available.



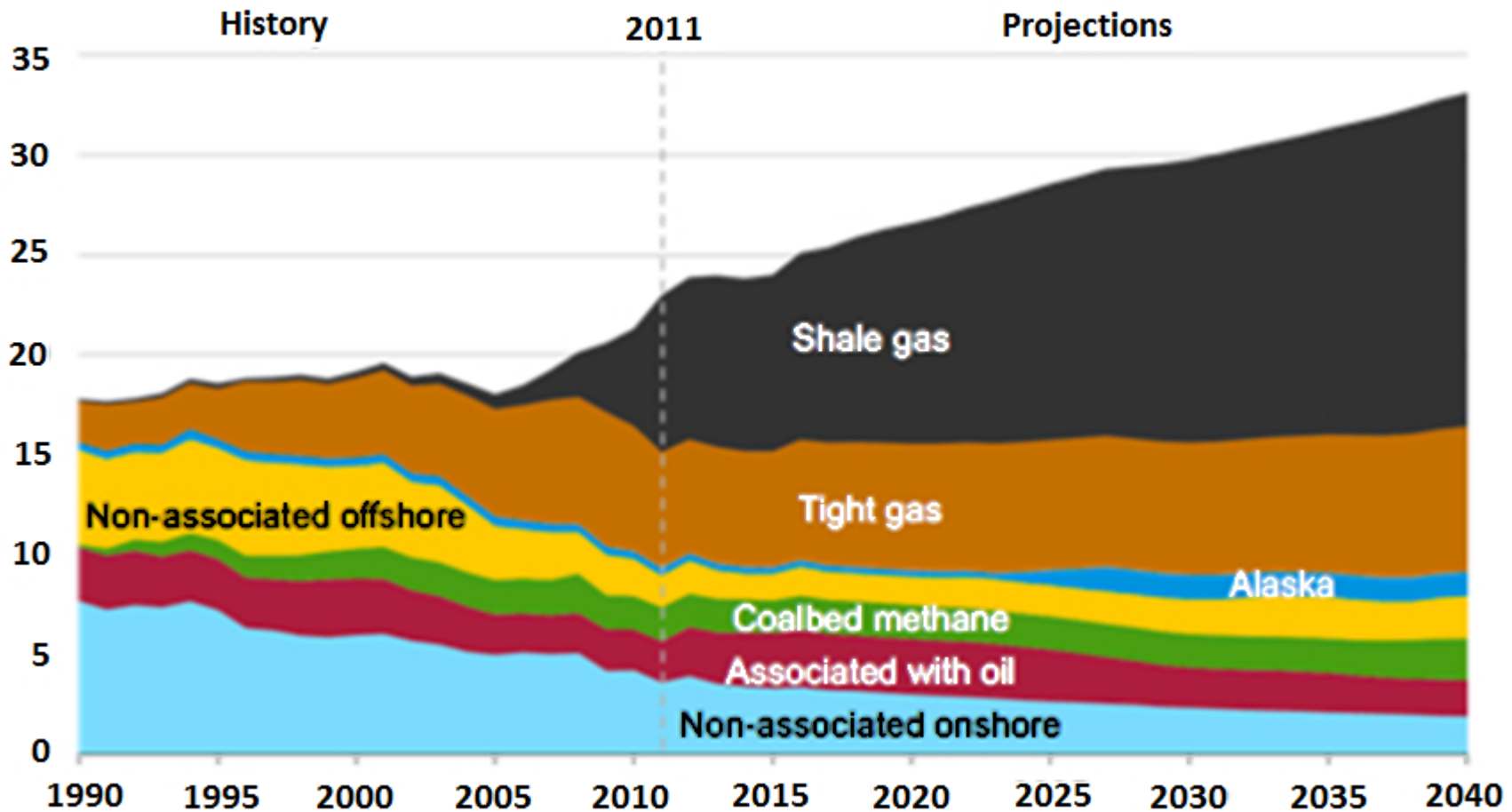
Source: ExxonMobil/IEA





Shale gas leads growth of production in the USA

U.S. dry natural gas production
trillion cubic feet



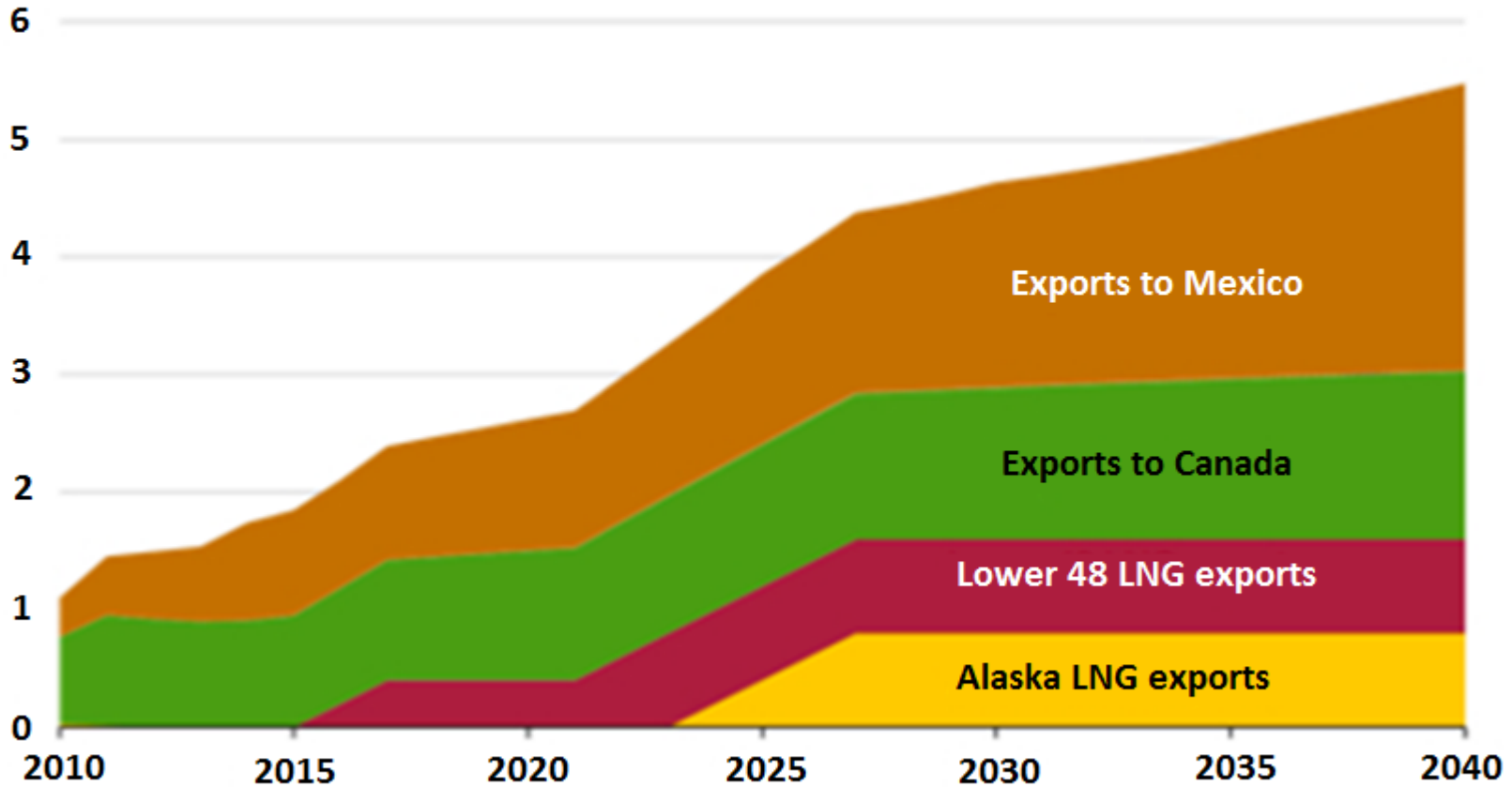
Source: EIA





Natural gas and LNG exports from the USA

**U.S. natural gas exports
trillion cubic feet**



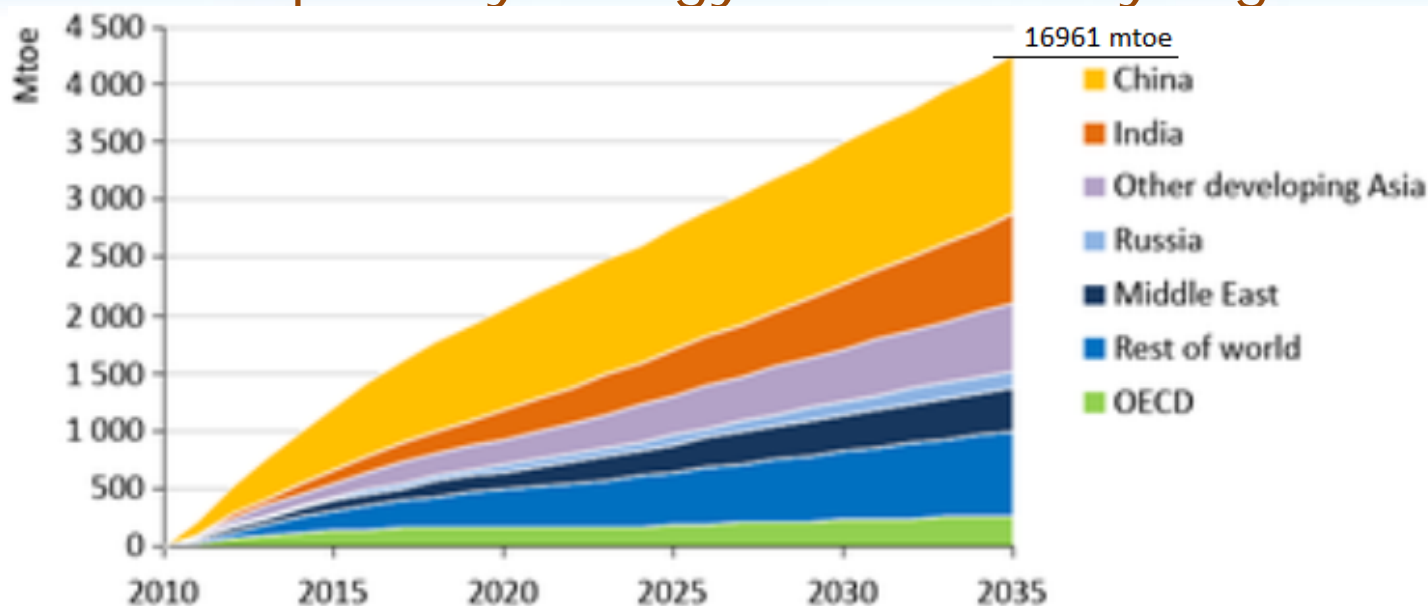
Source: EIA, Annual Energy Outlook 2013 Early Release





Emerging economies, mainly Asia, drive the energy demand

Growth in primary energy demand – by region

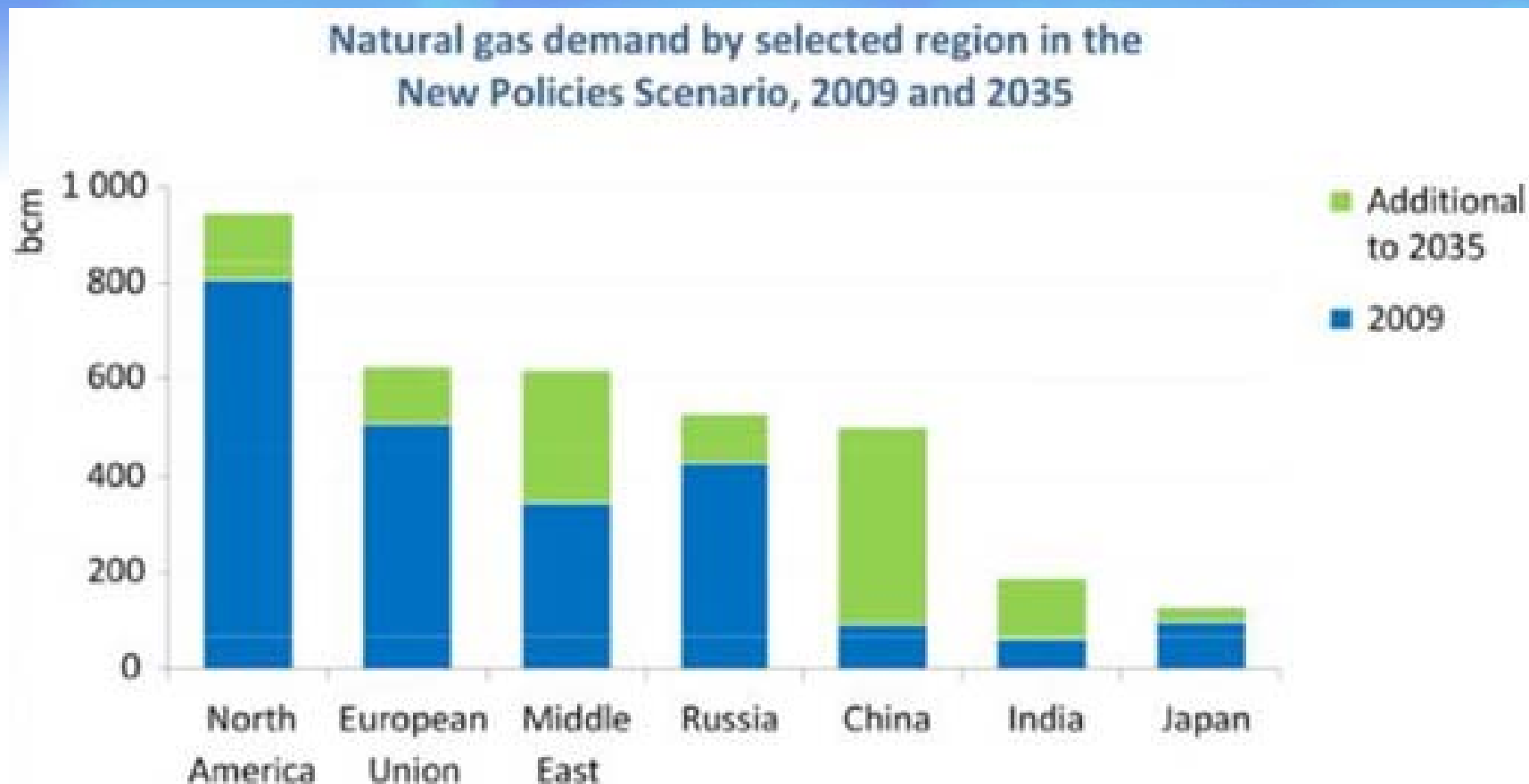


Global energy demand increases by one-third from 2010 to 2035, with China & India accounting for 50% of the growth.

Source: IEA



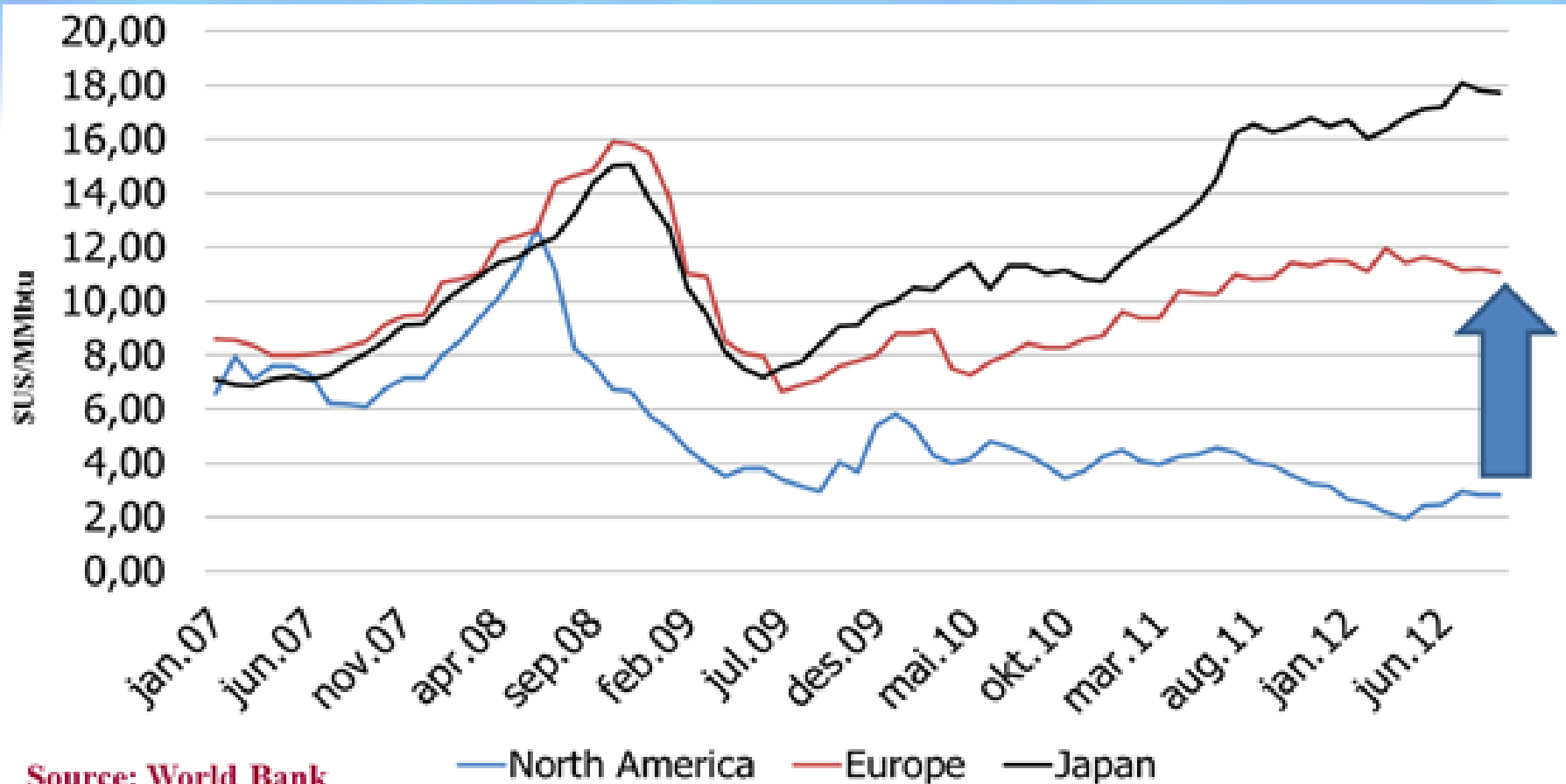
Natural gas demand growth comes mainly from Asia



Gas demand grows fastest in the non-OECD regions, led by China, which accounts for more than a quarter of the worldwide increase in demand between 2009 & 2035



World Natural Gas Prices



Source: World Bank

— North America — Europe — Japan

Cost of export from US to Asia / Europe:
Henry hub plus 5-6 USD/mmbtu





Natural gas partnering with renewables

Society needs energy 24 hours / 7 days

	Gas	Wind	Solar	Hydro
Capacity utilisation	90-100%	30-40%	10-25%	Drought

Natural gas easy to turn on and off





Natural gas for transportation (CNG / LNG)



- Less**
- Particles/soot
 - CO2
 - NOx - smog



Fleets



Maritime

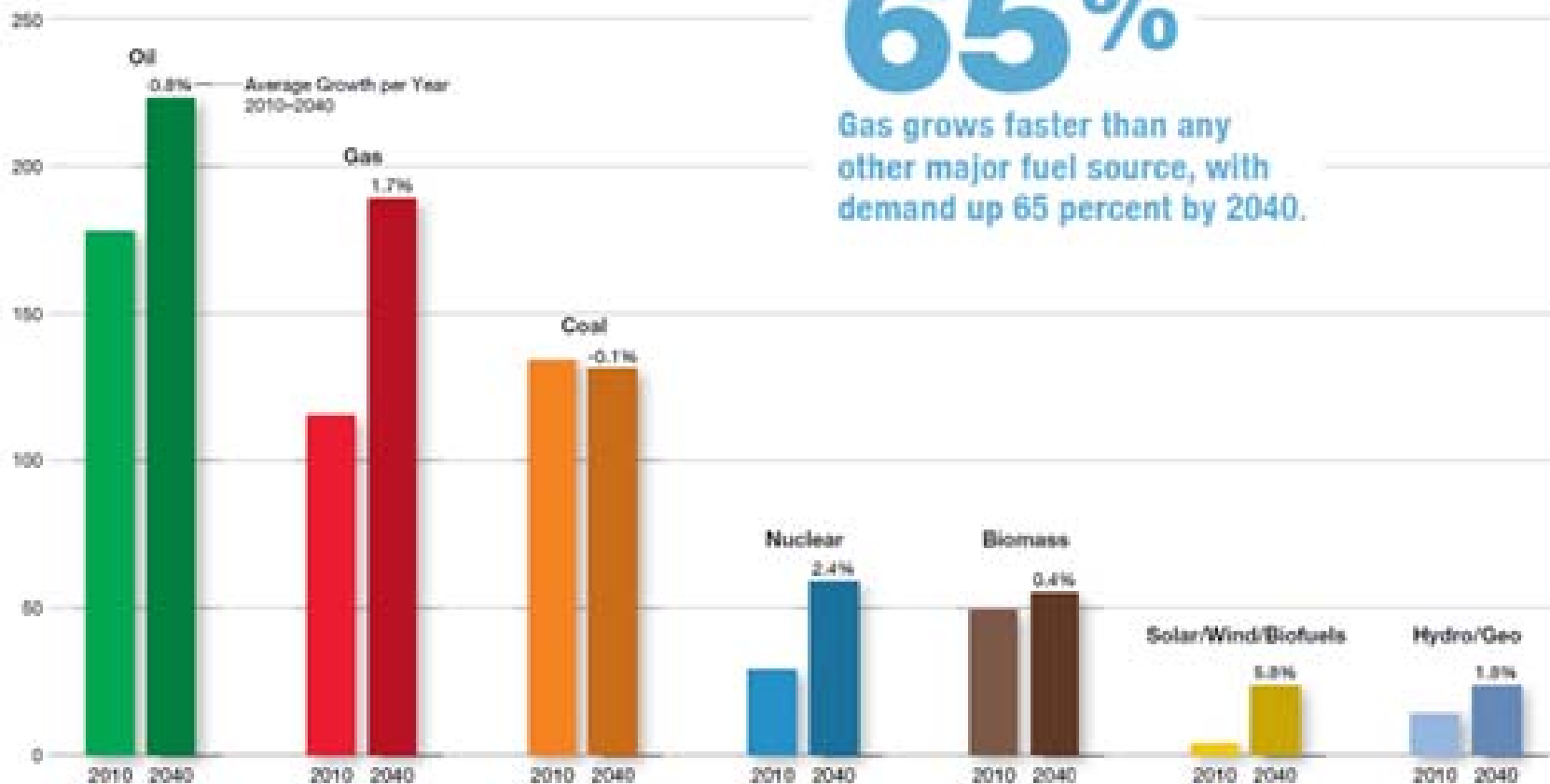
Economics and environment – the main drivers



Gas – fueling more of the world!

Energy mix continues to evolve

Quadrillion BTUs



65%

Gas grows faster than any other major fuel source, with demand up 65 percent by 2040.





Global gas markets

- **North America – the shale gas revolution**
 - Boosting economy and reducing CO2 emissions
- **Europe – gas squeezed**
 - Renewables subsidies and low coal prices
- **Asia and South America**
 - Gas pricing a key issue
- **Middle East / Africa – domestic use and export**

Huge regional variations!

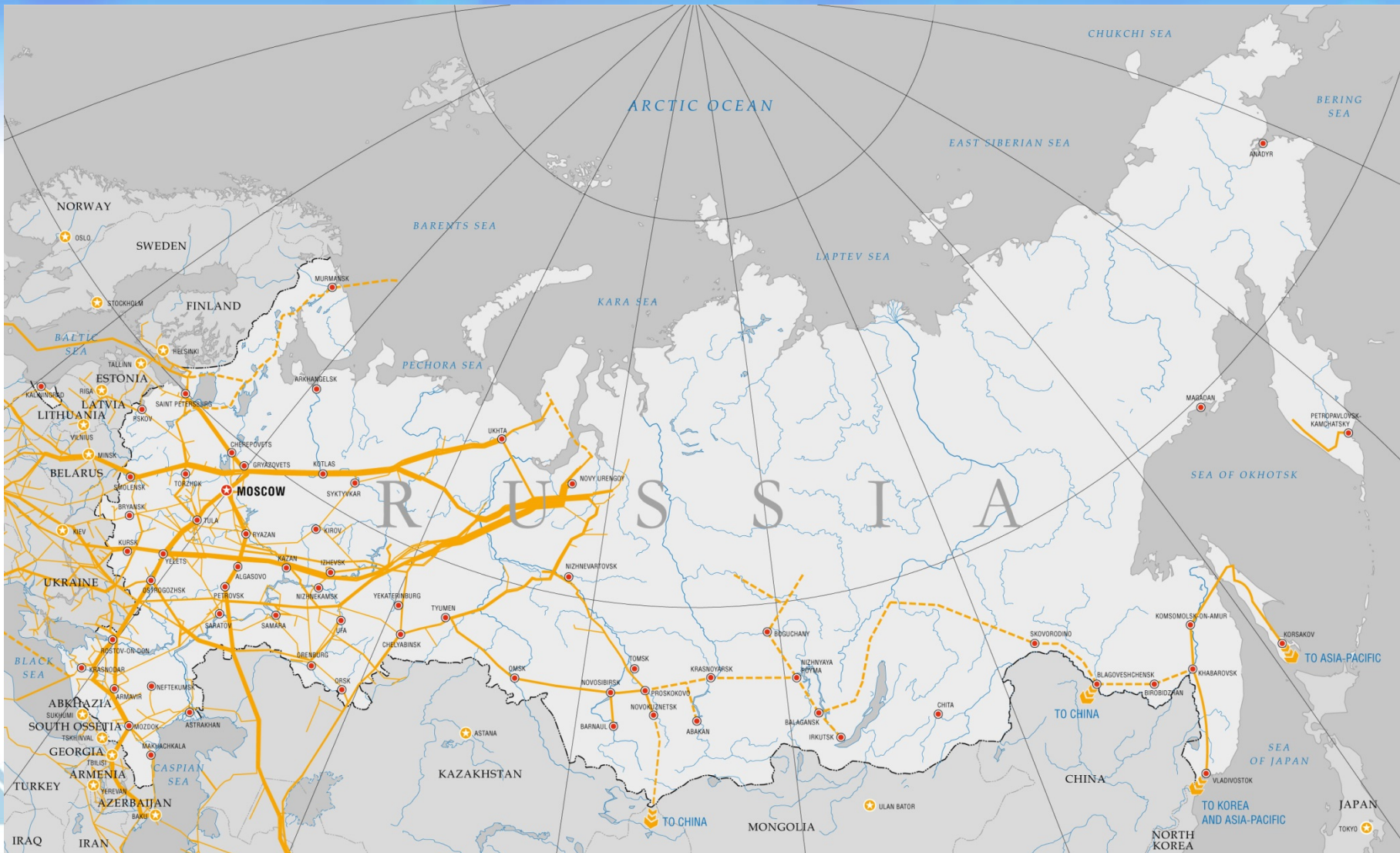




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Diversification of supply routes and suppliers



China's diversified gas supply sources



China 2012:
Production 107 bcm
Consumption 144 bcm

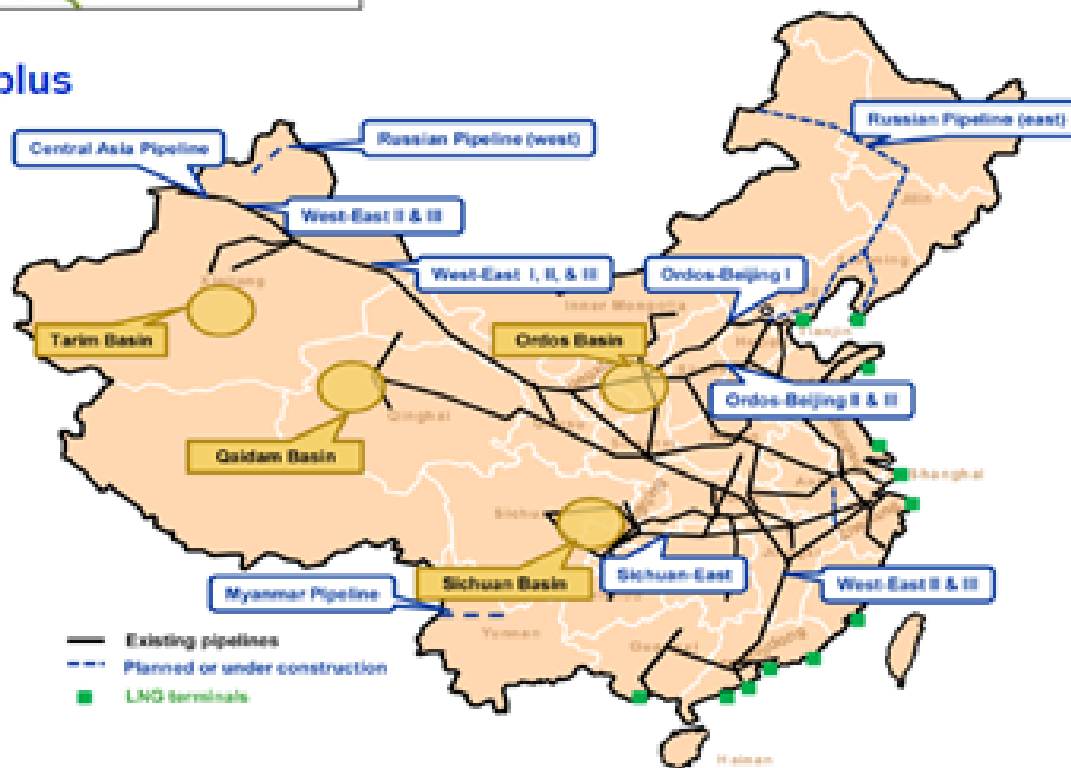
Source: BP Statistics 2013

Turkmenistan supplies 30 bcm/yr plus



Myanmar supplies 10 bcm/yr plus

Source: SHWE Gas Movement



Source: IHS CERA, various sources.





Policy and regulation to encourage investments

- **Investments in gas infrastructure**
 - International partnership, risk sharing, long term contracts
- **Market-oriented prices and tariffs**
- **Facilitate transfer of technology**
- **Financing and tax regime**

Enable business to do business!





Supply post-Fukushima

- Around 12.5 million tonnes in 2011 from the Atlantic Basin
 - Cargoes diverted from West Africa and Europe
- Europe – increased pipeline supplies (Russia, Norway)
- LNG demand increase 15 mill tonnes in 2012 (20 bill cm)
- Qatar, Russia, Malaysia and Indonesia arranged swaps and diverted cargoes.

Successful response by gas industry





Main Reasons for the importance of NG in Europe

- Contribution to the reduction of CO2 emission
- Better adaptability to the intermittency of electricity production
- Increase the Security of Supply due the new Gas Corridor
 - 58% Norwegian
 - 27% Russia
 - 7% pipes from North Africa
 - 8% LNG





Reduction of CO2 Emissions

Natural Gas emits:

- 57% less CO2 than oil
- 43% less CO2 than coal

For the same amount of electricity produced.





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Thank you

