



#### **Global Gas Price Convergence**

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#WGC2018 FUELING THE FUTURE



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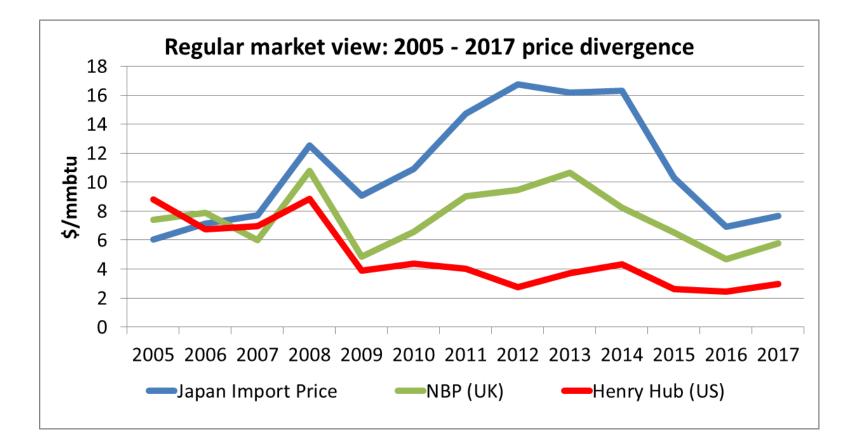
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# Conventional view on global gas prices – divergence?





# **Economic Pricing Theory**

#### Law of one price:

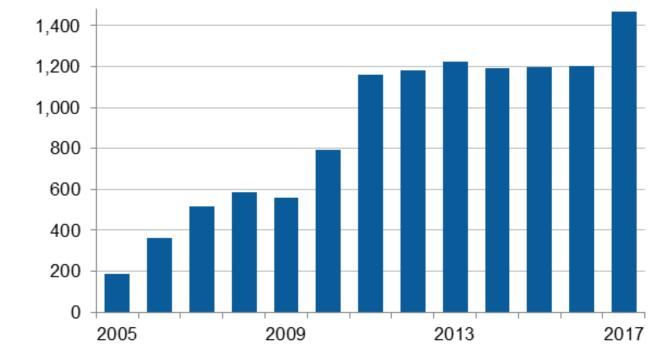
#### improved markets

# more arbitrage

#### price convergence



## Improved gas markets – Increased LNG trade

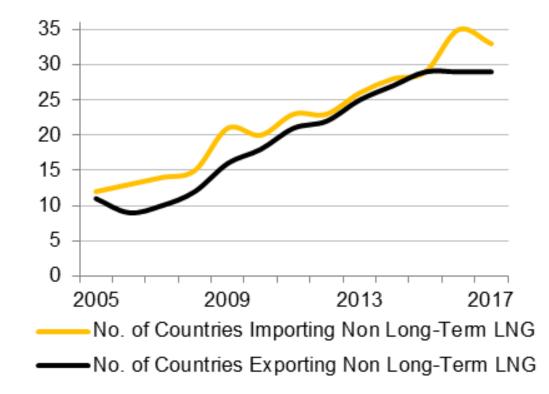


No. of LNG Cargoes Traded (contract duration < 5 years)

#WGC2018 FUELING THE FUTURE No. of Cargoes

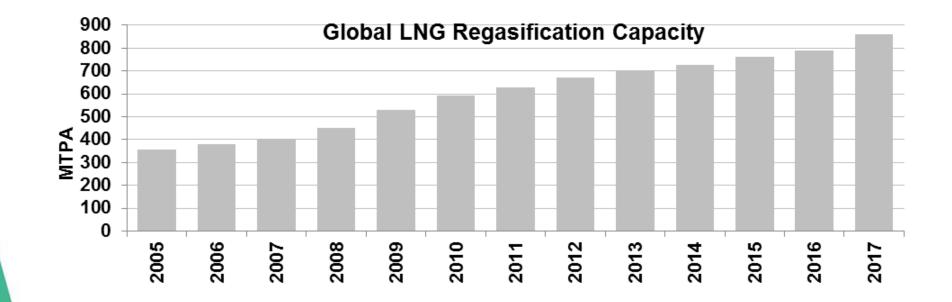


### Improved gas markets – Increased number of LNG players



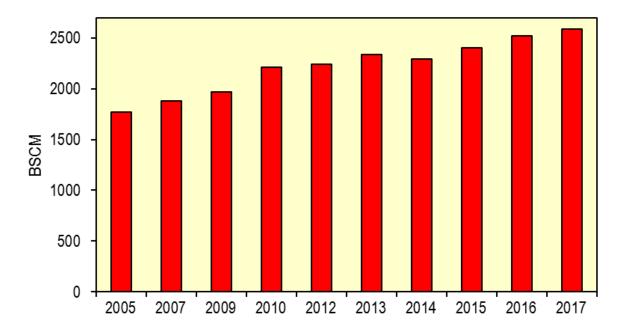


## Improved gas markets – Increased global regas capacity





# Improved gas markets – Increased market related pricing



Global volumes of market related gas pricing



#### Research

Conventional market view based on leading regional price benchmarks: price divergence

Expectation based on improved markets: price convergence

Can the IGU Wholesale Gas Price Survey shed more light on this (apparent) contradiction?

#### IGU Wholesale Gas Price Survey:

- Dataset of 100+ annual prices of countries
- subsets based on import level, pricing mechanism, IGU region



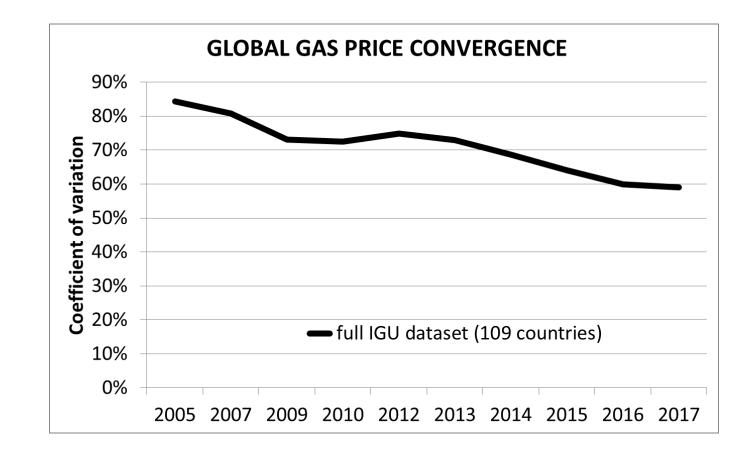
## Measuring price convergence

Coefficient of variation:

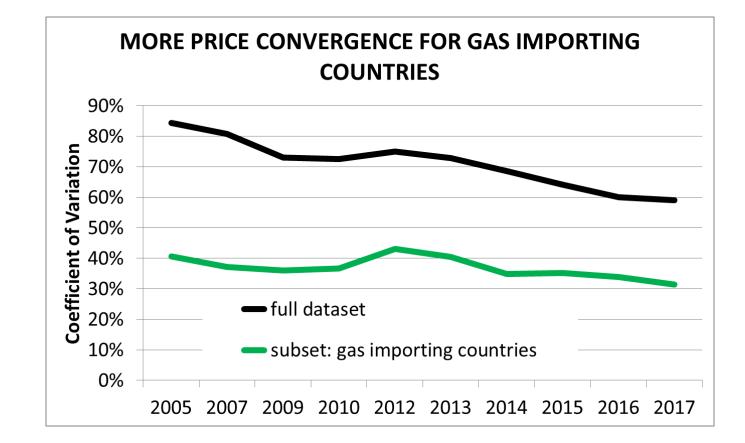
- Standard deviation / mean price
- Limited number of data points (10 years) for a large number of price lines (109 countries)
- Countries are allocated to different subsets with different average gas prices



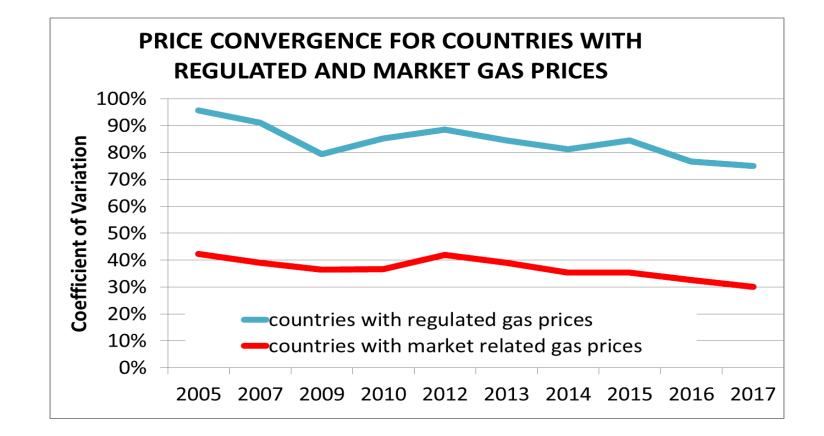
## Results



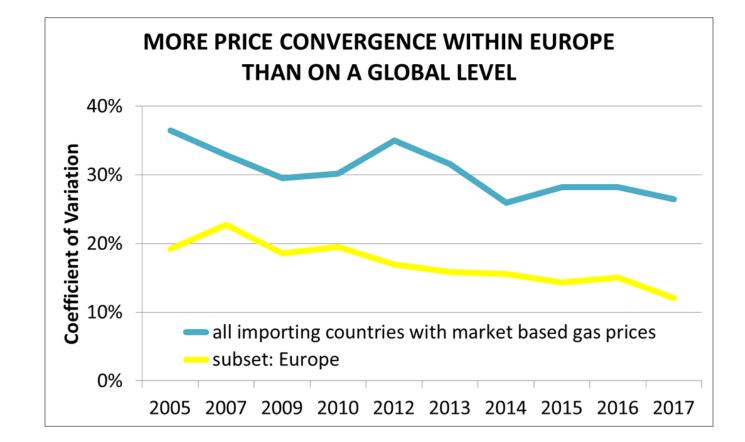




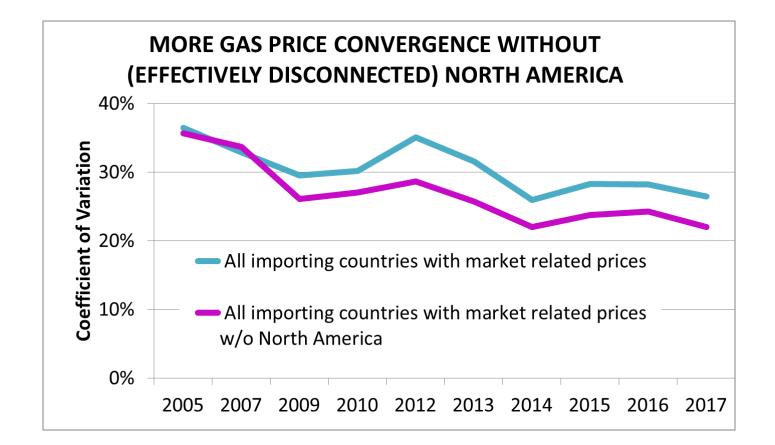














# Key Messages

- Global gas prices have been converging since 2005
  - Based on IGU dataset including 100+ countries
  - Measured by Coefficient of Variation
- Improving global gas market
- There is more price convergence for countries:
  - Importing gas
  - With market related prices (especially oil related)
  - Within Europe
  - Outside North America
- On a global level regulated prices are getting more aligned with market related prices