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European gas and power Russia, LNG and the accelerating power market

Ifiec Energy Forum 2016

Matthew Monteverde

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Events

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Introduction

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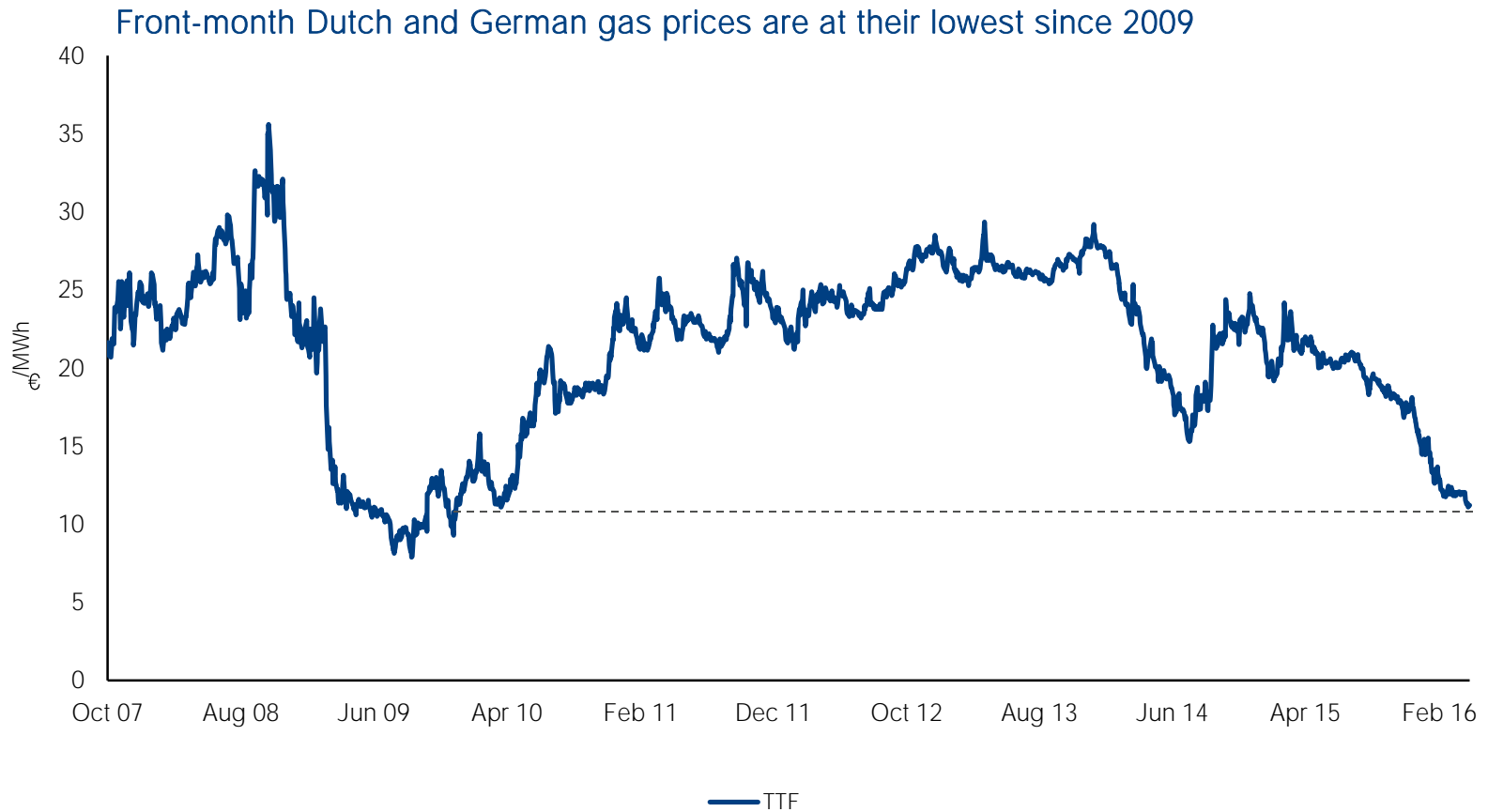
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Prices

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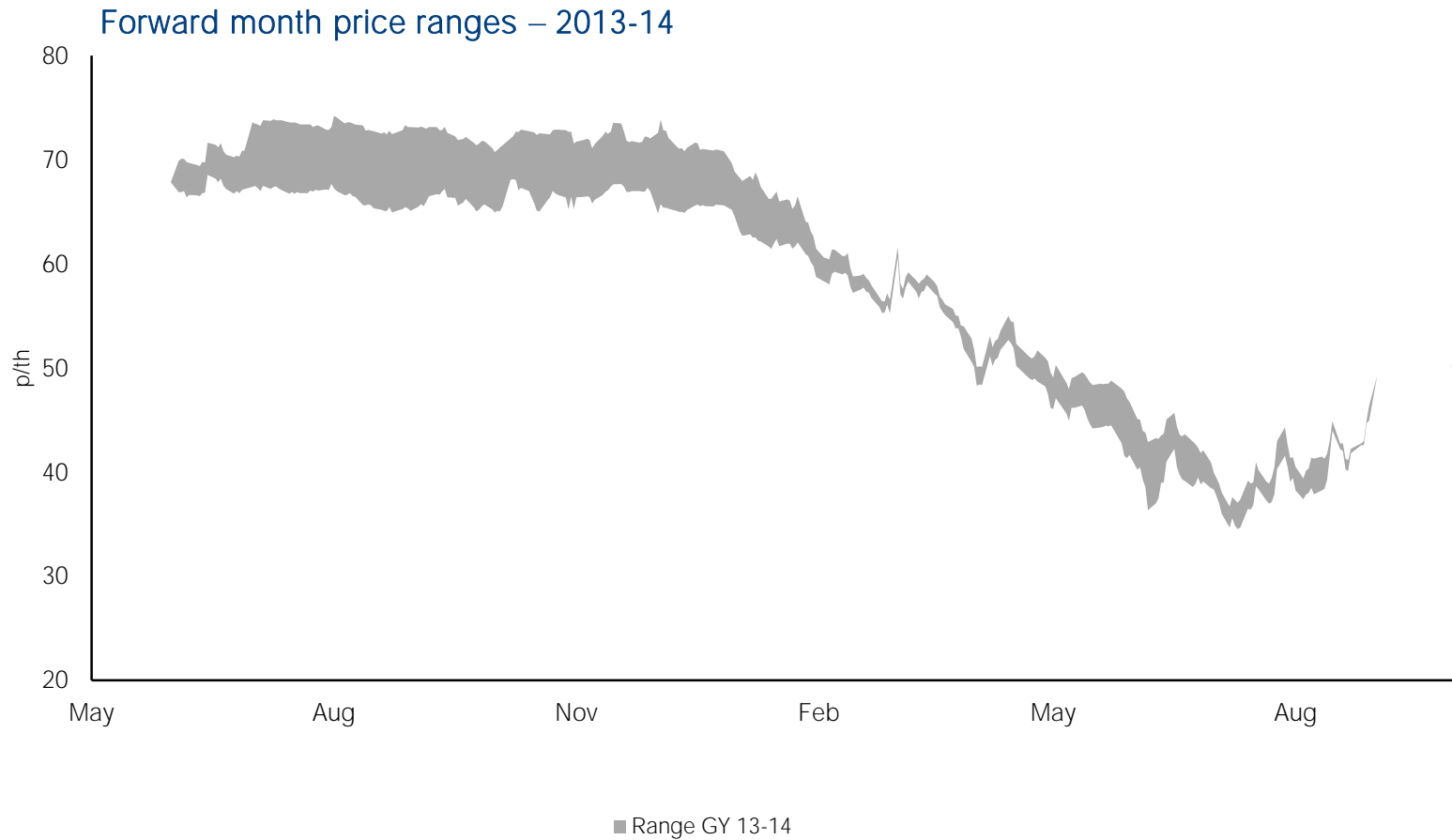
European gas prices continue to slide



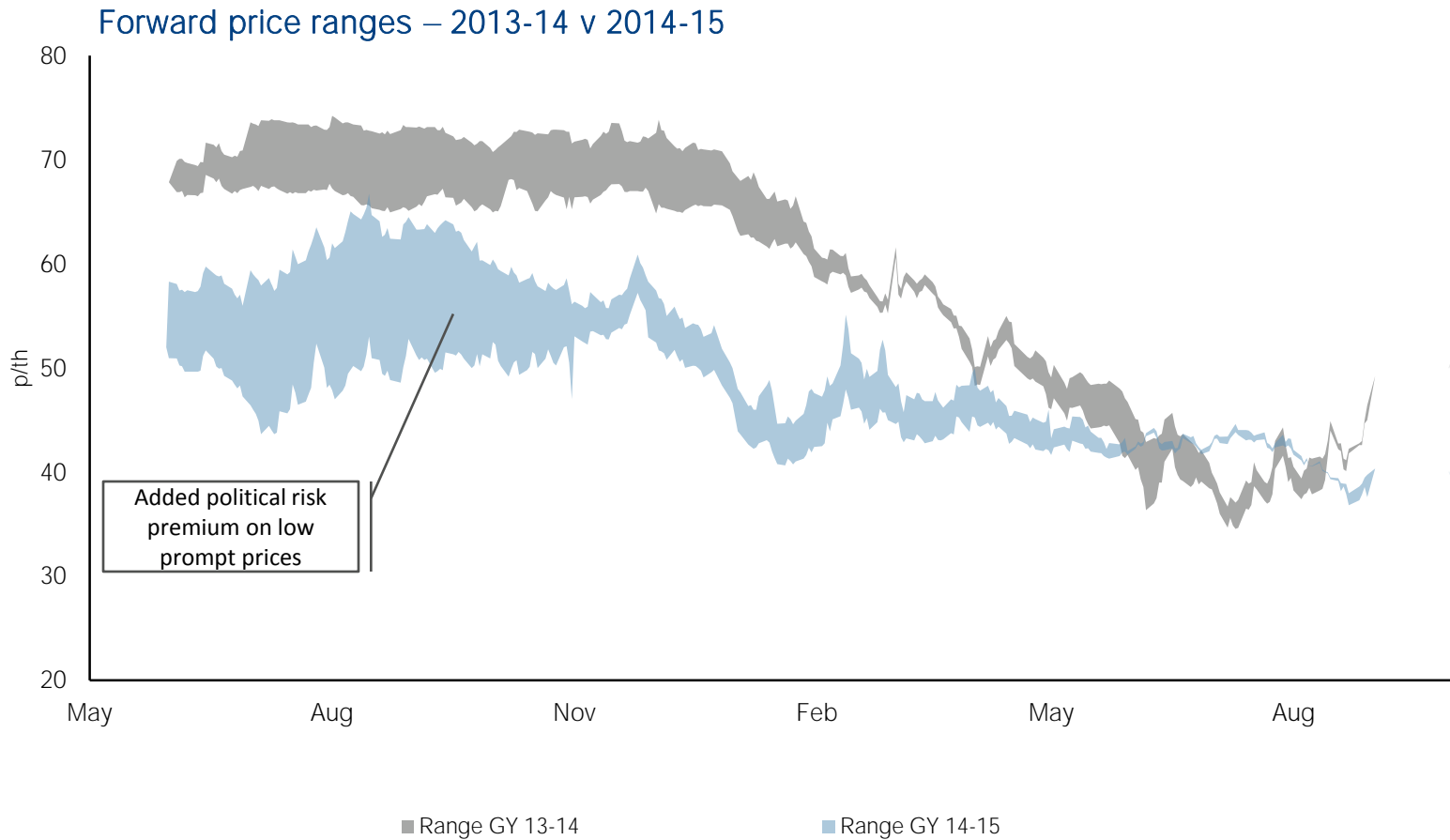
Gas prices in more detail



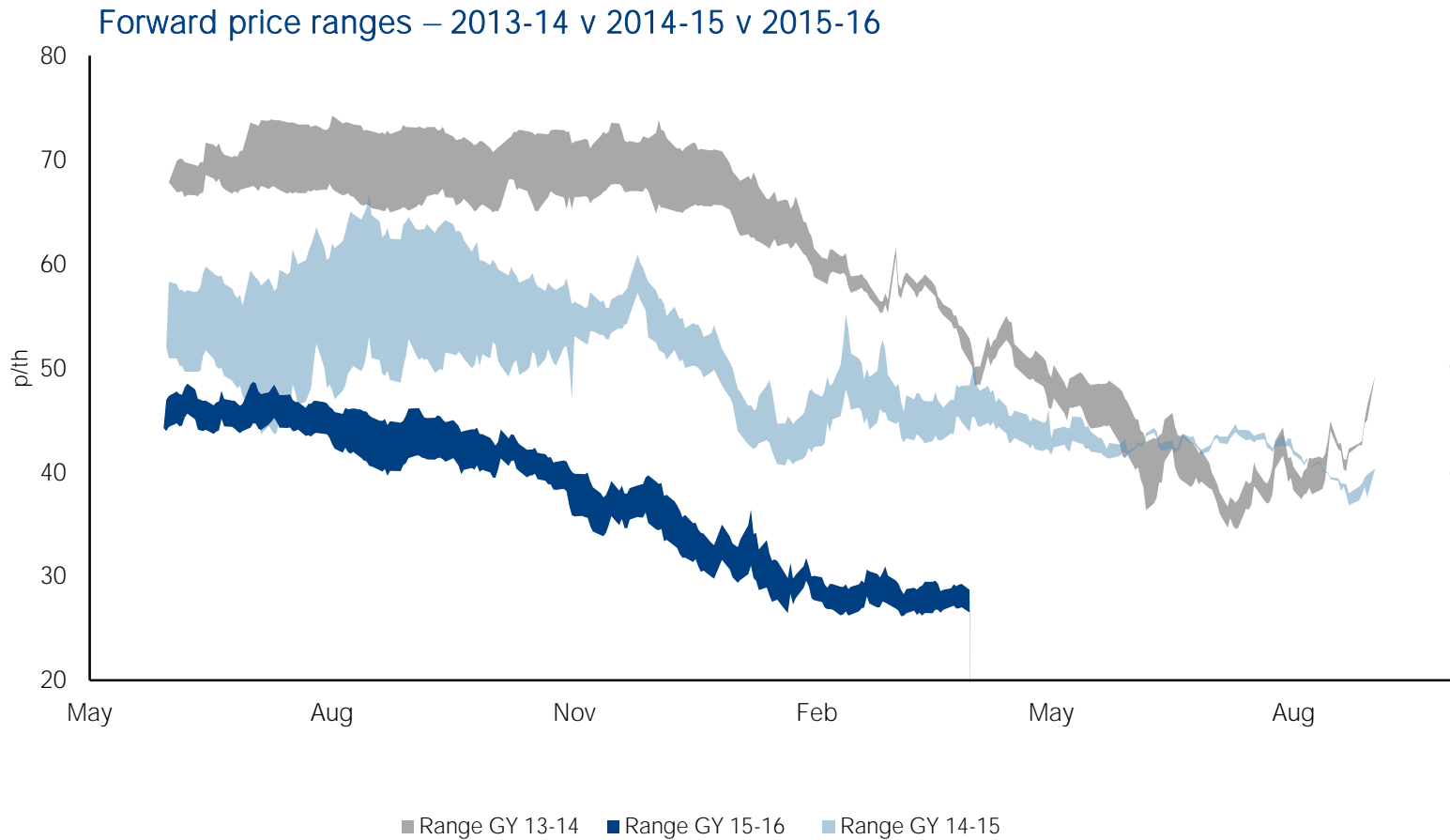
Gas prices in more detail



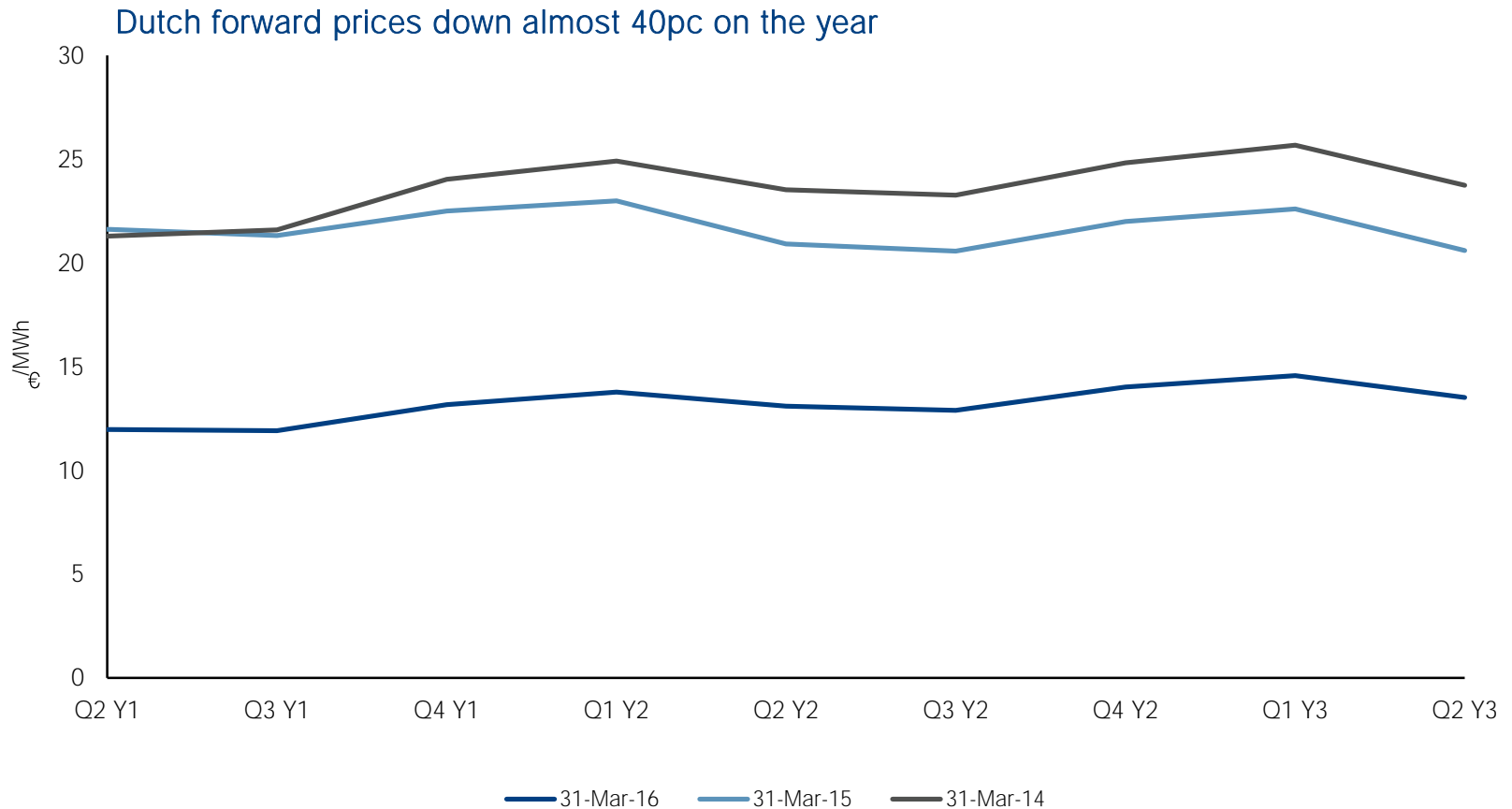
Gas prices in more detail



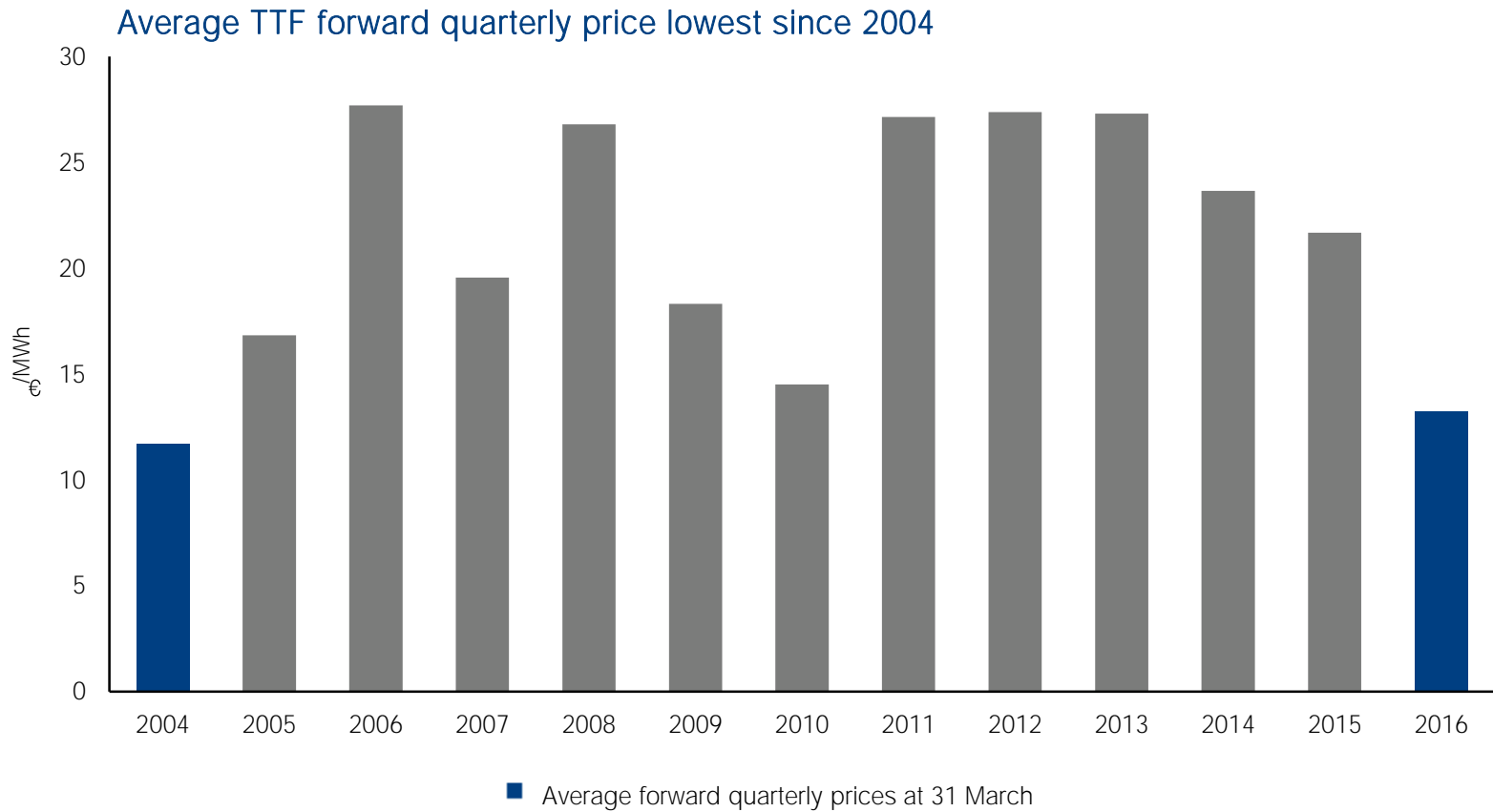
Gas prices in more detail



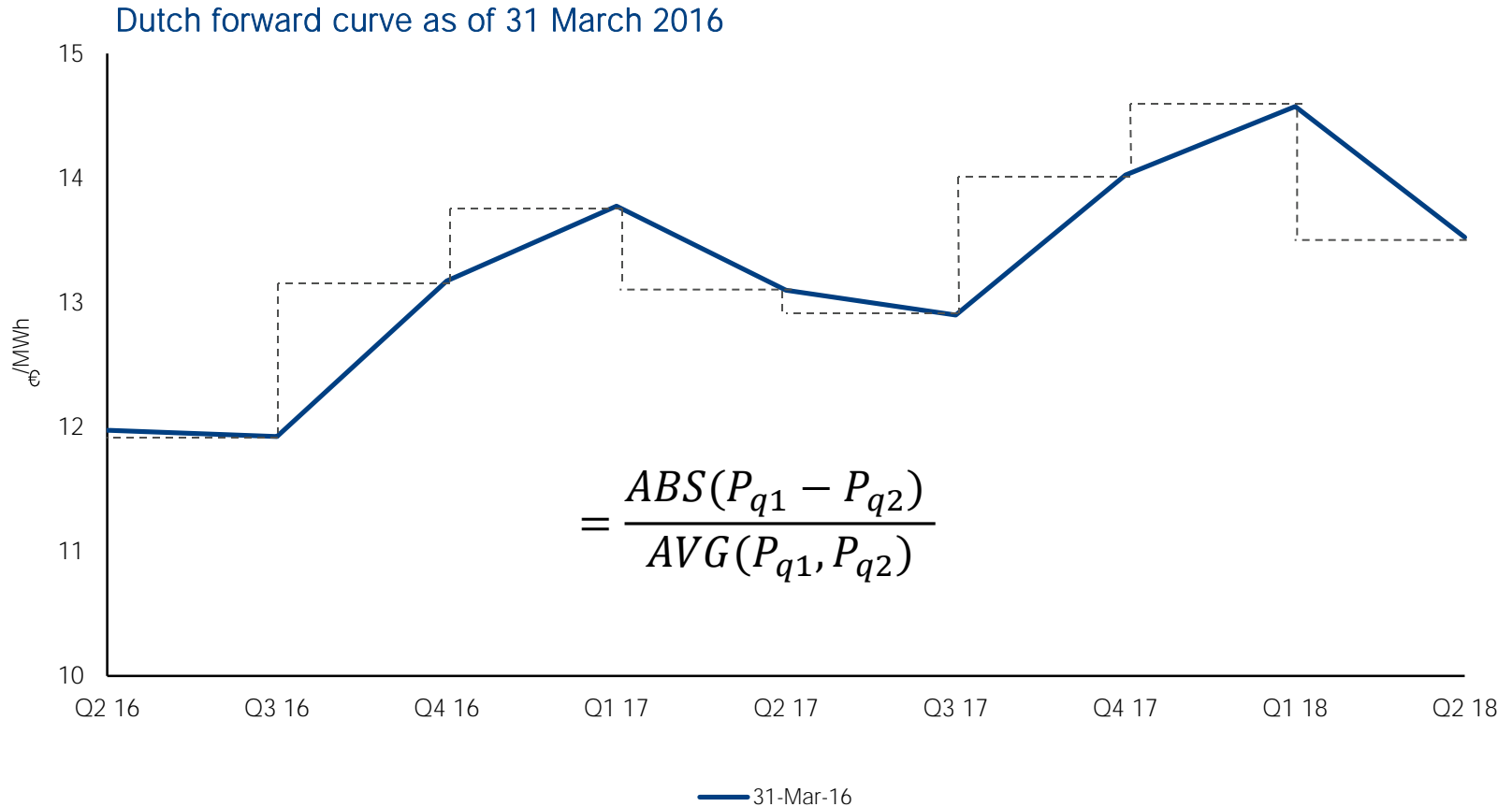
Forward prices are also lower



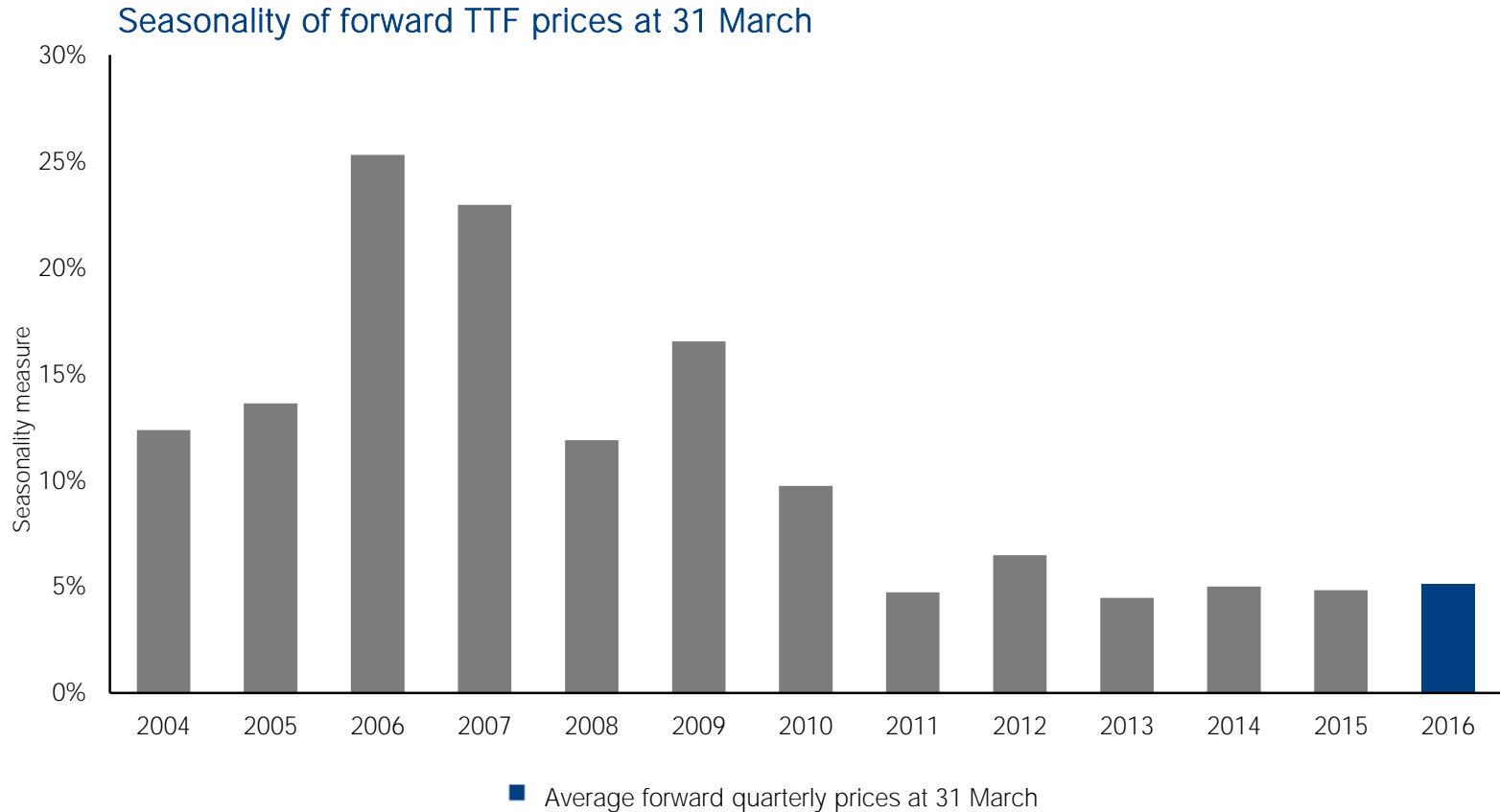
Forward prices are also lower



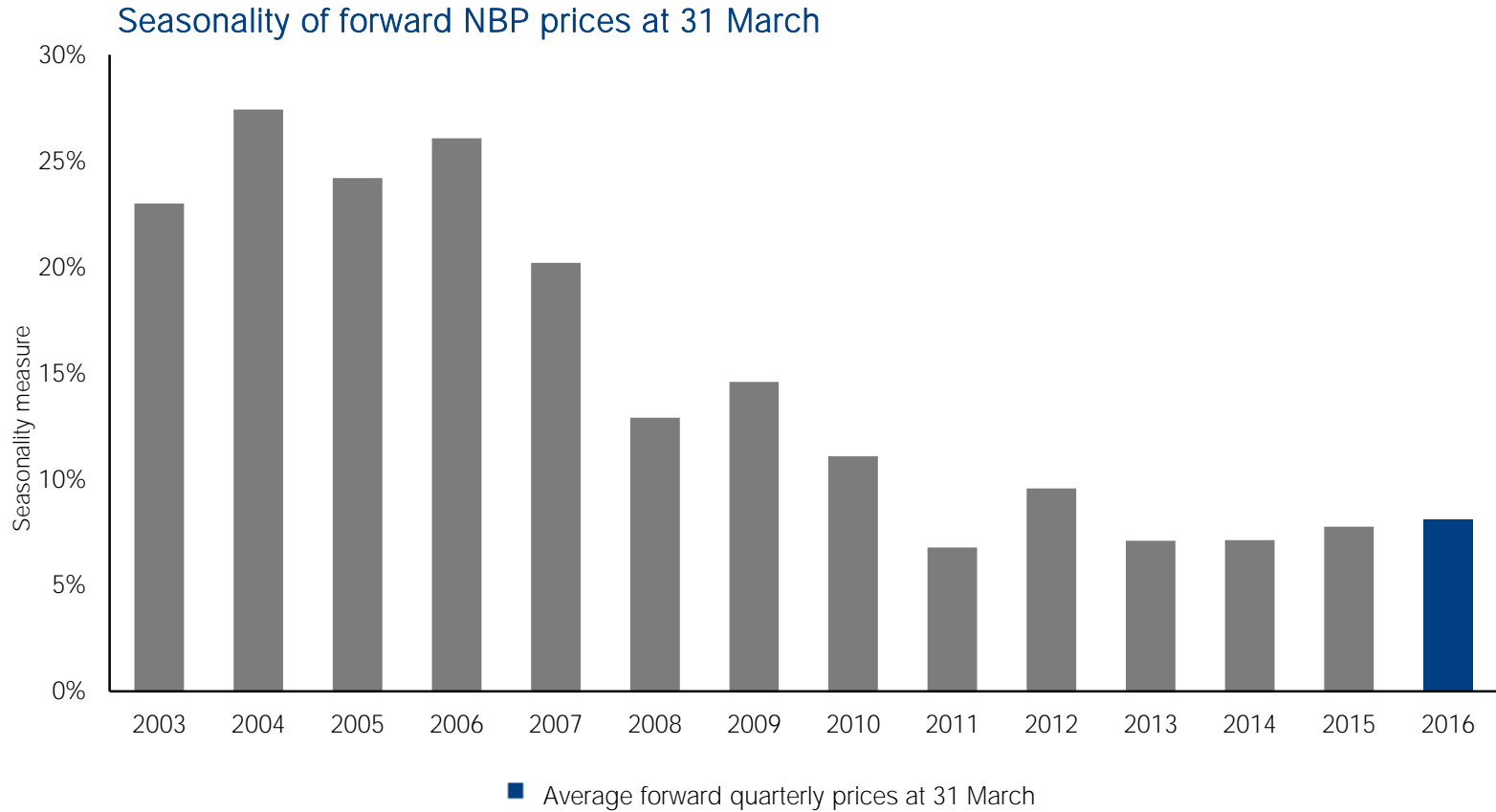
Measuring seasonality



Forward seasonality also in decline



Forward seasonality also in decline



Russia and the 2015-16 winter

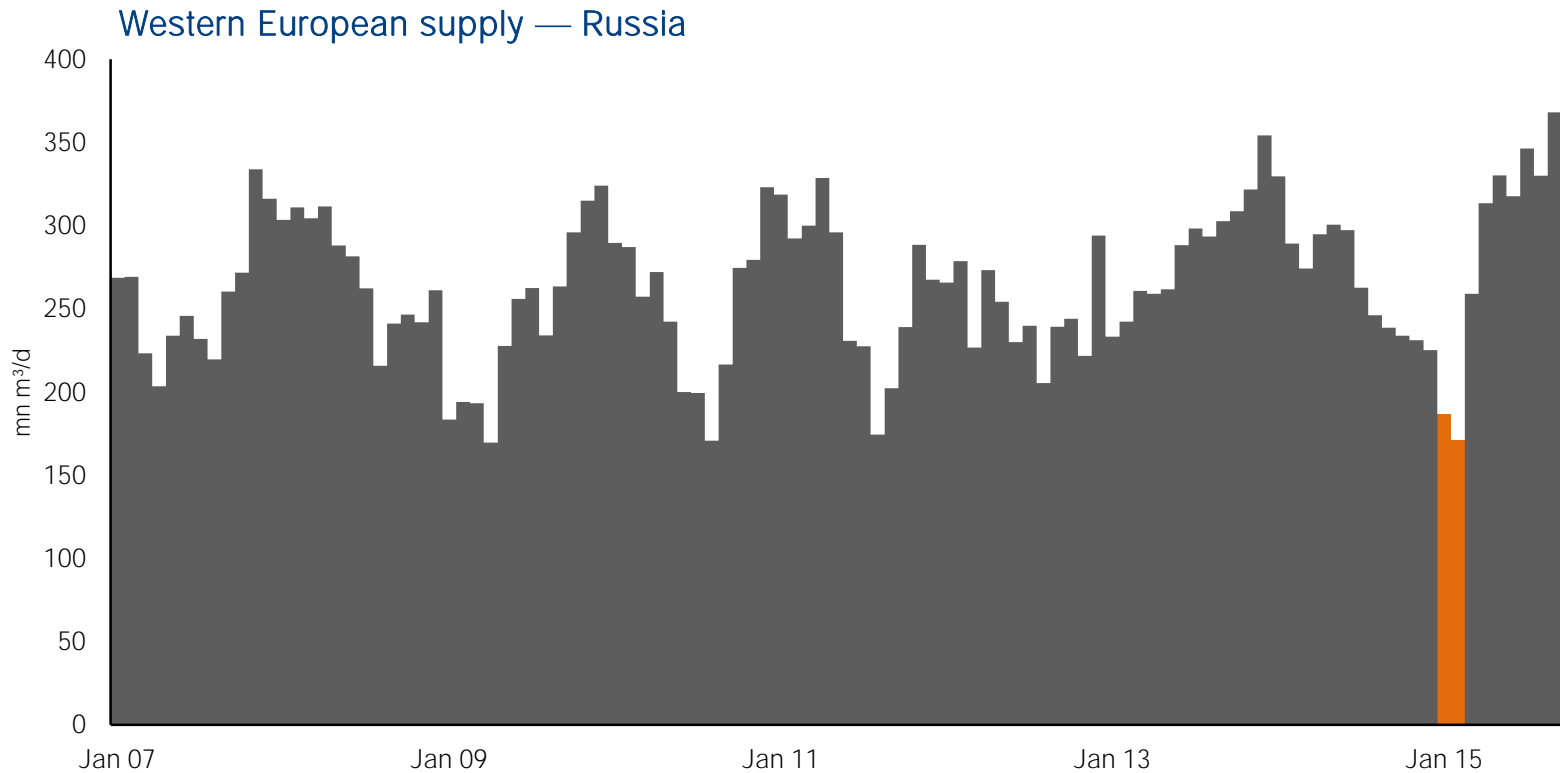
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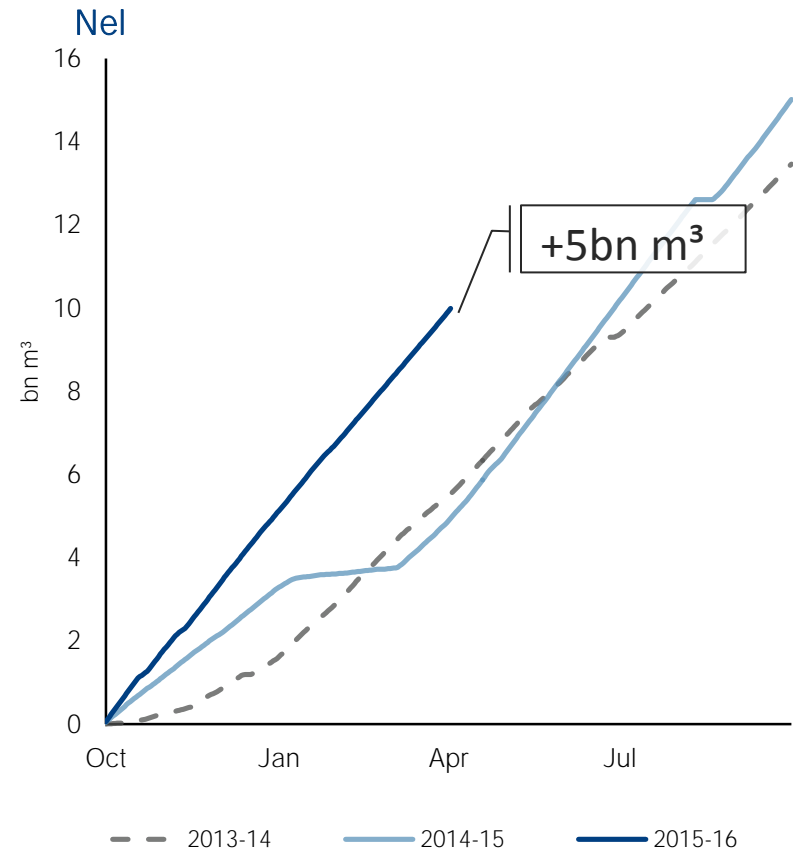
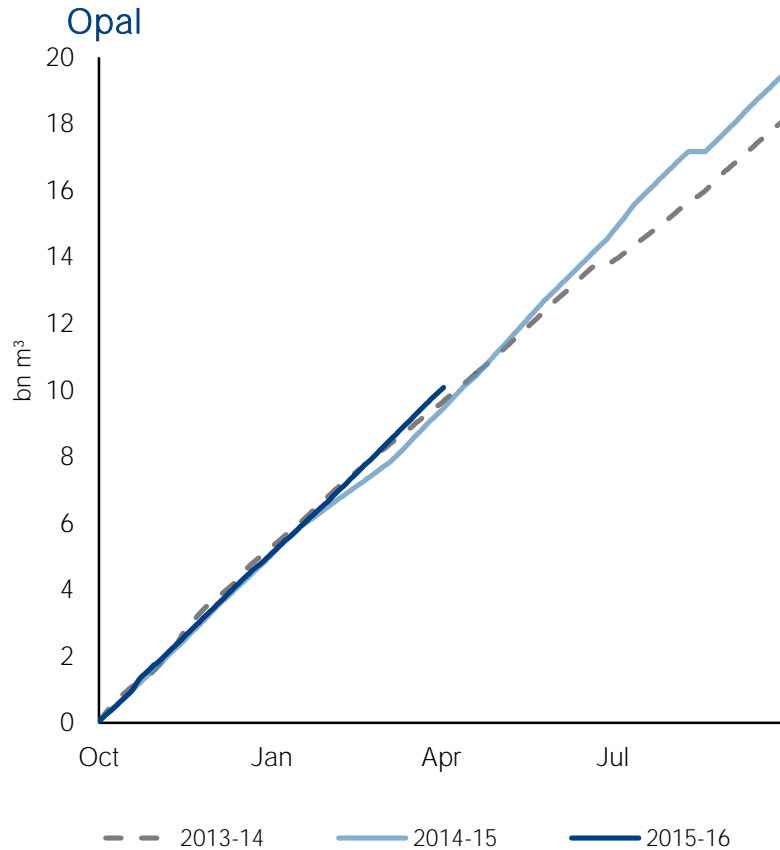
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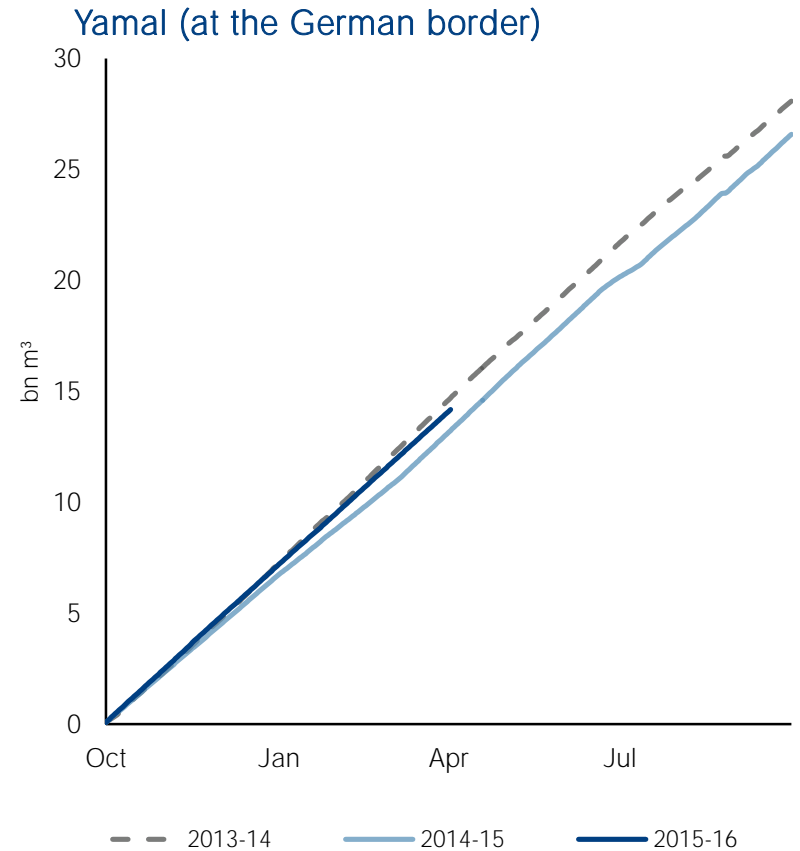
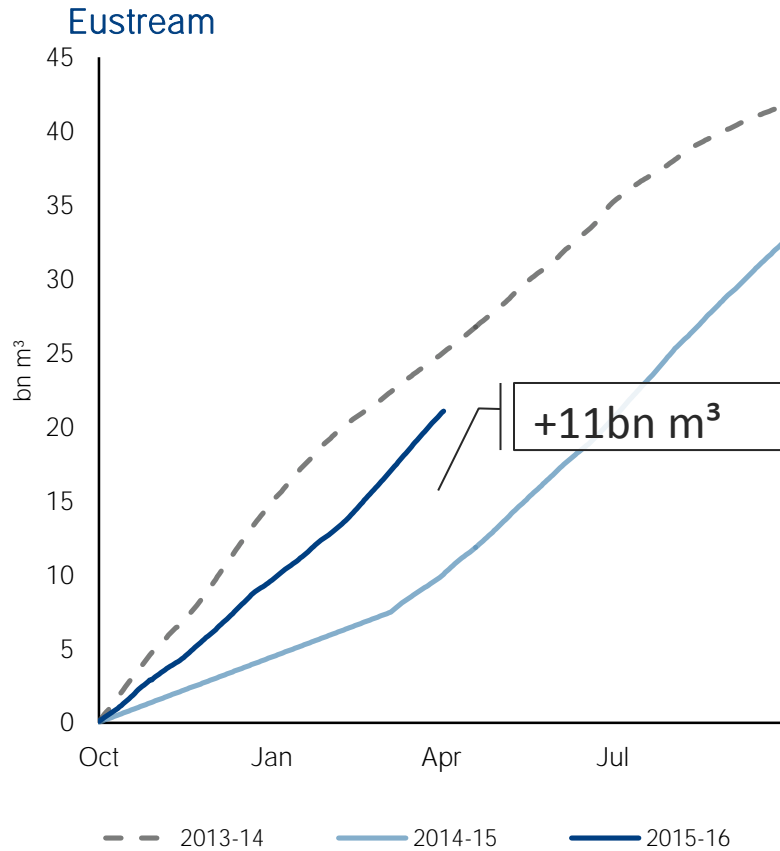
The historic dip in peak-winter supply



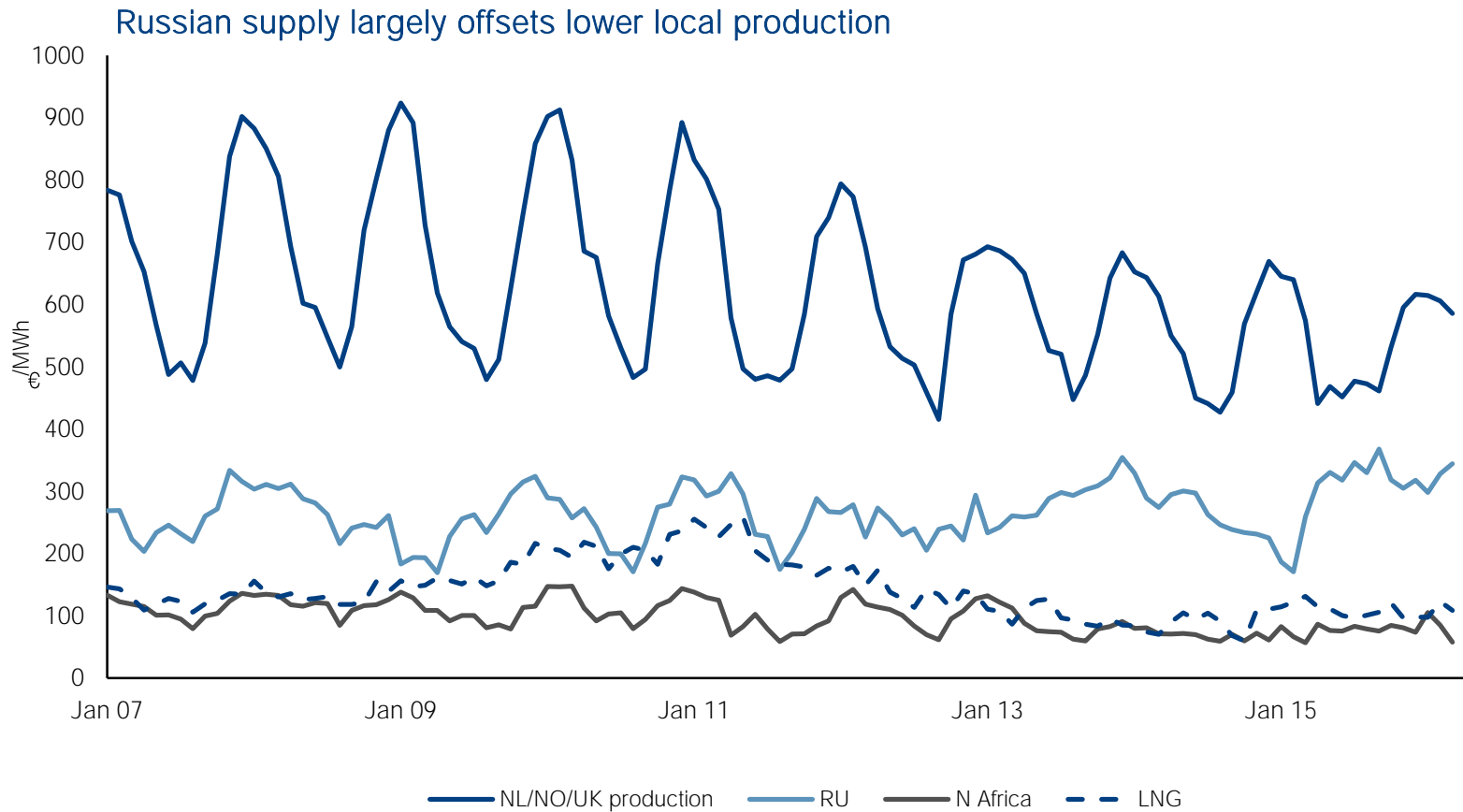
Nordstream deliveries



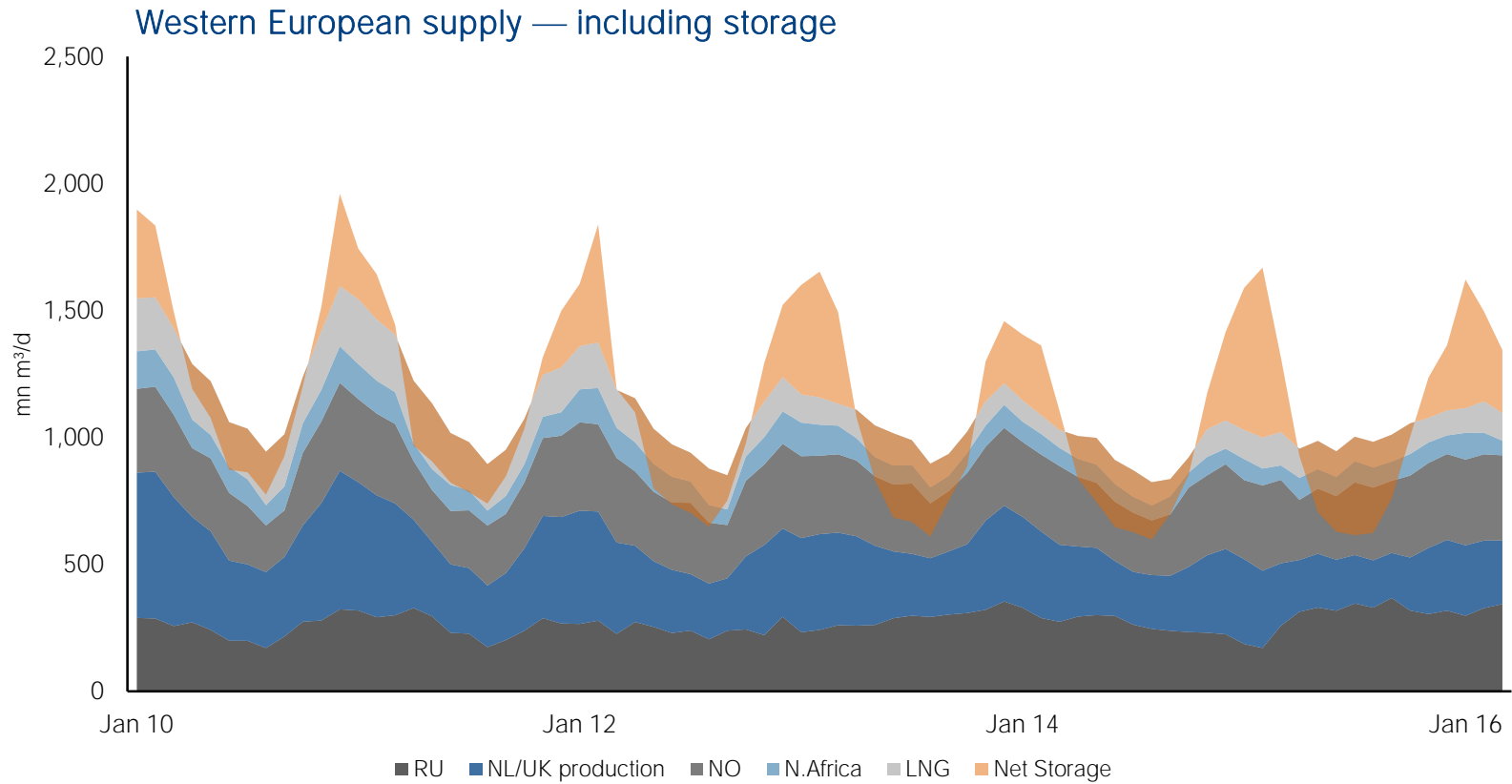
The old onshore routes



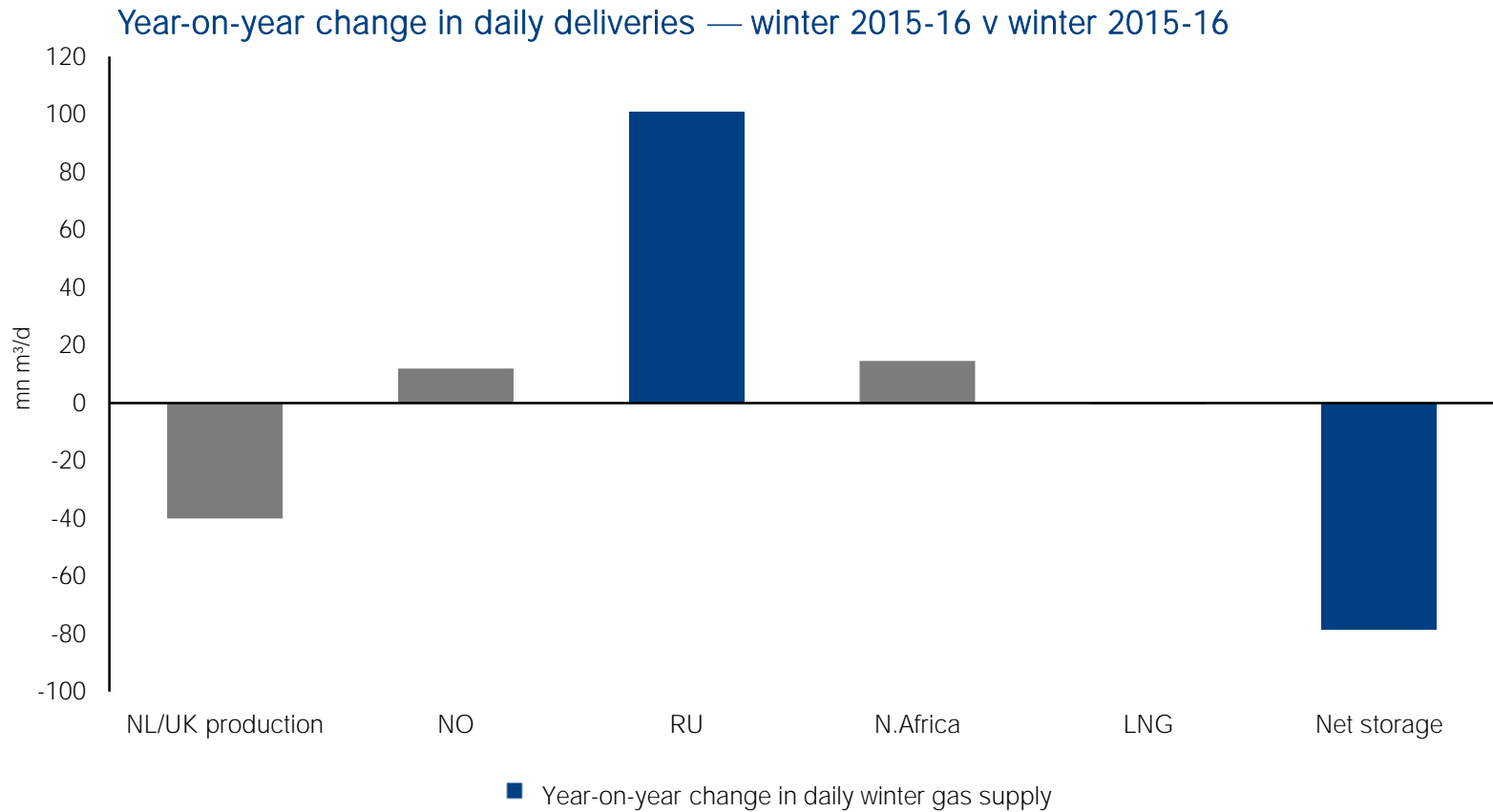
European supply sources



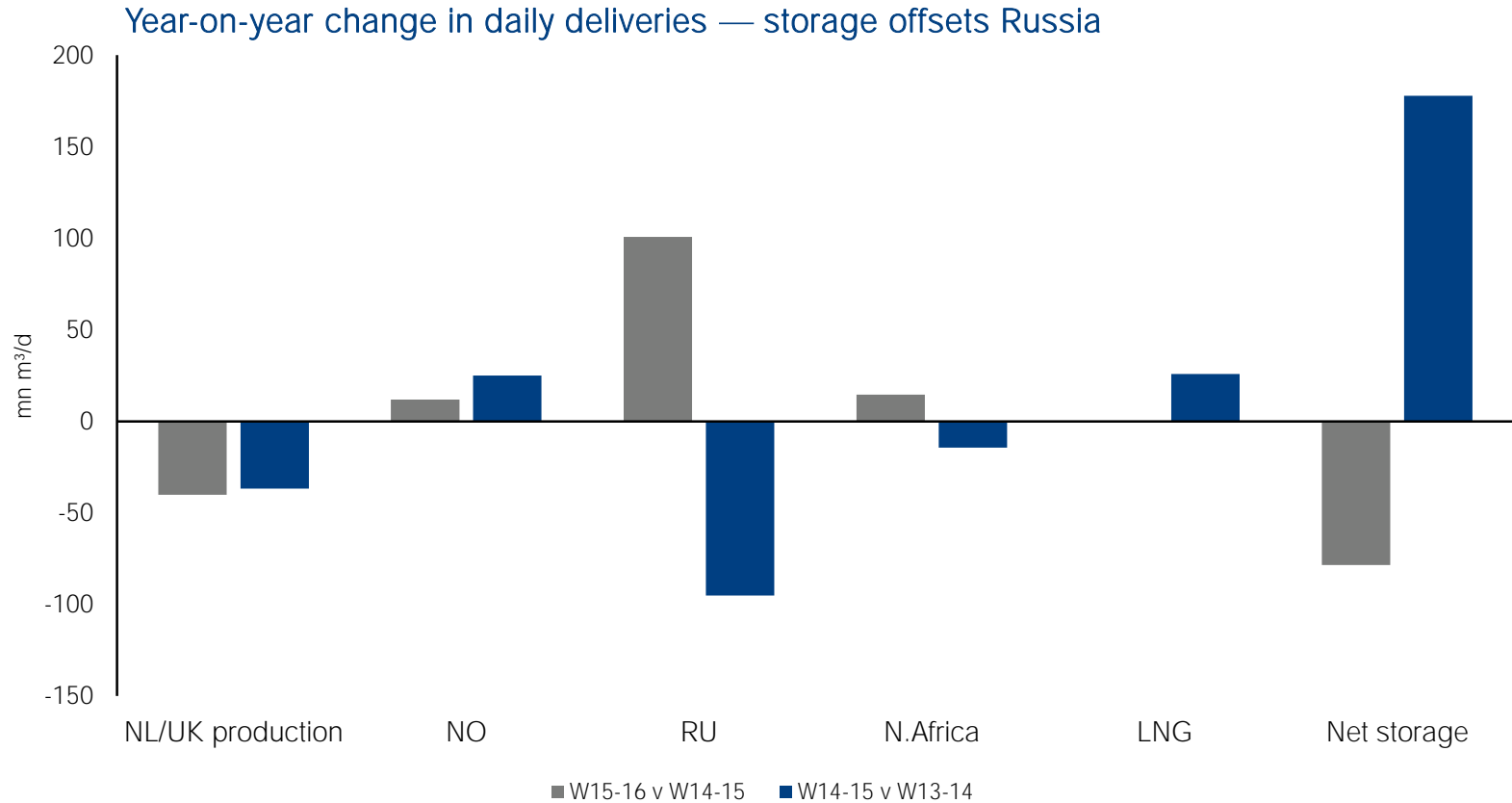
European supply sources



Russian supply offsets storage — LNG unchanged



The year before, everything was reversed

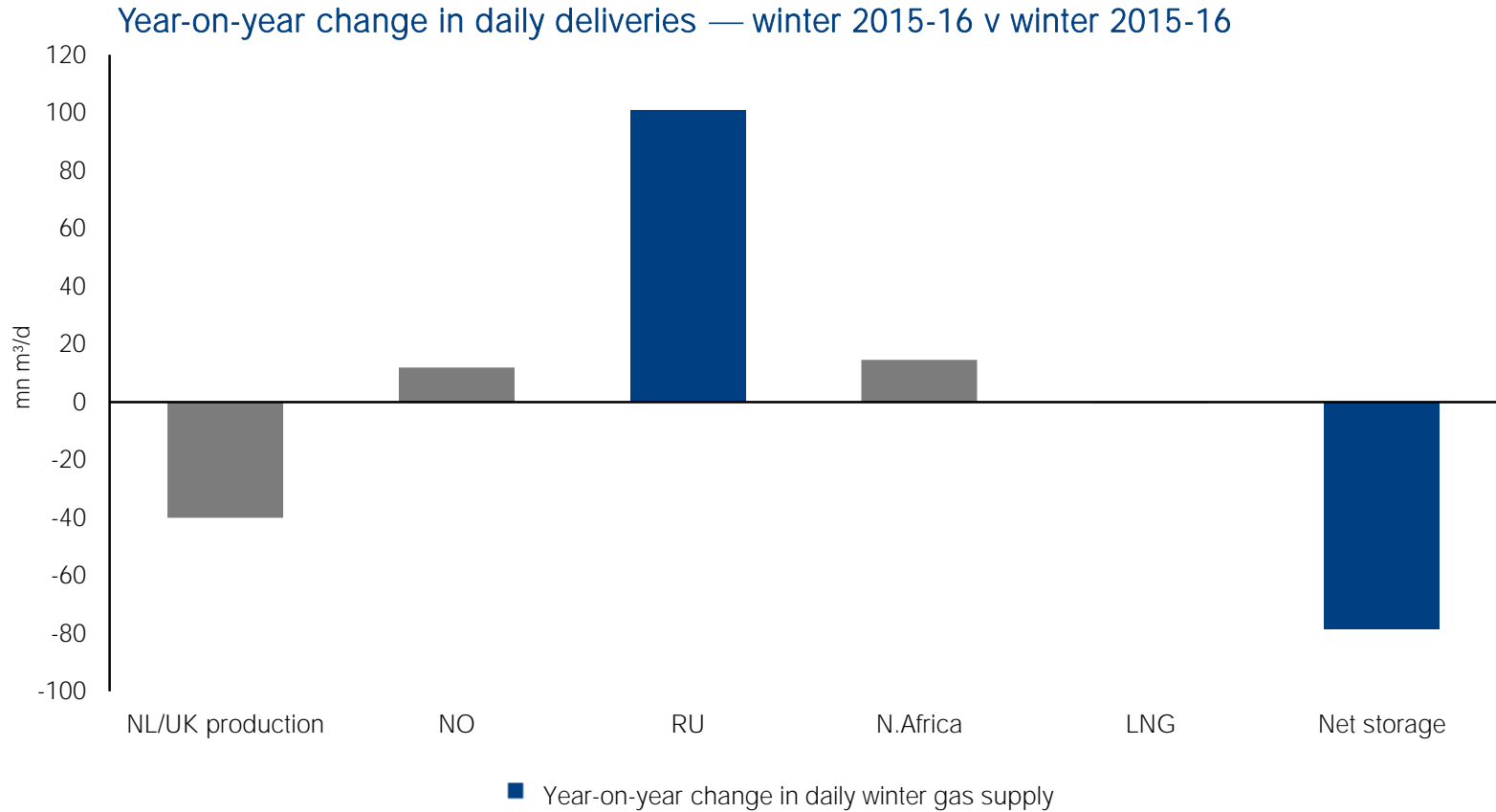


LNG

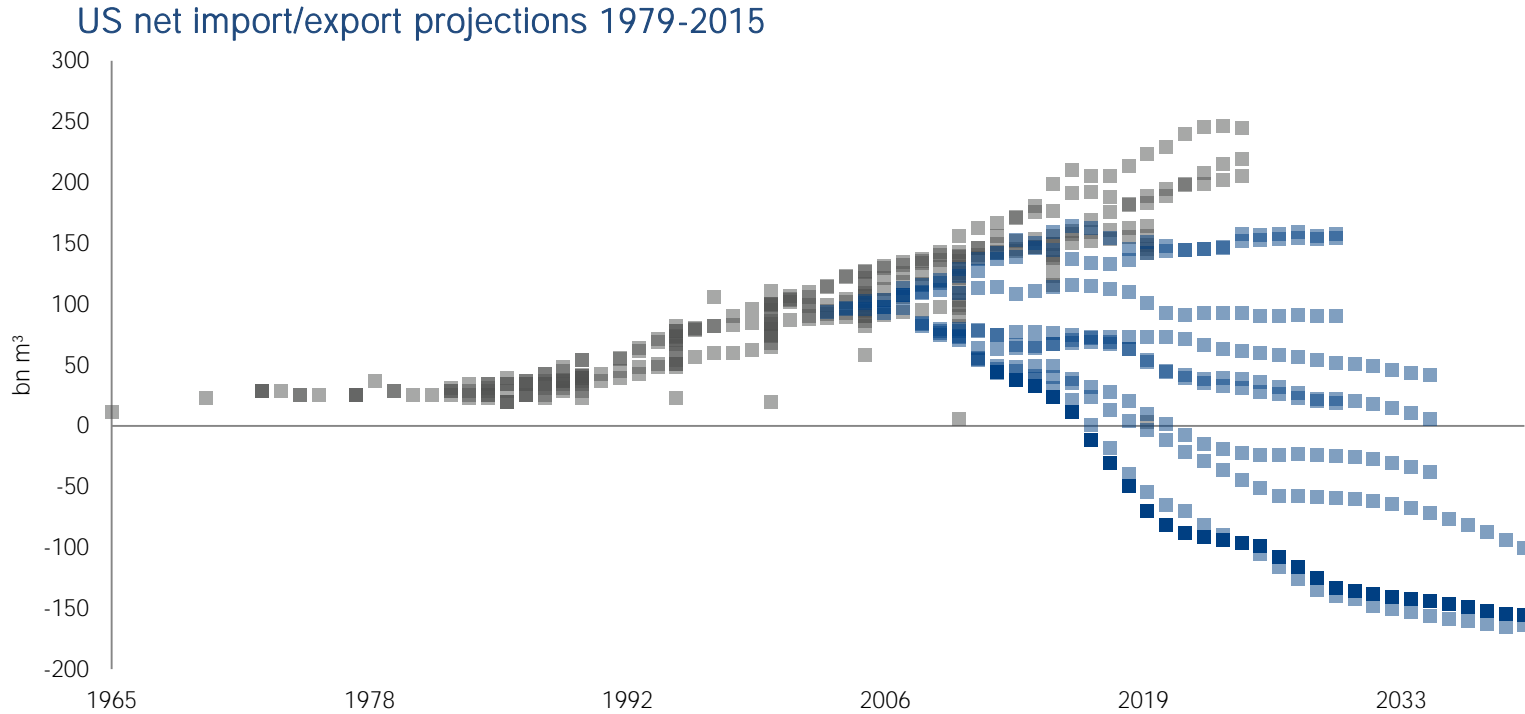
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Russian supply offsets storage — LNG unchanged



Evolving US role in the global market



A nighttime photograph of a city skyline reflected in a body of water. A glowing blue line starts from the bottom left, curves across the water, and ends near the right side of the frame. The city lights are visible in the background.

But what does this have to do with European prices?

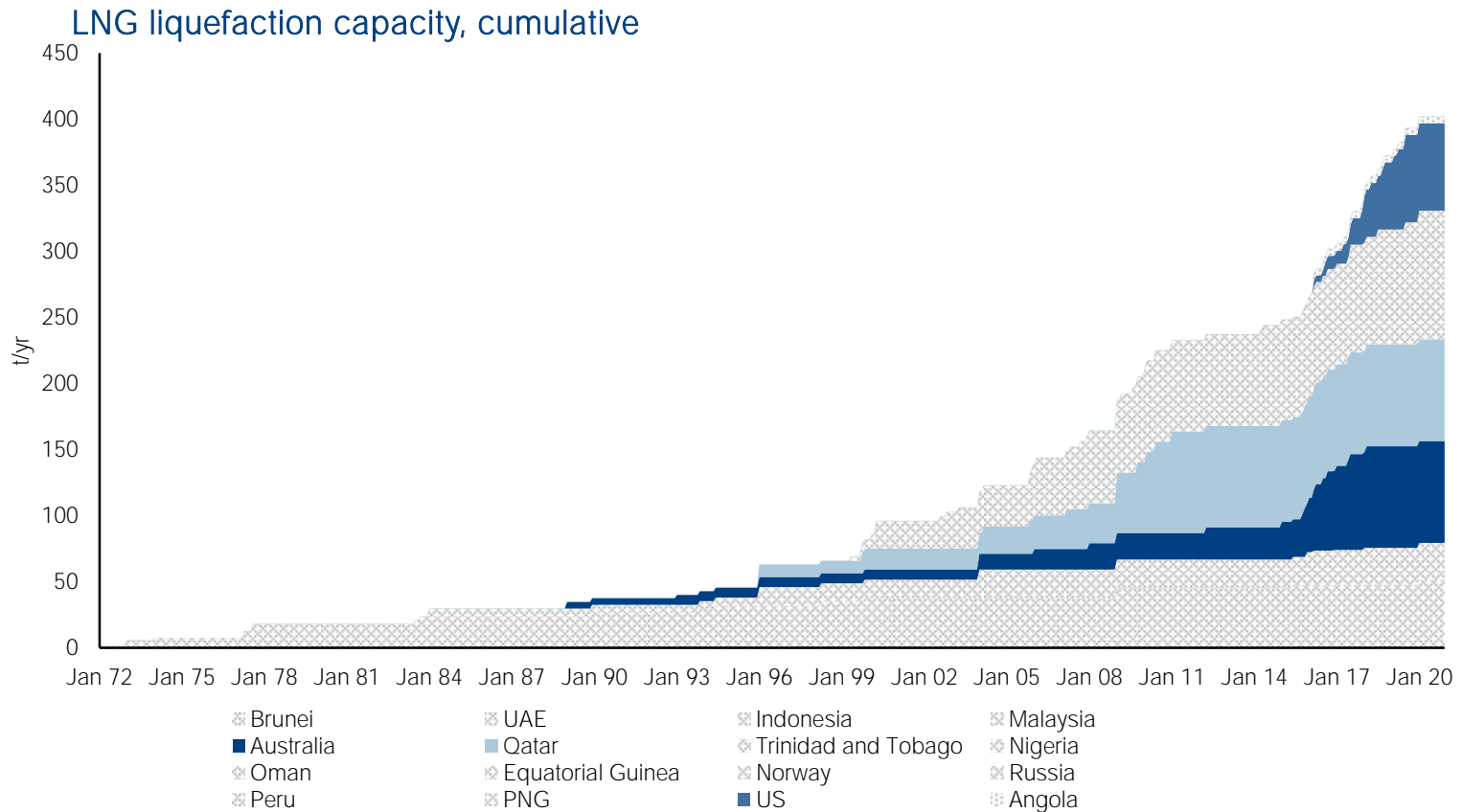
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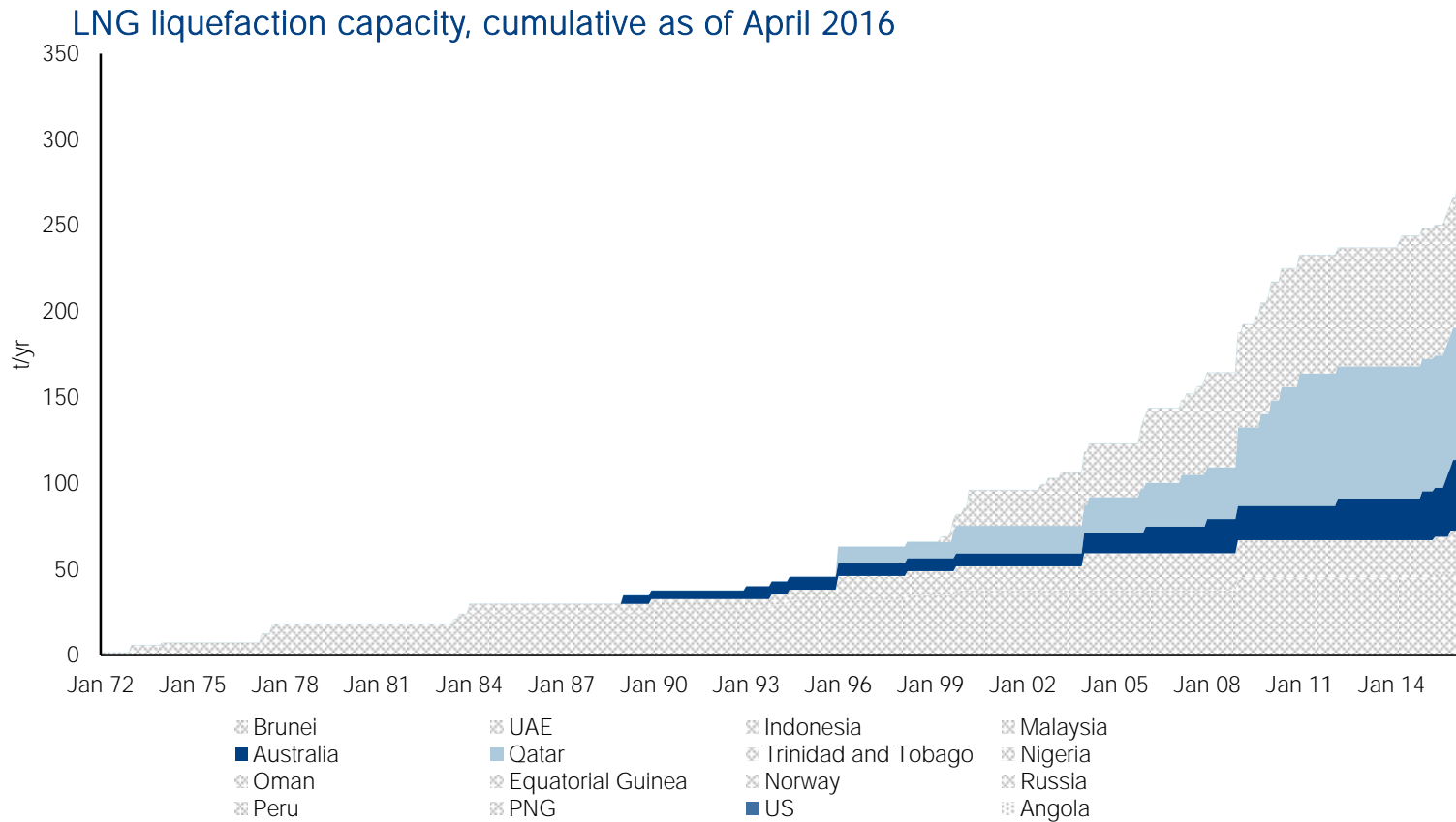
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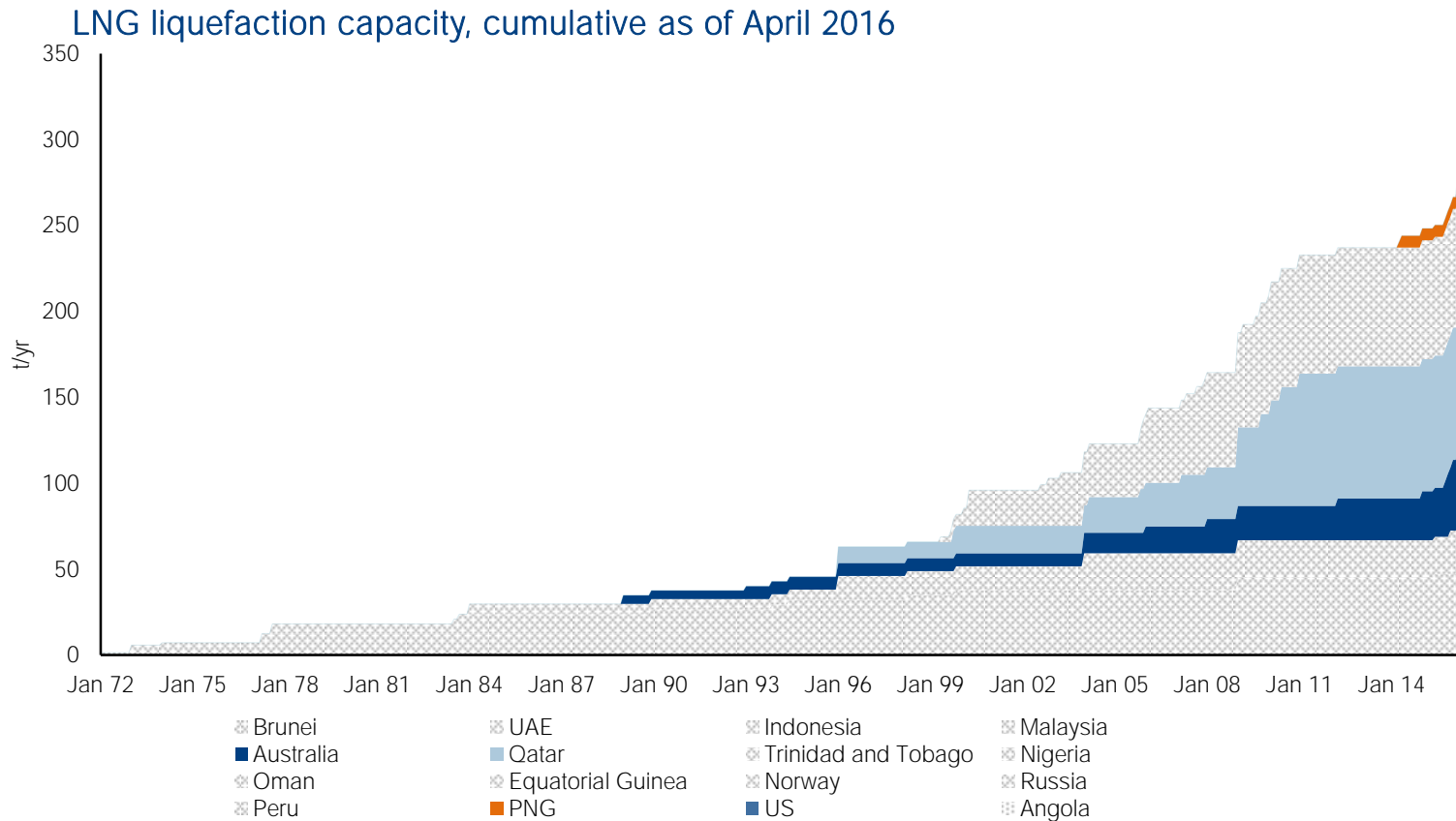
Three stage growth of LNG production capacity



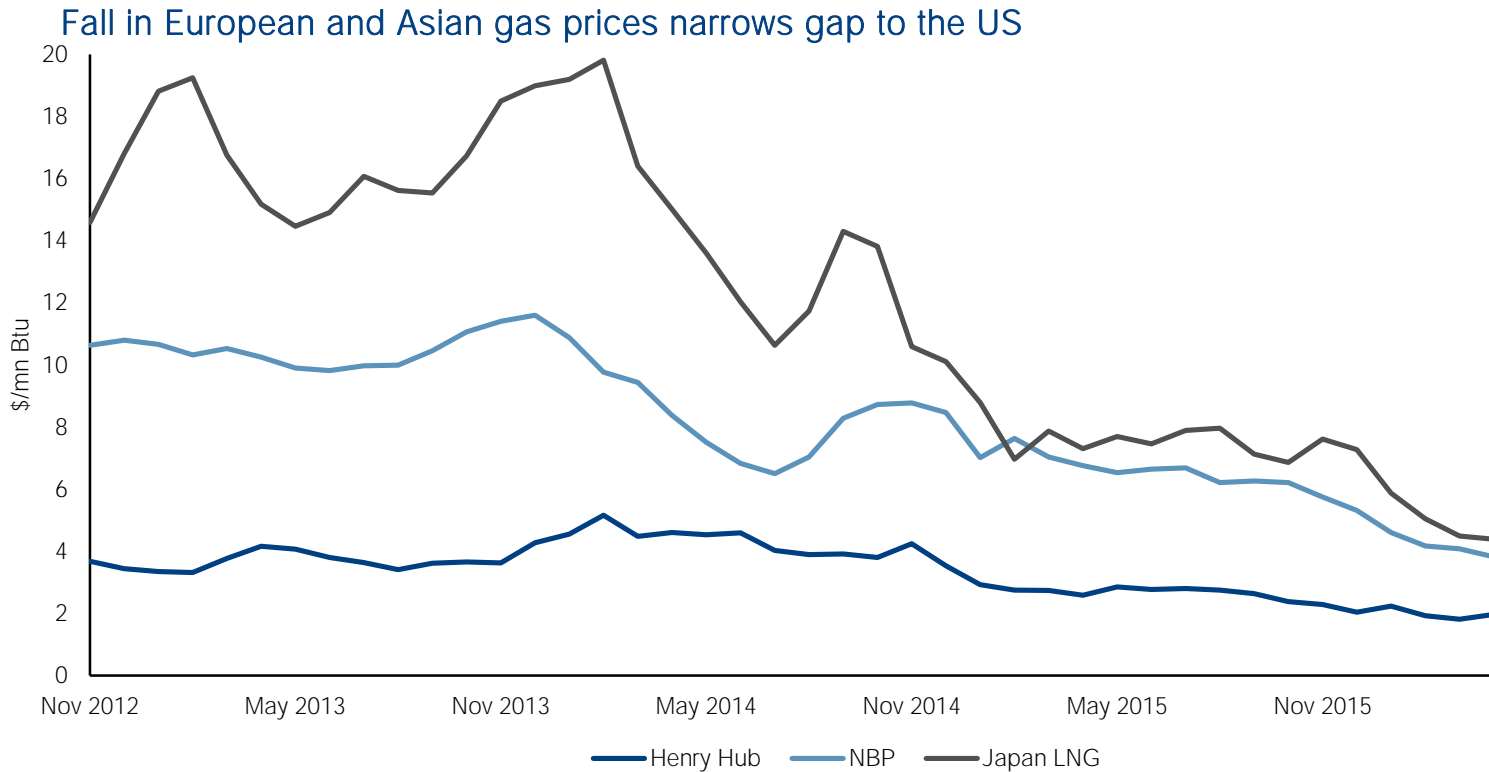
Three stage growth of LNG production capacity



Three stage growth of LNG production capacity



Global gas prices are already coming together



Uniper — half of new LNG will come to Europe

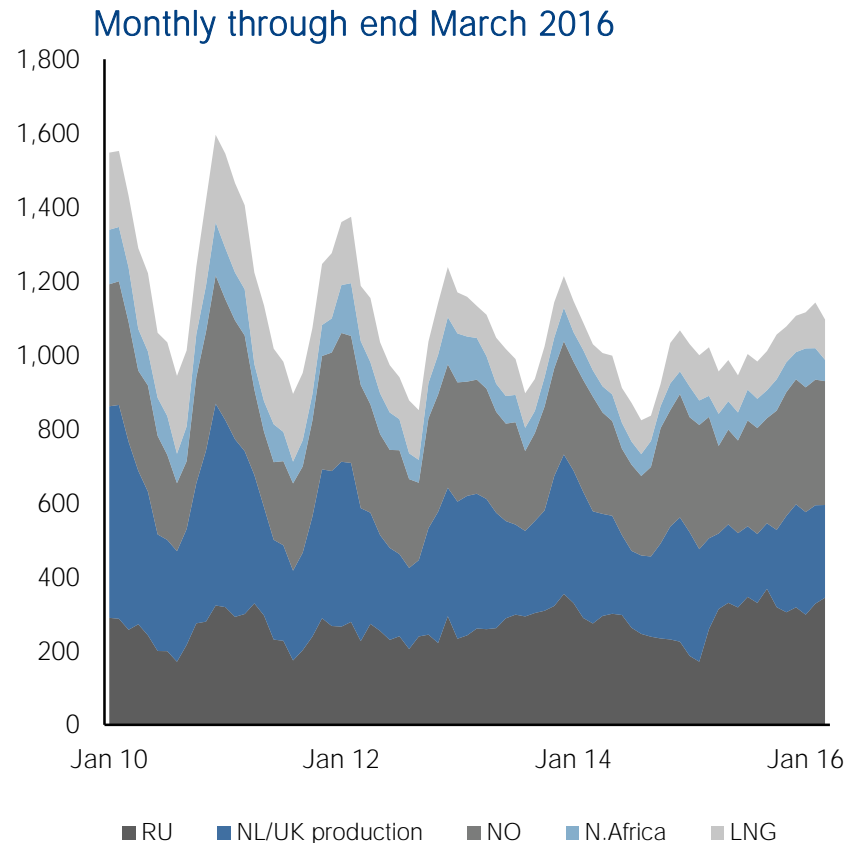
“... we believe that over 50pc of this additional volume will find its way into Europe — either directly or by displacing other swing suppliers which are currently delivering into Asia”

— Richard Baylis, head of LNG,
Uniper Global Commodities, LNG 18
conference

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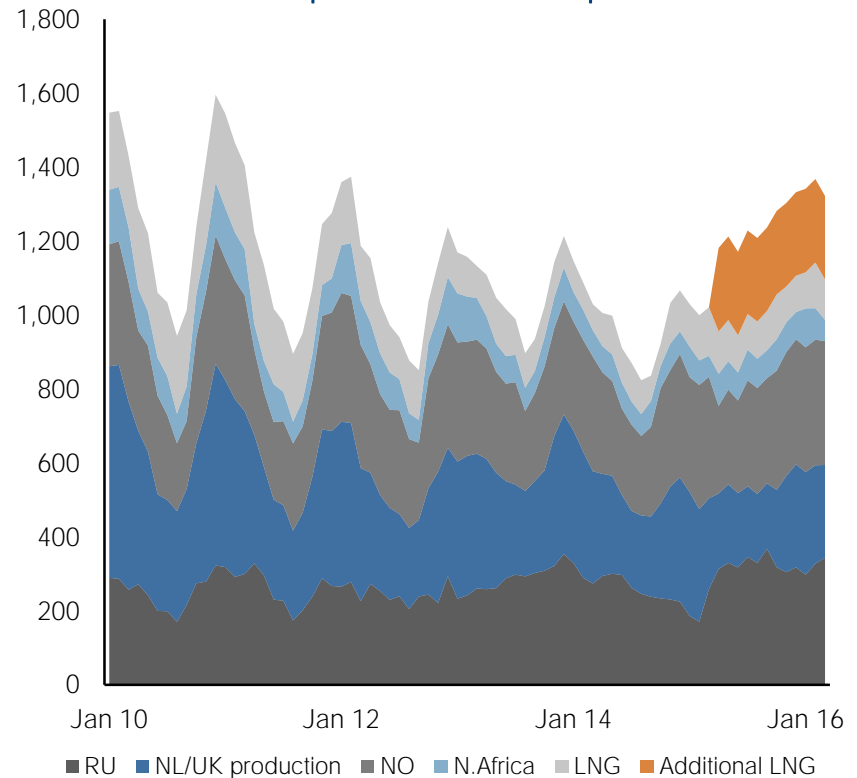


Uniper — half of new LNG will come to Europe

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— Richard Baylis, head of LNG,
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Half of new liquefaction to Europe



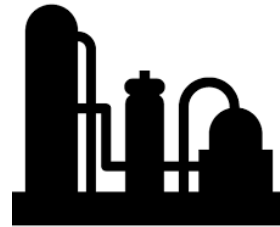
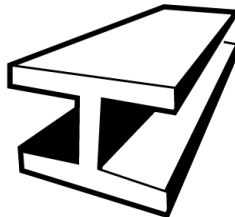
Assumes half of 130mn t/yr = approximately 226mn m³/d of sendout without seasonal swing

Demand

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Gas demand

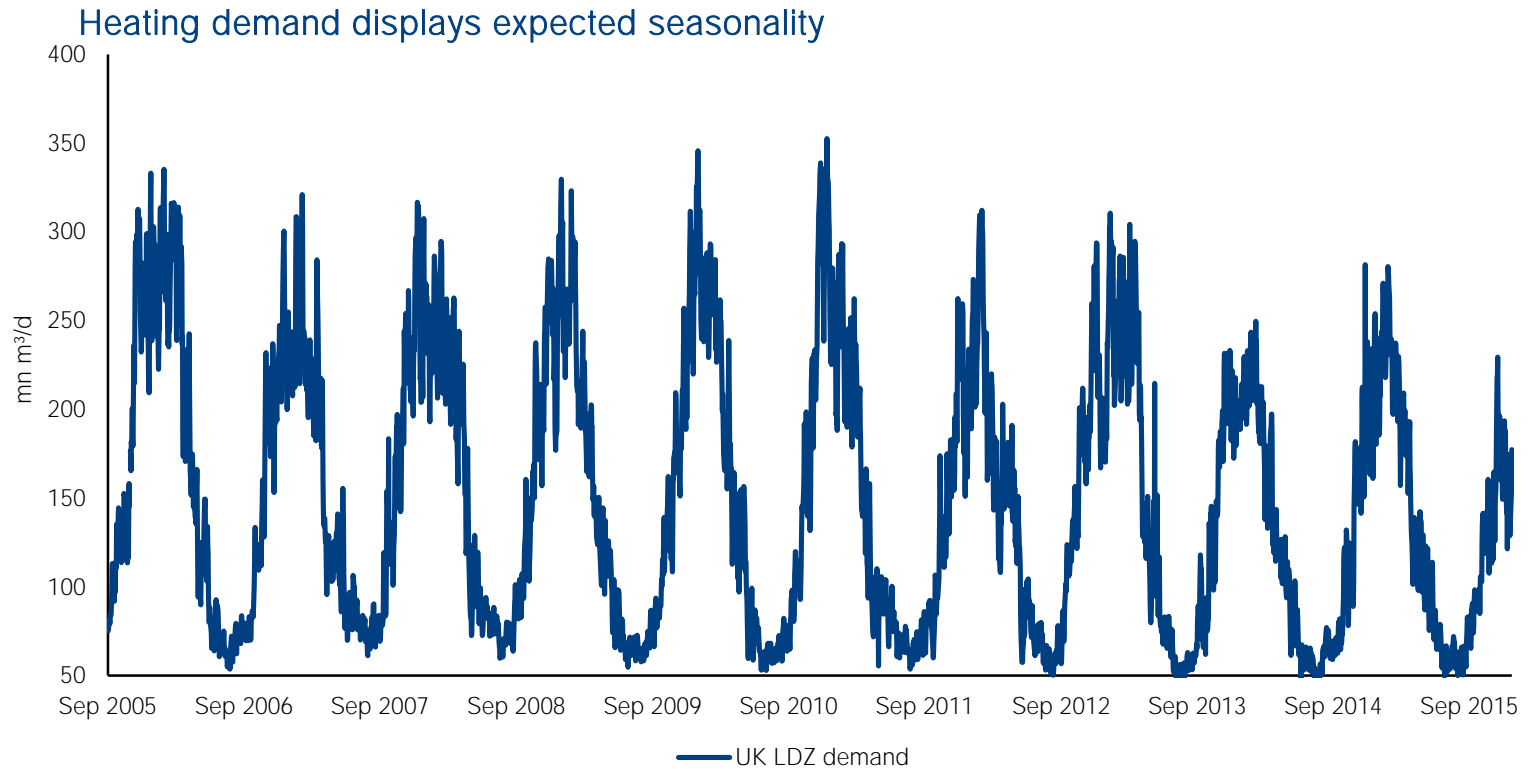


Demand and temperature

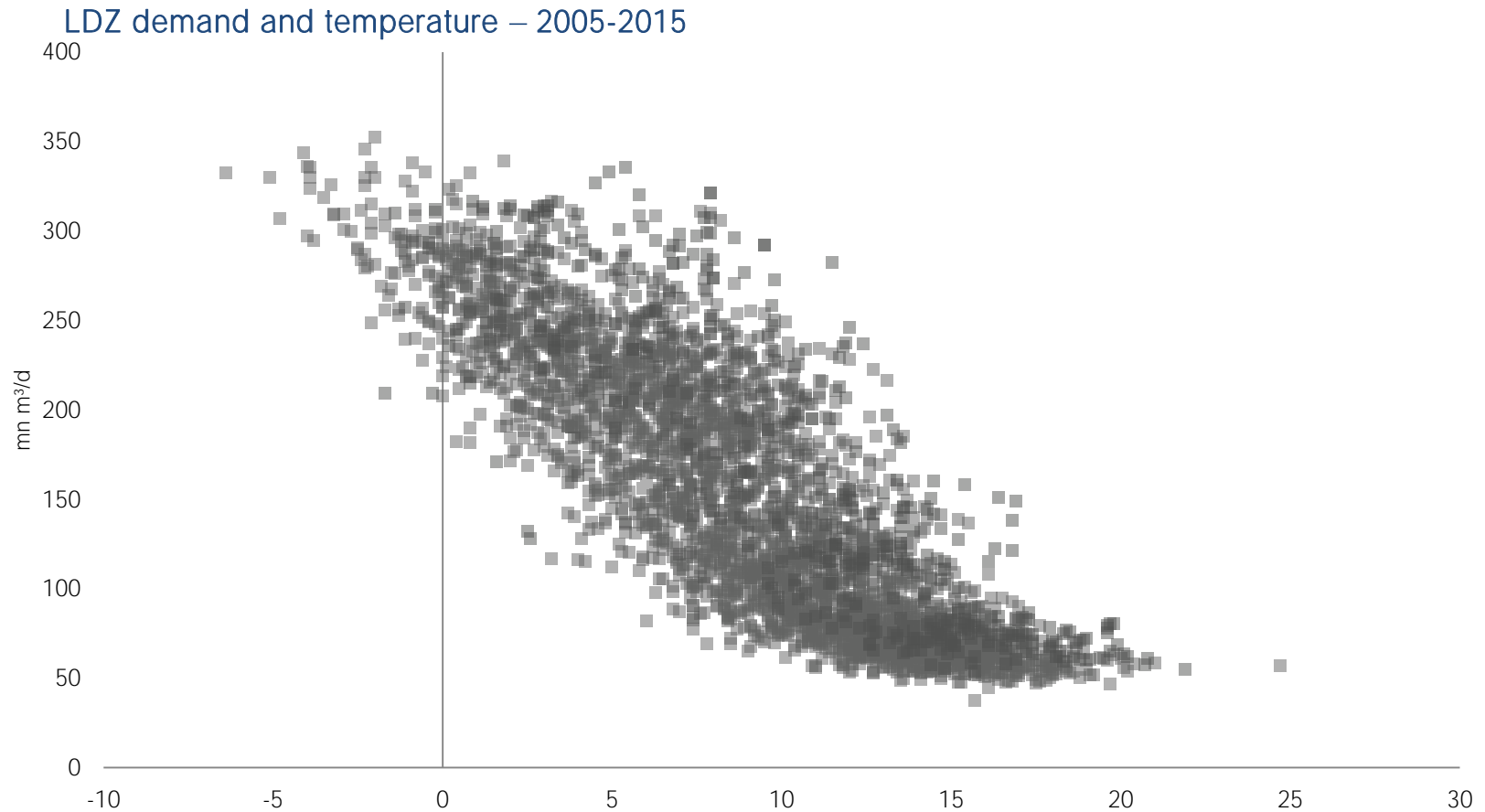
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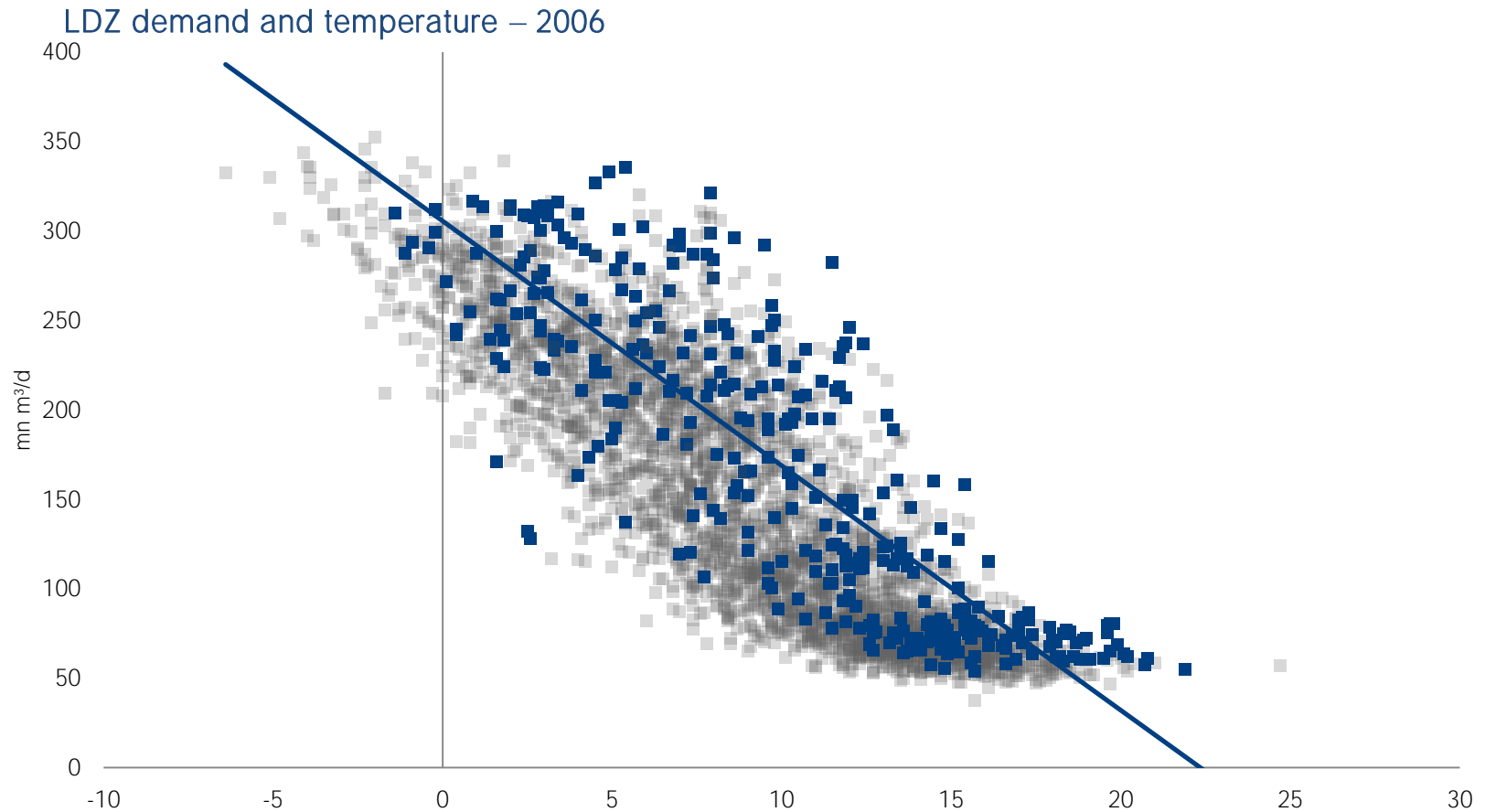
UK heating demand



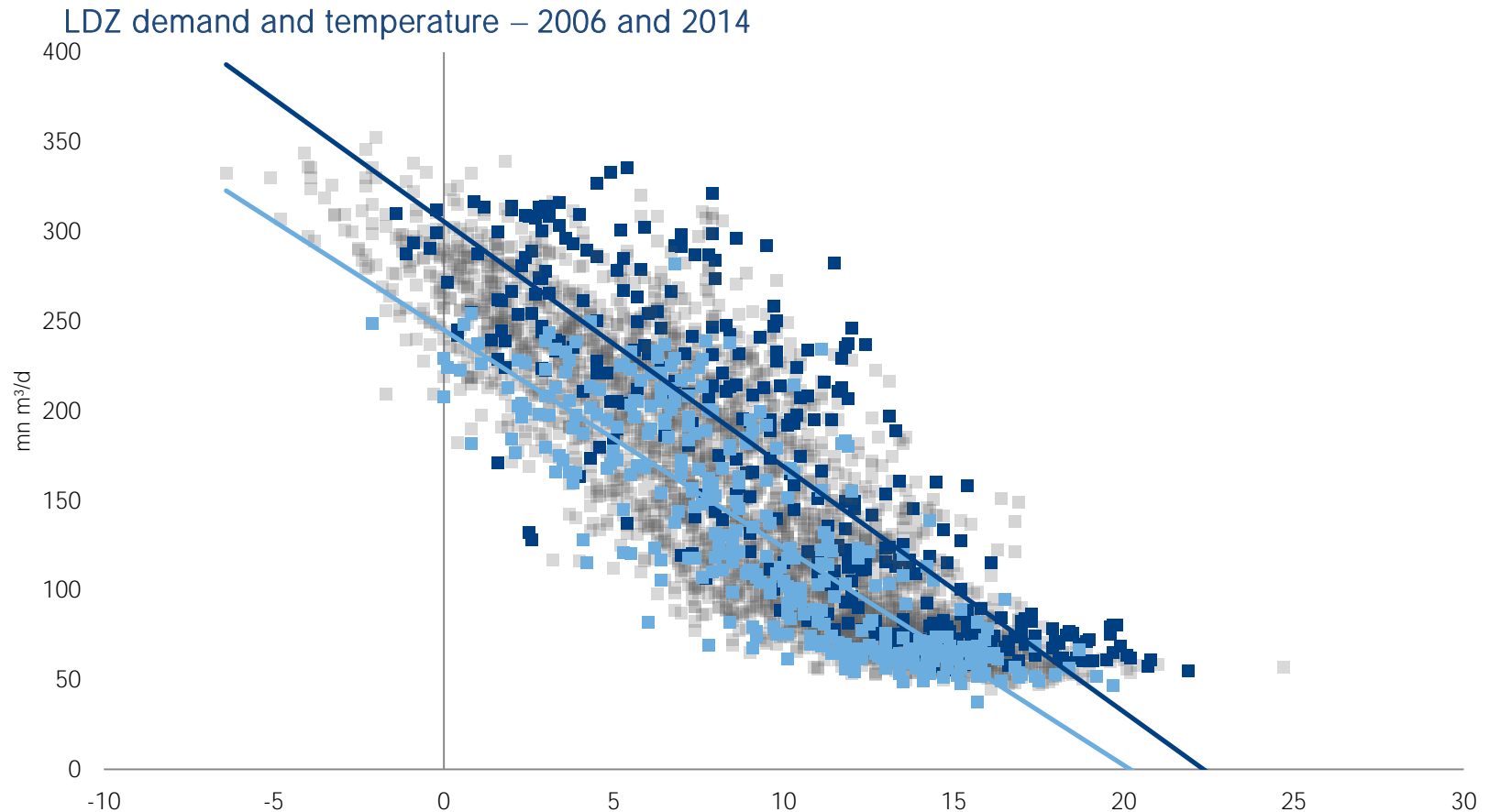
Heating demand elasticity and destruction



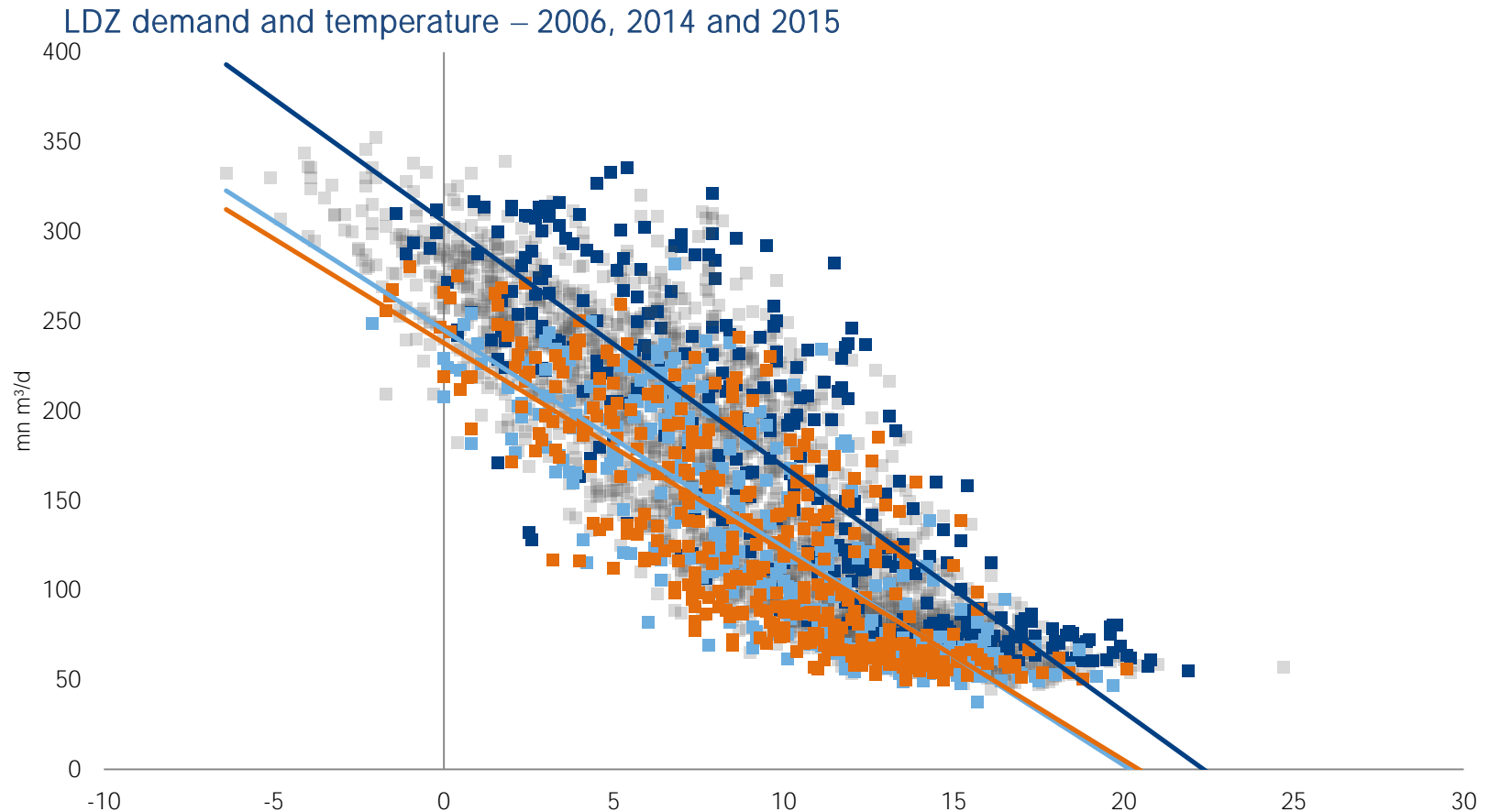
Heating demand elasticity and destruction



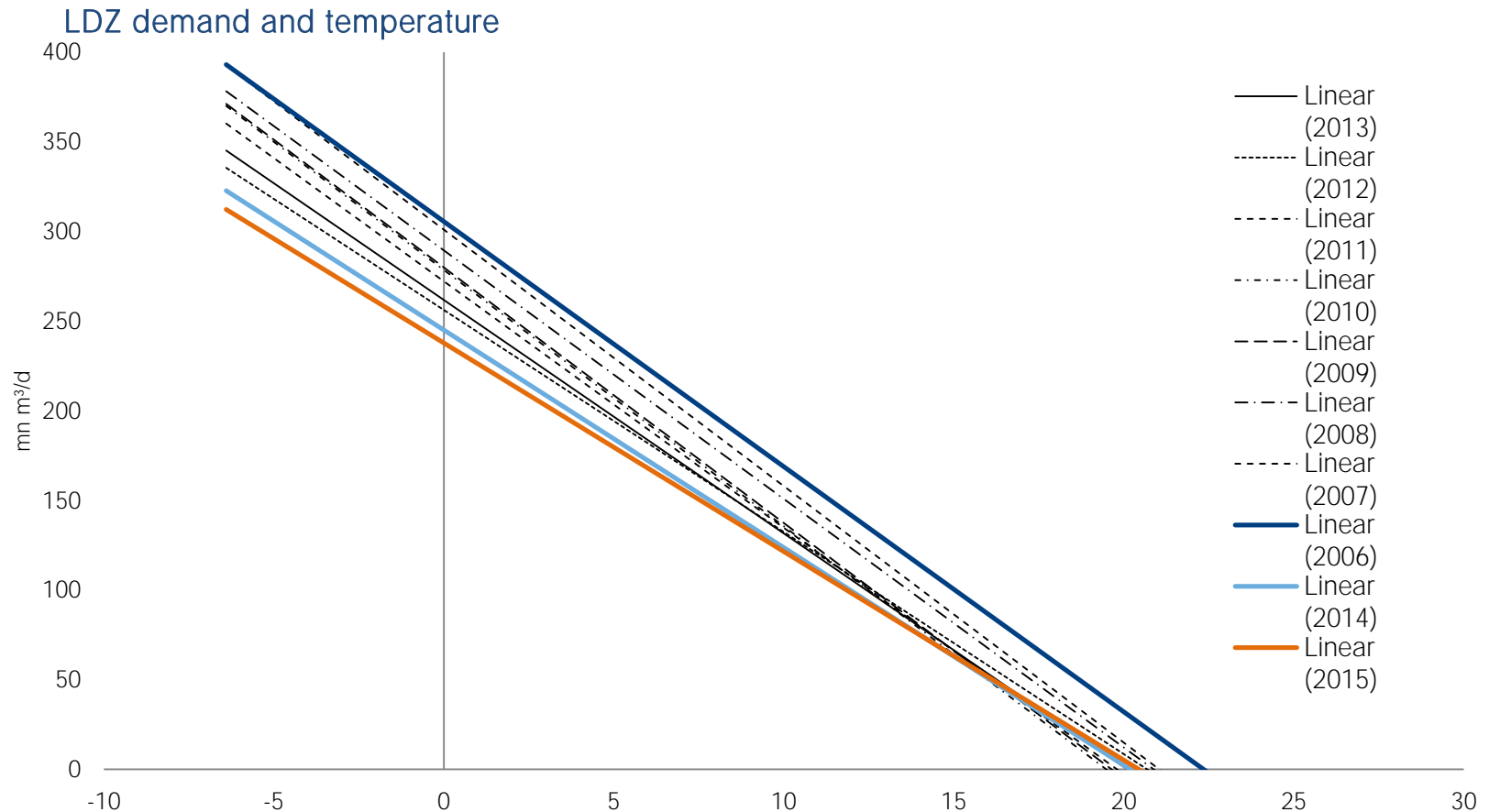
Heating demand elasticity and destruction



Heating demand elasticity and destruction

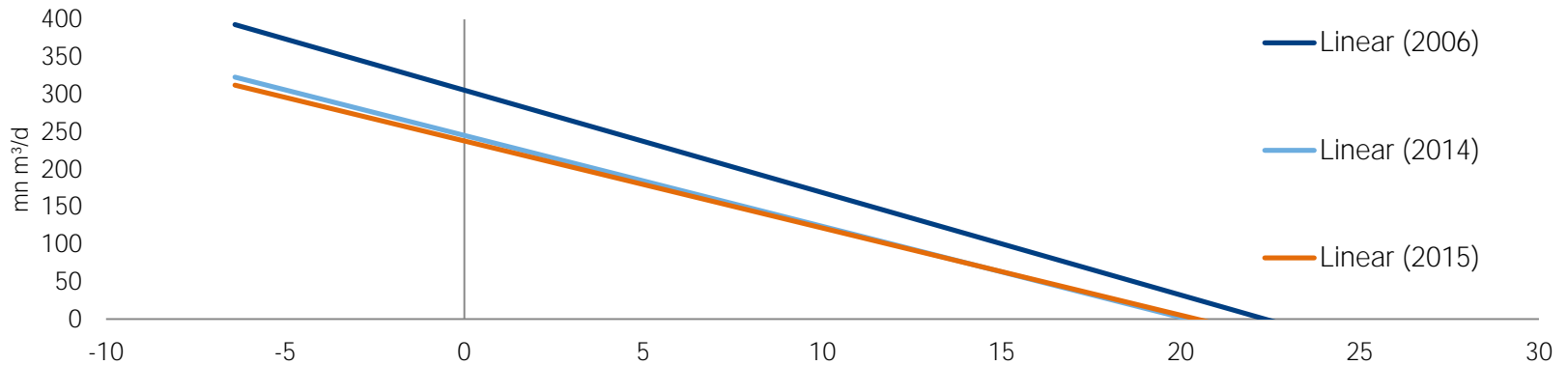


Heating demand elasticity and destruction

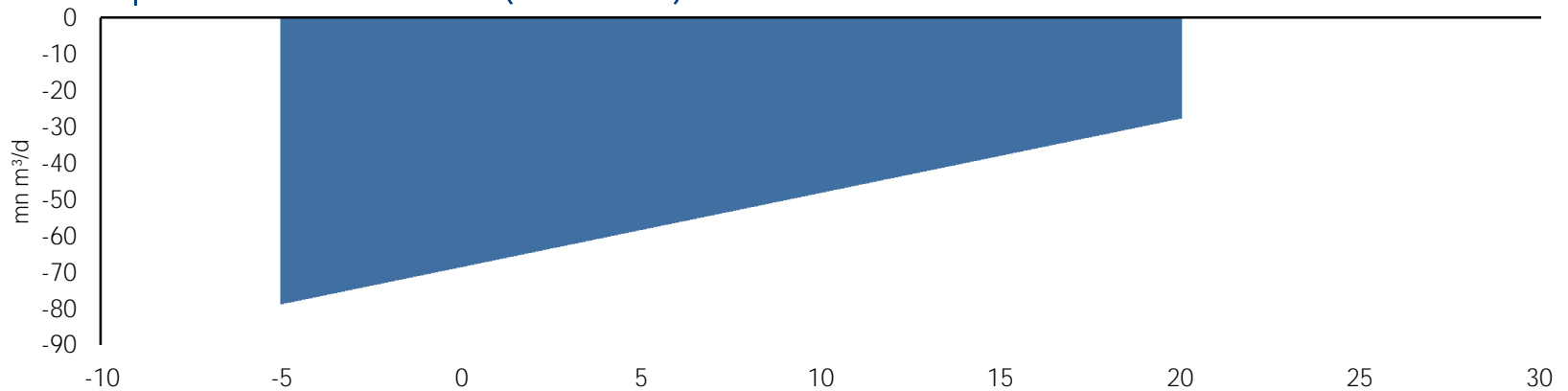


Heating demand elasticity and destruction

LDZ demand and temperature 2006, 2014, 2015



Implied demand reduction (2006-2015)



Efficiency in heating use

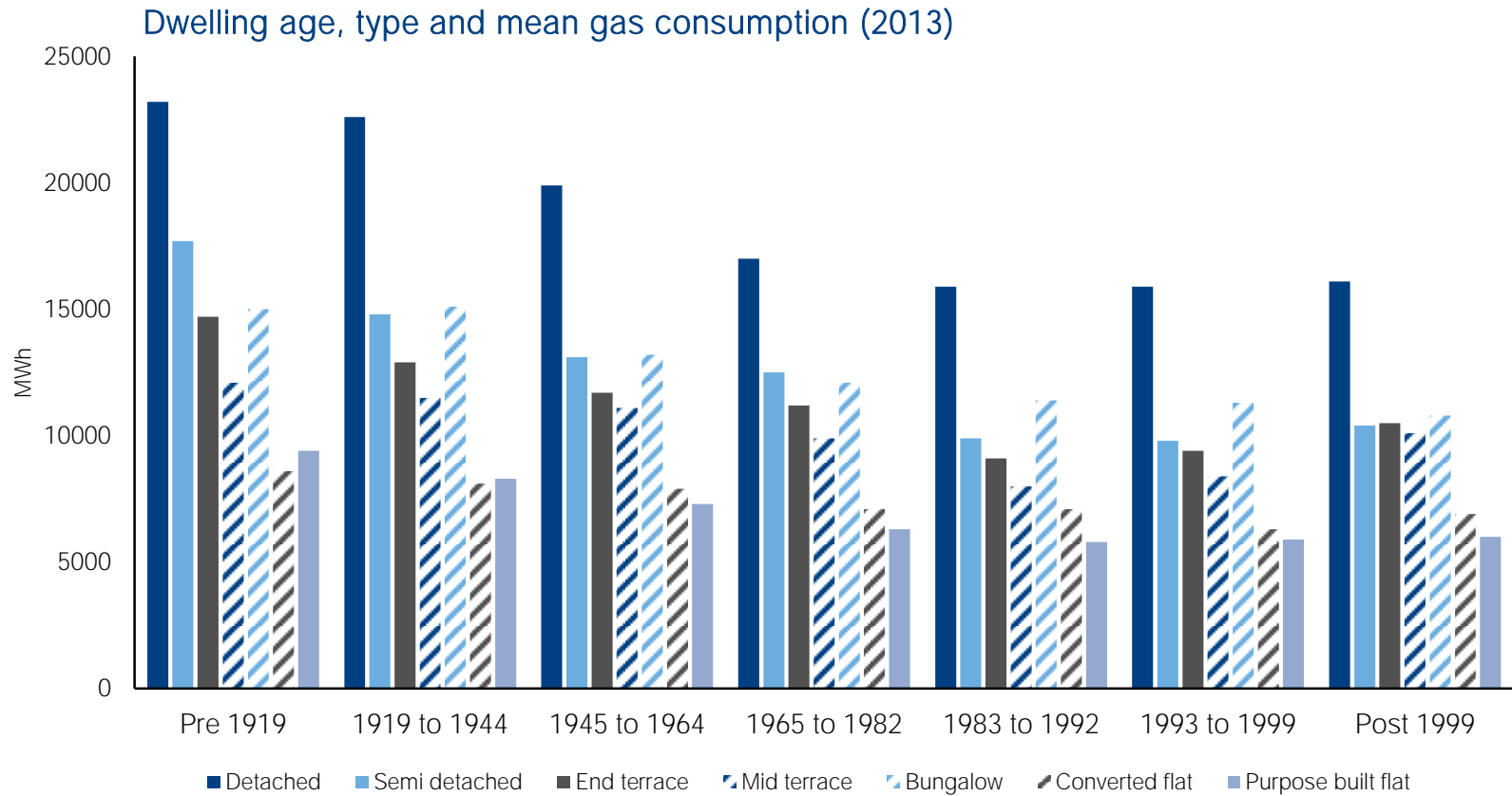
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Property age, type and gas demand

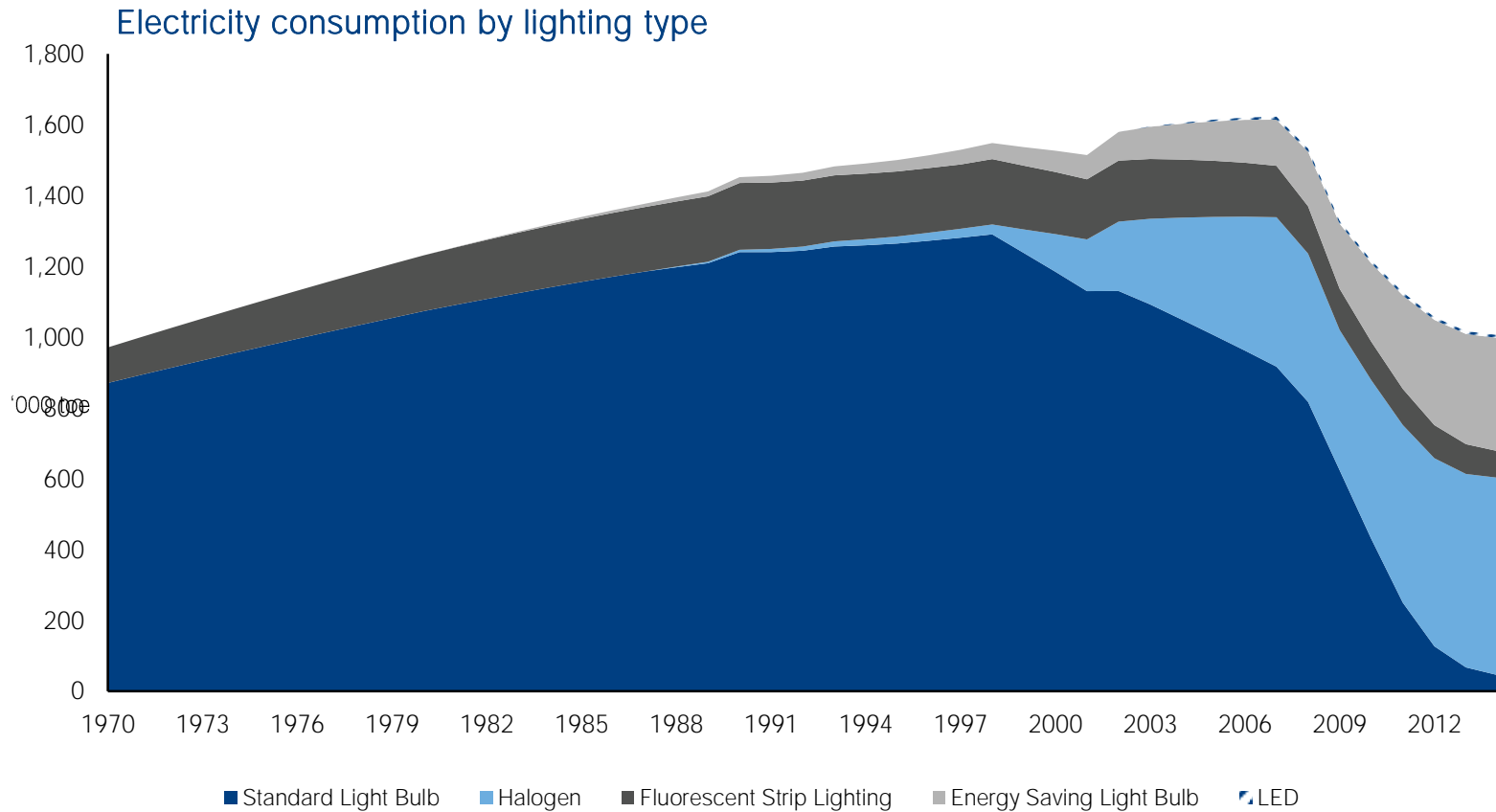


Lightbulbs

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Energy efficiency in lighting



German consumption is also falling

Lightbulbs

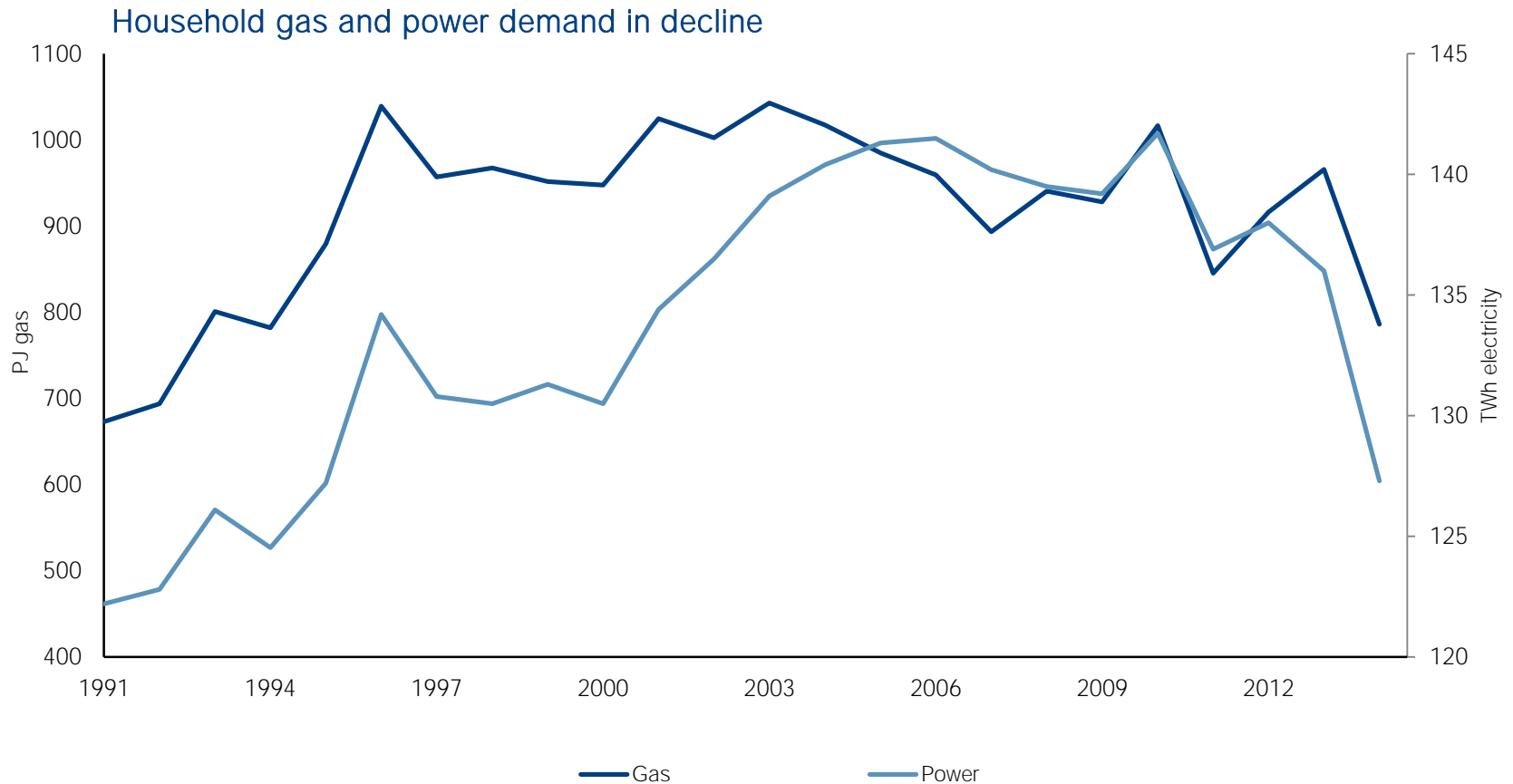
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German household gas and power demand falling

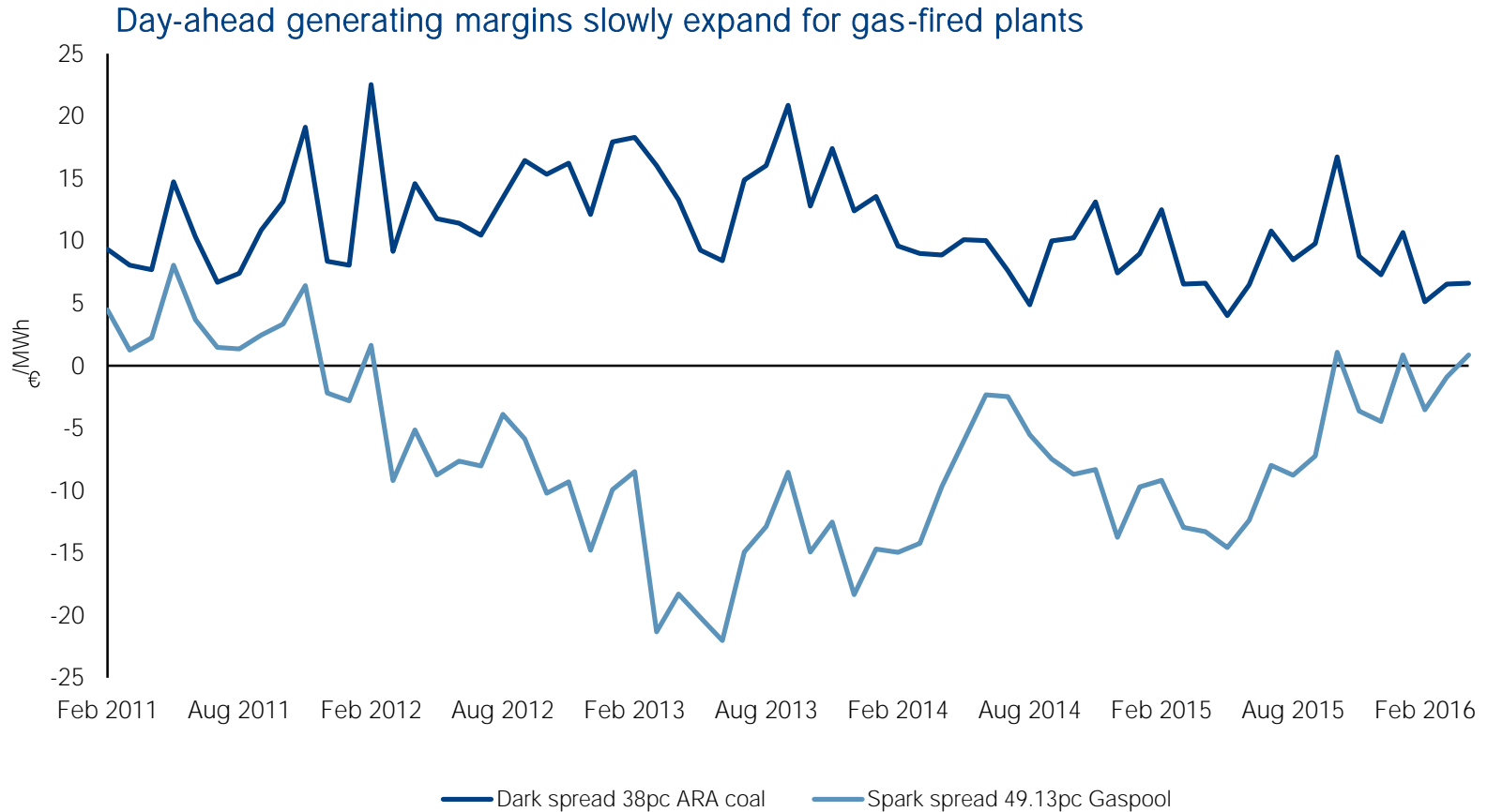


Power sector gas demand

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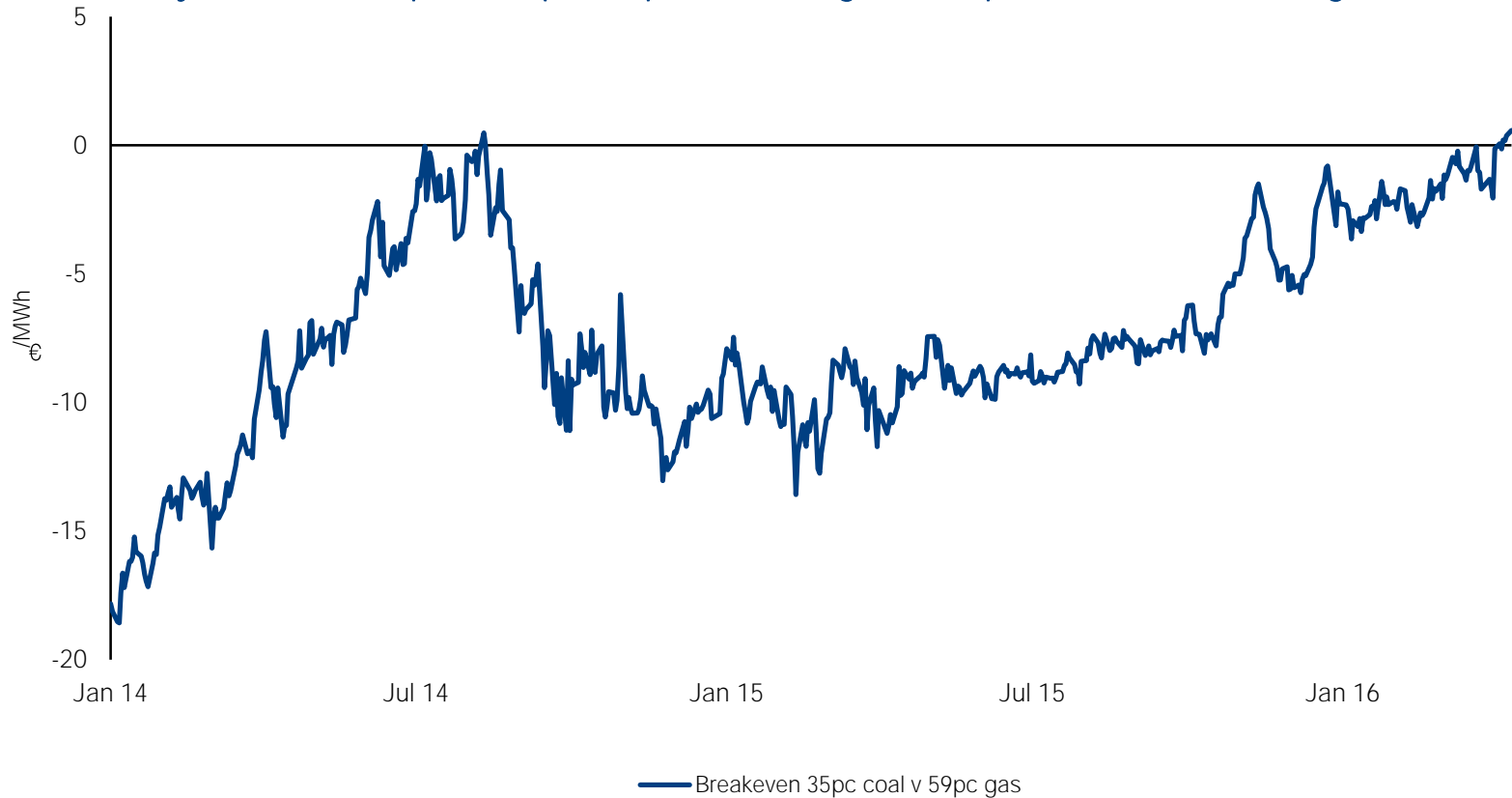
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Spark and dark spreads less discouraging

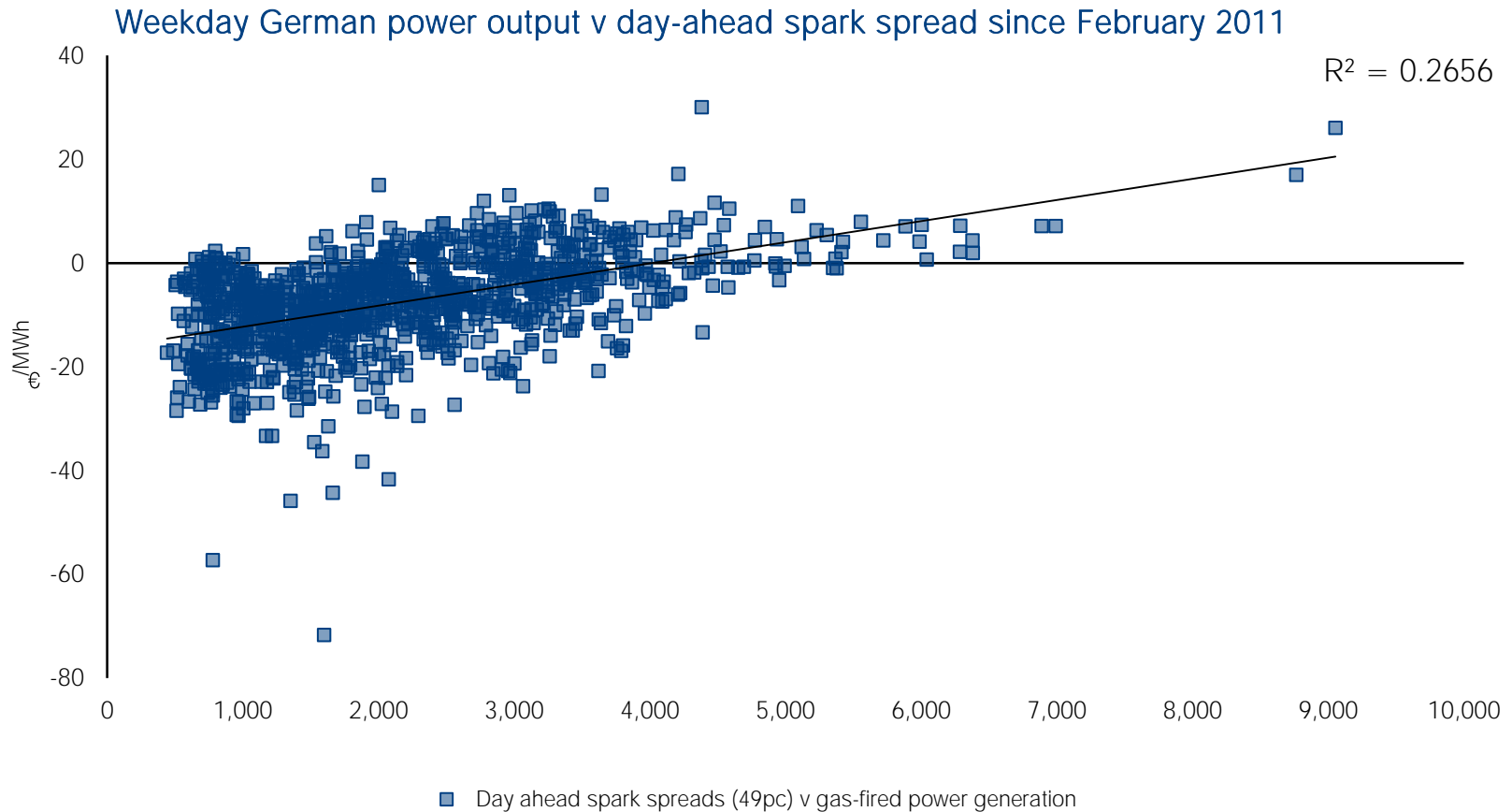


New CCGTs can compete with older coal (ish)

Early summer slump in fuel prices pushes new gas-fired plants back to the margin



But CCGTs run even when sparks are negative...



Intraday power trade and generating margins

A nighttime photograph of a city skyline reflected in water. A glowing blue line starts from the bottom left, curves across the water, and ends near the right side of the frame. The city lights are visible in the background.

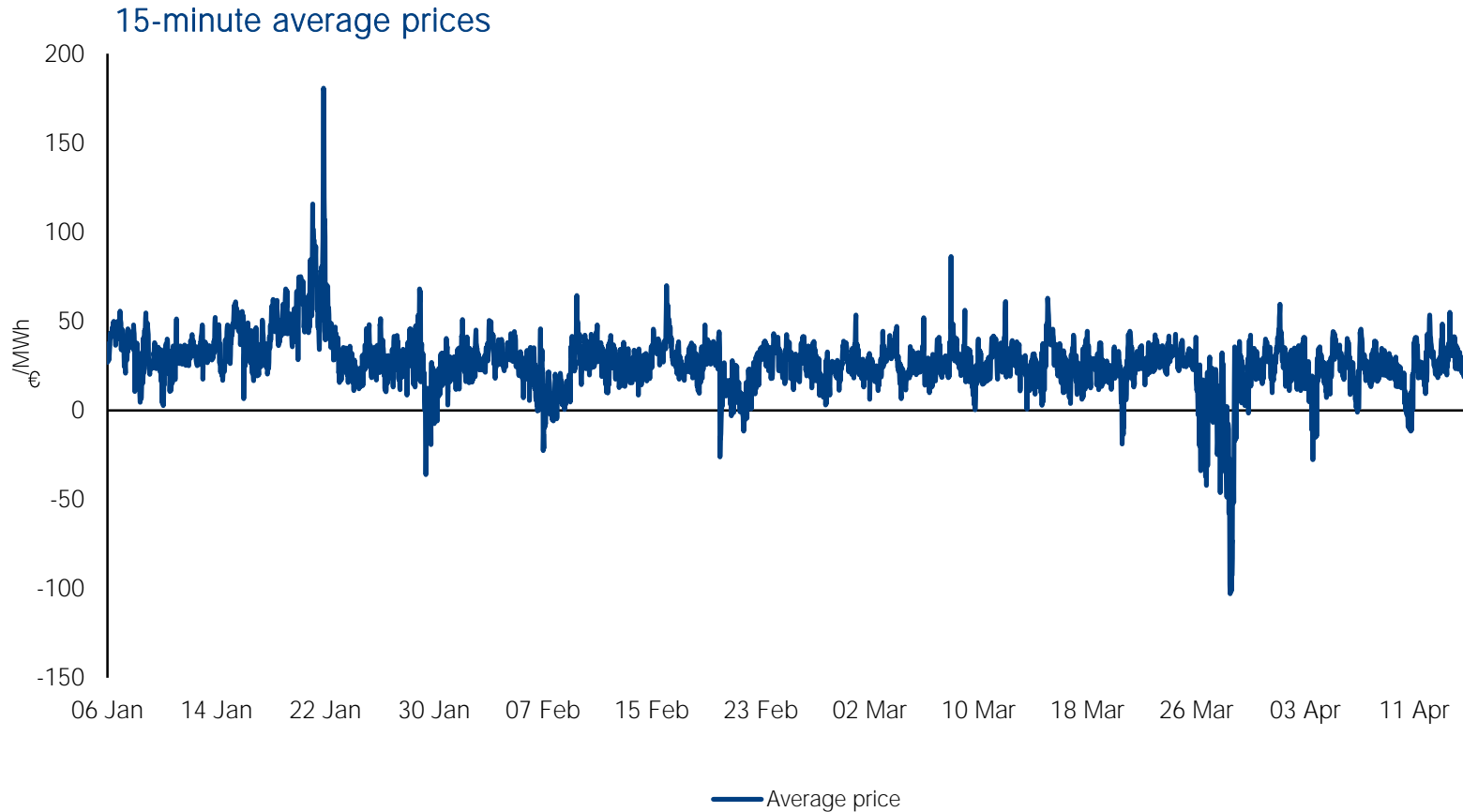
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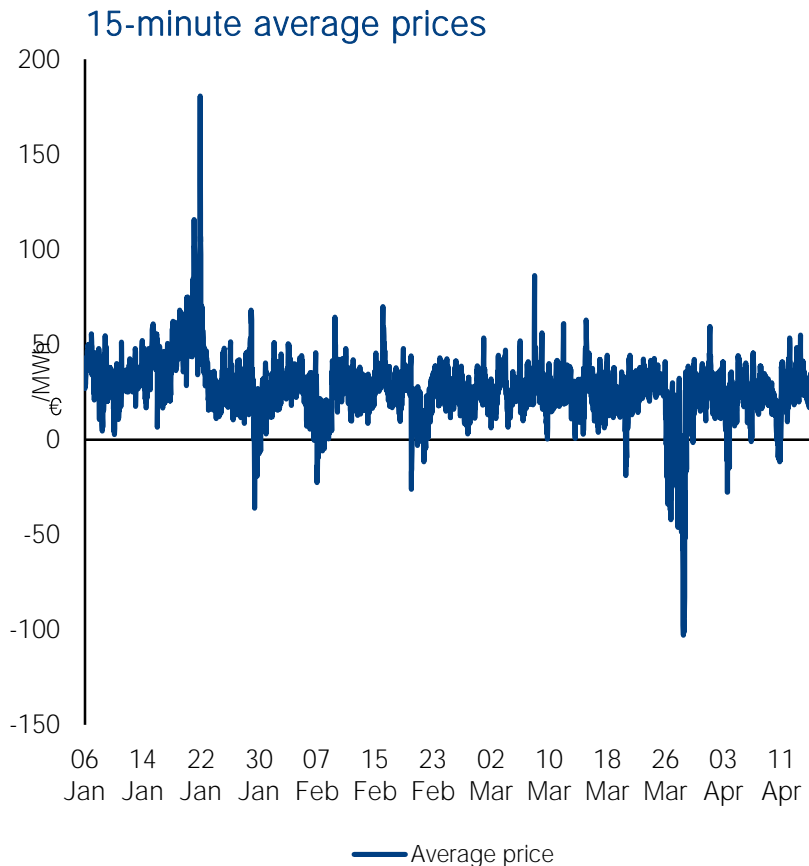
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German intra-day prices



Towards an intra-day spark spread

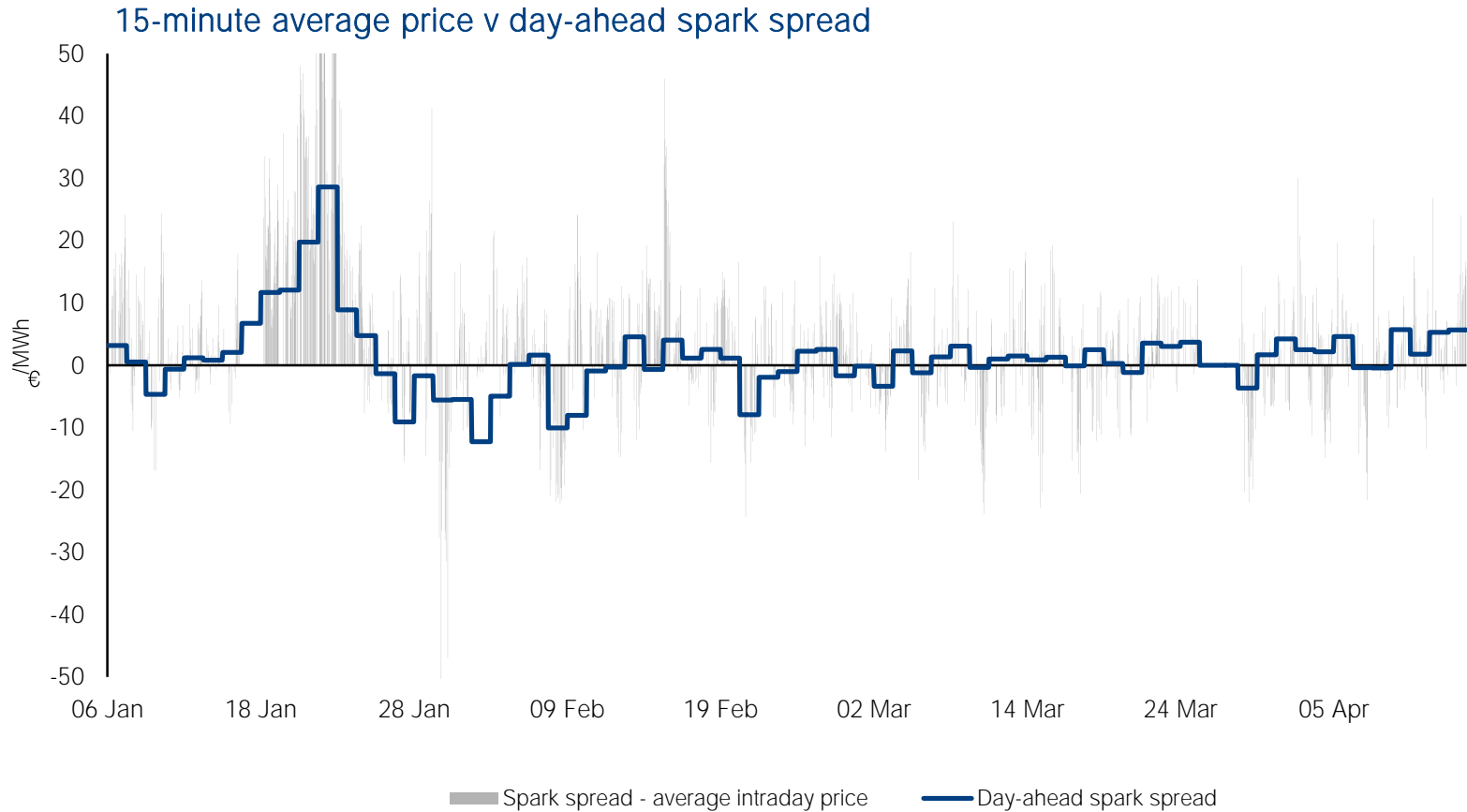


For weekdays between 7am and 7pm since 6 January:

The NCG or Gaspool within-day market traded within 15 minutes of each 15-minute power delivery period start for 43pc of periods.

A spark spread for a 50pc efficient CCGT was calculated using the average of those gas prices and the high, low, last and average price for each 15-minute power contract.

German intra-day prices



Hedging behaviour as a measure of price outlook

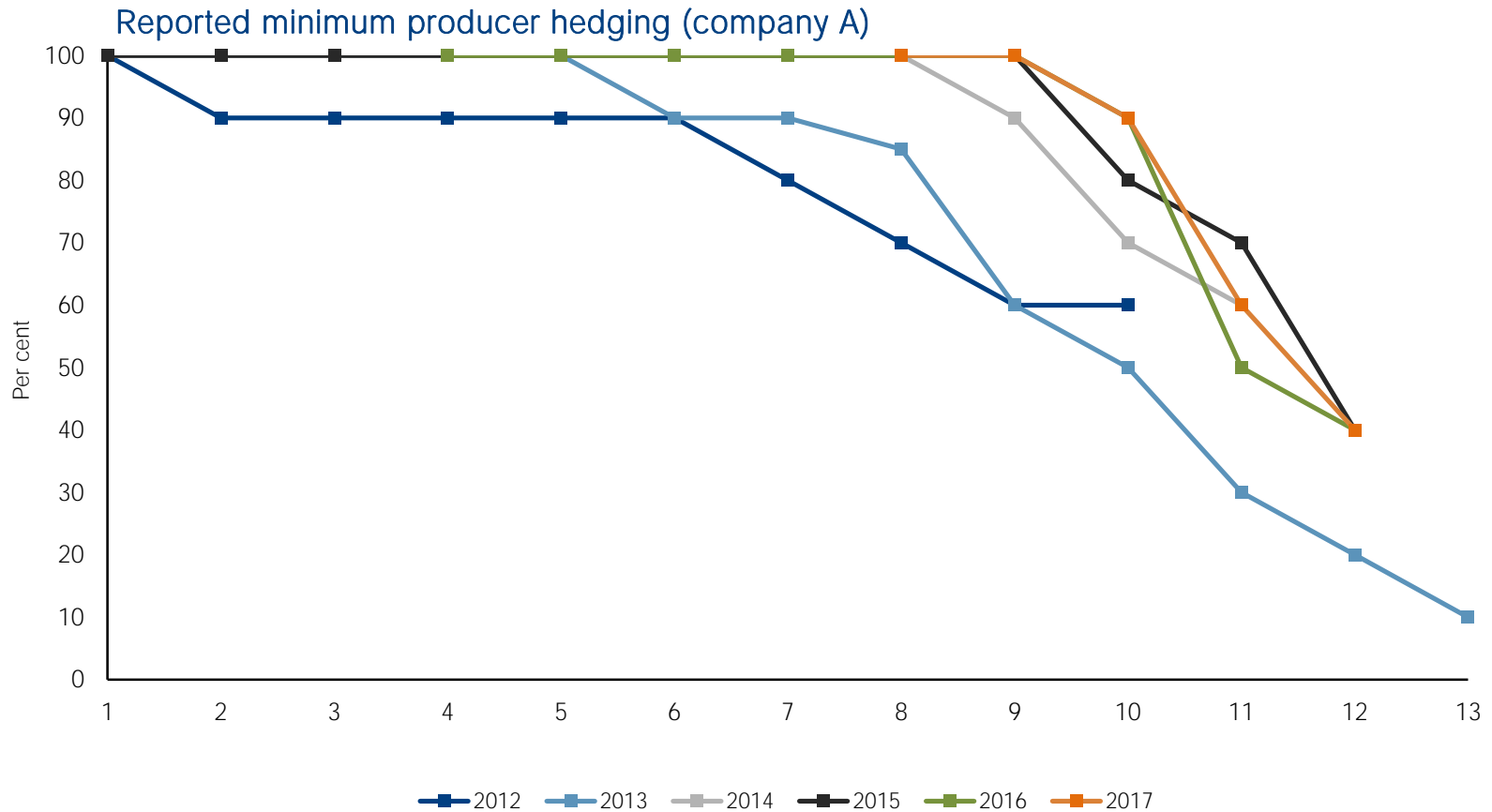
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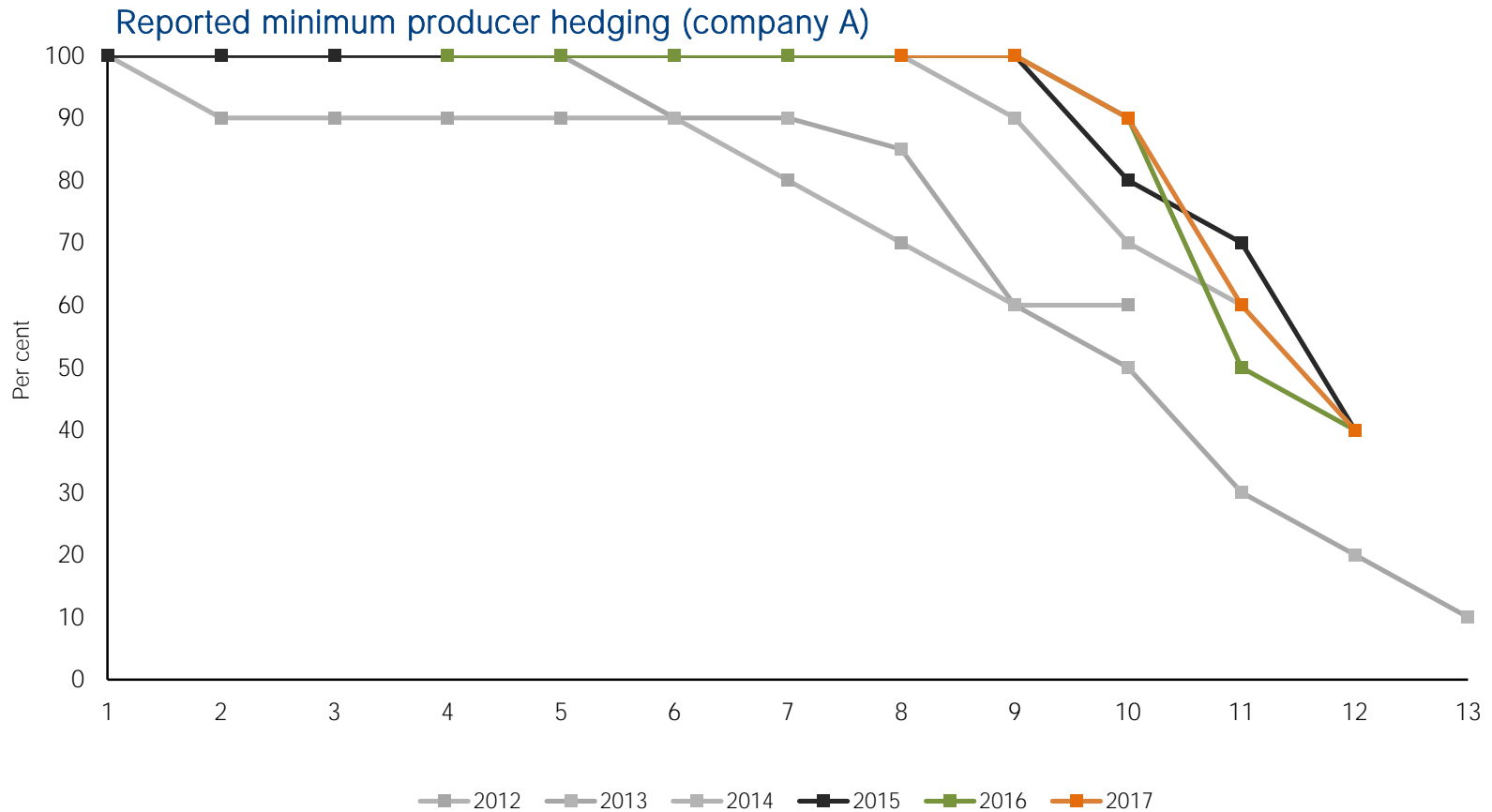
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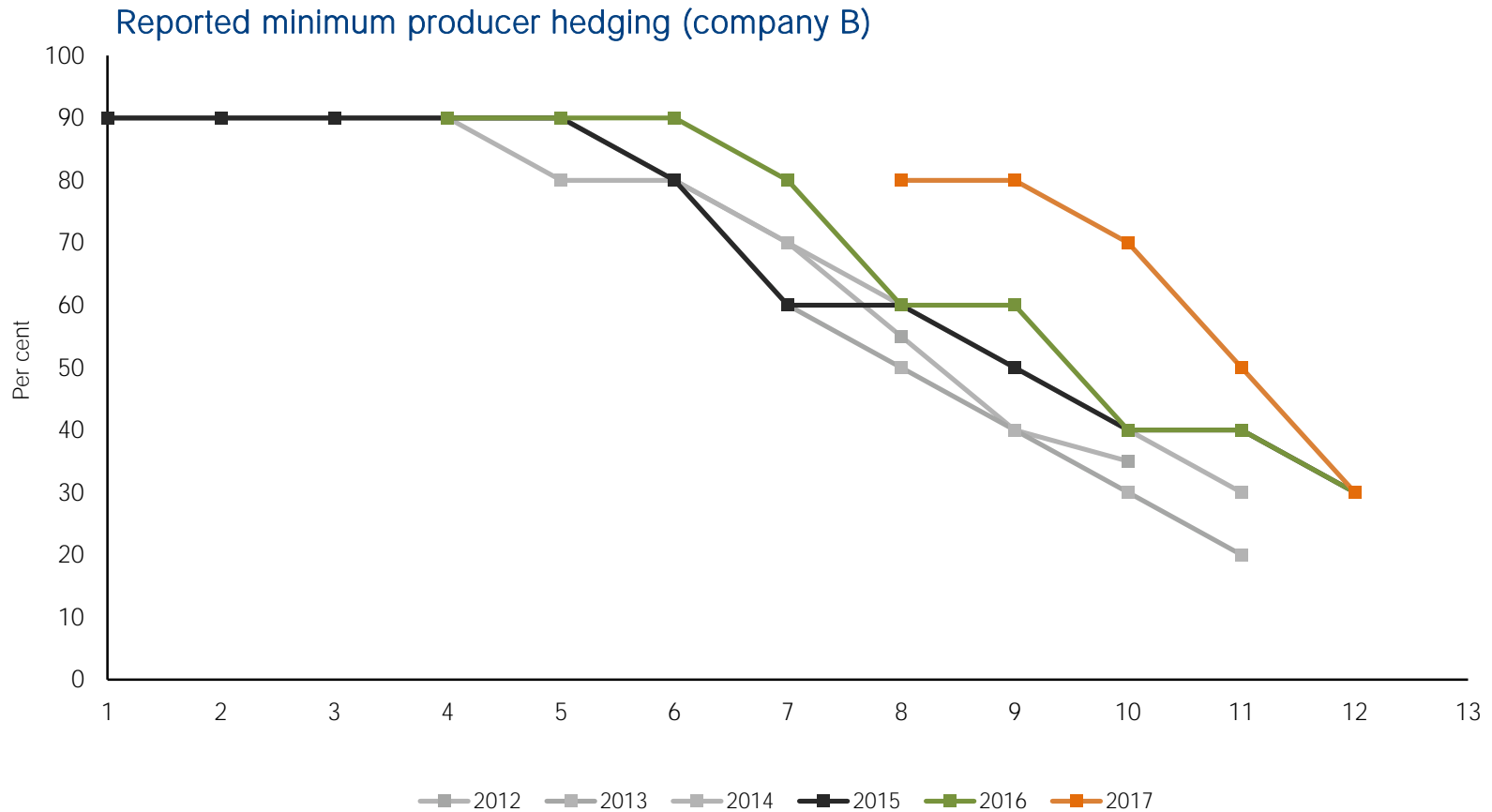
Producer hedging



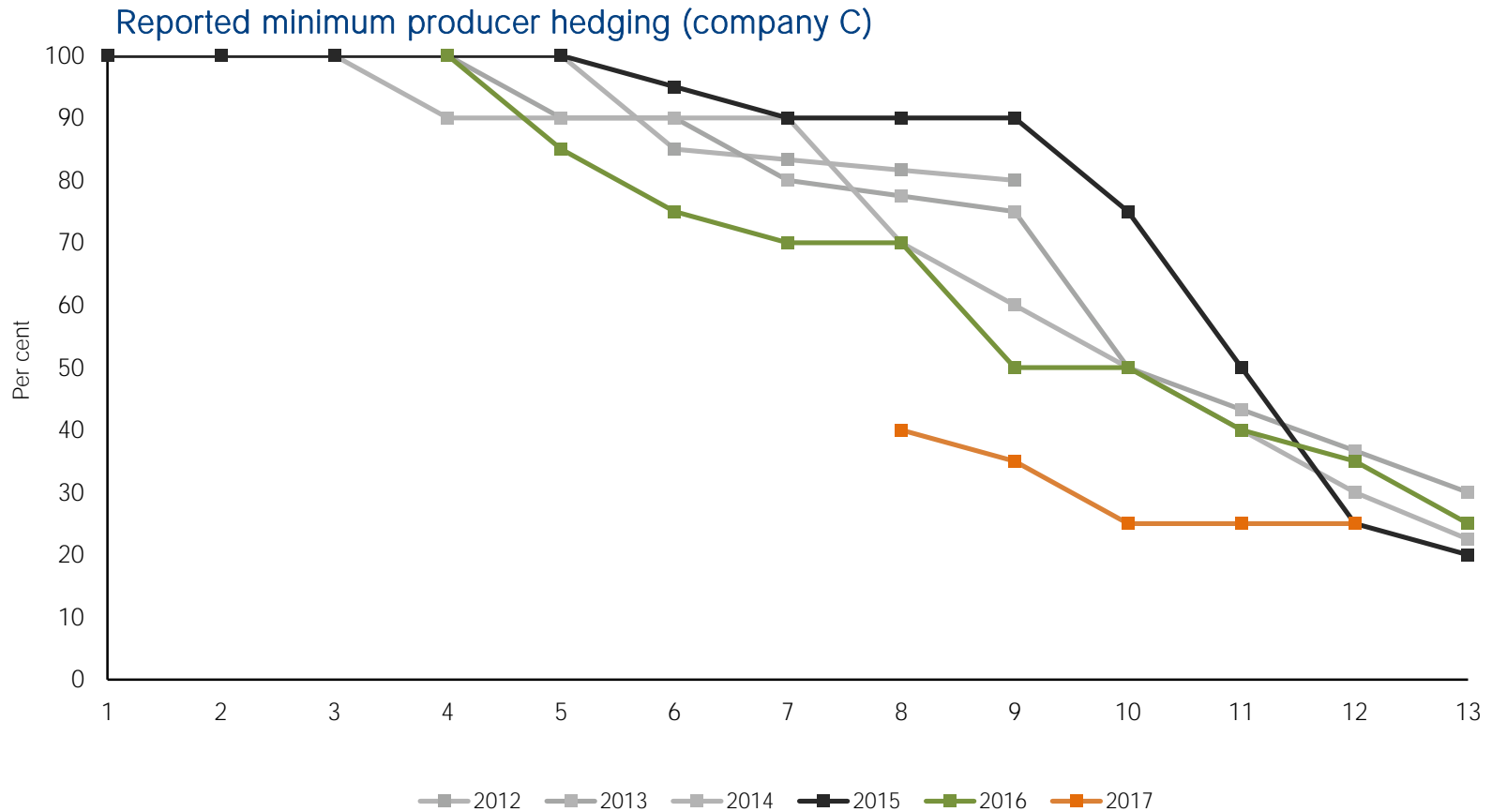
Producer hedging has accelerated



Producer hedging has accelerated



The trend is not universal



Conclusions?

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