



# The LNG economy – environmental panacea or tariff disaster?

**Tom Parkinson**

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**THE LANTAU GROUP**  
strategy & economic consulting

# Agenda

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SE Asia supply/demand

LNG regasification prospects

Impact on average gas prices

Impact on marginal gas prices

Conclusions

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## **SE Asia gas supply/demand**

LNG regasification prospects

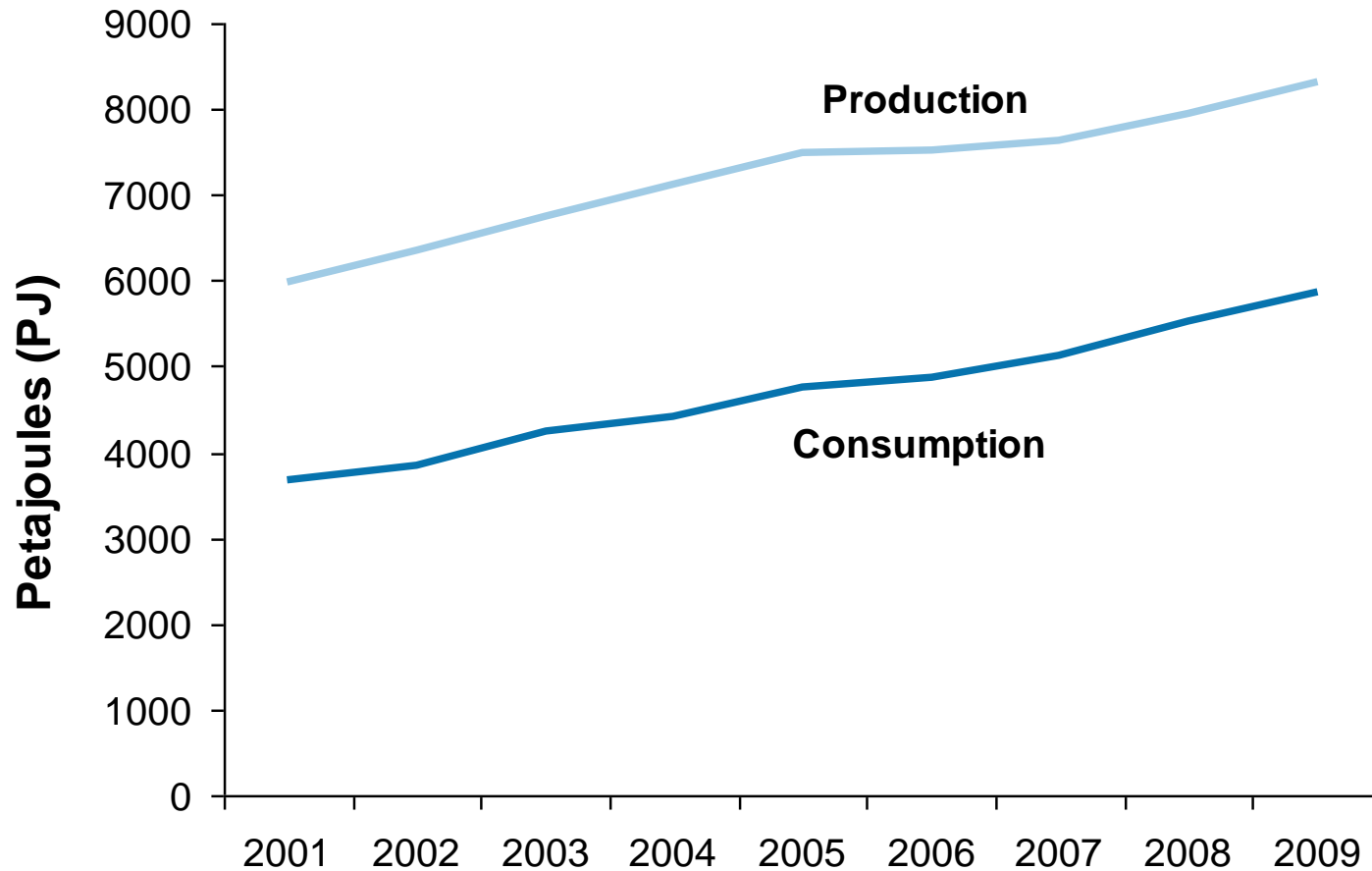
Impact on average gas prices

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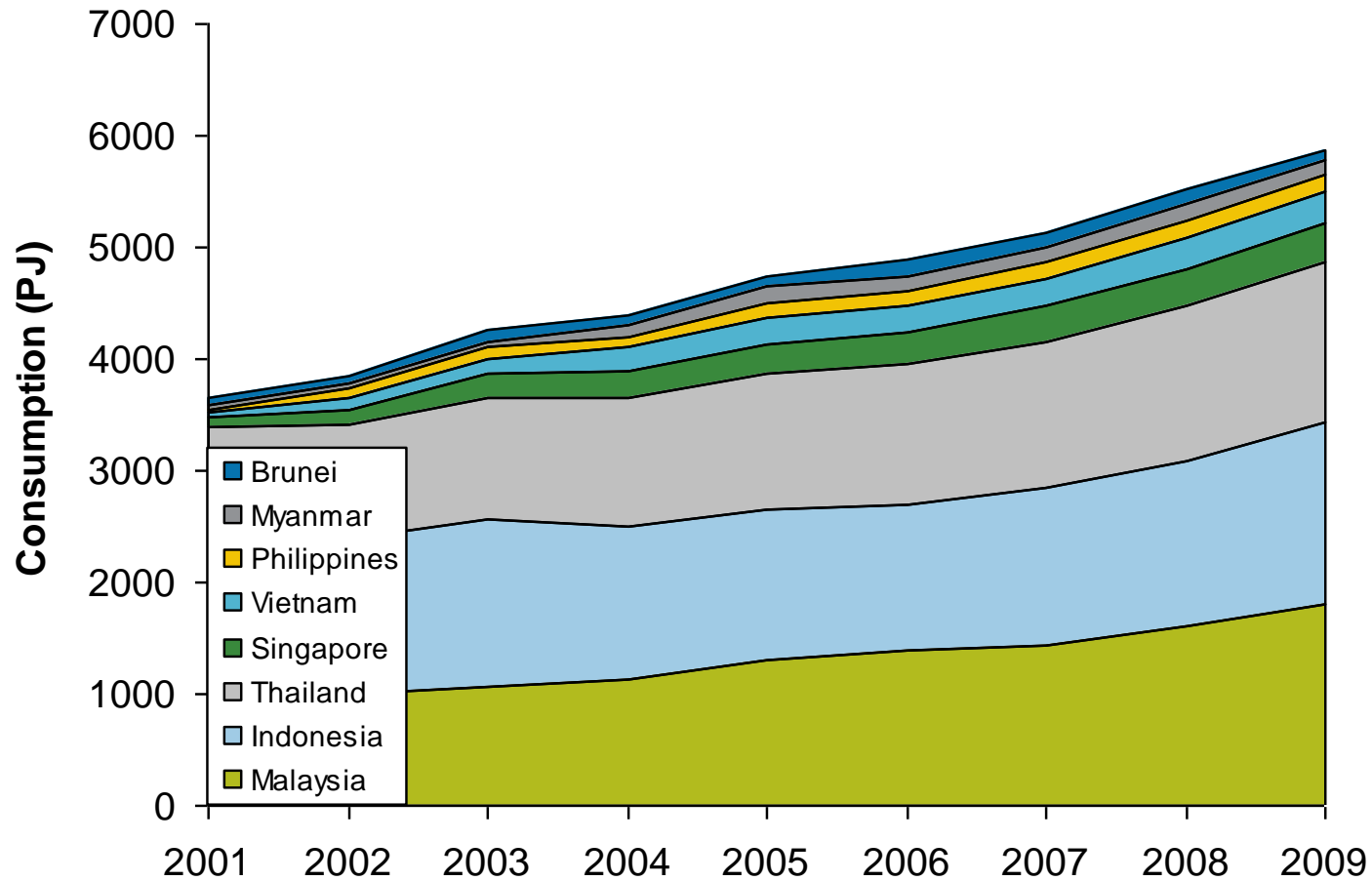
## Gas production in SE Asia *appears* to be keeping pace with consumption

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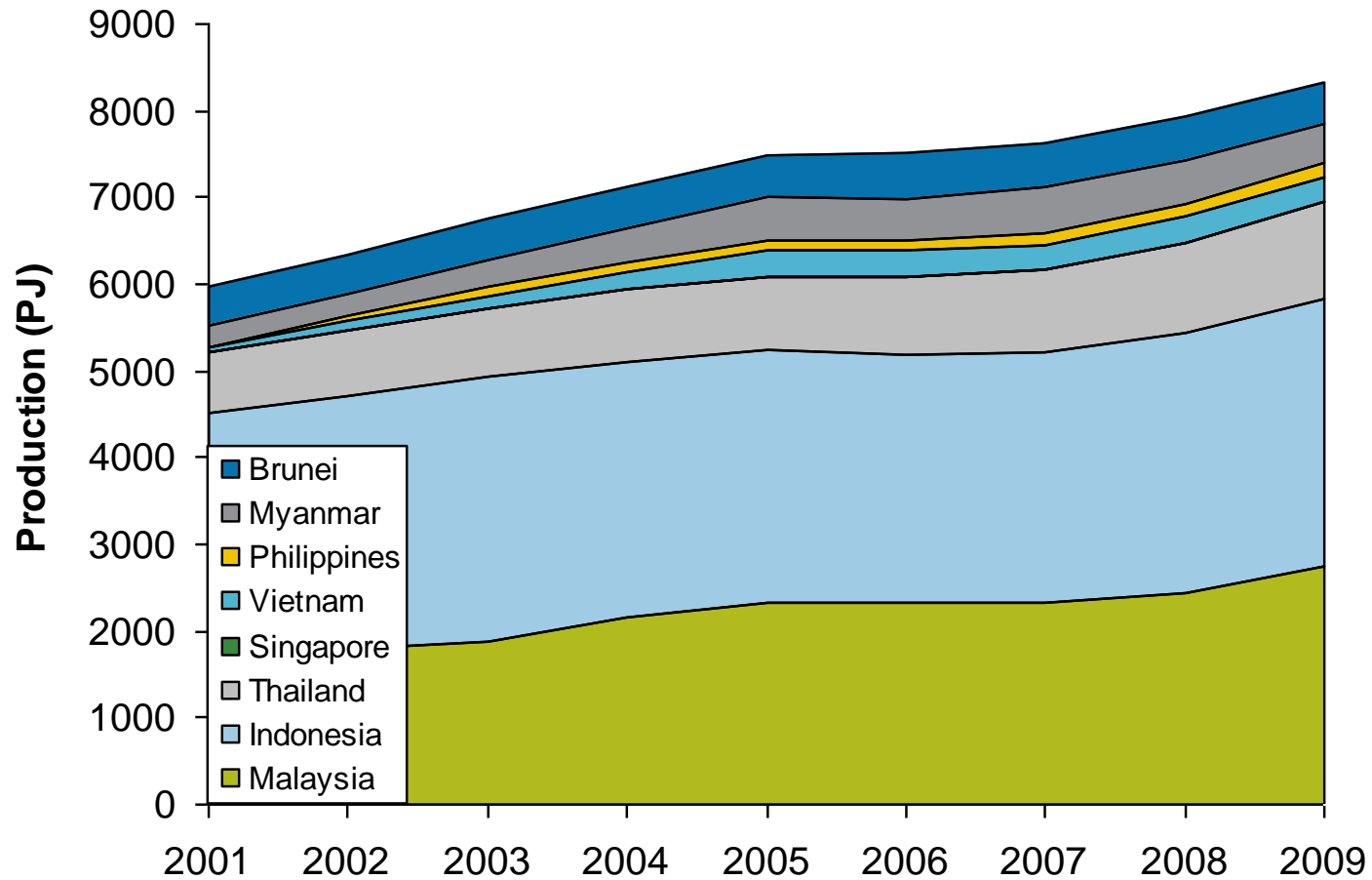
Source: OECD, World Natural Gas Statistics

## Malaysia, Indonesia, and Thailand are the major regional consumers



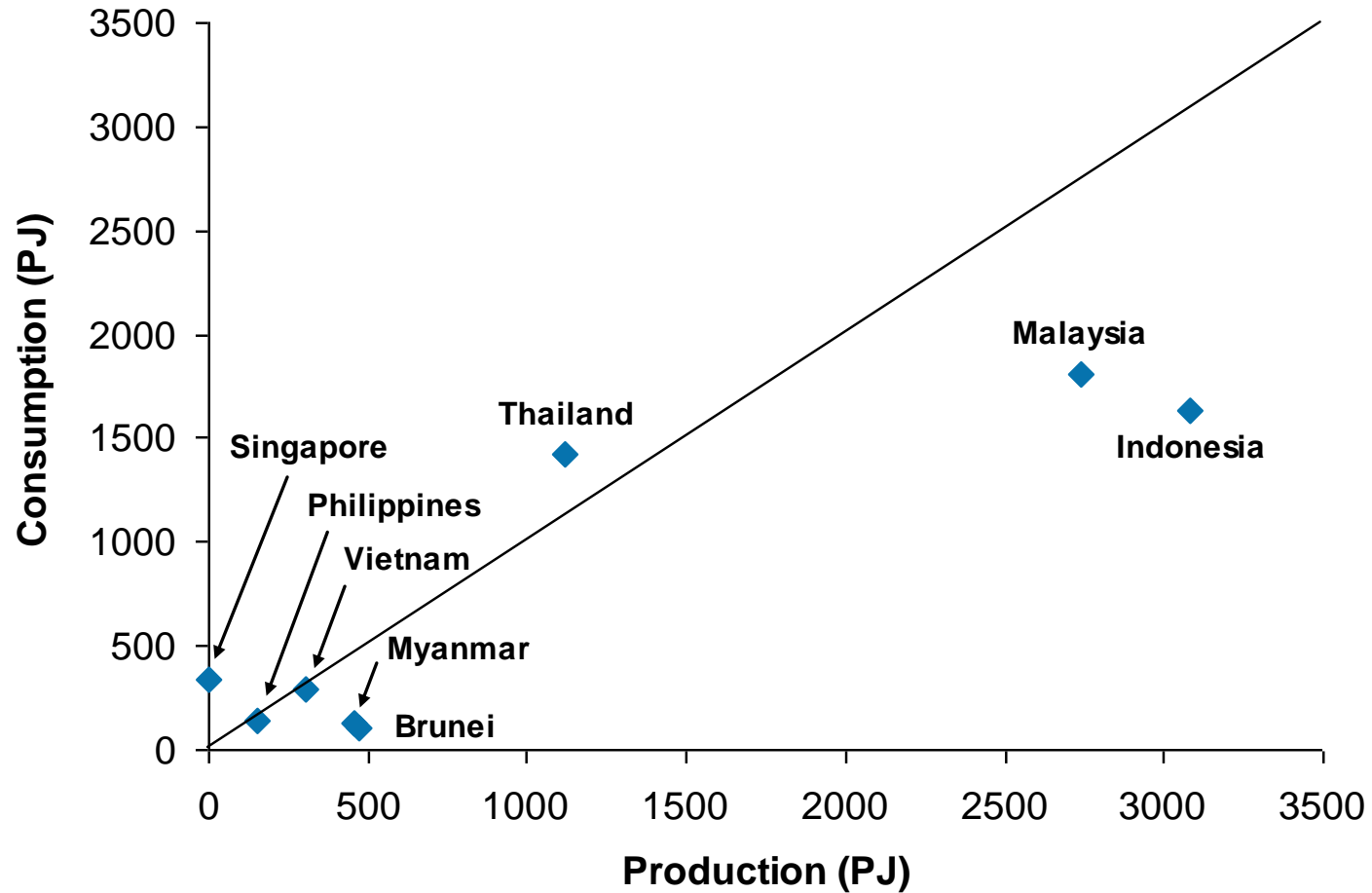
Source: OECD, World Natural Gas Statistics

These three countries are also the largest regional producers



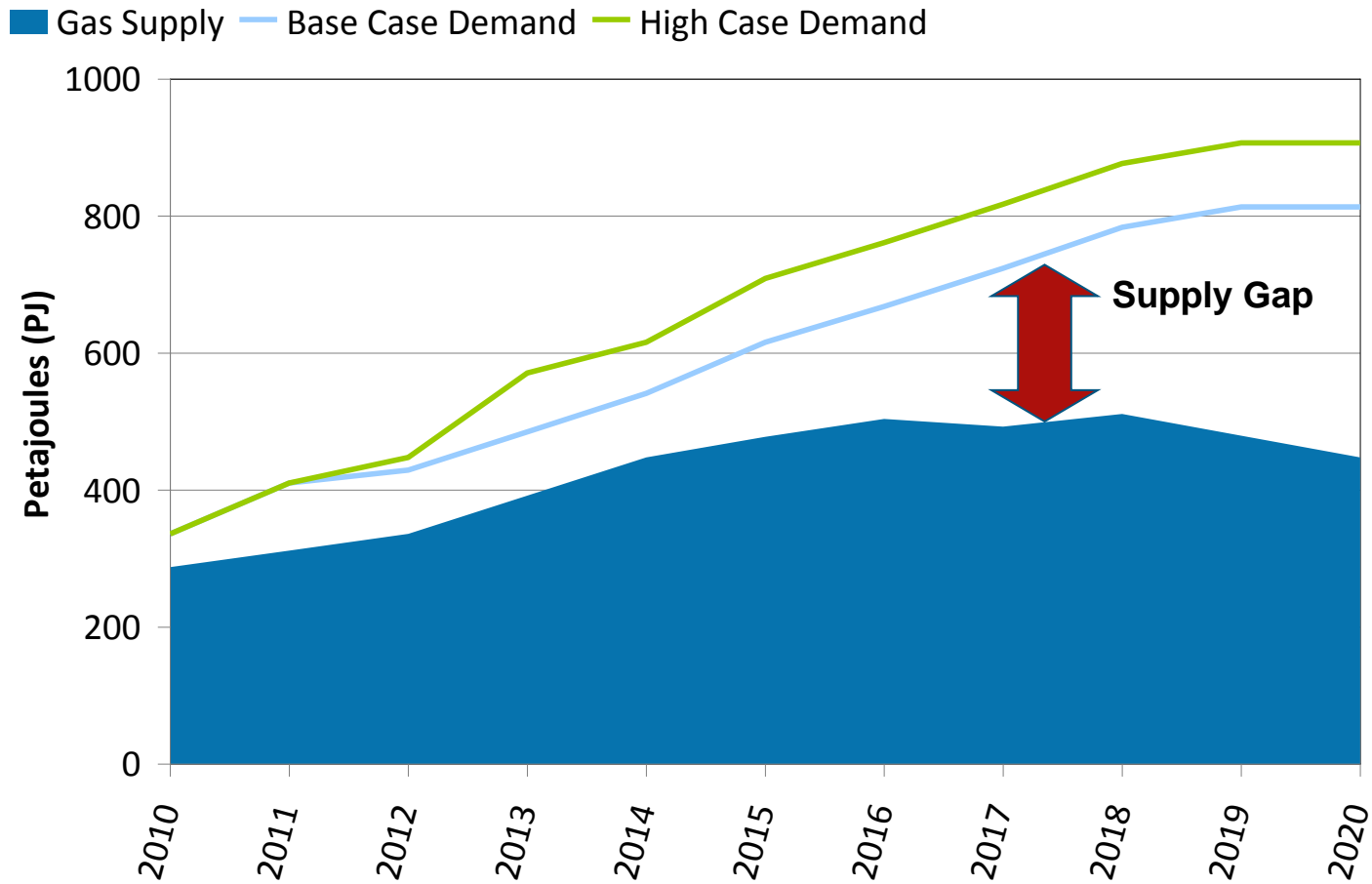
Source: OECD, World Natural Gas Statistics

## Thailand and Singapore are already net consumers



Source: OECD, World Natural Gas Statistics

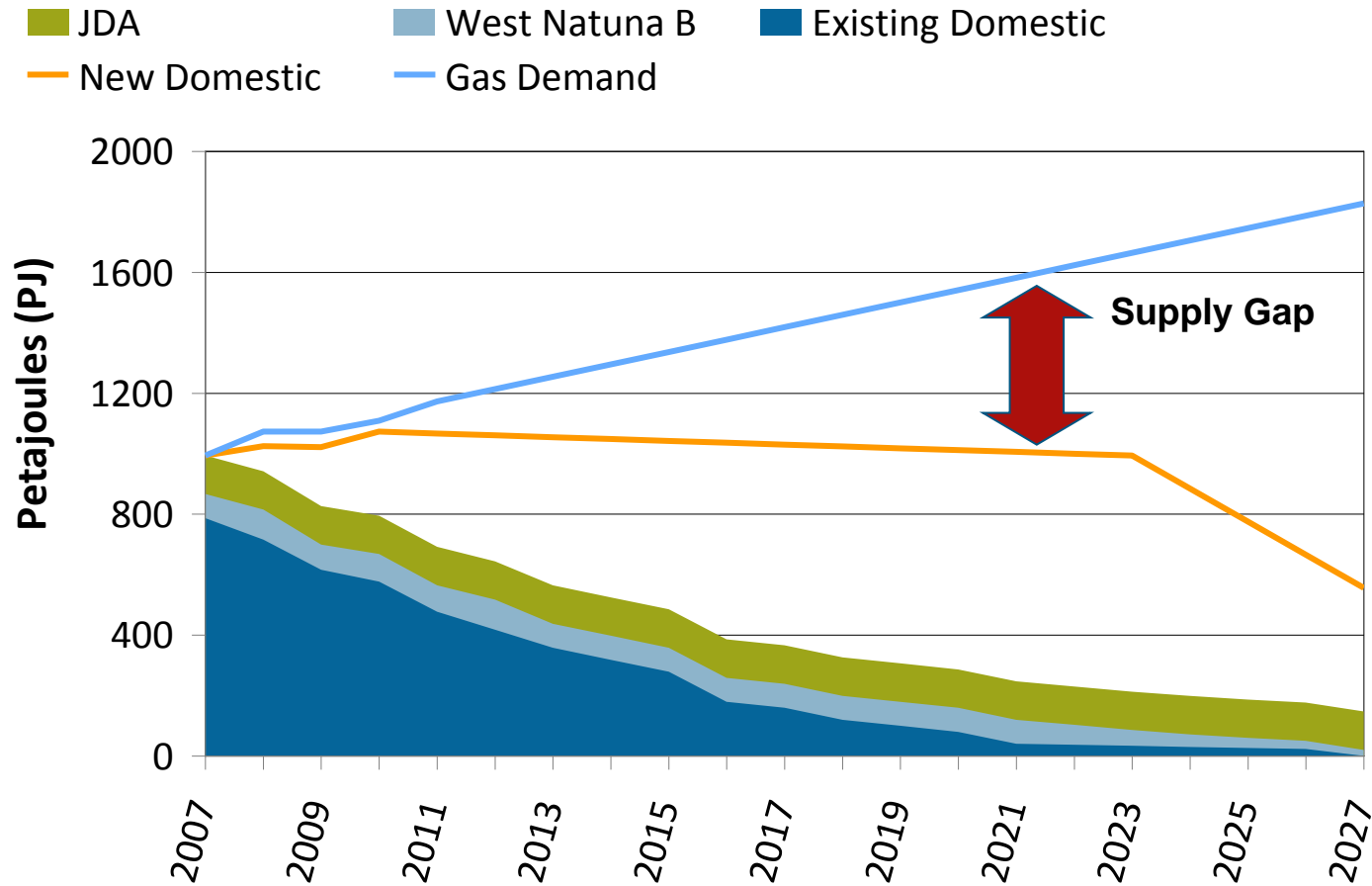
# PetroVietnam Gas Corporation projects a growing supply gap



Source: PetroVietnam, *Vietnam Gas Industry & LNG Report*, November 2010

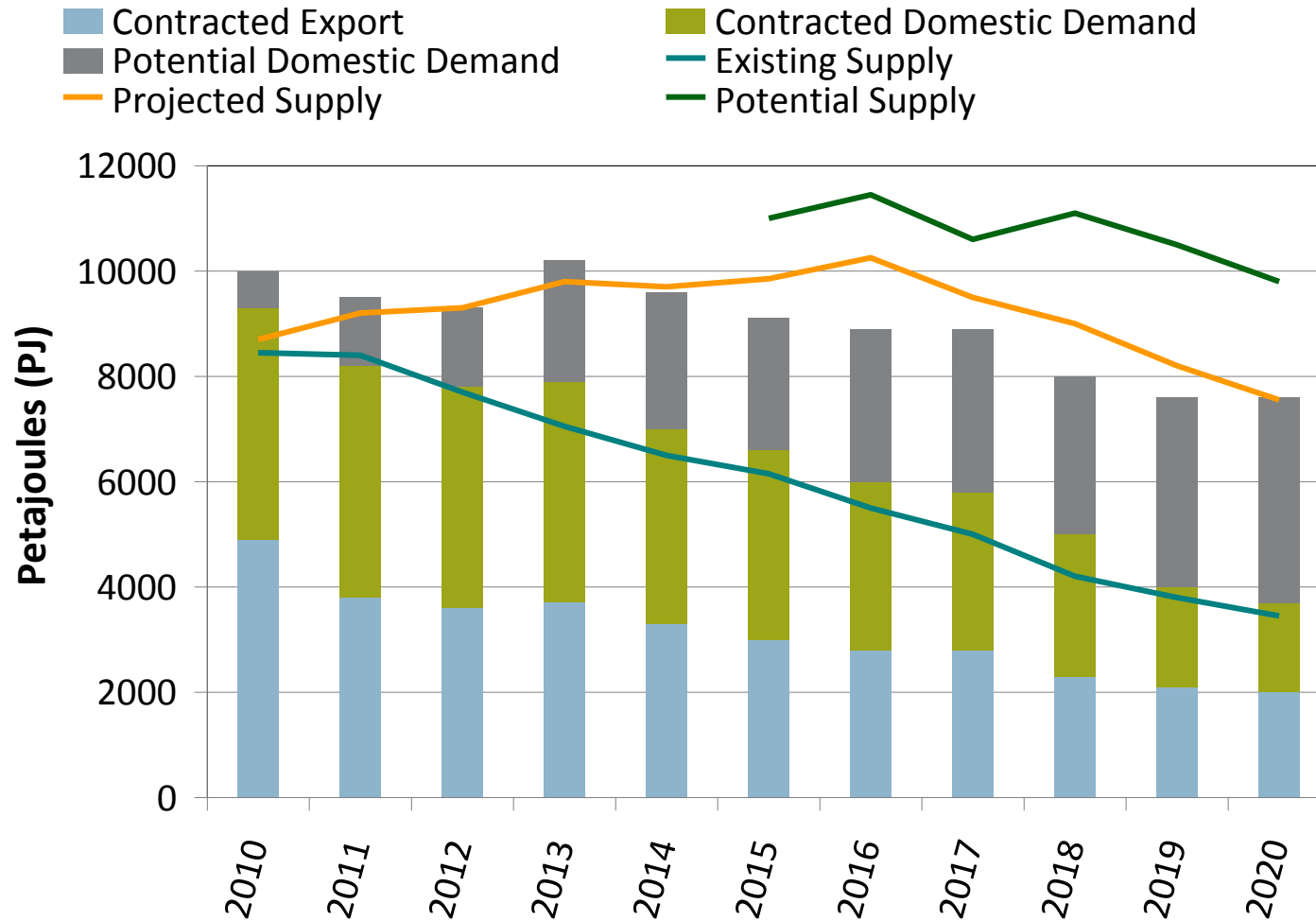


## Similarly, Peninsular Malaysia faces a supply gap



Source: Tenaga National Berhad, *Gas Requirement for Power Sector in Peninsular Malaysia*, 2008

# Even Indonesia will struggle to maintain its current production levels



Source: bpmigas, *Indonesian Crude Oil and Gas Market*, June 2010

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SE Asia gas supply/demand

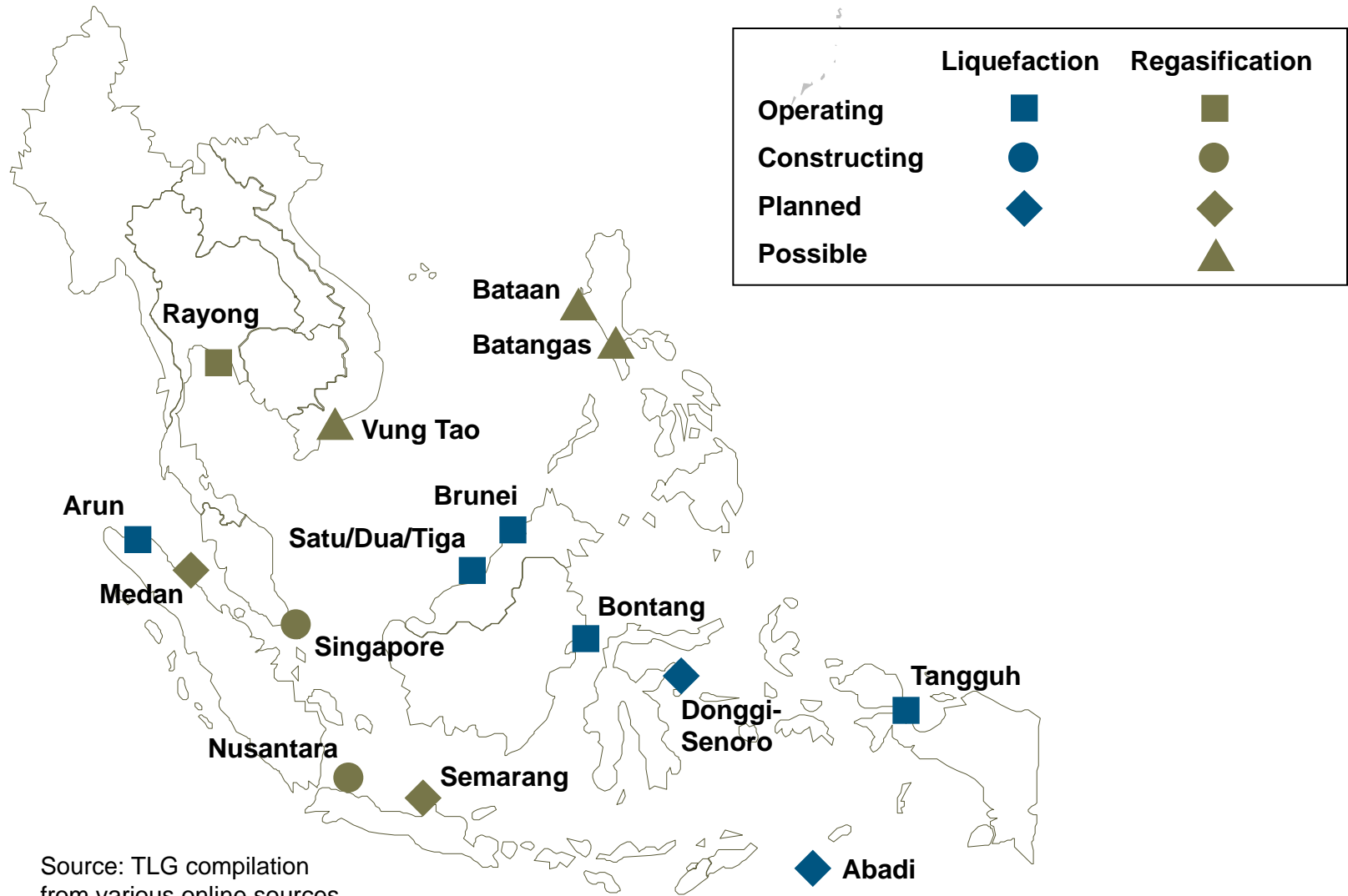
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# LNG regasification is filling the production gap



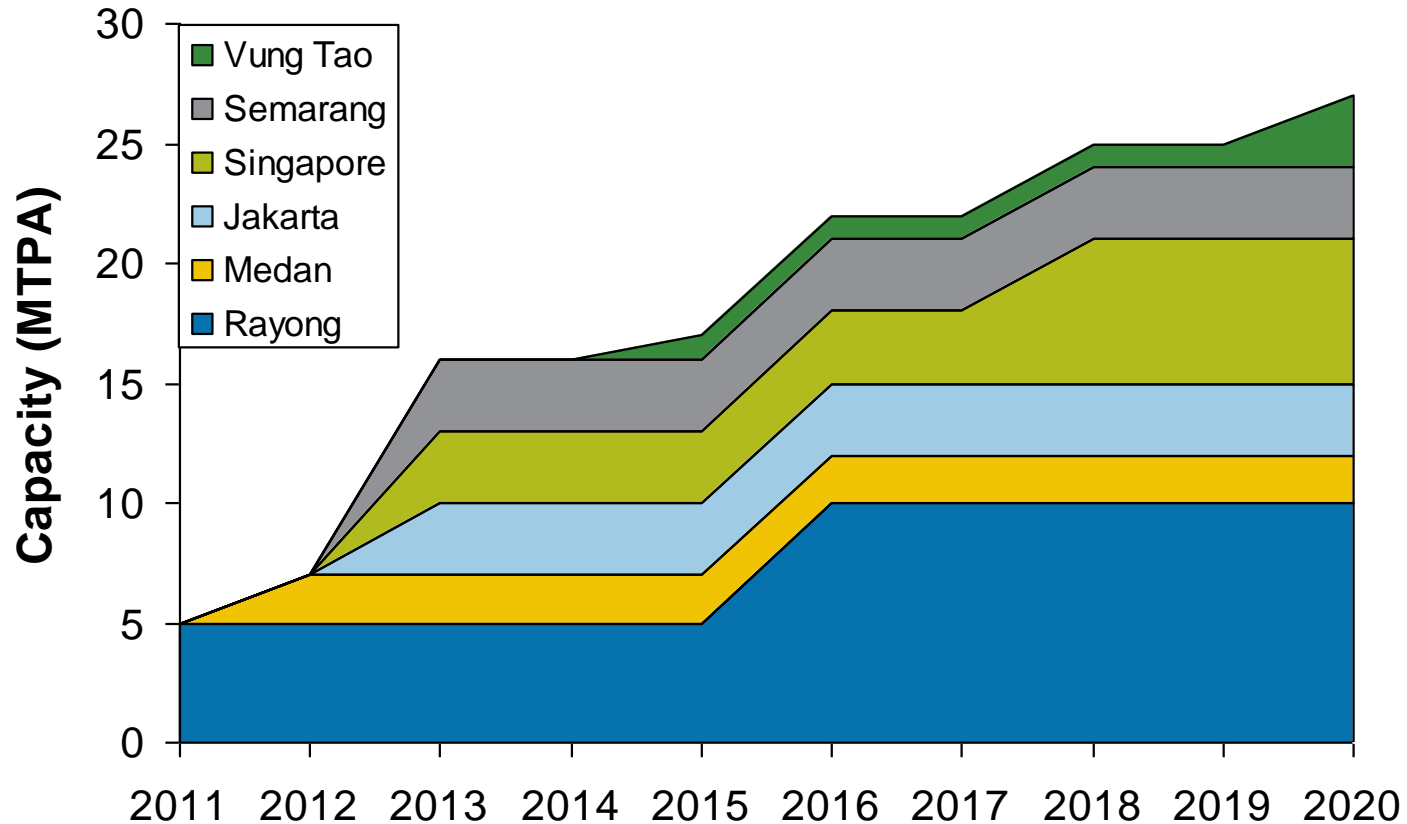
Source: TLG compilation from various online sources

## SE Asia regasification projects

<b>Project</b>	<b>Location</b>	<b>Online Date</b>	<b>Capacity (MTPA)</b>
Map Ta Phut	Rayong, Thailand	2011	5 (to 10)
Nusantara FSRU	Jakarta, Indonesia	2012	3
Singapore	Singapore	2013	3 (to 6)
East-Central Java FSRU	Semarang, Indonesia	2013	3
Medan FSRU	Medan, Indonesia	2012	2
Vietnam	Vung Tao, Vietnam	2015	1 (to 3-6)
Bataan	Bataan, Philippines	?	?
Batangas	Batangas, Philippines	?	?

Source: TLG compilation from various online sources

## Regional regasification capacity could exceed 25 MTPA by 2020



Source: TLG compilation from various online sources

**This regas capacity is roughly equivalent to Thailand's current consumption**

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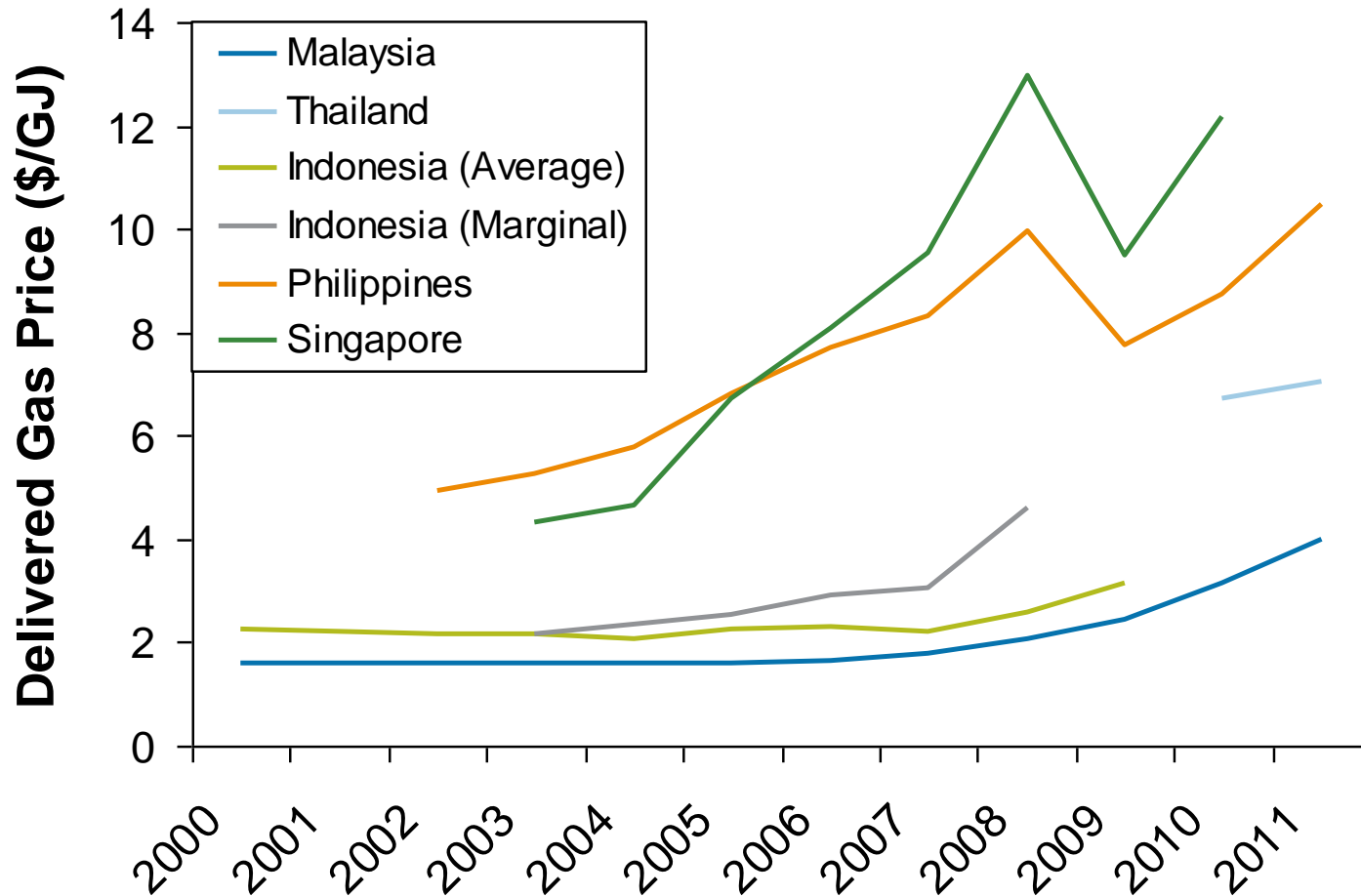
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## “Legacy” gas prices are increasing throughout the region

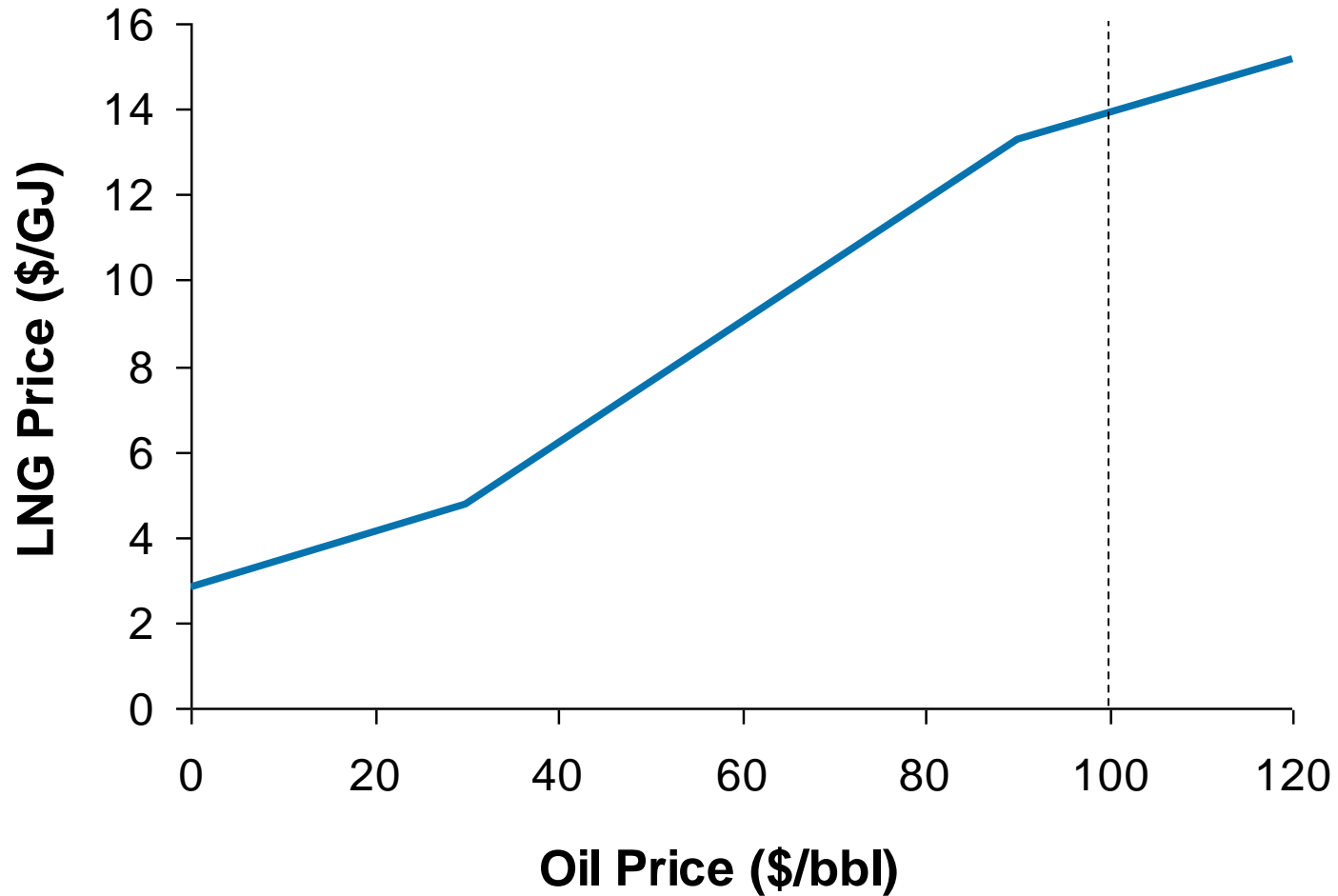


Source: TLG compilation from various online sources and associated analysis



In SE Asia, LNG prices are pegged to oil prices via an “S-curve”

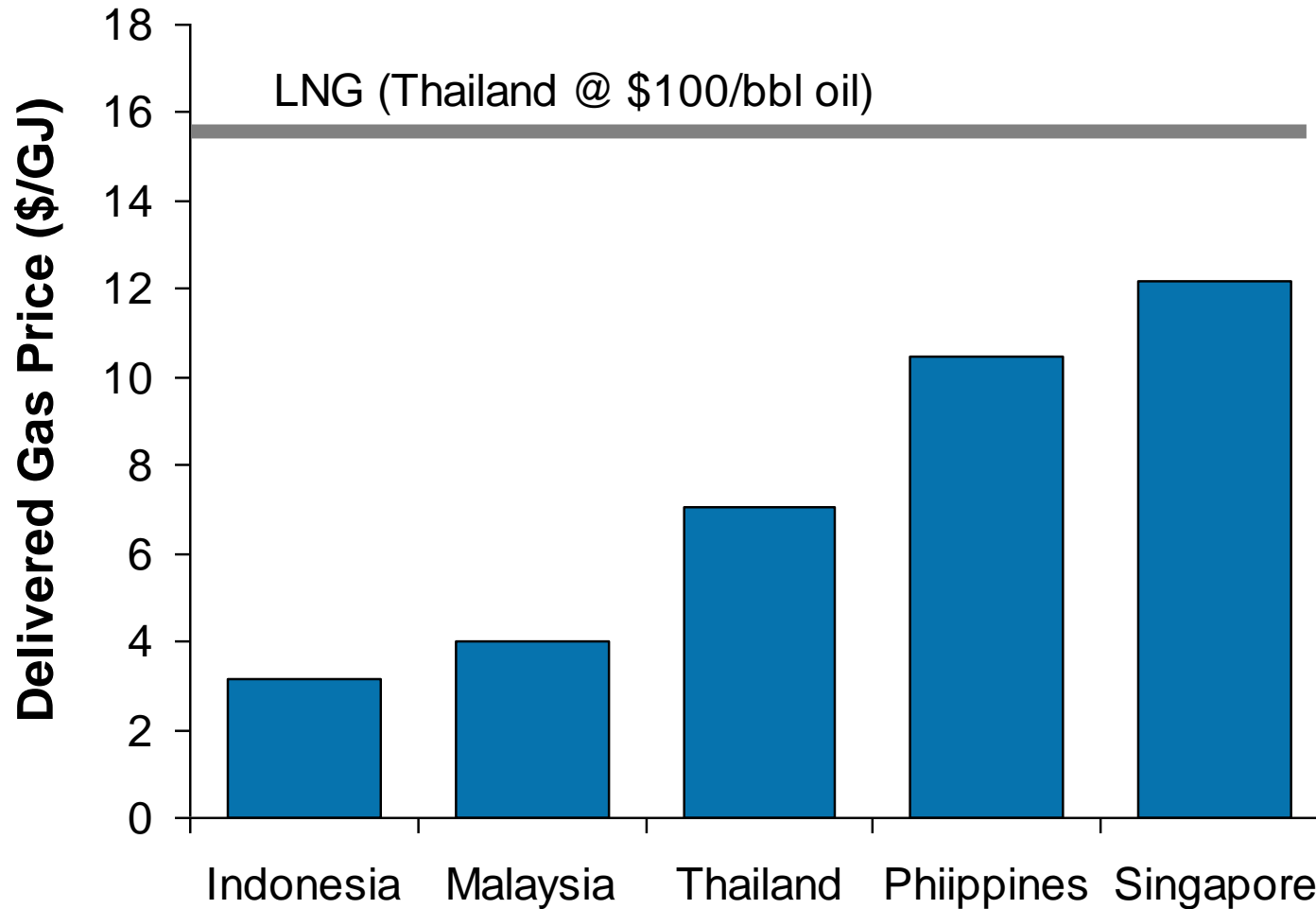
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Source: Andy Flower, *Key Trends in LNG Markets in Asia*, May 2011

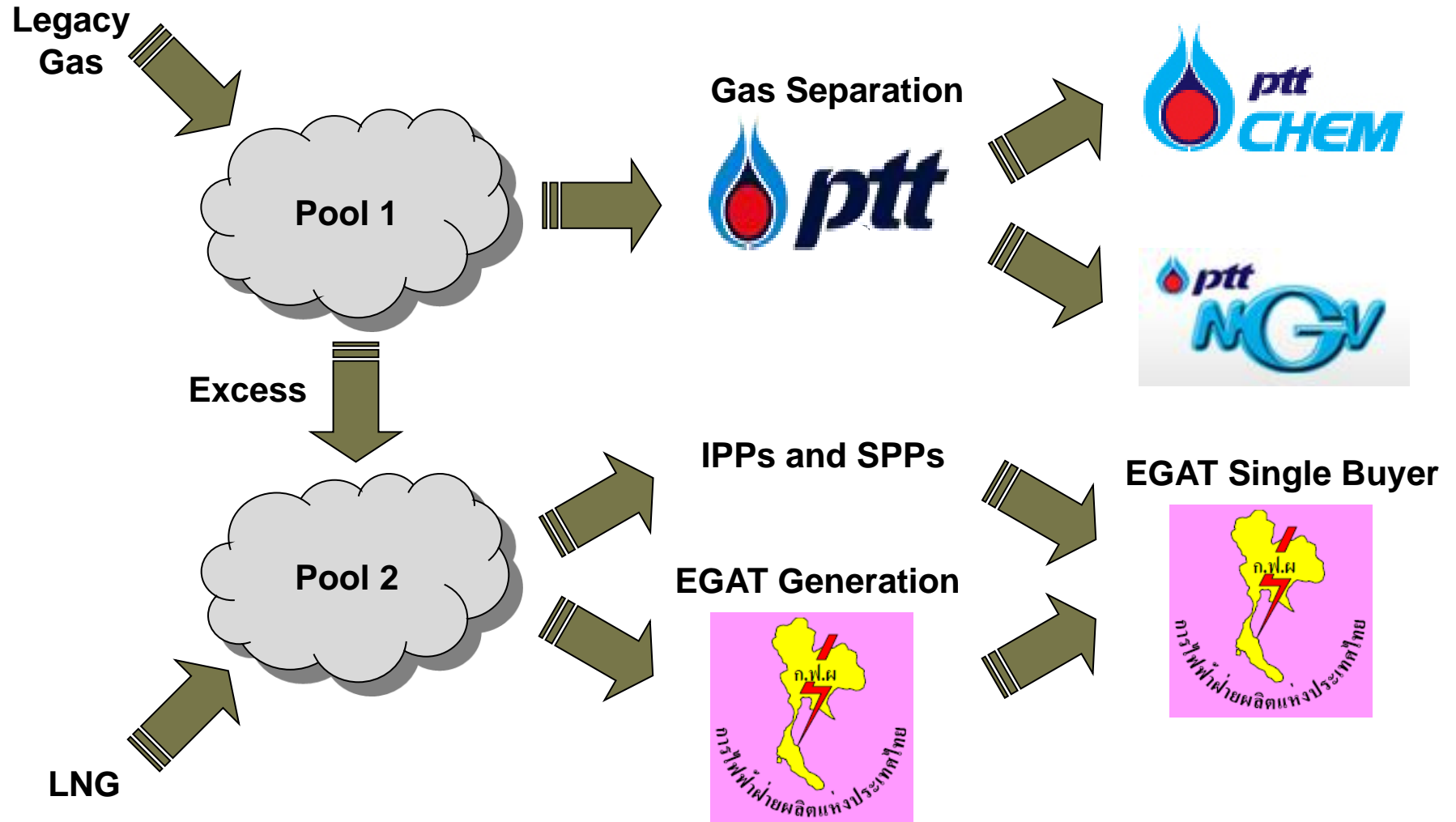
## Delivered LNG prices are well above delivered cost of legacy gas

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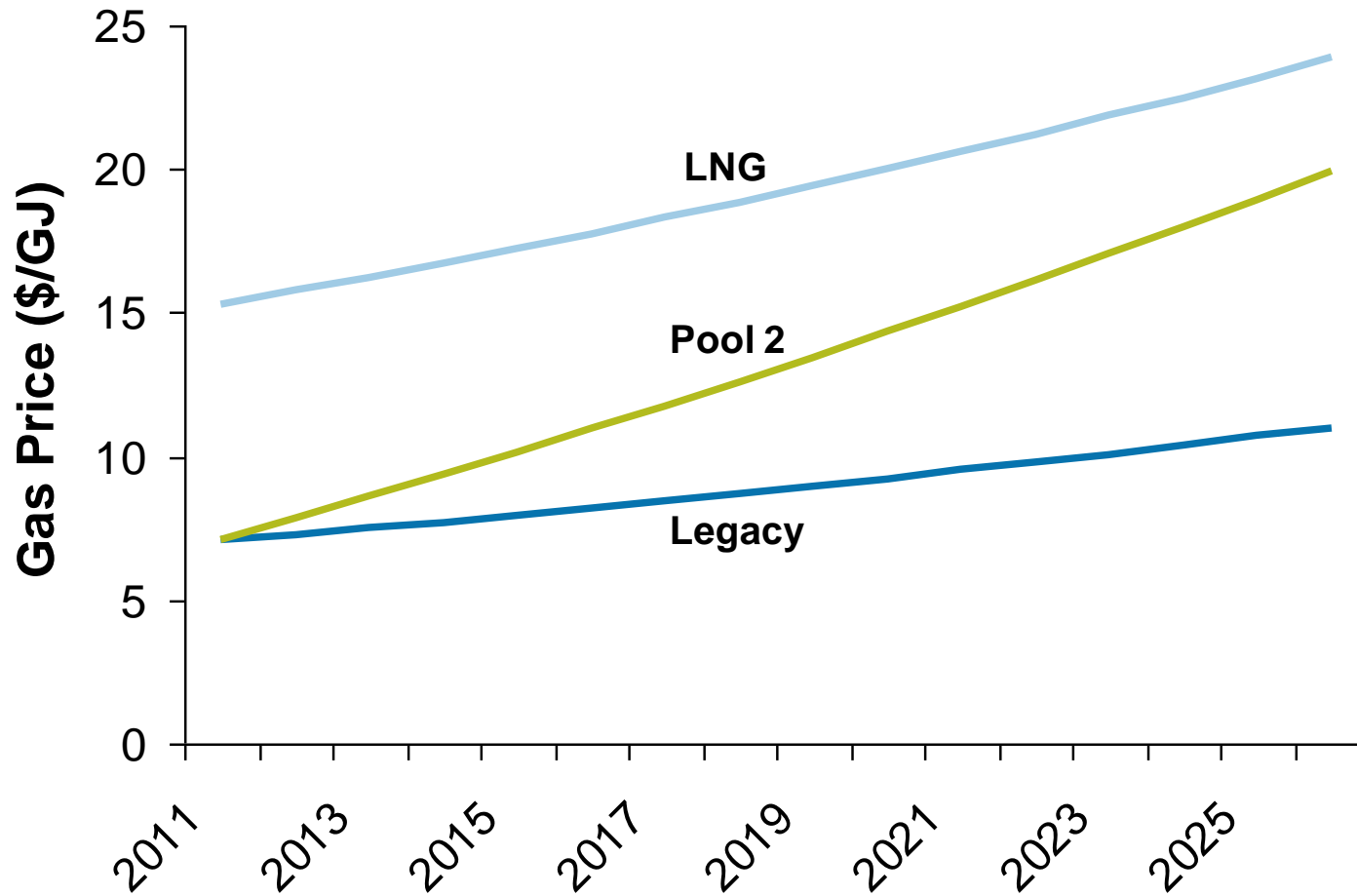
Source: TLG compilation from various online sources and associated analysis

# Gas “pooling” mitigates impact of LNG prices – Thailand example



Nonetheless, average Pool 2 prices could grow at triple the rate of inflation

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Source: TLG analysis

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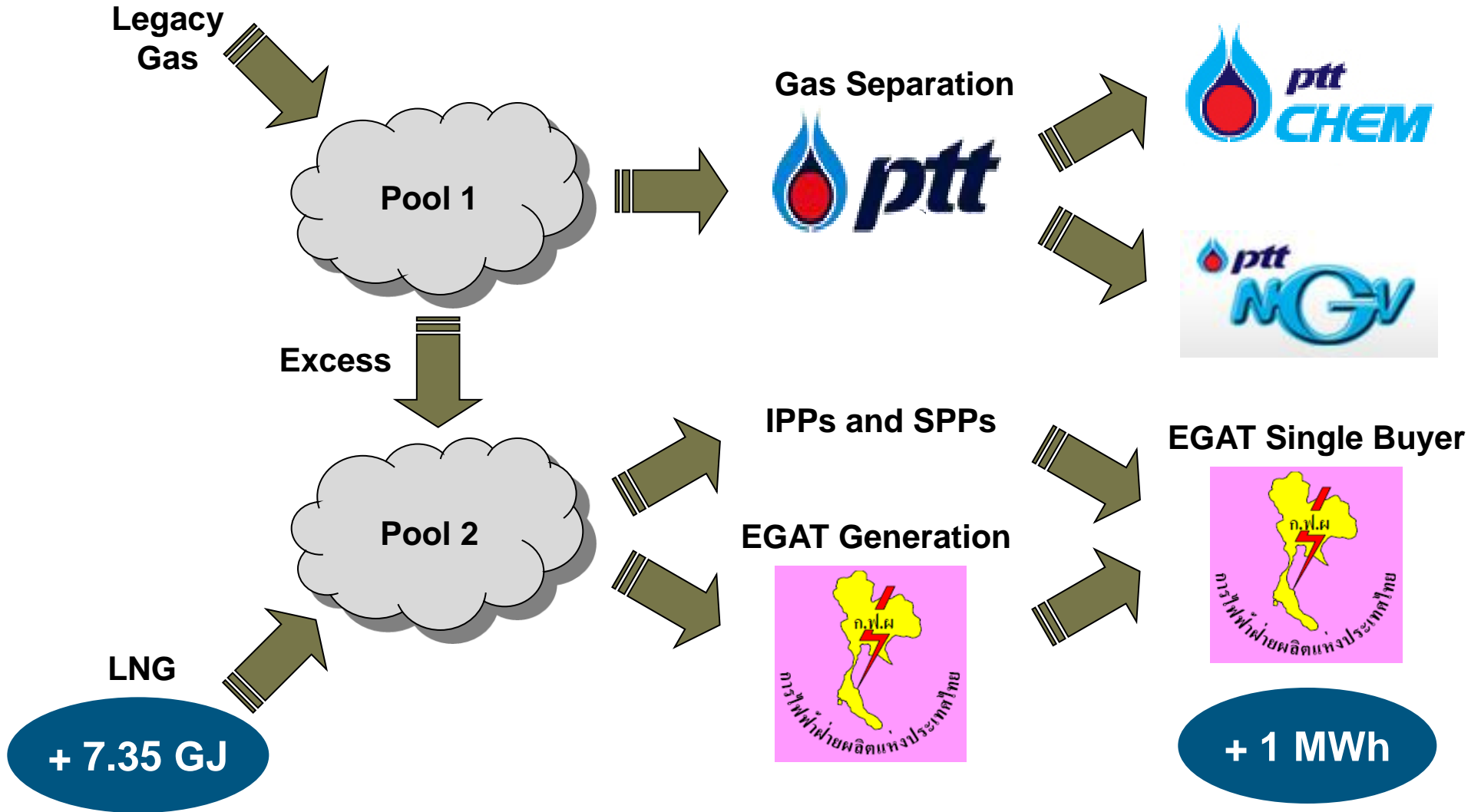
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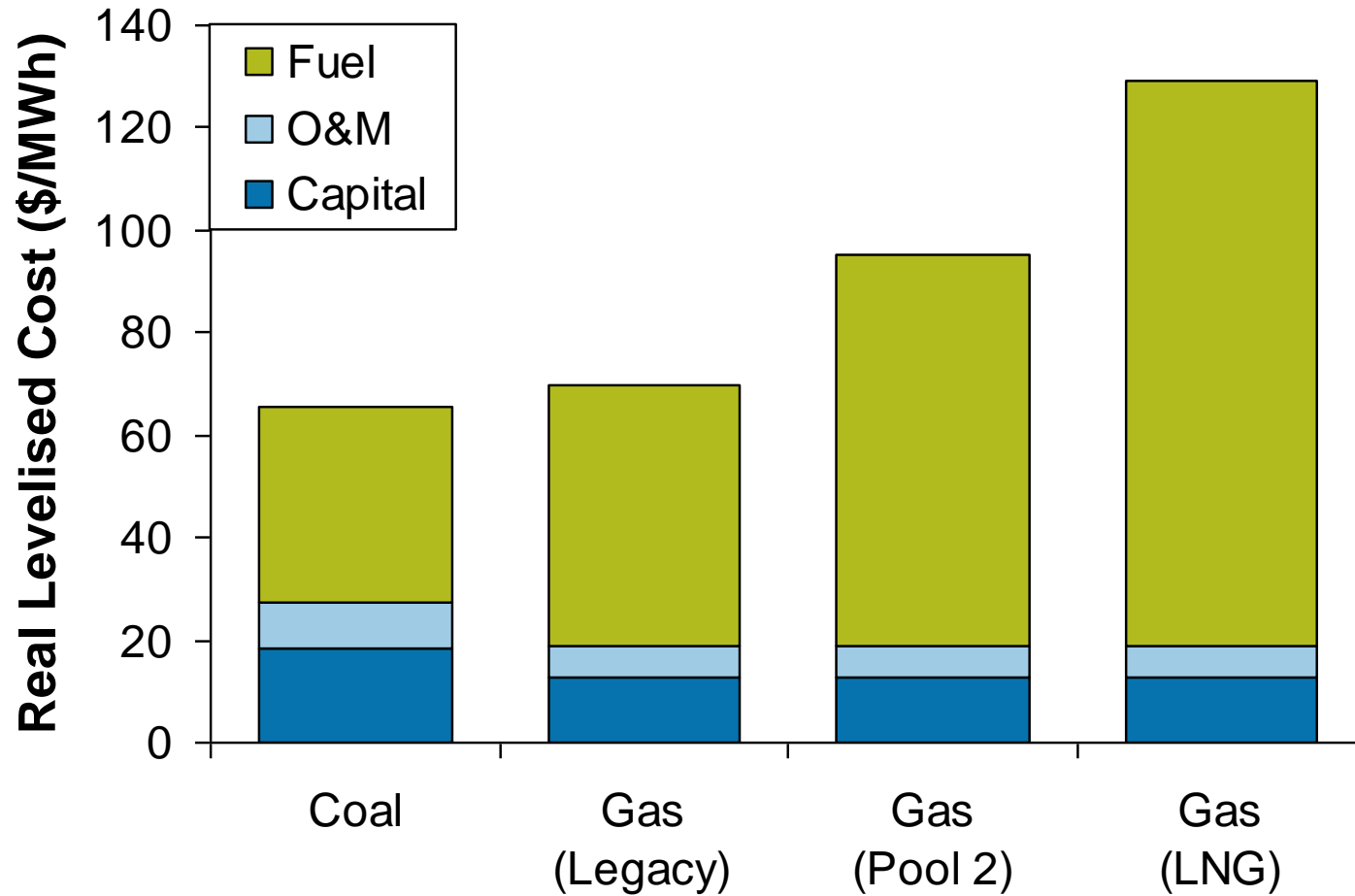
**Impact on marginal gas prices**

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# Despite pooling, marginal cost of generation is set by LNG price

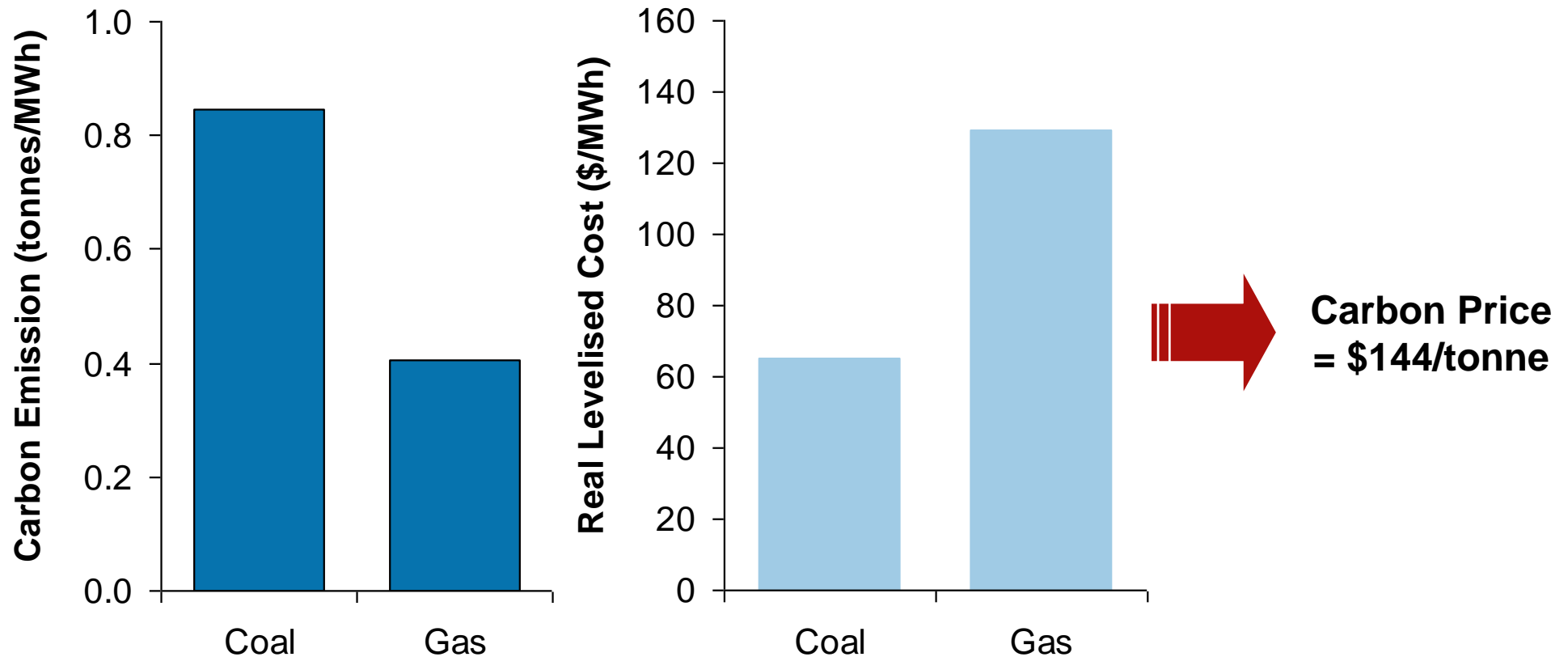


## Pooling can distort incremental investment decision-making



Source: TLG analysis

## Implicit carbon price is set by marginal investment economics



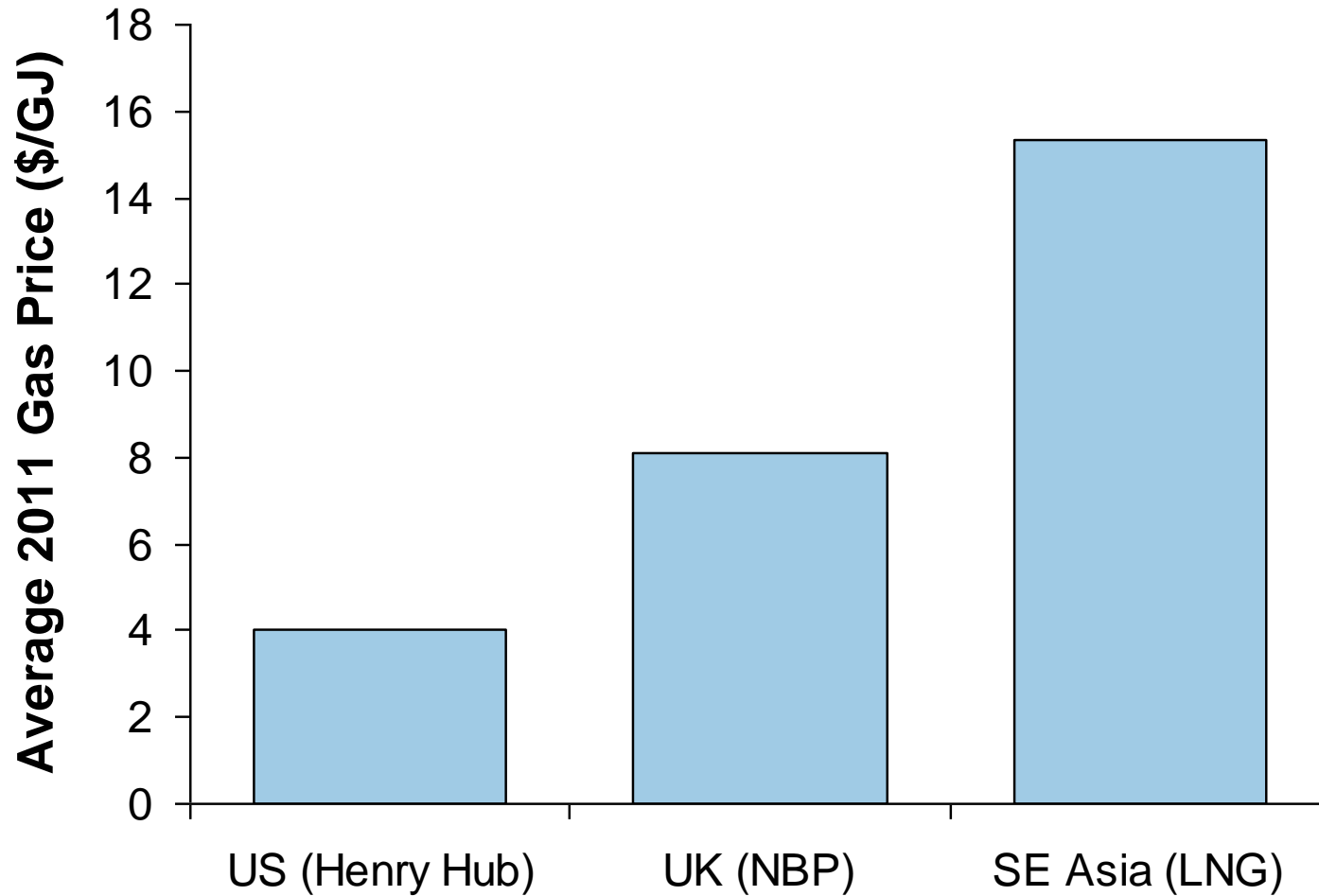
Source: TLG analysis

**Substitution of gas for coal in SE Asia implies a very high carbon price**



# Lower gas prices would make carbon offsets less expensive in US and Europe

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Source: Bloomberg, TLG analysis

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- SE Asia is facing a supply gap, even in countries with surplus gas
- LNG liquefaction / regasification can meet rising gas demands
- Pooling arrangements can mitigate the effect of LNG prices – nonetheless, average gas prices will increase sharply
- Pool pricing can mask the underlying marginal costs – and thereby distort consumption and investment decision-making
- Implicit carbon prices in SE Asia will be set by the gap between coal and gas generation economics – based on LNG prices
- Lower gas prices in the US and Europe may dictate lower carbon values.



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