

26th World Gas Conference

1 – 5 June 2015, Paris, France



HUB BASED PRICING – THE NEW NORM FOR GLOBAL GAS MARKETS?

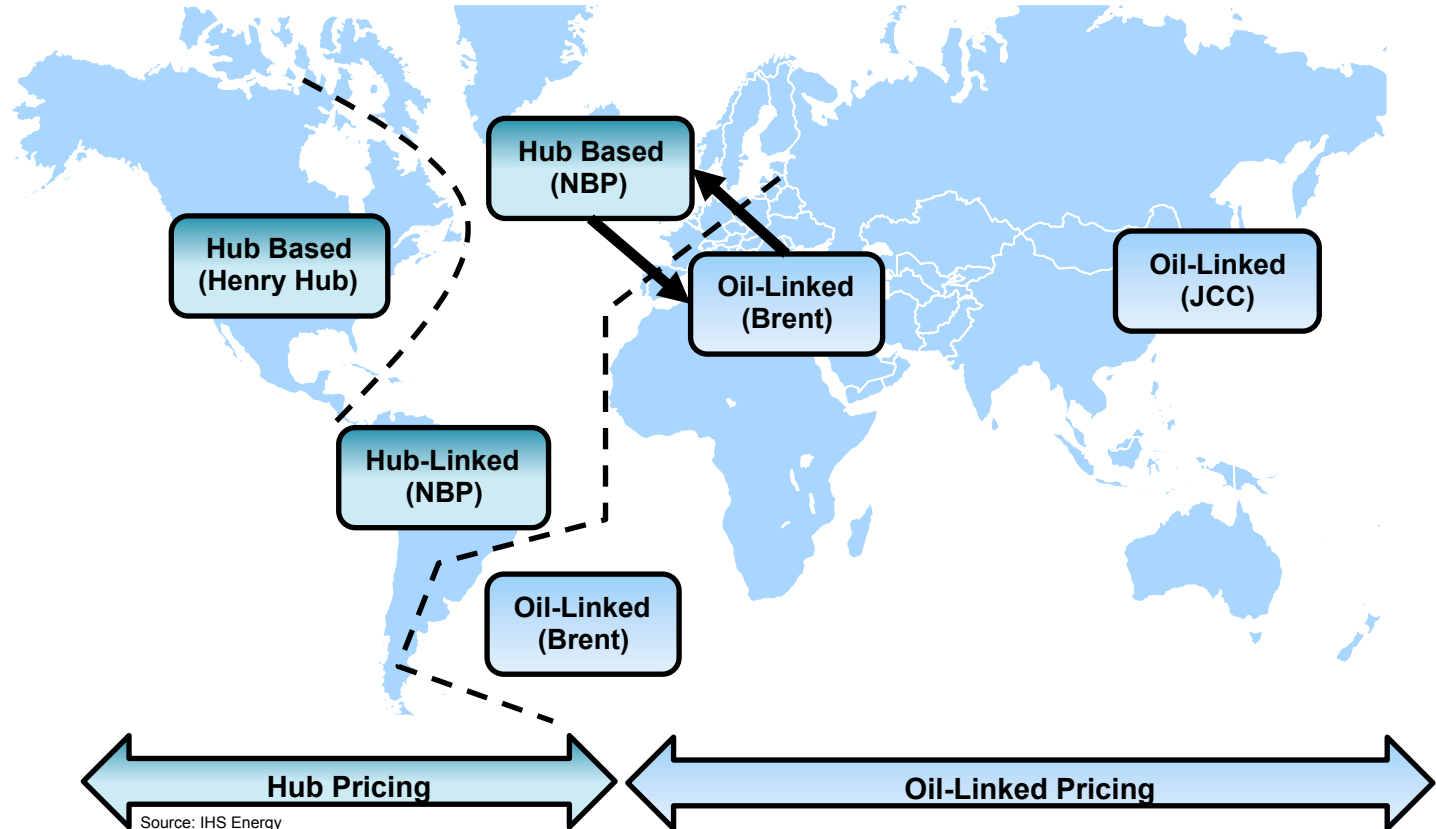
Chris Holmes and Gauri Jauhar
IHS Global Ltd.



Hub based gas pricing has yet to go truly global

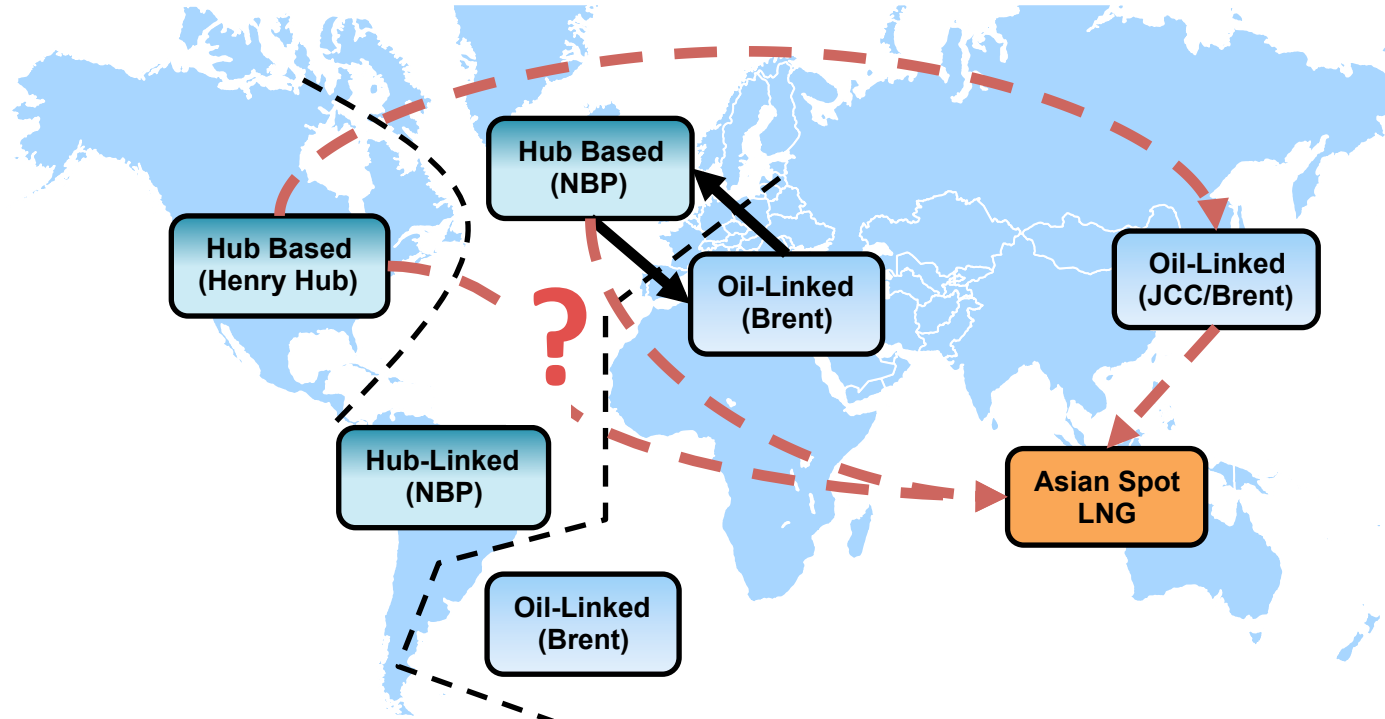
- Physical and virtual hub-based gas pricing is well established in the Atlantic Basin
- Increased cost of oil-indexed gas and LNG have been a challenge for Asian buyers in recent years
 - Current account impact for established LNG importers
 - Increased potential subsidy burden and/or loss of competitiveness against coal for new LNG importers
- Asian buyers have been looking at alternatives to oil-indexed gas prices – but can one exist?

Historical regional gas pricing mechanisms



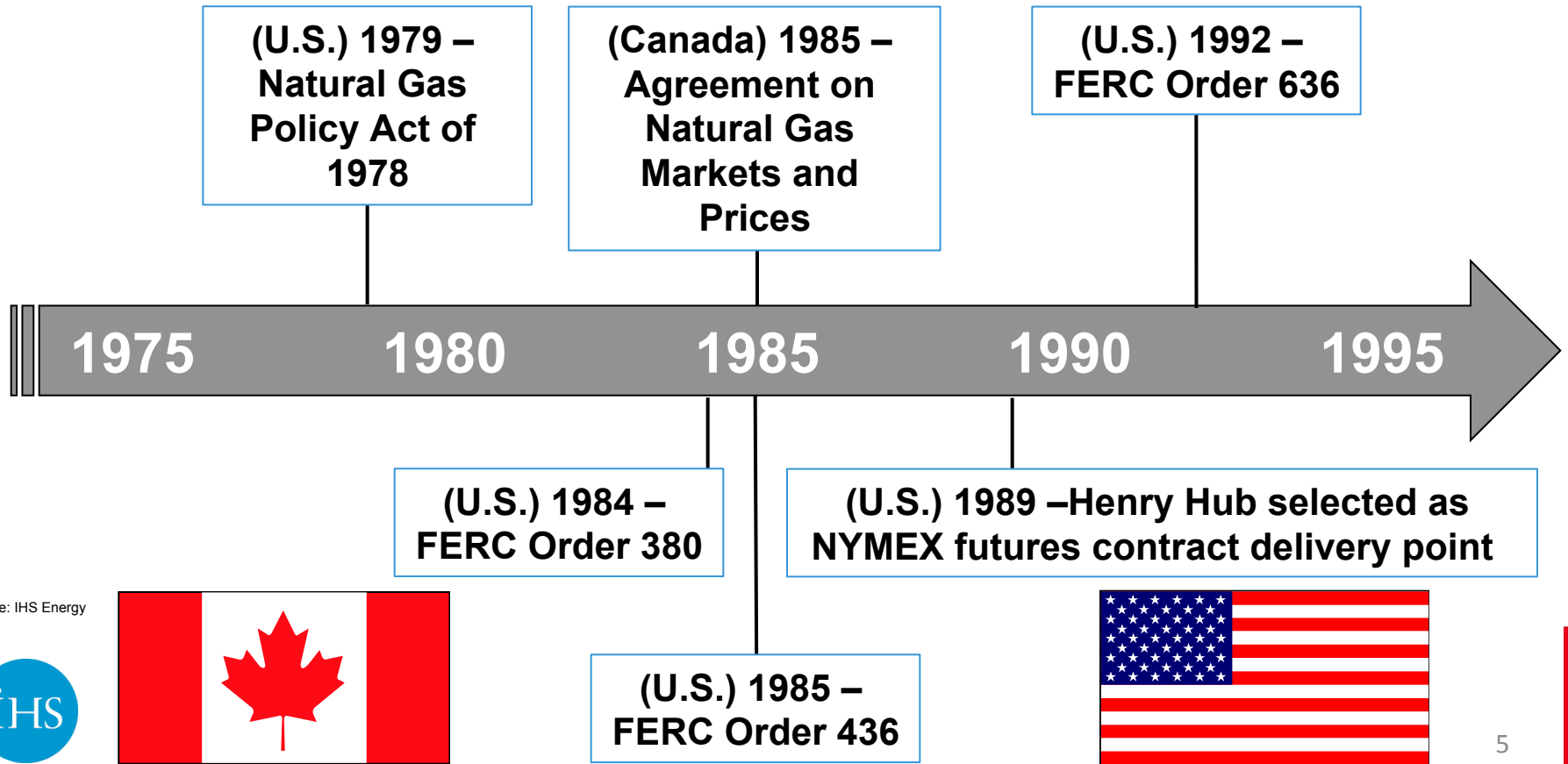
Source: IHS Energy

Evolving regional pricing mechanisms



Source: IHS Energy

North American gas hub development enablers

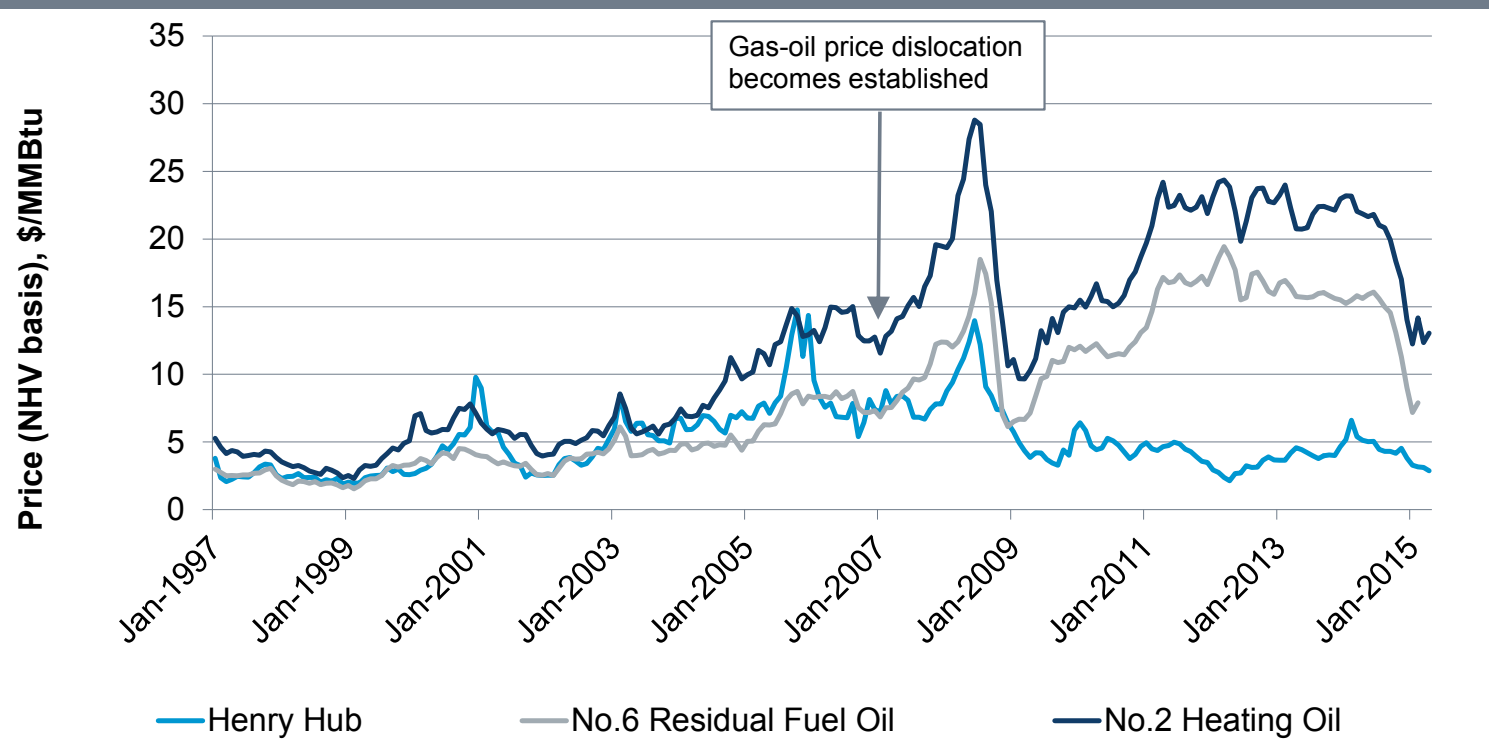


Source: IHS Energy



Changing fundamentals => changing price dynamics

Henry Hub, No.2 Heating Oil and No.6 Residual Fuel Oil prices



Source: IHS, EIA

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European gas hub development enablers

(U.K.) Gas Act
1986



(U.K.) 1993 – 2nd
MMC Enquiry

(U.K.) 1997 – 3rd
MMC Enquiry

(U.K.) 1987 – 1st
MMC Enquiry

(U.K.) Gas Act
1995

(E.U.) 2007 – 6th
Benchmarking
Report & 3rd Gas
Directive initiative

1985

1990

1995

2000

2005

(E.U.) 1991 –
Transit Directive

(E.U.) 1998 – 1st Gas
Directive

(E.U.) 2000
– Lisbon
Council

(E.U.) 2004/2005
– 3rd, 4th & 5th
Benchmarking
Reports

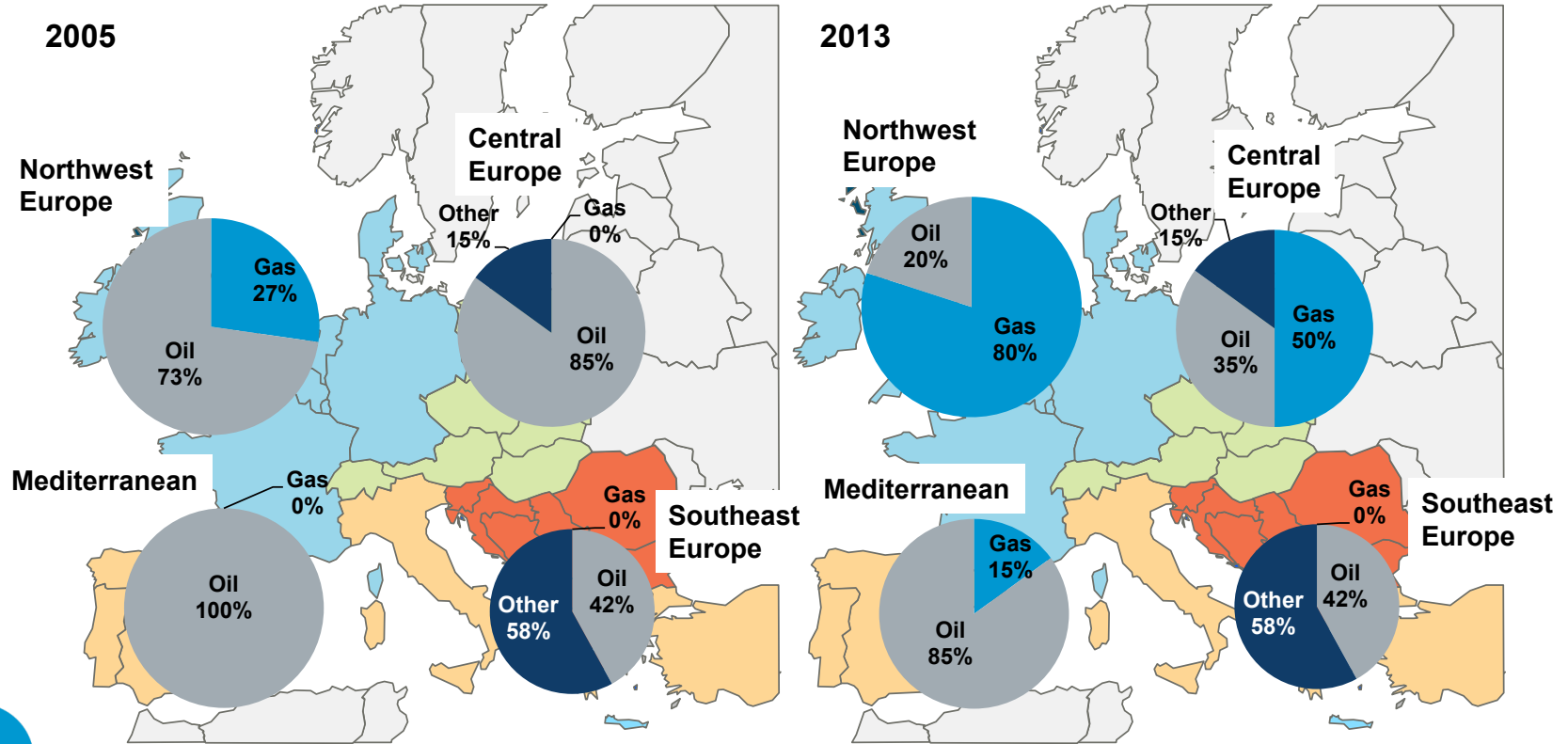
(E.U.) 2003 – Barcelona
Council & 2nd Gas Directive



Source: IHS Energy

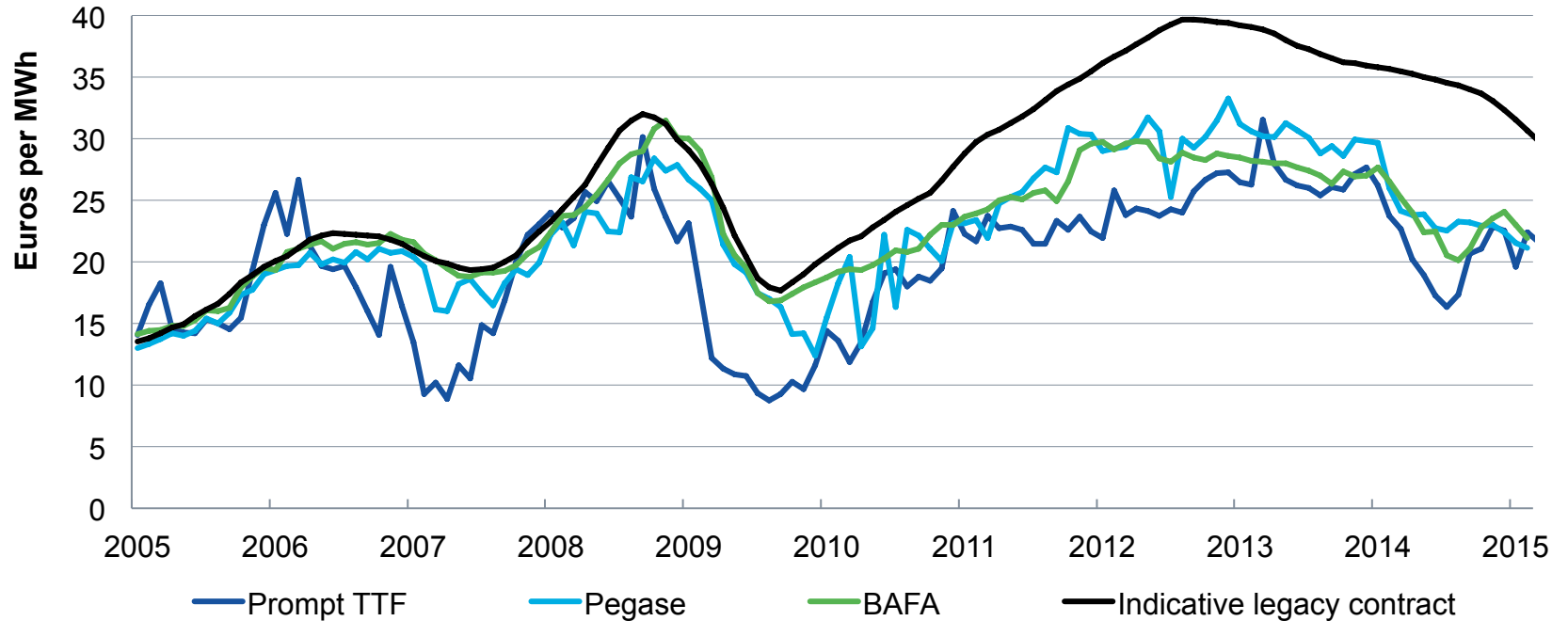


A significant change in European gas pricing since 2005



A move to hub indexation has lowered European prices

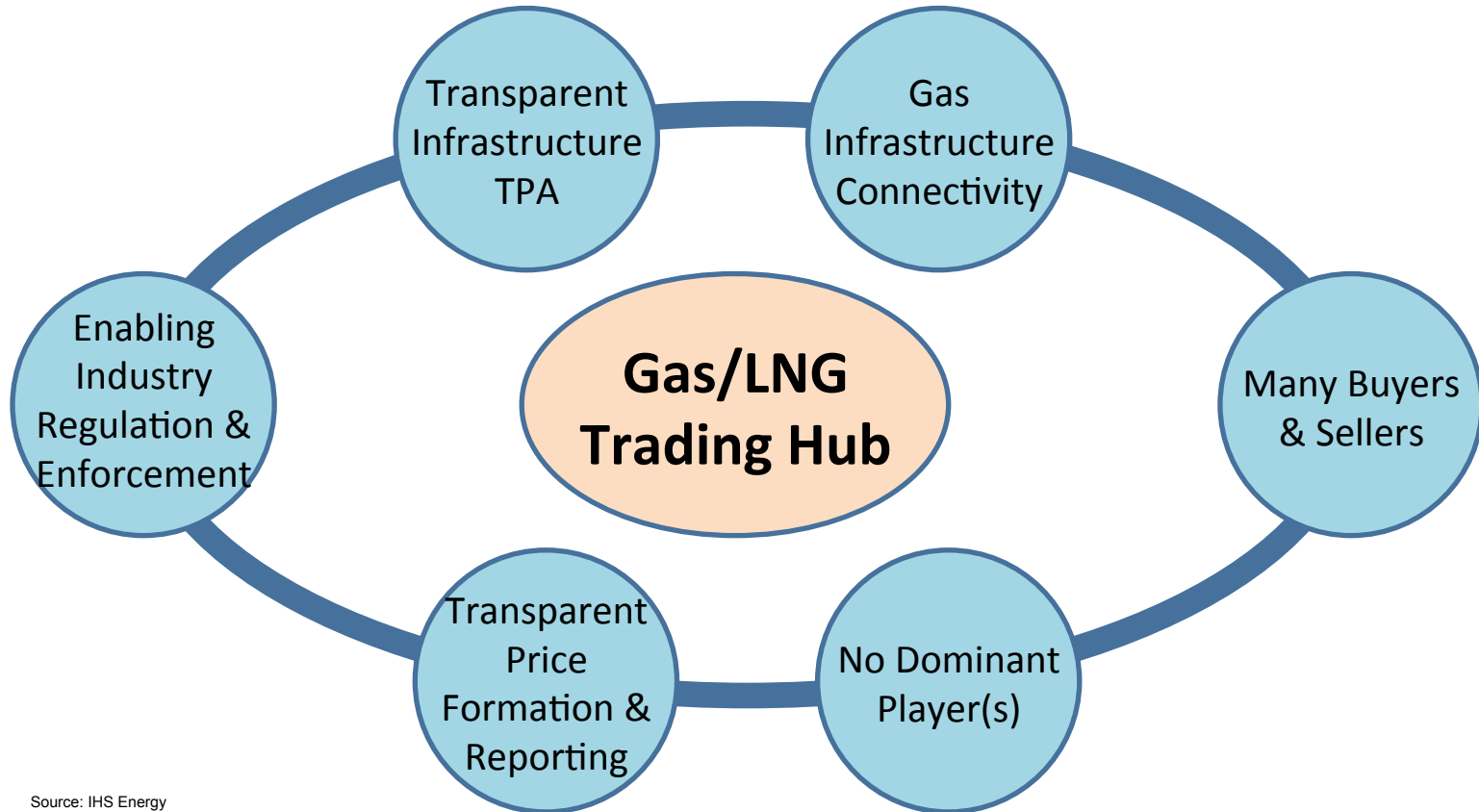
European Custom Prices for Natural Gas



Source: IHS Energy

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Critical success factors for gas hub development



Asian gas hub development – current status

	Japan	China	SE Asia
Number of Potential Buyers & Sellers	Neutral	Neutral	Neutral
Existence of One or More Dominant Player(s)	Neutral	Constraining	Constraining
Physical Gas Supply Infrastructure Connectivity	Constraining	Improving	Enabling
Transparent TPA to Gas Supply Infrastructure	Constraining	Improving?	Constraining
Enabling Gas Industry Regulation & Enforcement	Neutral	Constraining	Constraining
Transparent Price Formation & Reporting	Enabling	Neutral	Enabling
Energy Commodity Trading Environment	Neutral	Neutral	Enabling

Source: IHS Energy



LEGEND

Constraining	Neutral	Enabling
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So can an Asian hub evolve? Yes, but . . .

- Supply availability needs to increase to provide the desired liquidity
 - Removal of LNG supply destination restrictions and relaxation of take-or-pay obligations?
- The number of market participants needs to expand beyond the established incumbents
- Commercial agreement standardisation is required for access to LNG terminal capacity and transaction facilitation

Could an Asian hub become a price reference point?

- In the near /medium term – unlikely
 - Liquidity and churn rates are expected to be insufficient to become a true indicator of market fundamentals
- In the longer term – possibly ... but will require considerable regional cooperation to create harmonised regulations
 - Atlantic Basin gas hubs took 20 years to develop and led to lower prices . . . but for different reasons
 - Physical pipeline gas/LNG supply integration necessary to facilitate development of a truly liquid hub