

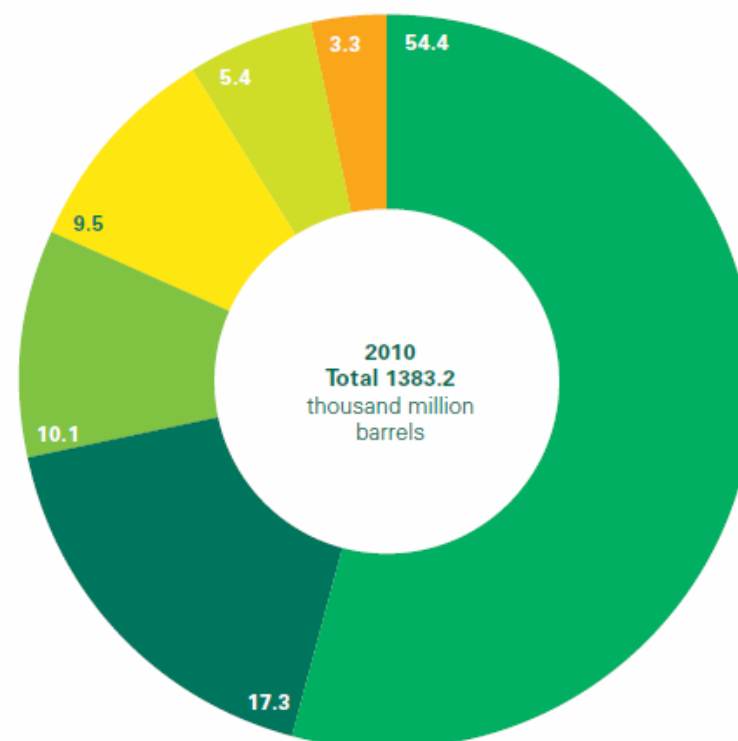
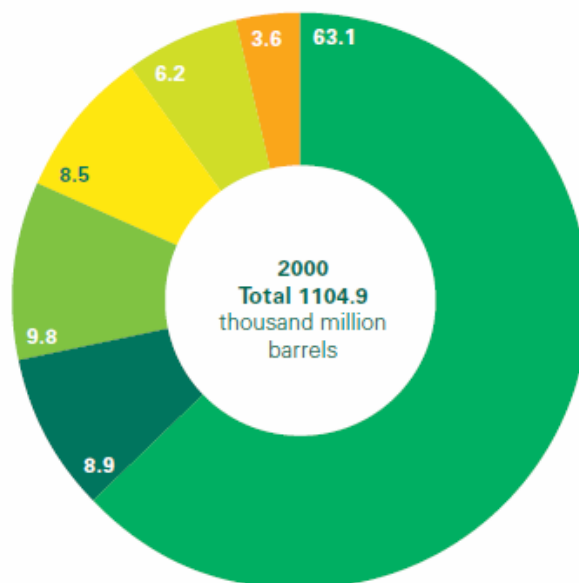
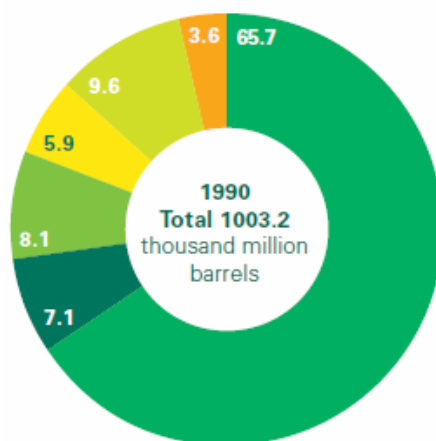
The Gas the Bridging Fuel of Future

THE ENERGY PICTURE OF EUROPE IN 2050
WEC Europe Regional Workshop
6 - 7 December 2011

Fossil fuels reserves and unconventional gas

Crude Oil reserves 1990 – 2000 – 2010

- Middle East
- S. & Cent. America
- Europe & Eurasia
- Africa
- North America
- Asia Pacific



Total reserves

- 169 Gtoe of which 41 % in Middle East, R/P ratio in 2009 is 65 years

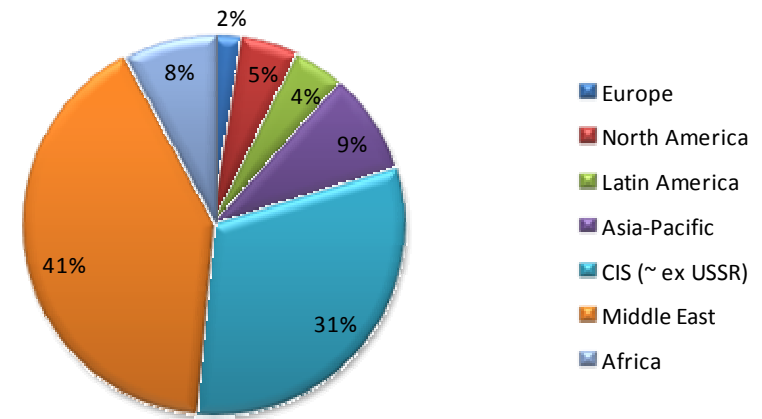
Russia, Iran and Qatar control more than 50% of proven reserves.

Reserves have increased for the last years due to discoveries in Russia, Venezuela and Saudi Arabia

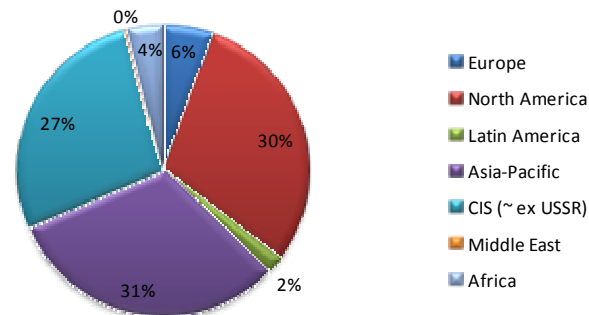
Unconventional gas reserves could lead to double the duration and even exceed the coal ones

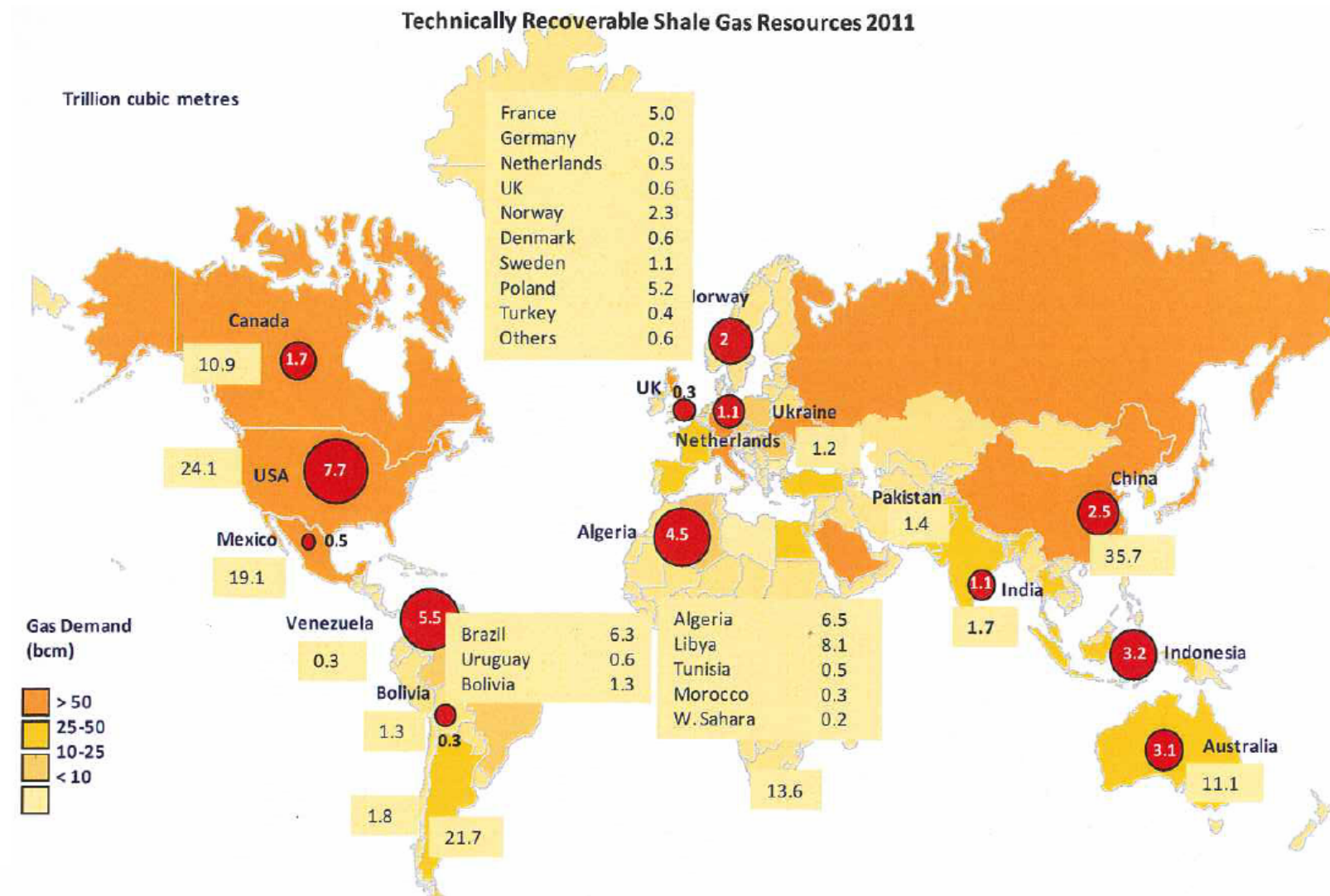
Concentrated Reserves

Natural Gas (conventional) Reserves as of Dec. 31, 2009 in Gtoe



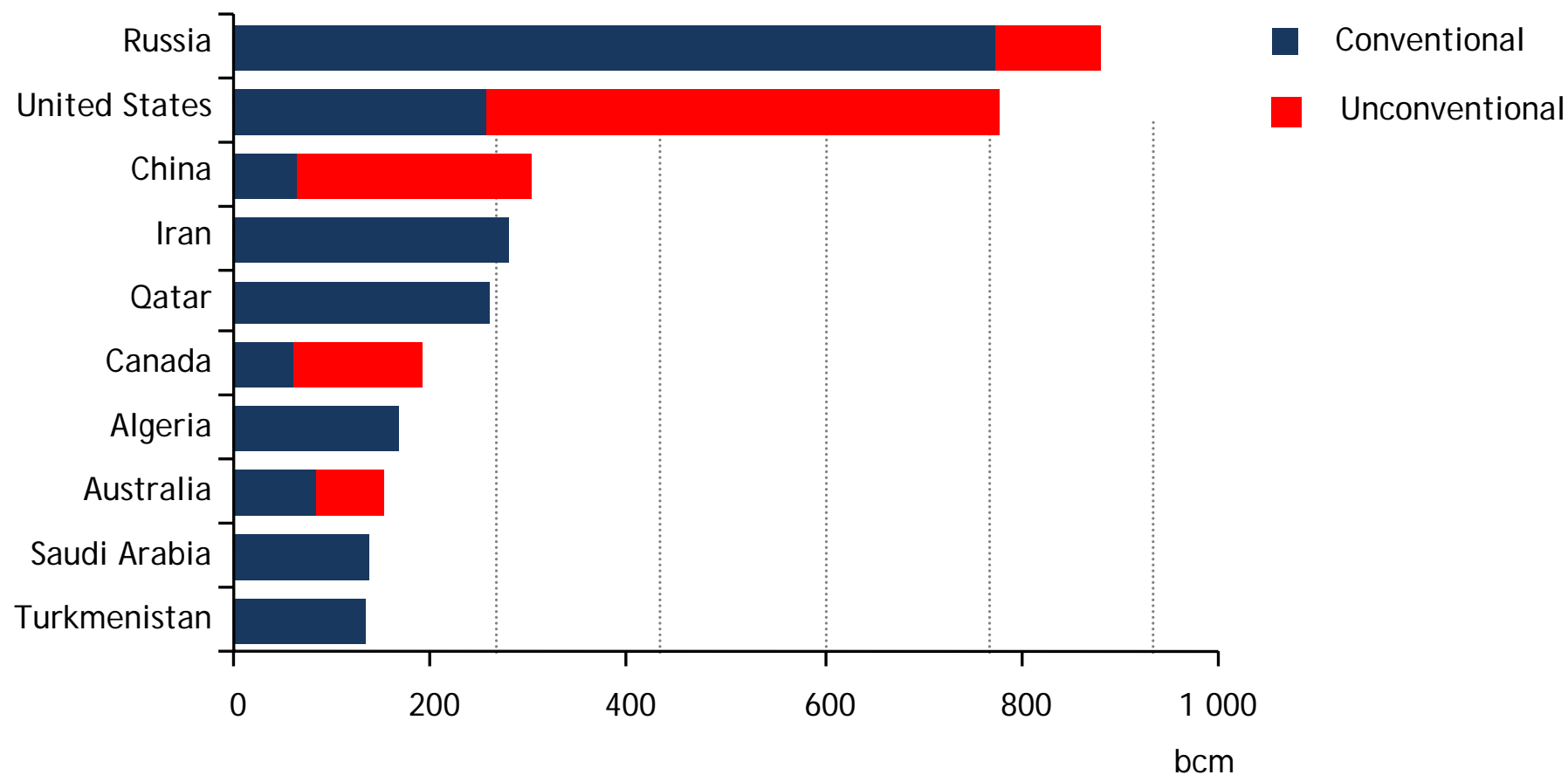
Coal Reserves as of Dec. 31, 2009 in Gtoe





	Conventional		Tight Gas		Shale Gas		CBM	
	tcm	\$/MBtu	tcm	\$/MBtu	tcm	\$/MBtu	tcm	\$/MBtu
E. Europe & Eurasia	136	2-6	11	3-7			83	3-6
Middle East	116	2-7	9	4-8	14			
Asia/Pacific	33	4-8	20	4-8	51		12	3-8
OECD North America	45	3-9	16	3-7	55	3-7	21	3-8
Latin America	23	3-8	15	3-7	35			
Africa	28	3-7	9		29			
OECD Europe	22	4-9			16			
World	404	2-9	84	3-8	204	3-7	118	3-8

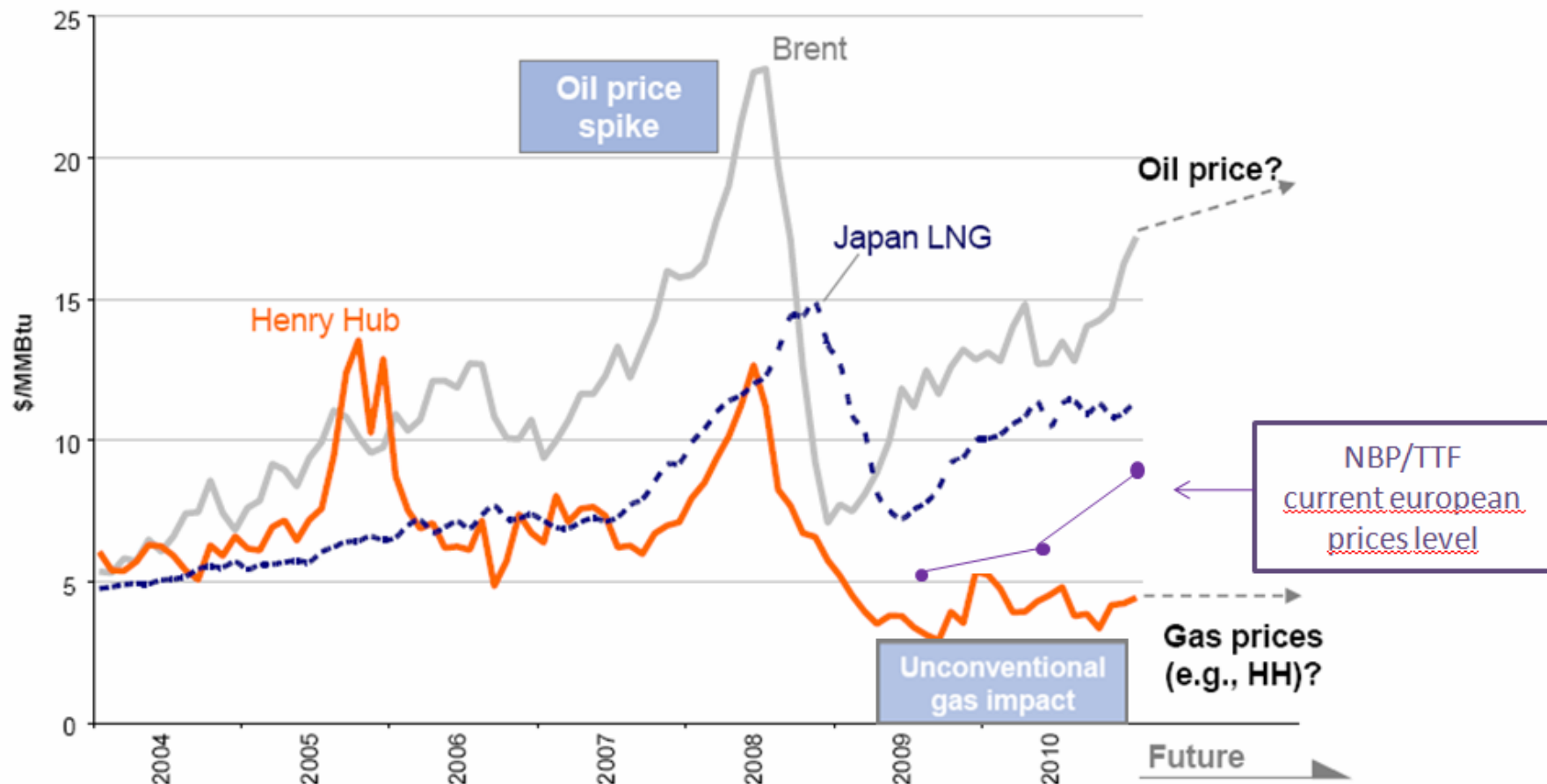
Largest gas producers in the GAS Scenario (AIE), 2035



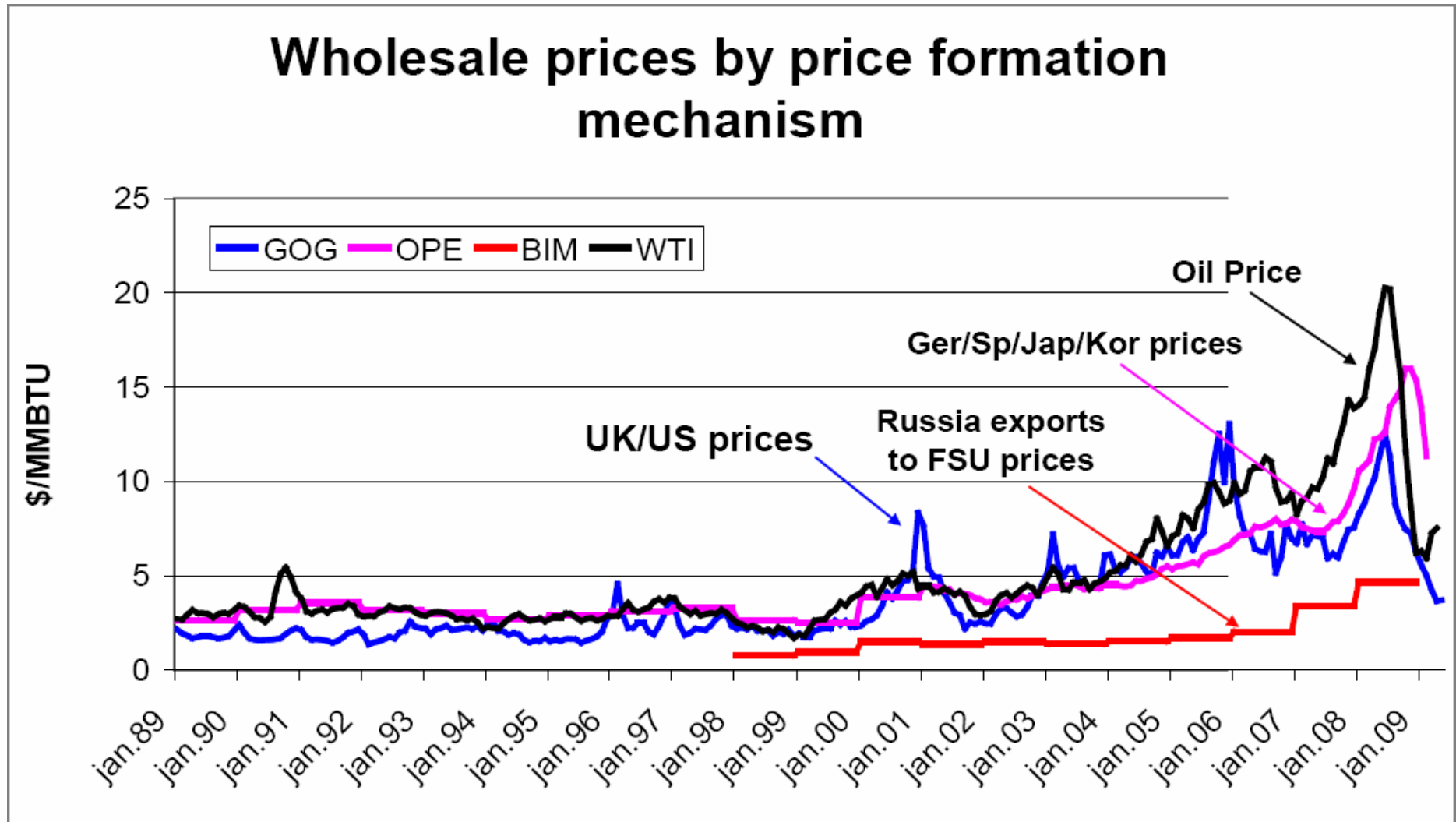
European Market vs. Asian Market

Gas prices worldwide continue to diverge

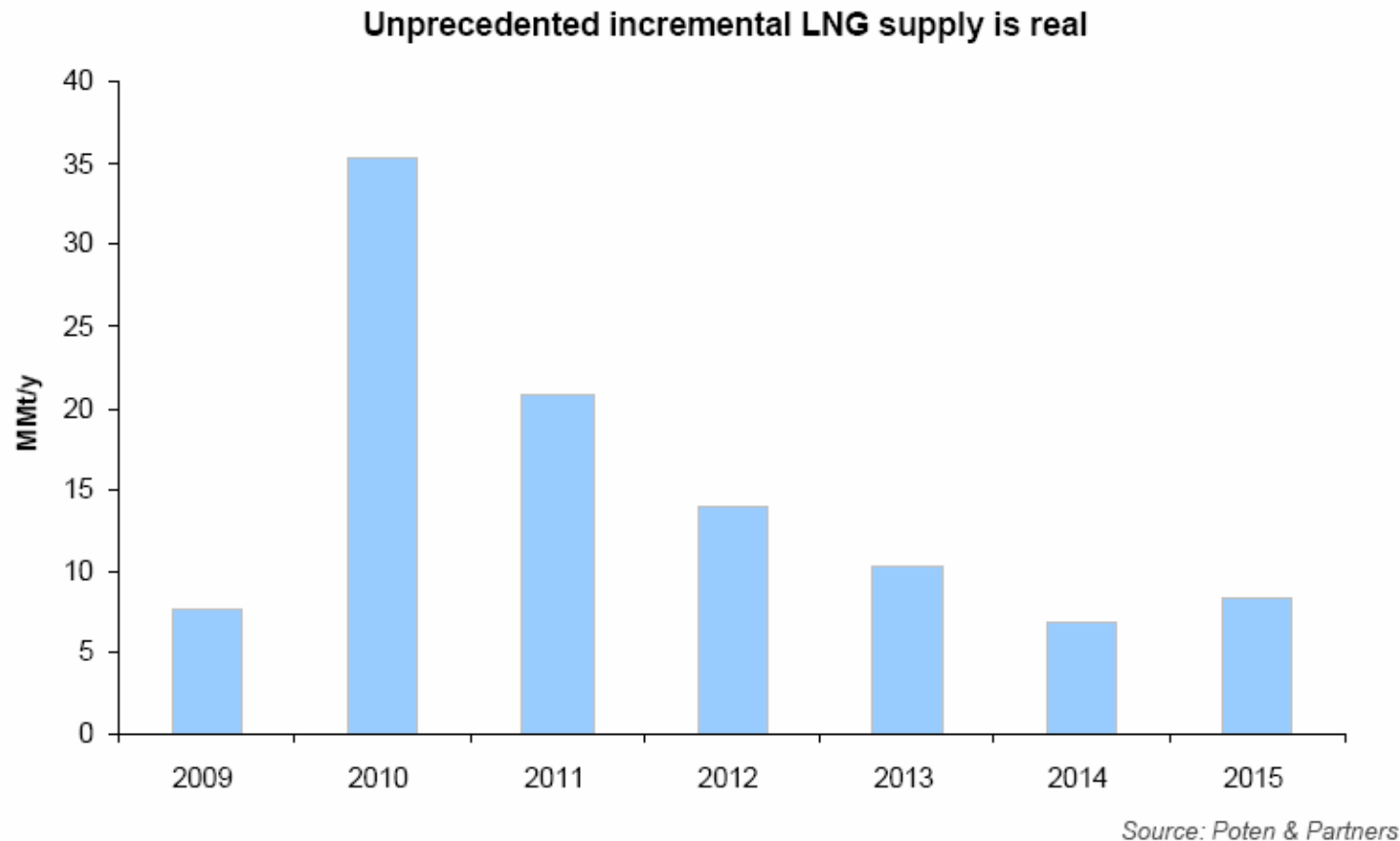
Global Natural Gas and Oil Prices



Source: Poten & Partners

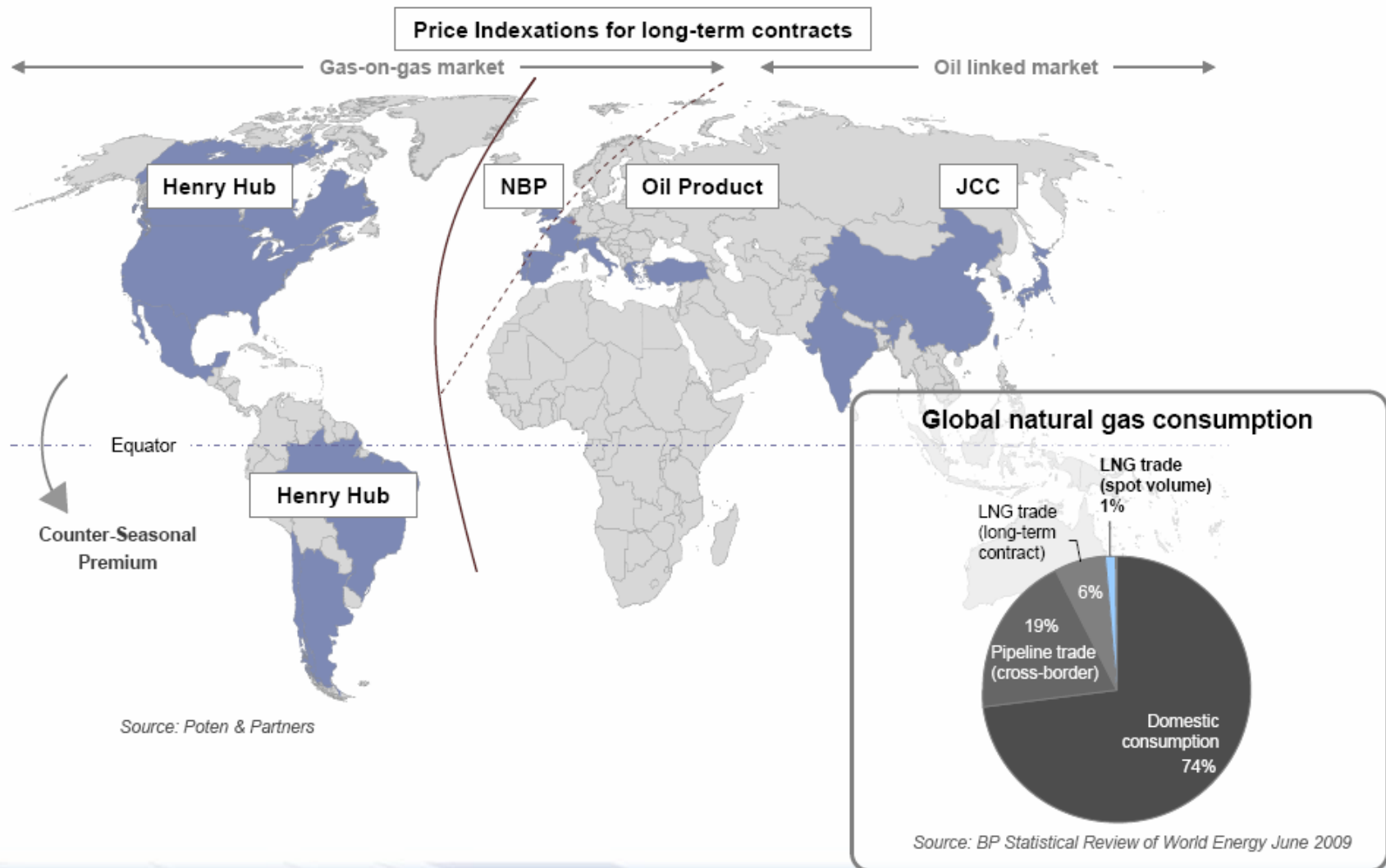


Despite unprecedented LNG supply additions

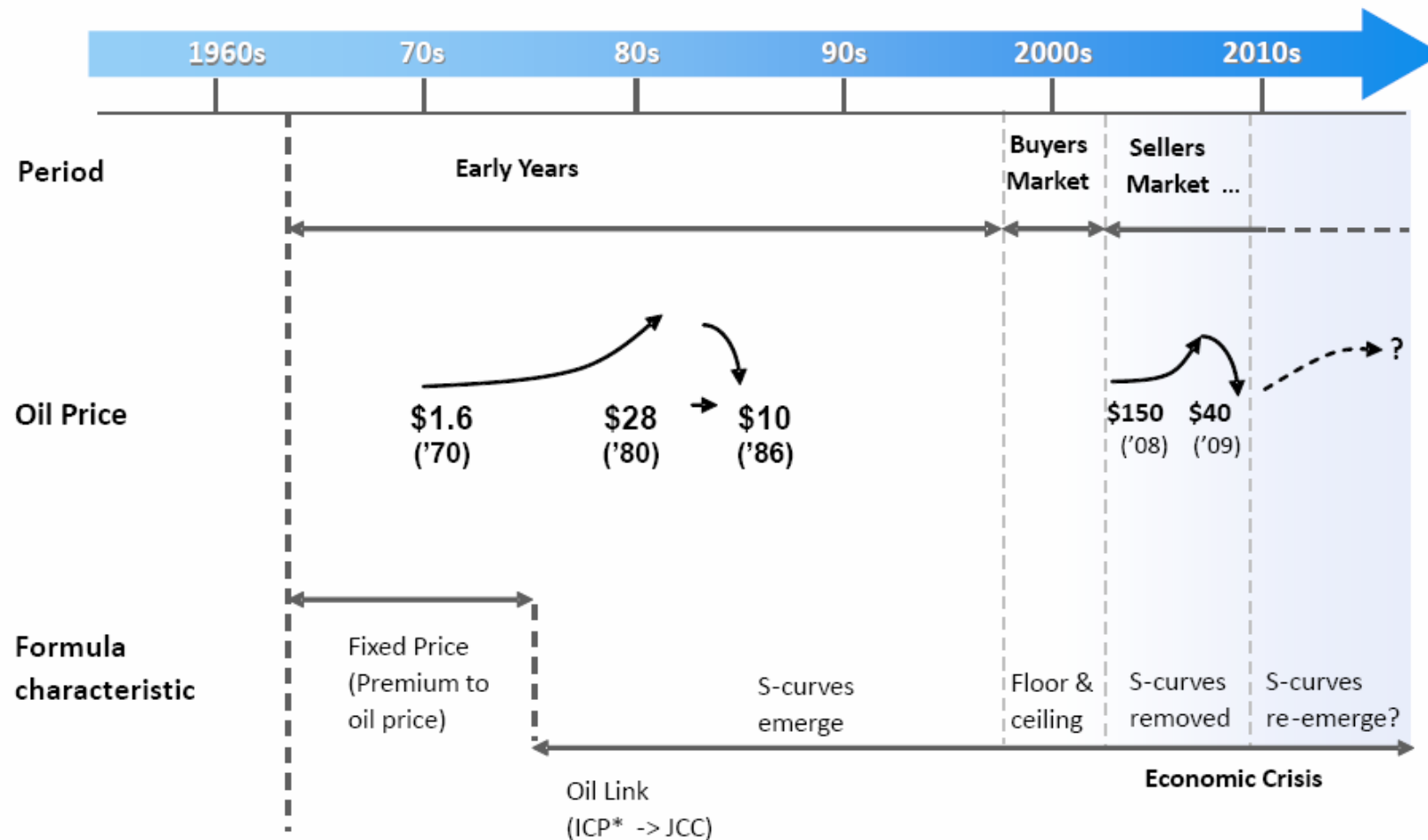


- In the 2011–2015 period alone, close to 60 MMt/y will be added to the global LNG trade

LNG trade too small to drive convergence



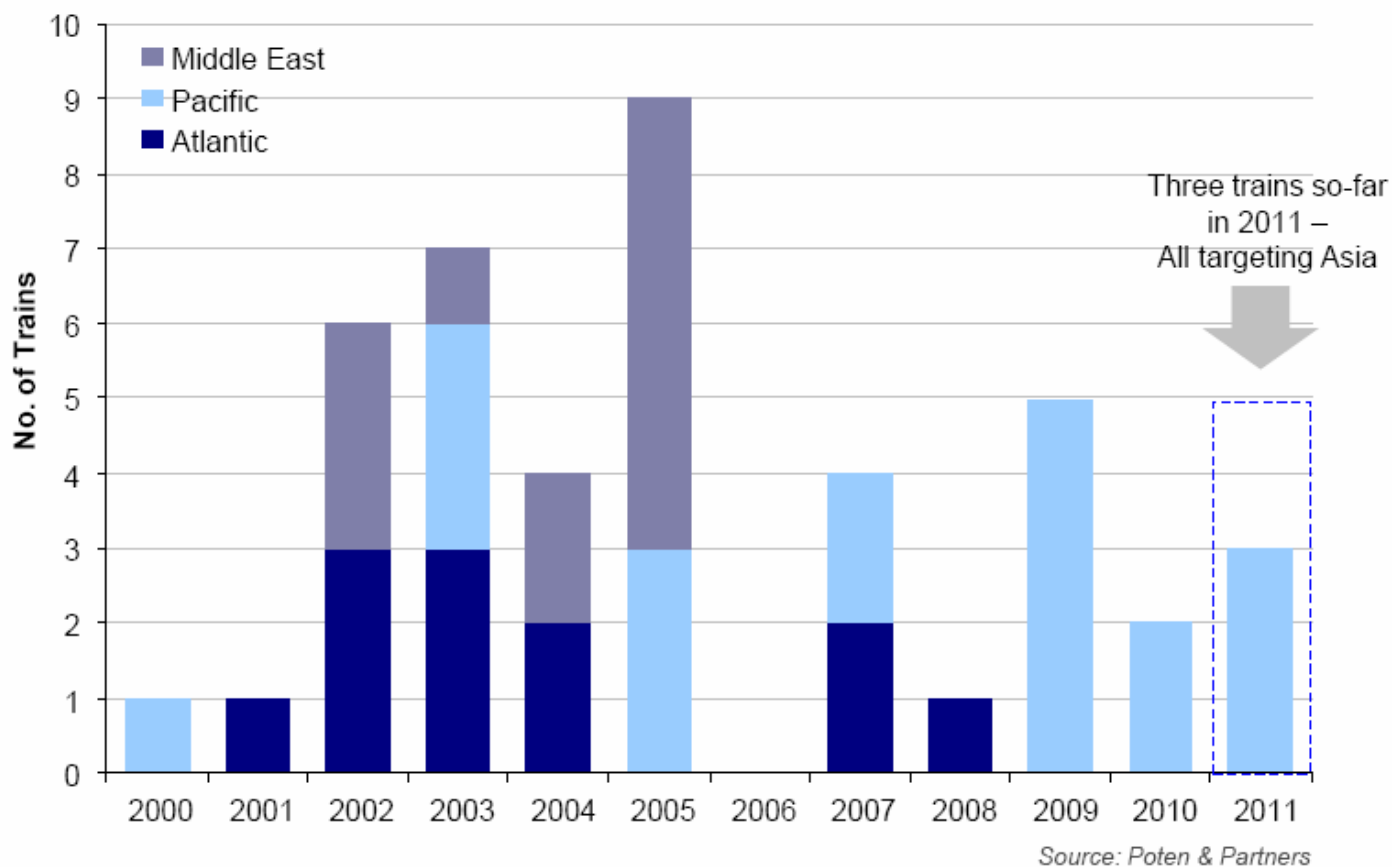
Asian LNG prices traditionally linked to crude oil



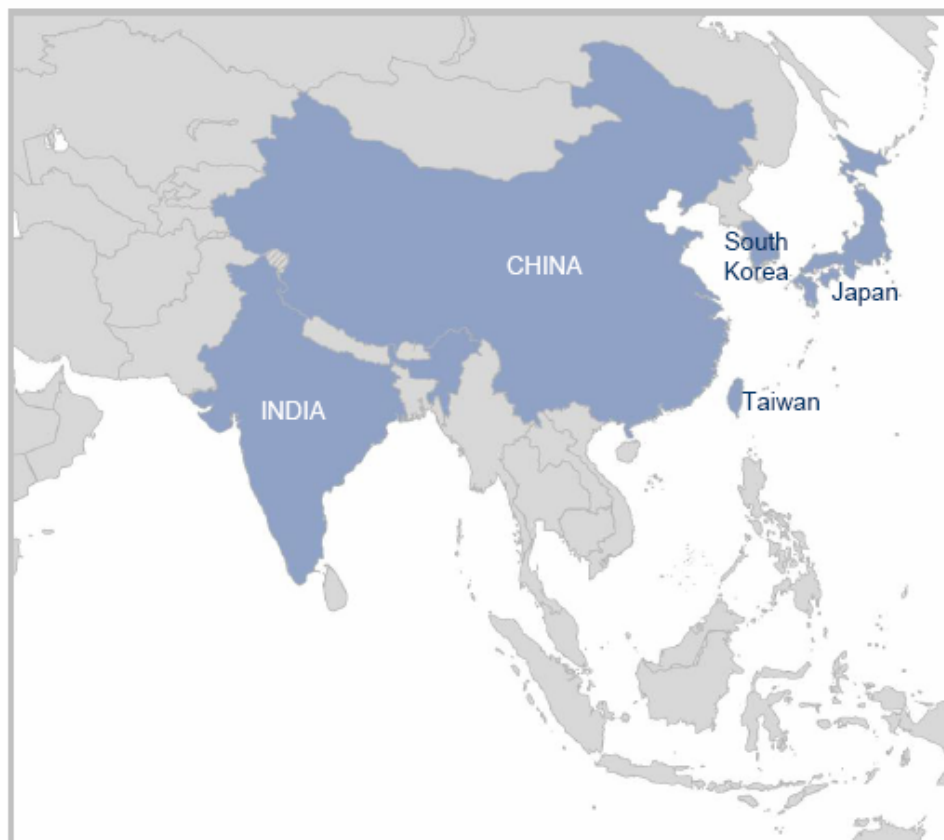
Note: * ICP = Indonesian Crude Price

Source: Poten & Partners

All FIDs taken since 2009 are in Pacific



Limited competitive pressure in the downstream



- Domestic gas prices in most Asian countries are likely to continue to reflect
 - Import prices
 - Transmission
 - Distribution
 - Storage costs
 - Plus a regulated return on the investment made

GDF SUEZ