

# GAS

# Medium-Term Market Report 2014

## Medium-Term Gas Market Report

Laszlo Varro

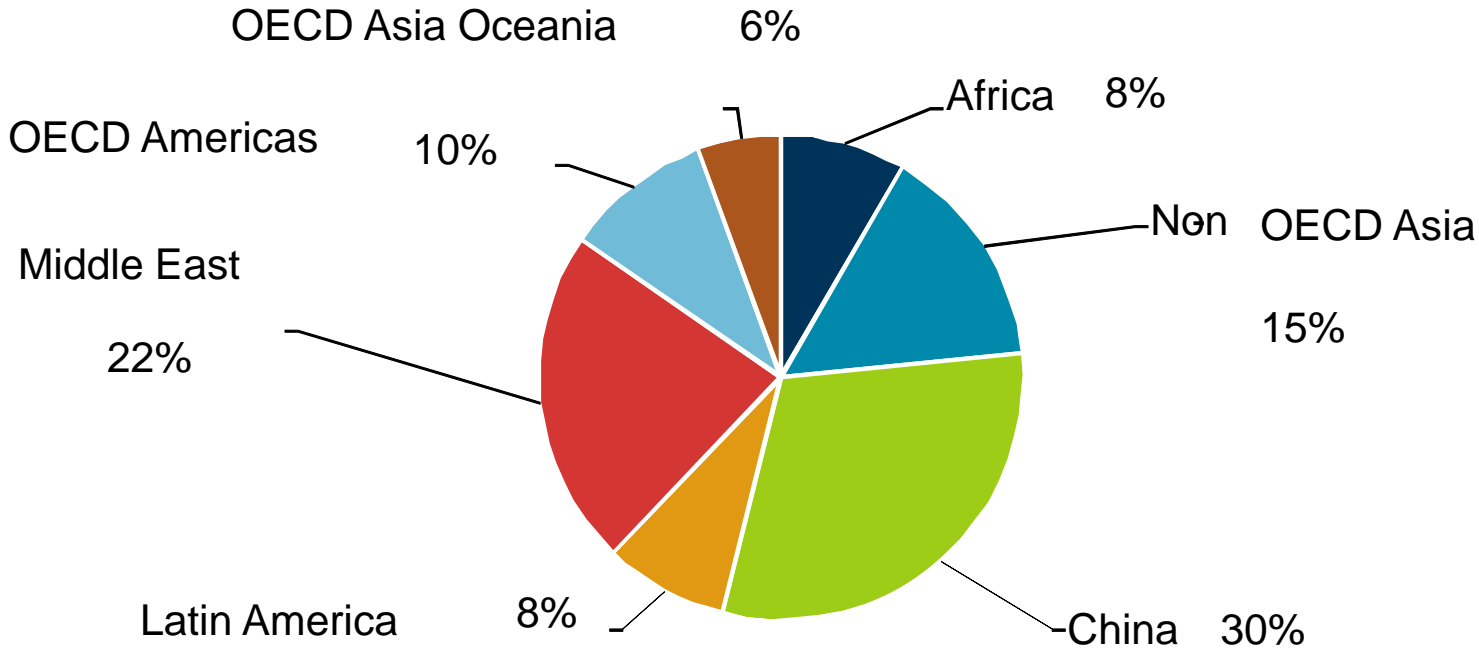
Head, Coal Gas and Power Markets



## Market Analysis and Forecasts to 2019

# Demand grows at 2.2% per year over 2013-19

## Incremental gas demand by region, 2013-19

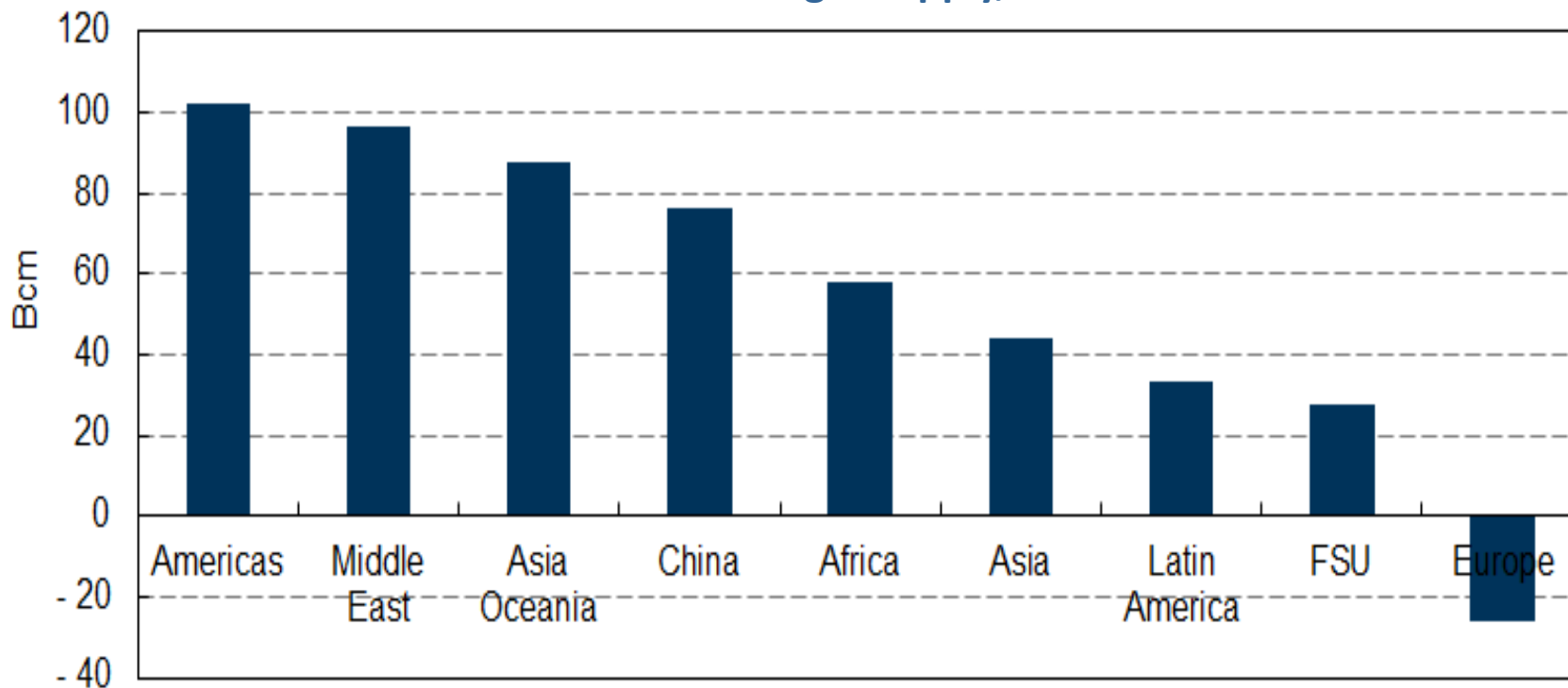


■ Demand in the FSU and Europe does not increase

# North America and Australia contribute to 40% of the additional supply

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Incremental gas supply, 2013-19

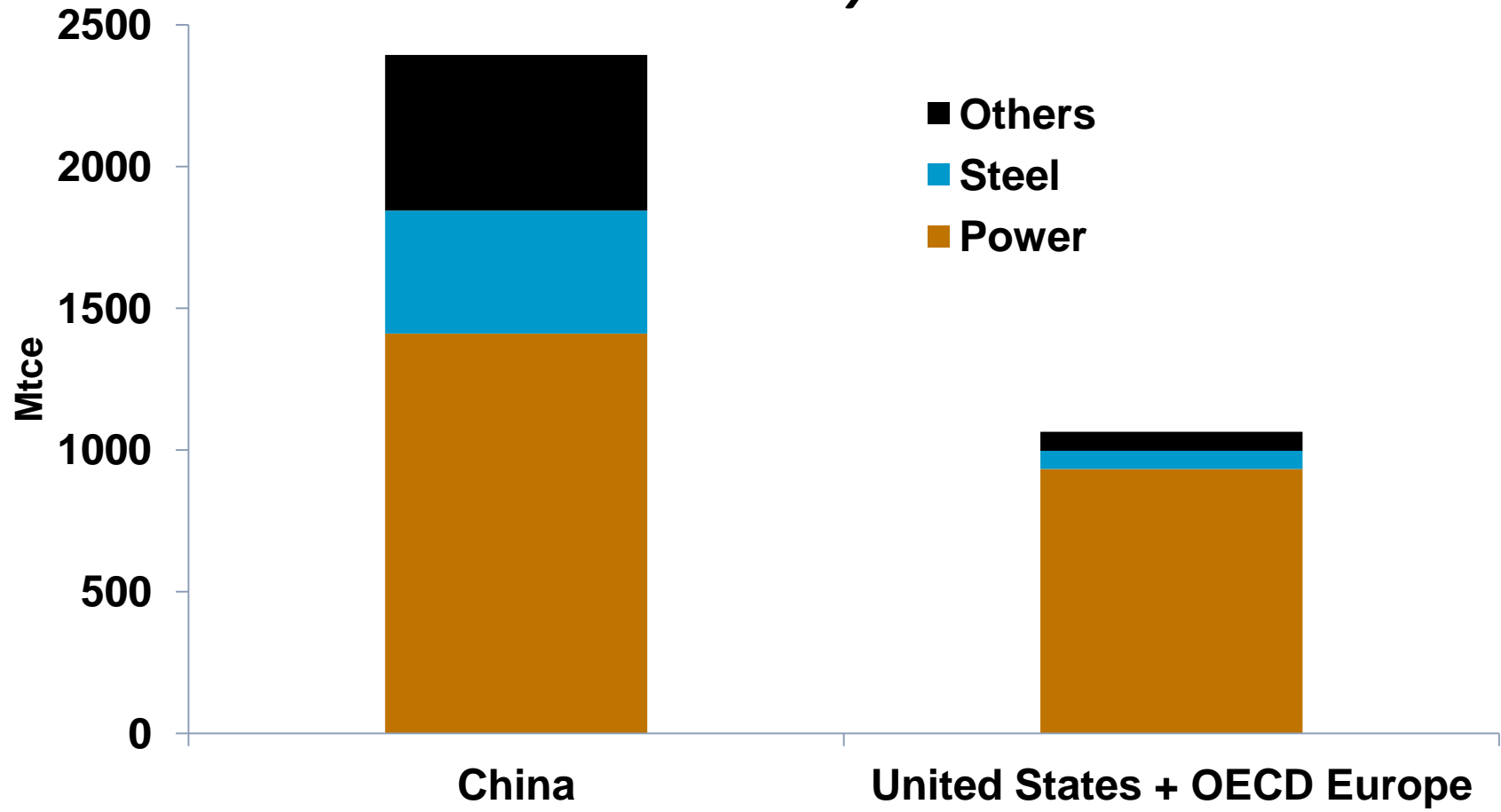


- Middle Eastern and Chinese production growth stays at home

# China: can gas challenge the dominance of coal?

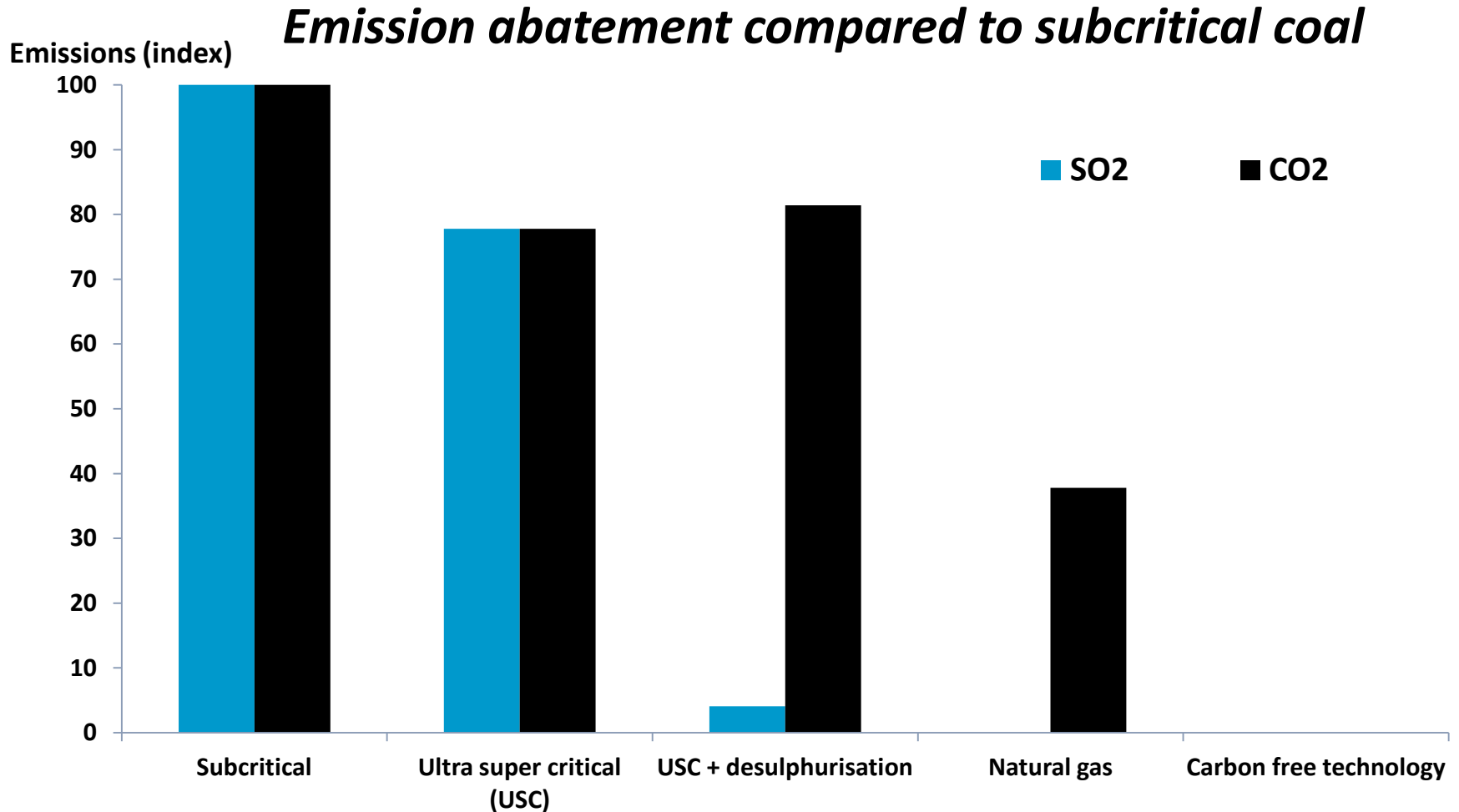


*Coal demand by sector*



# Local air pollution policies might help gas

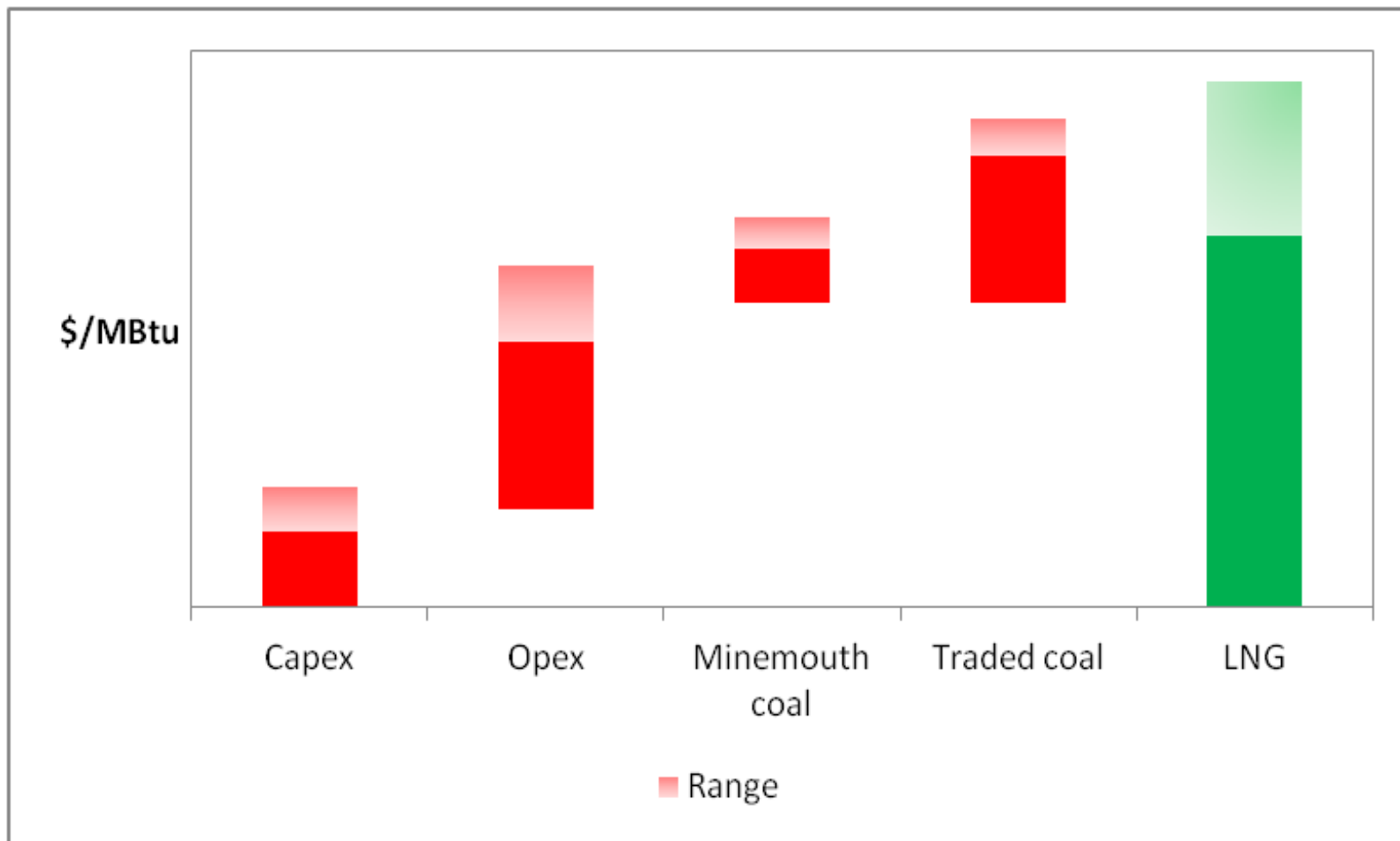
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# Or they might increase coal demand further



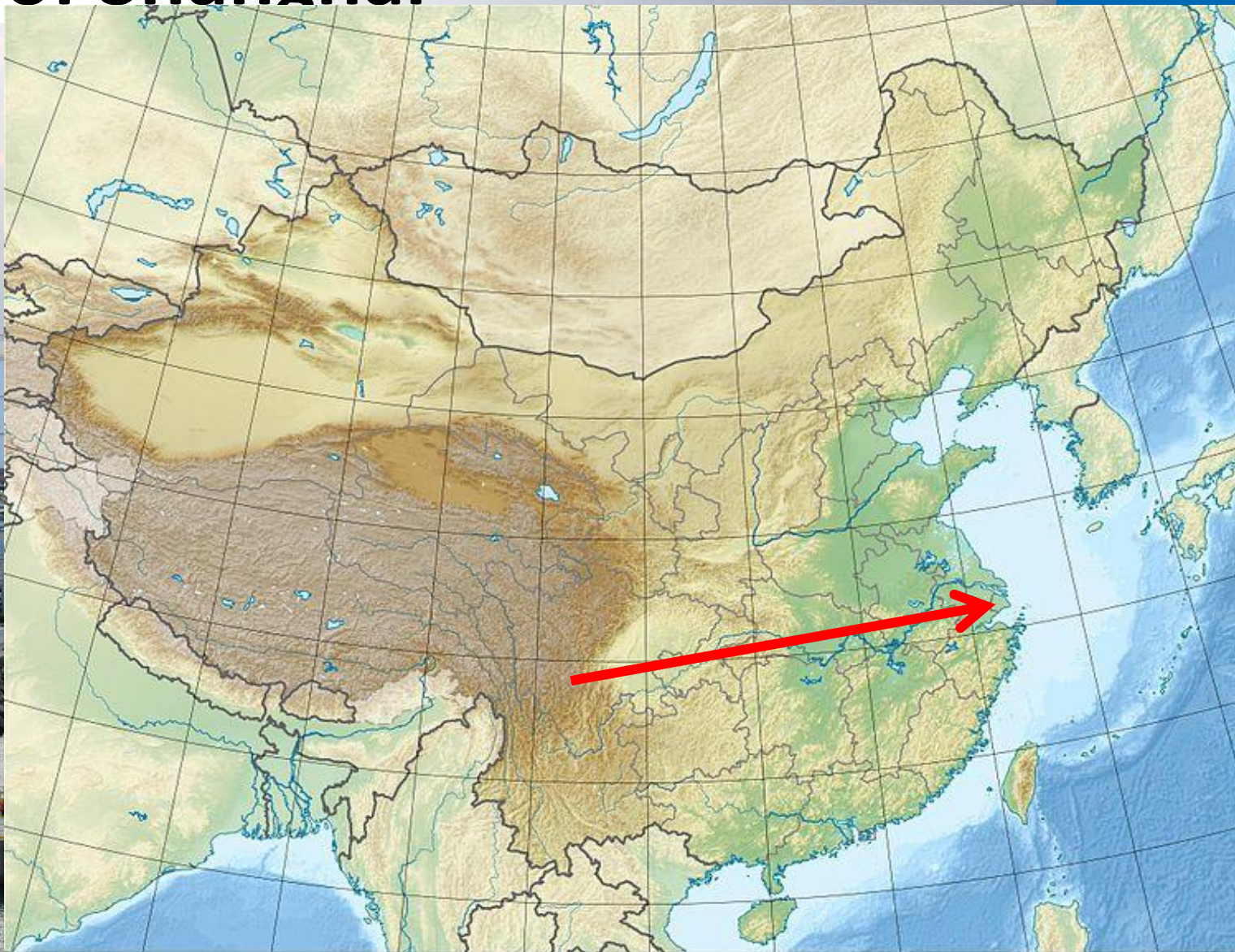
AN ESTIMATE OF COAL-BASED SNG





# Case study: Clean energy for the city of Shanghai

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# The only country with a rapid energy growth and cold winters

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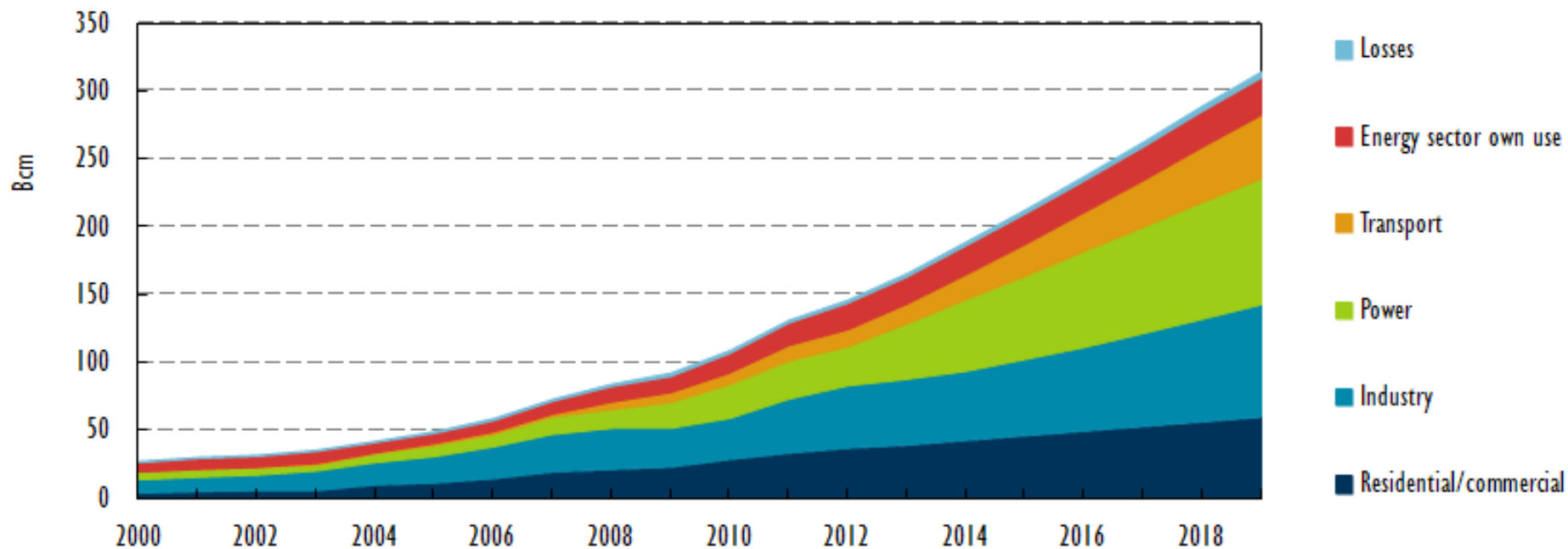




# Gas advances across the board in China

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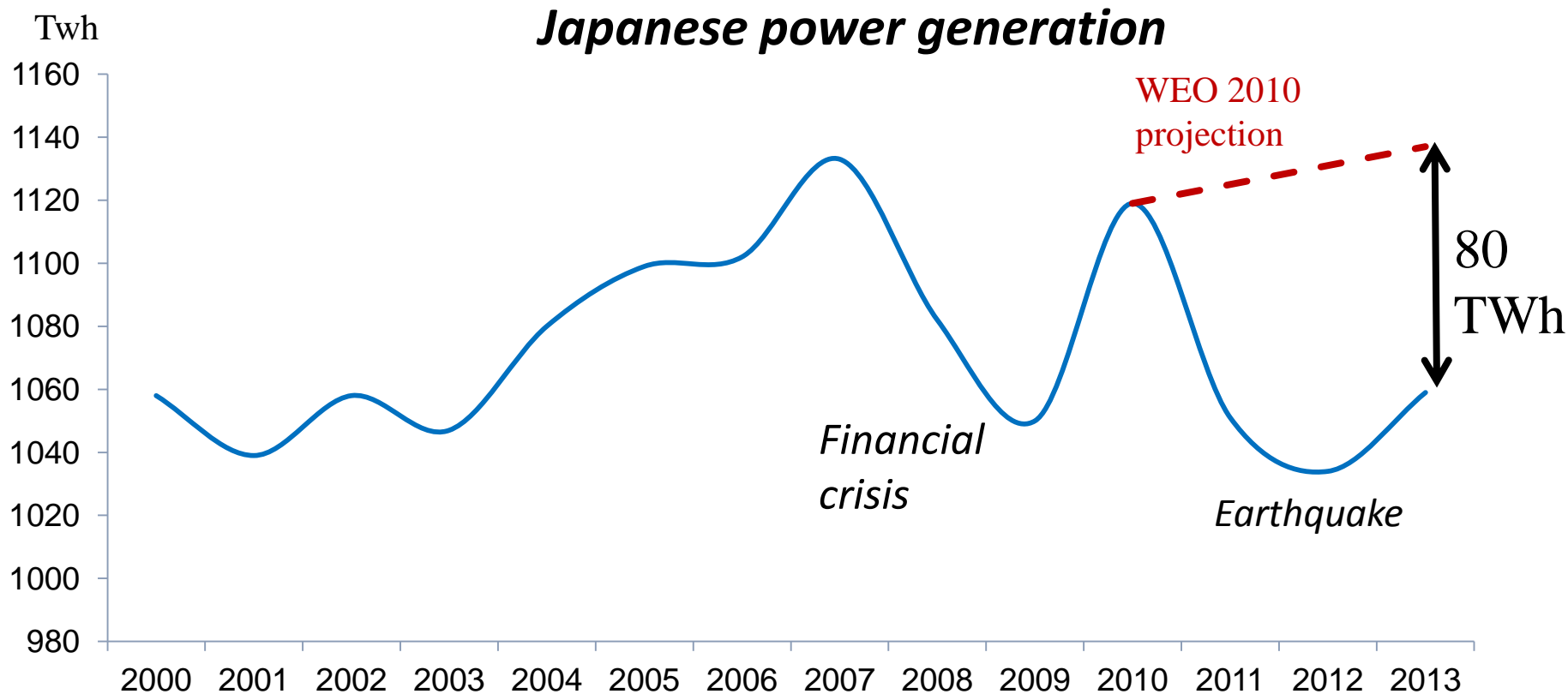
*China's gas demand by sector, 2013-19*



- Gas demand in China will gain 150 bcm over 2013-19: this is 2 times UK's gas consumption and 2 times China's gas production growth

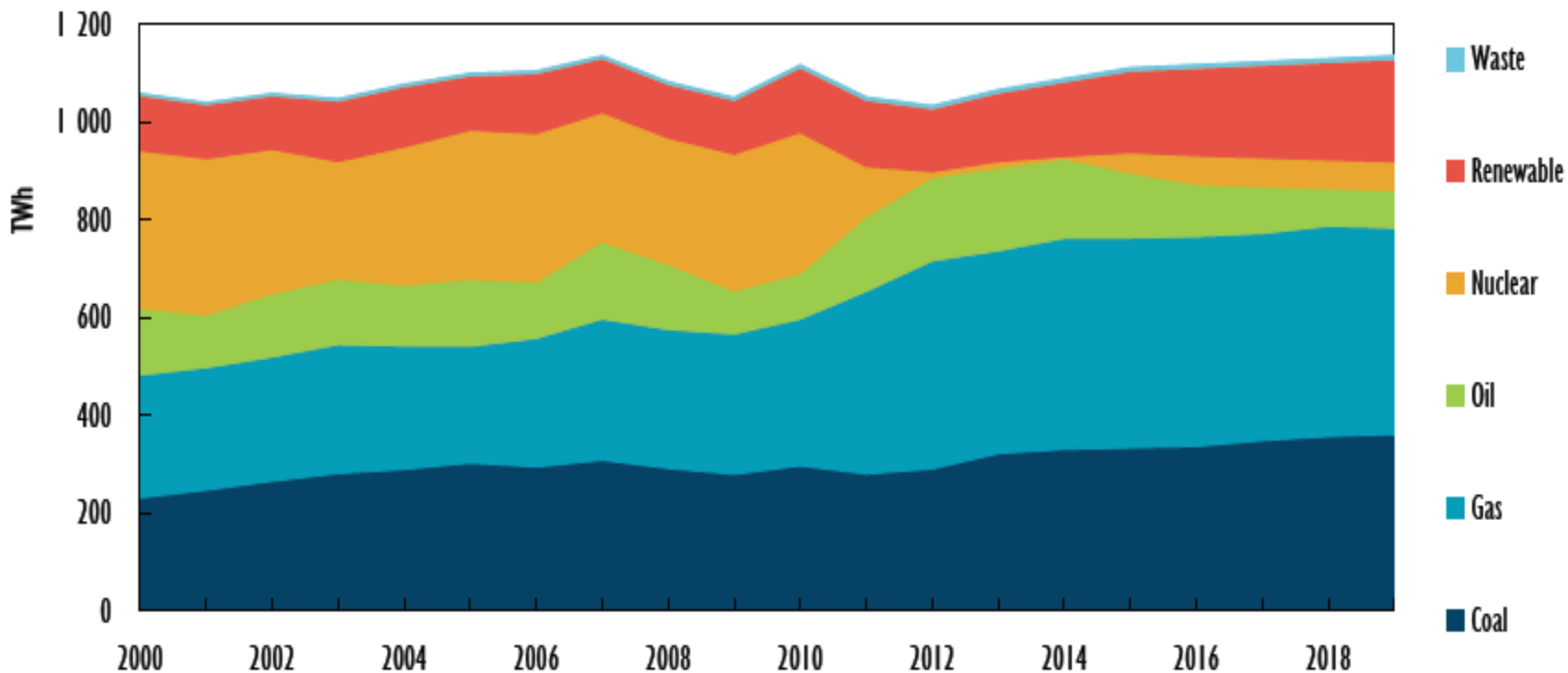
# Japan: are energy savings permanent?

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# Japanese LNG imports stabilize

Power generation by type in Japan, 2000-19

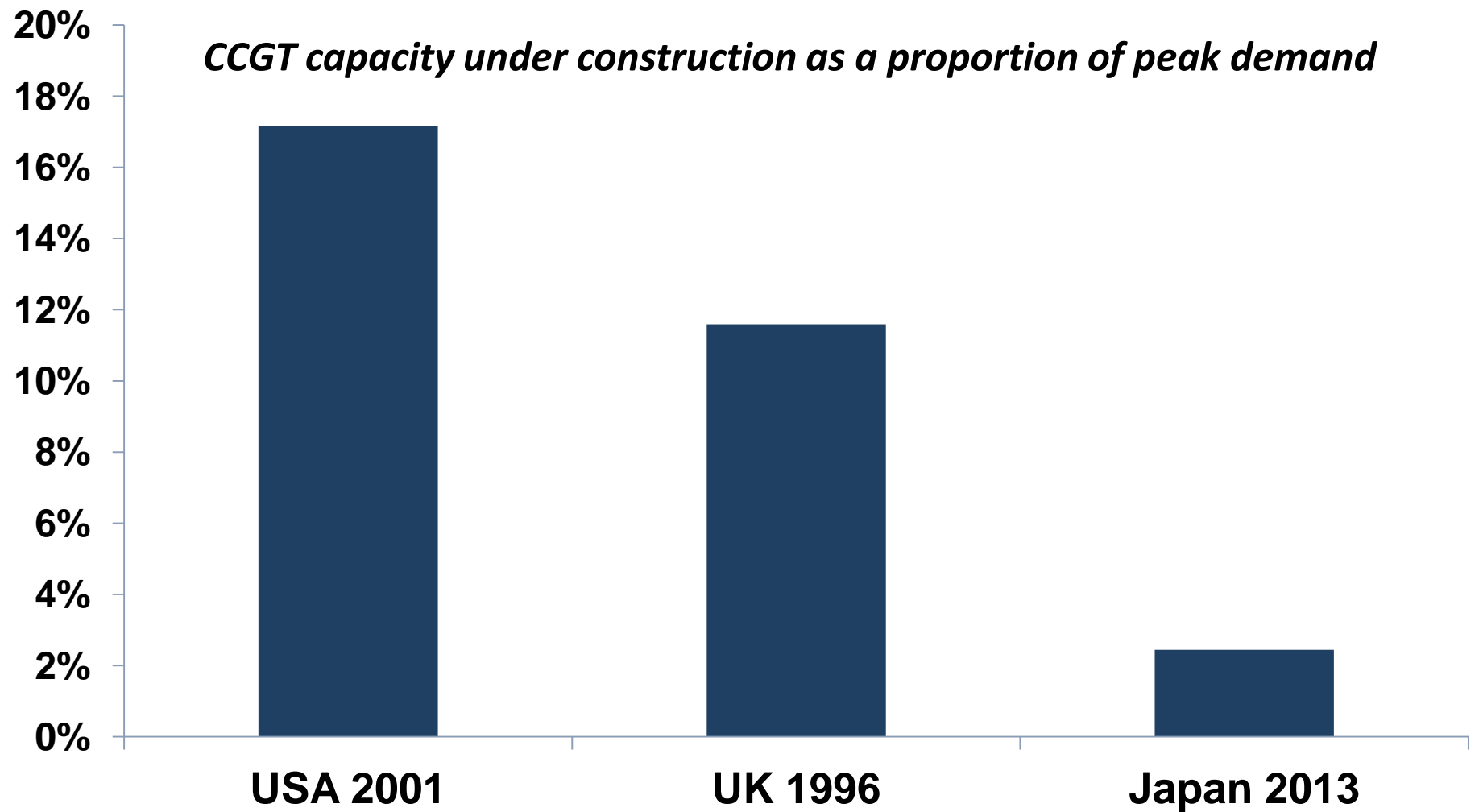


- A restart of some nuclear power plants would affect oil demand, not LNG.

# What is holding back CCGT investment in Japan?



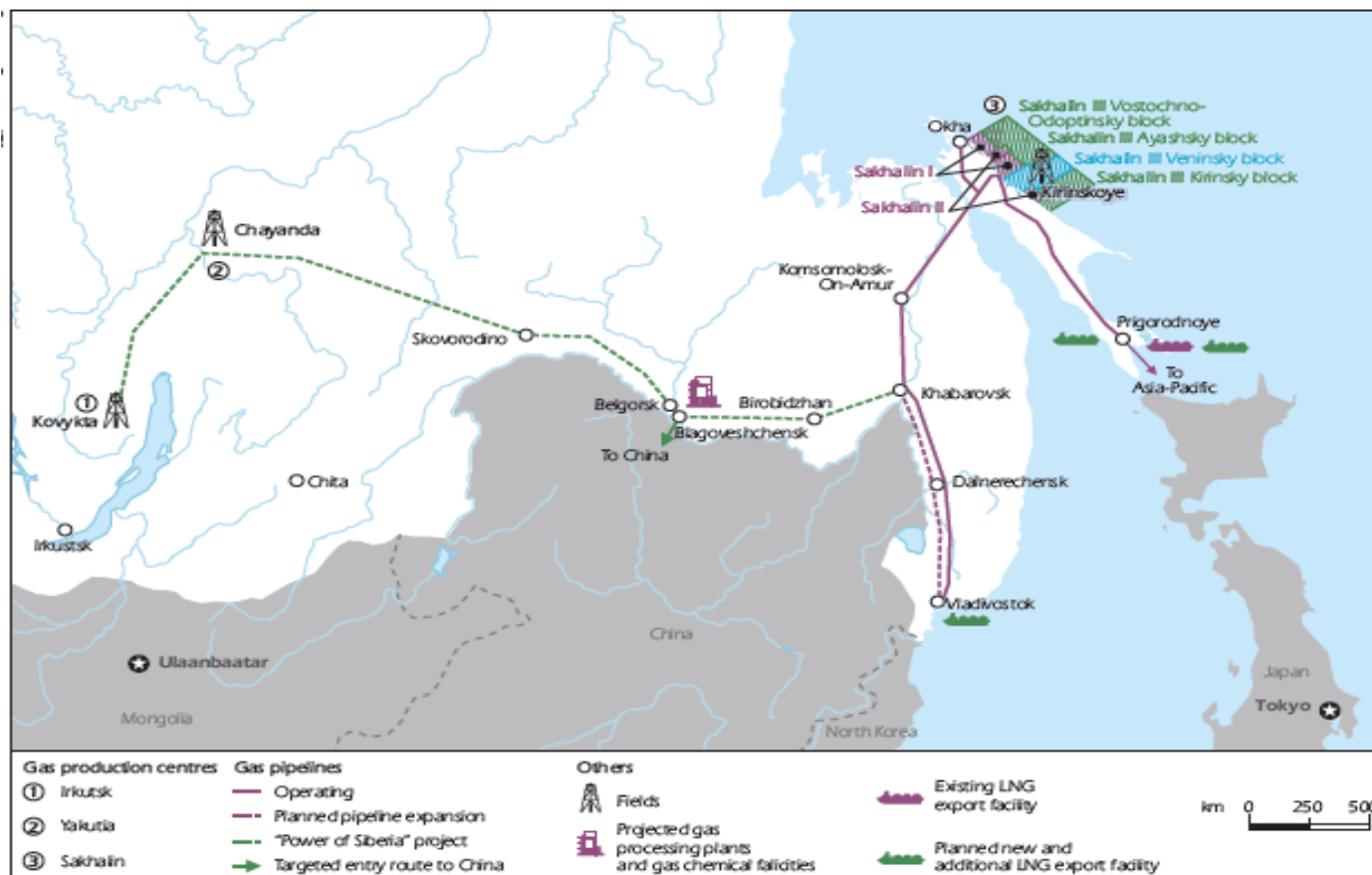
*CCGT capacity under construction as a proportion of peak demand*





# Russian gas: the East is the manifest destiny?

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- **Production constrained by EU and domestic demand**
- **Surging independent production backed by NGLs**
- **LNG projects depend on access to technology and capital**

# Is US gas production unstoppable?

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- Marcellus
- NGLs and Light Tight Oil
- Technological progress
- Access to capital





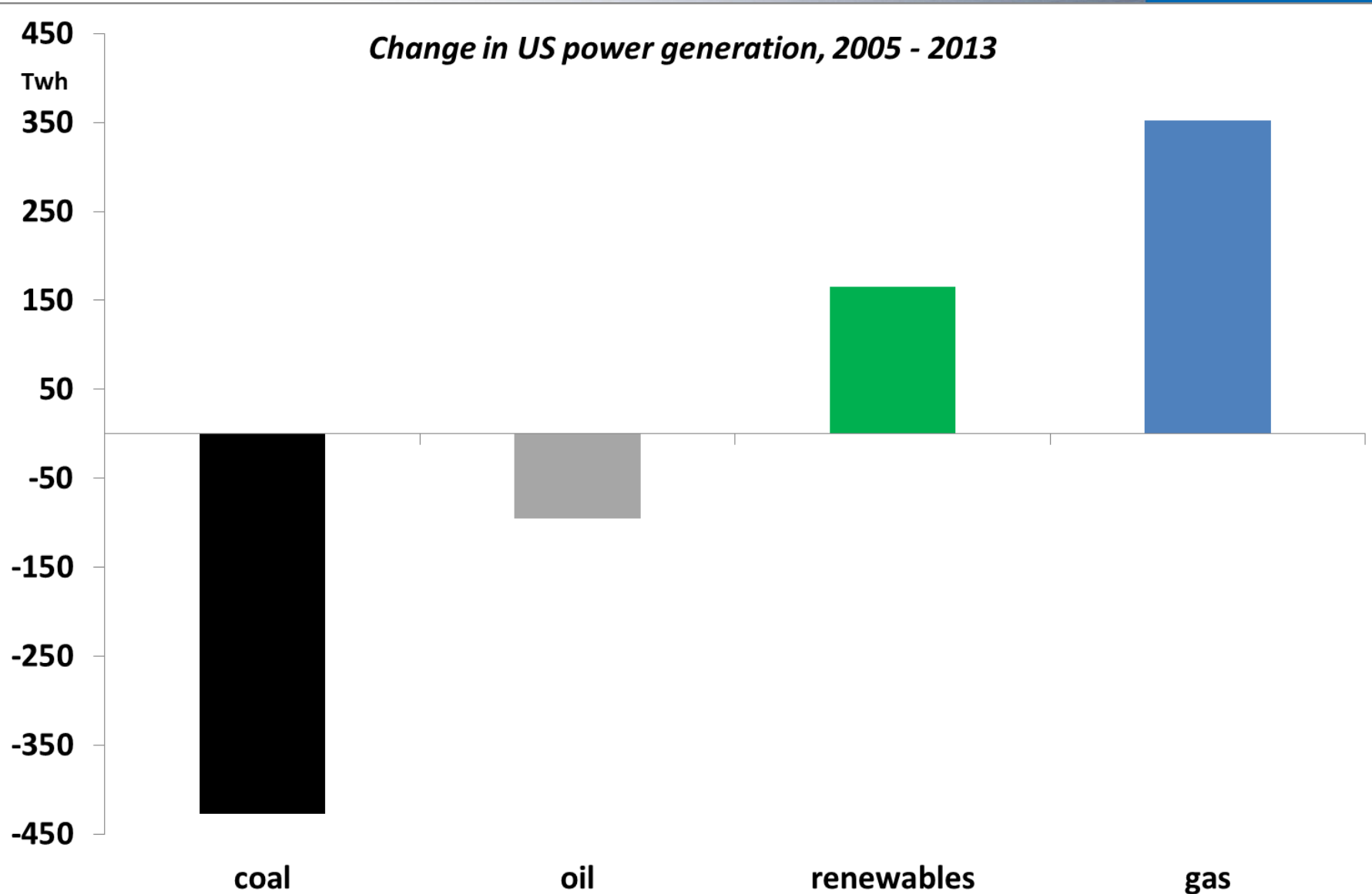
**“This plant, if it’s located in Germany, energy costs are double, maybe triple; same in Japan. So this gives us a big edge”**



*President Obama at the AcelorMittal steel plant in Cleveland*

# The Obama climate plan and US gas demand

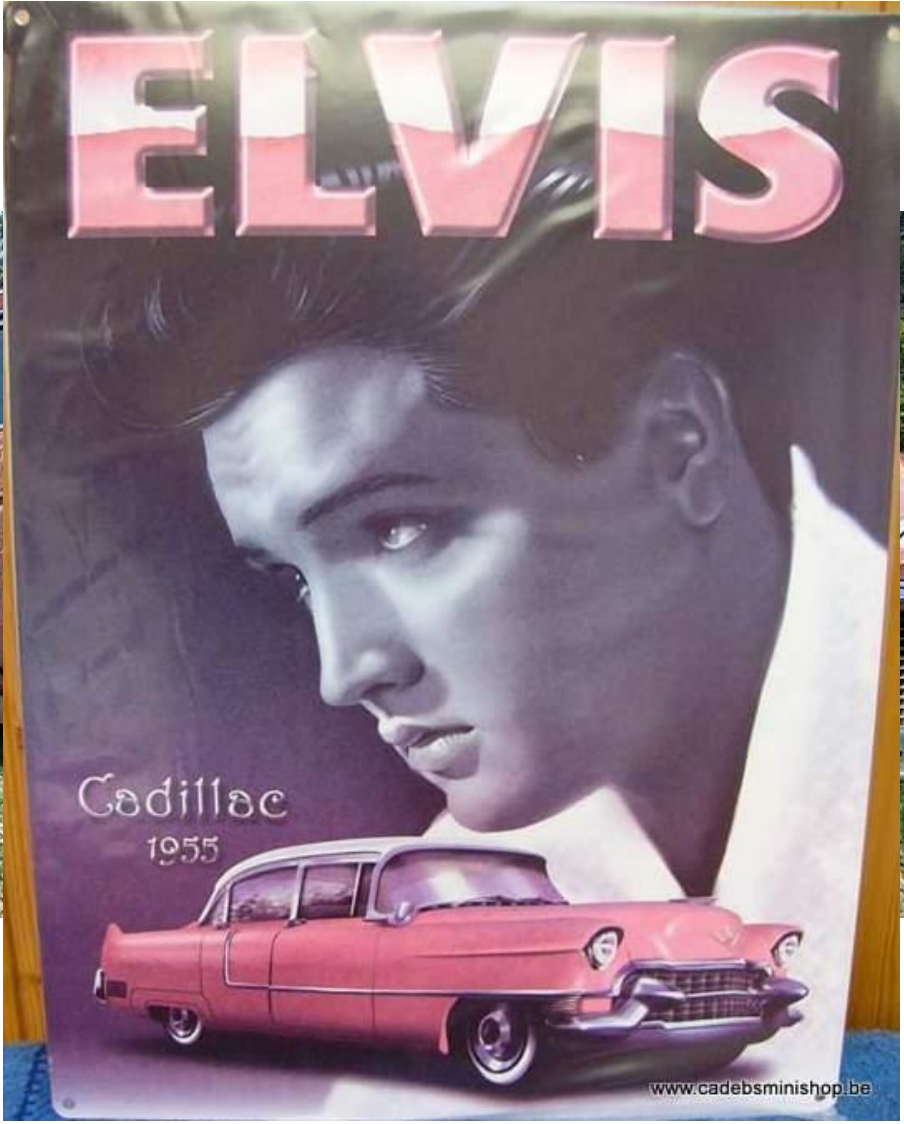
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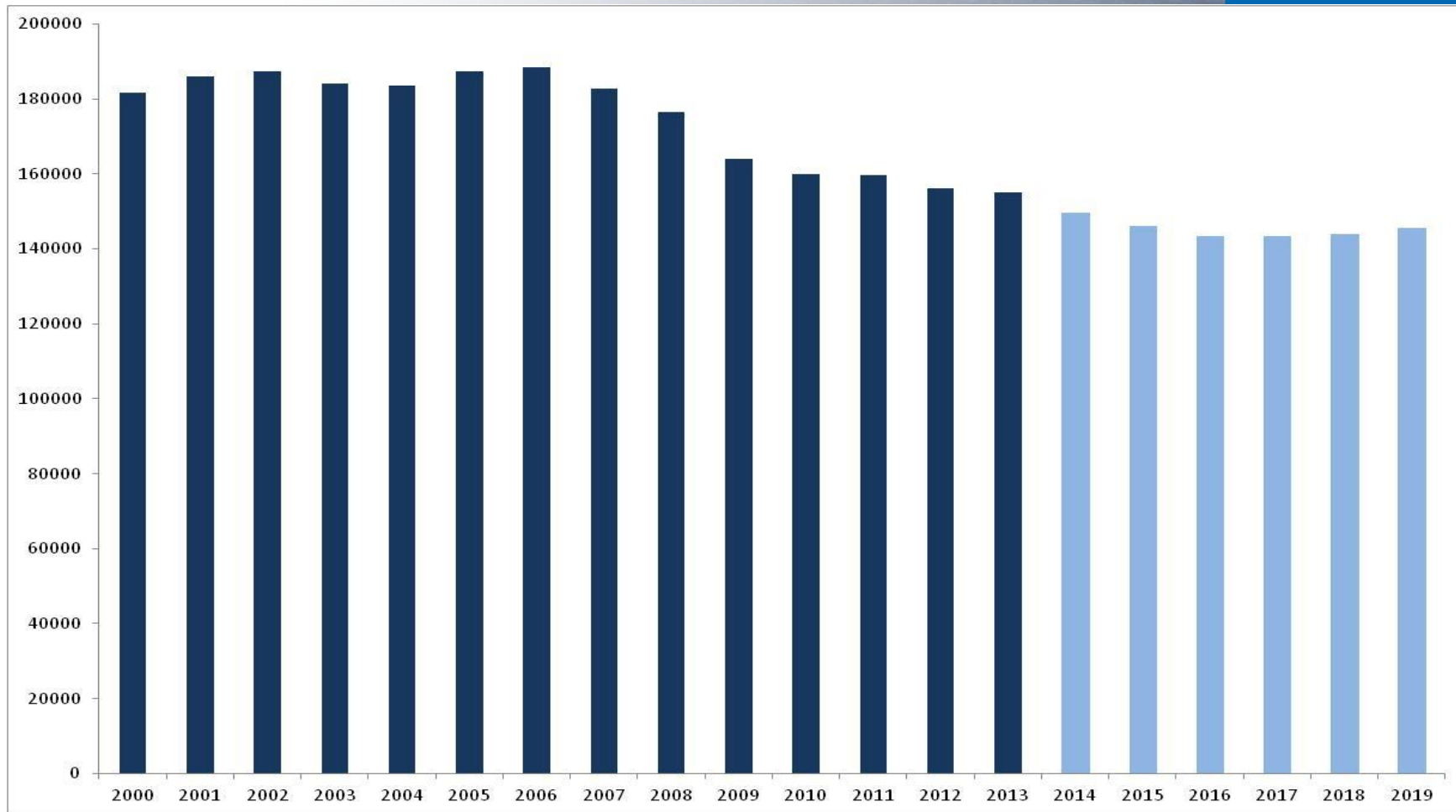
# Coal was the KING of the US But capacity is now showing its age power system

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# Recovery of Canadian gas production is conditional on new markets

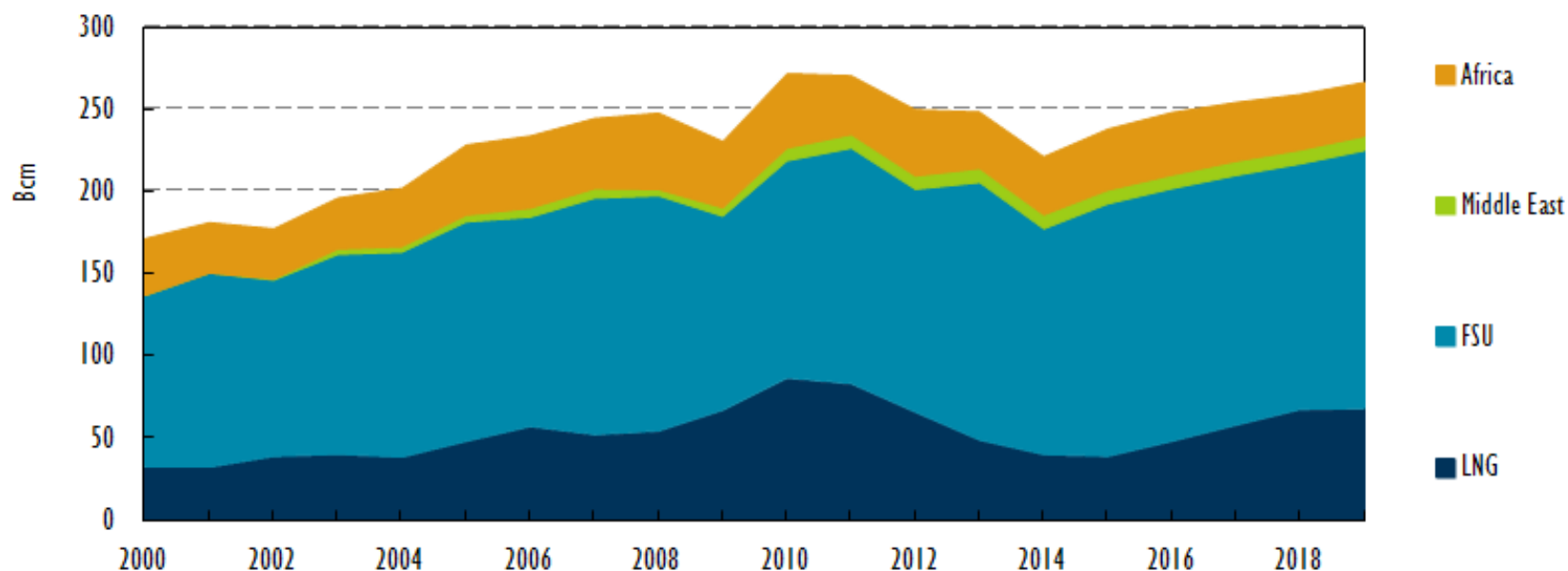
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*Canadian LNG projects enjoy lower transport distances but face licencing hurdles and higher capital costs*

# Europe flat and lacking options

*European gas imports, 2000-19*

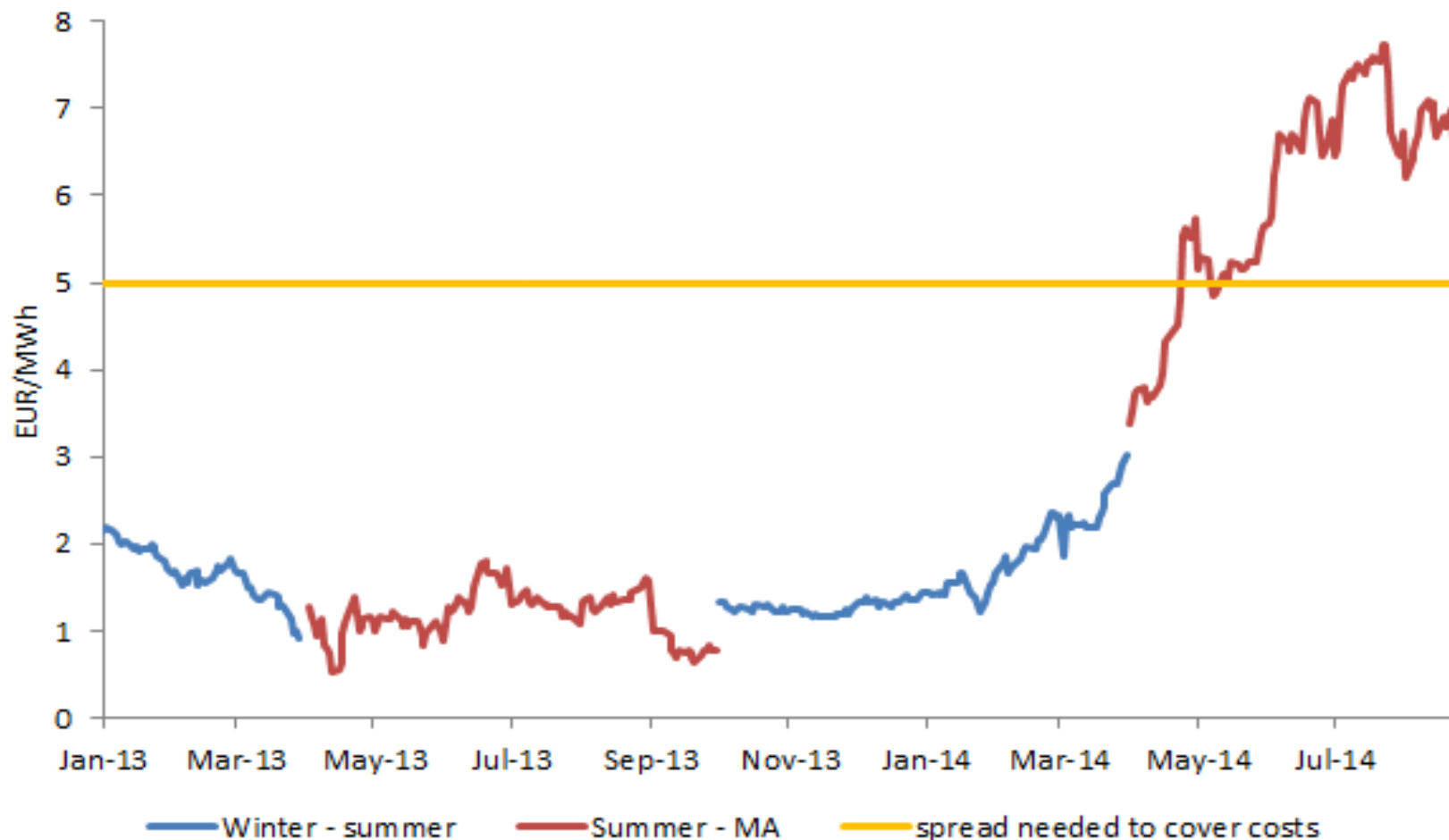


- Even in a context of anemic demand, Russia remains a large component of Europe's supplies

# Bad news from the Ukraine conflict affect market expectations

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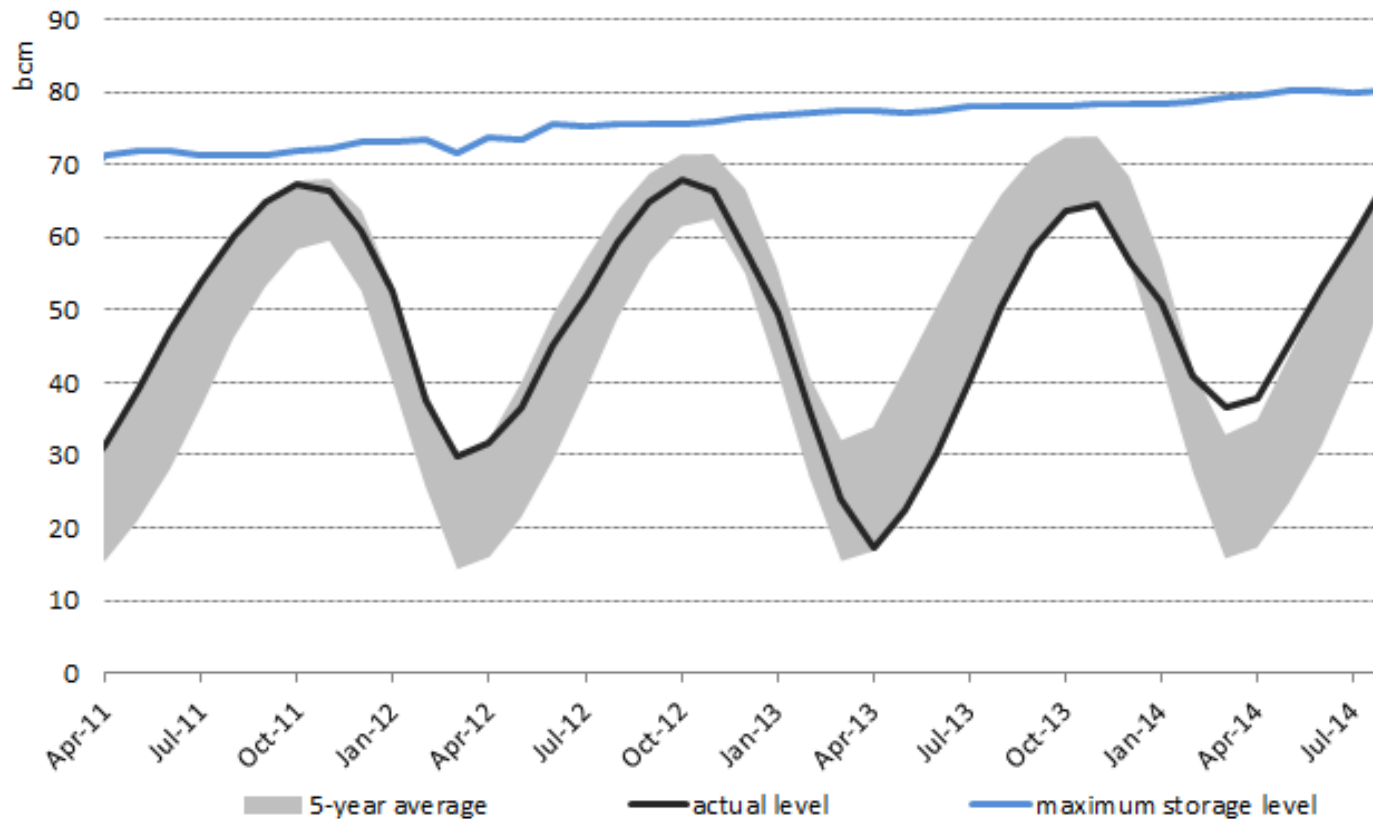
## *TTF Winter - summer forward price differential*





# Strong storage fill enhances resilience

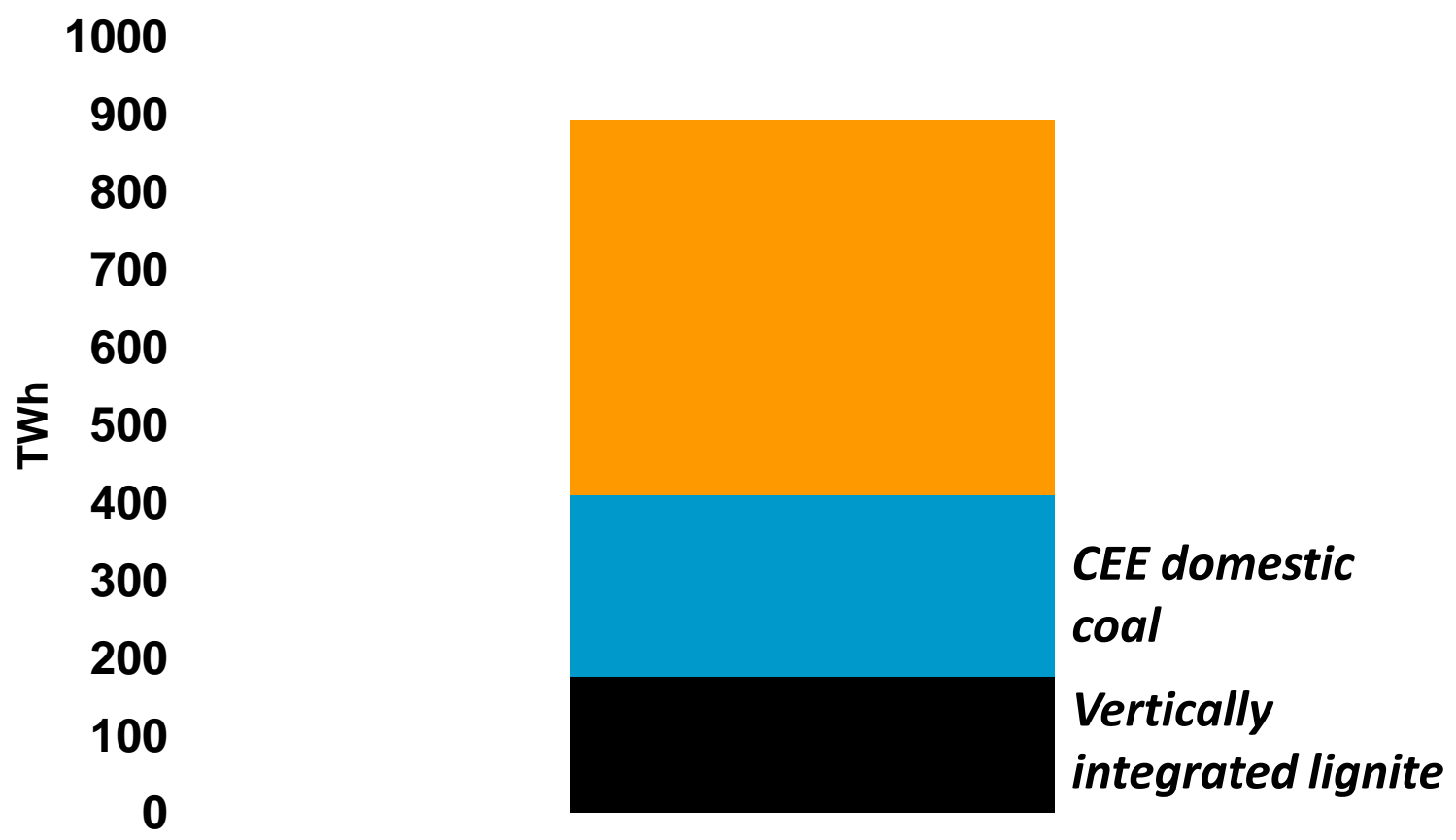
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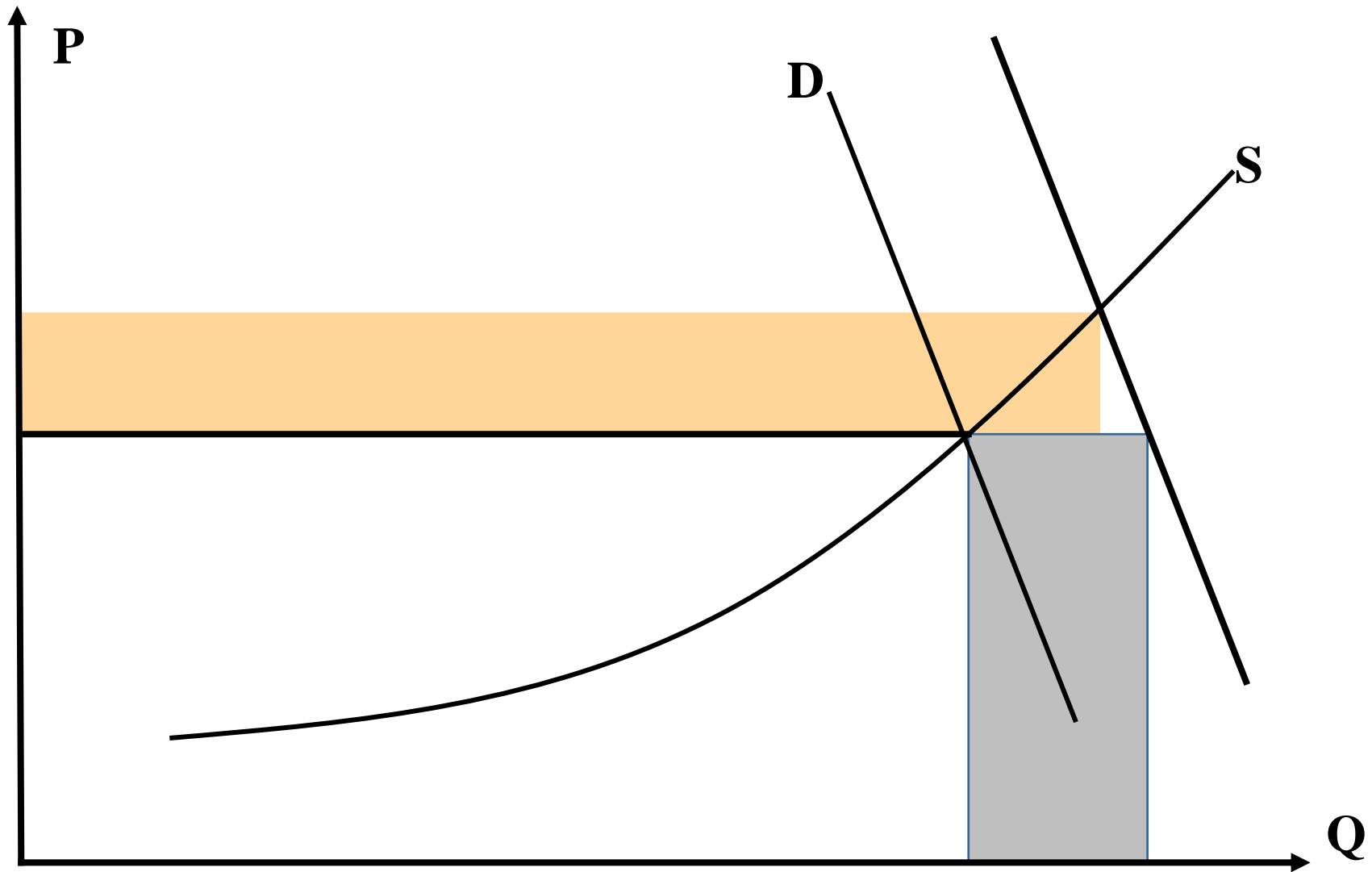
- Storages in 2014 are filled is at the highest level of the last five years.
- August-2014 levels stand at 84% full; the largest seasonal volume despite weak demand

# Can coal to gas switch deliver EU climate targets?

*Coal fired power generation in Europe*



# Coal to gas switch and the microeconomics of gas markets



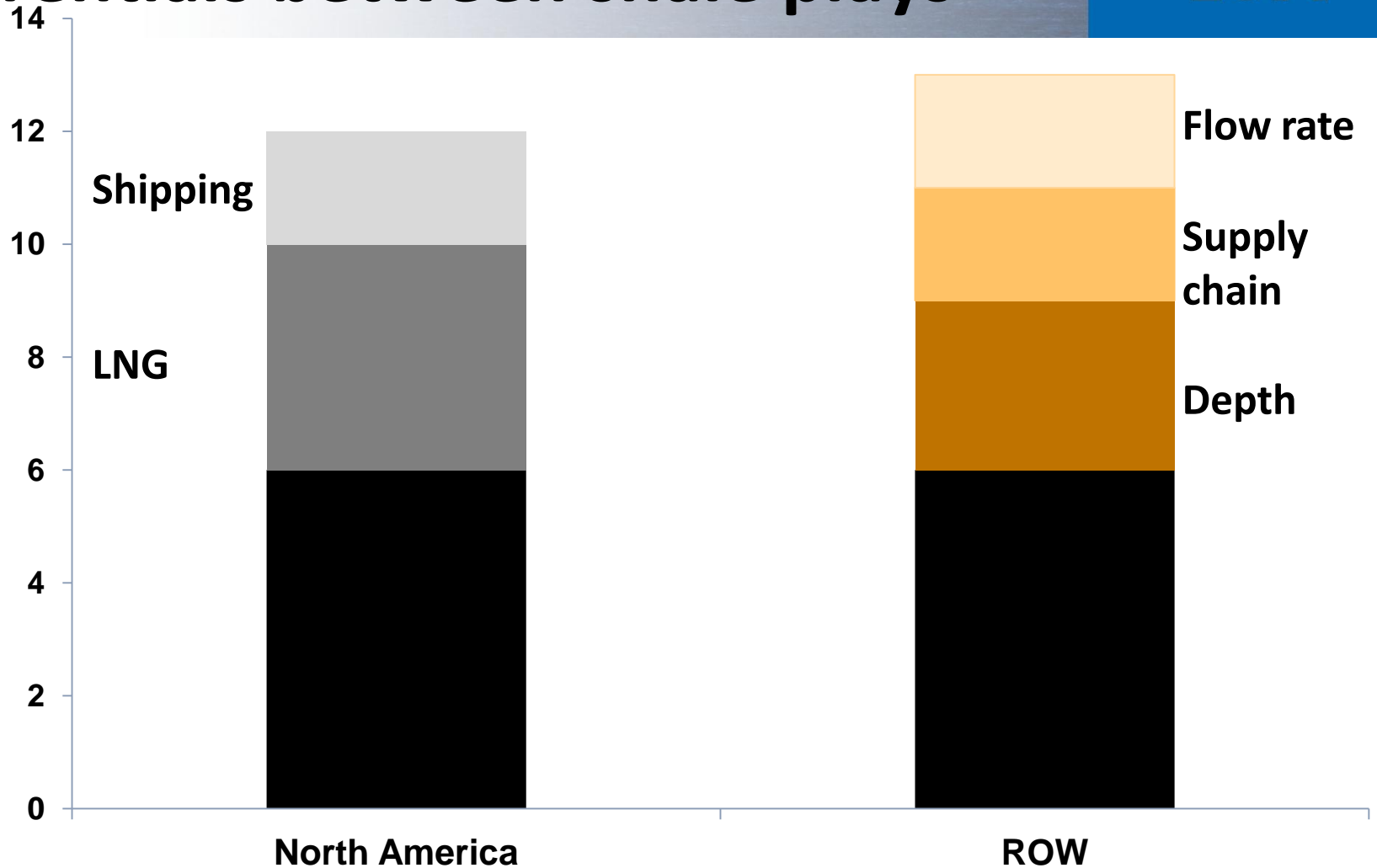
# Has Europe killed the shale revolution before it has begun?

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# LNG costs are less than the cost differentials between shale plays



***LNG importers with a large shale resource: China, Argentina, Mexico, Brazil***

# North African supplies – is a rapid ramp up likely?

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The El Arish gas pipeline after a militant attack, Egypt 2013

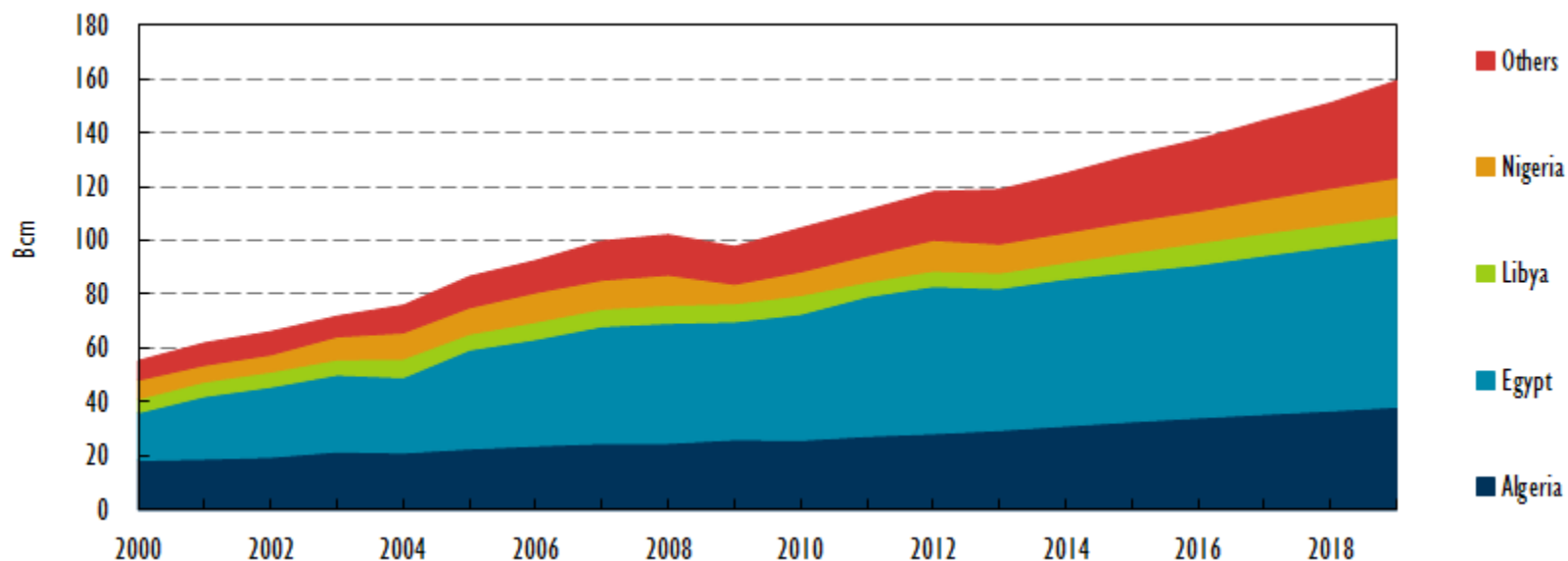


The Algerian army deployed at the In Amenas gas field during hostage taking by extremists, 2013

# Africa will be one of the fastest growing regions

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*Africa's gas demand, 2000-19 (bcm)*

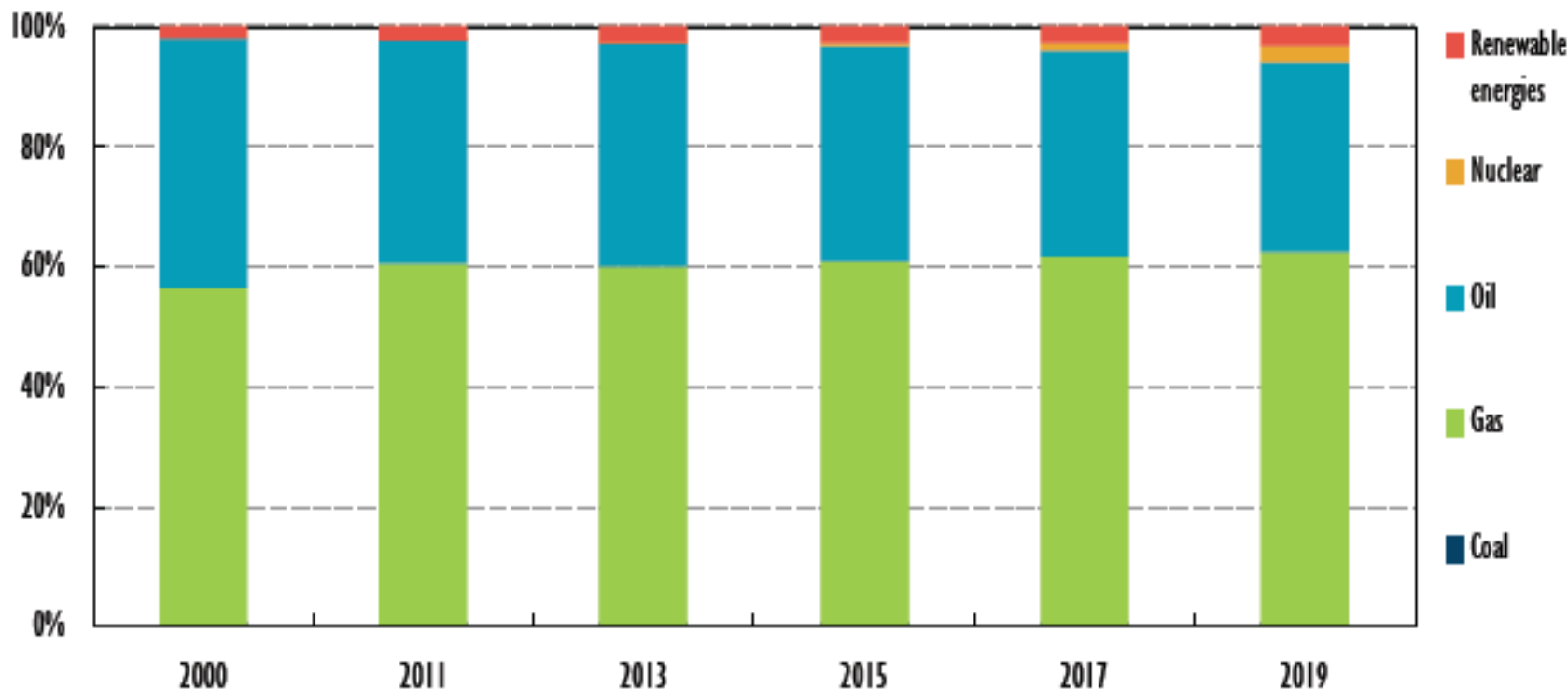


- Africa's thirst for natural gas means that most of the incremental production will be dedicated to the domestic market

# Gas gains share only slowly in the Middle East

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## Structure of power generation in the Middle East



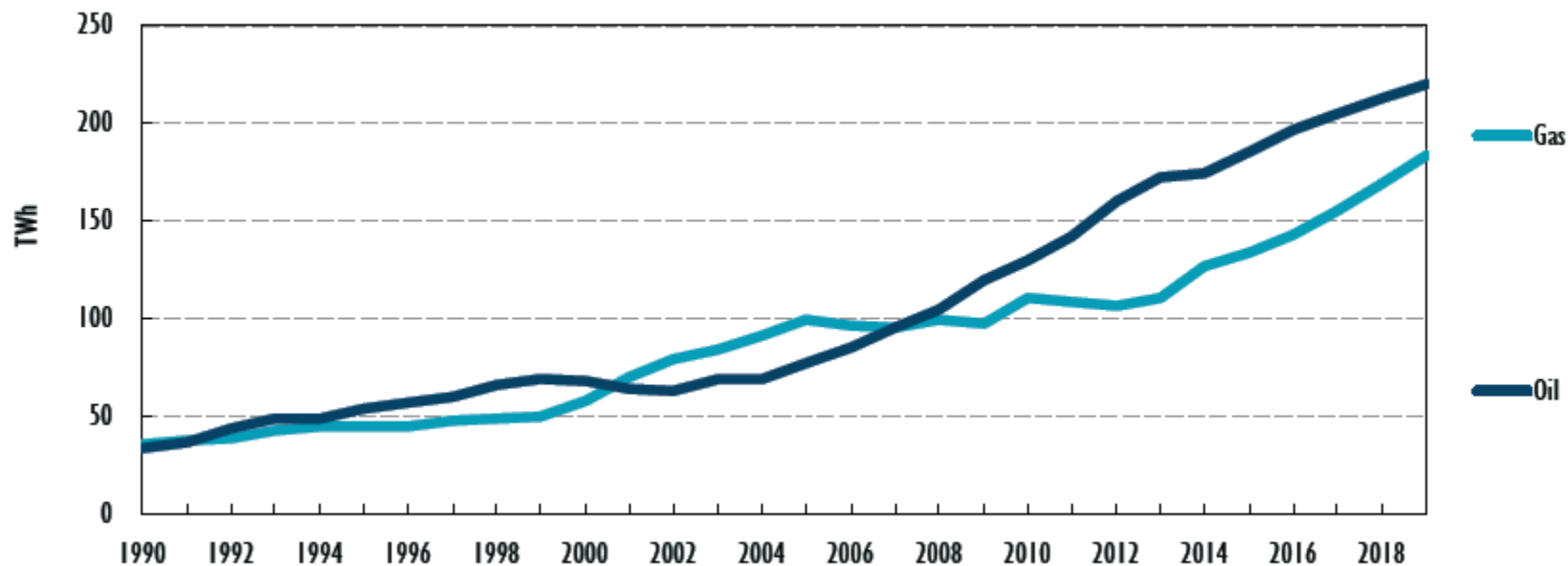
*Due to rapid power demand growth, oil burn continues to increase*



# But expands rapidly with power demand

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Power generation by oil and gas in Saudi Arabia, 2000 - 2019

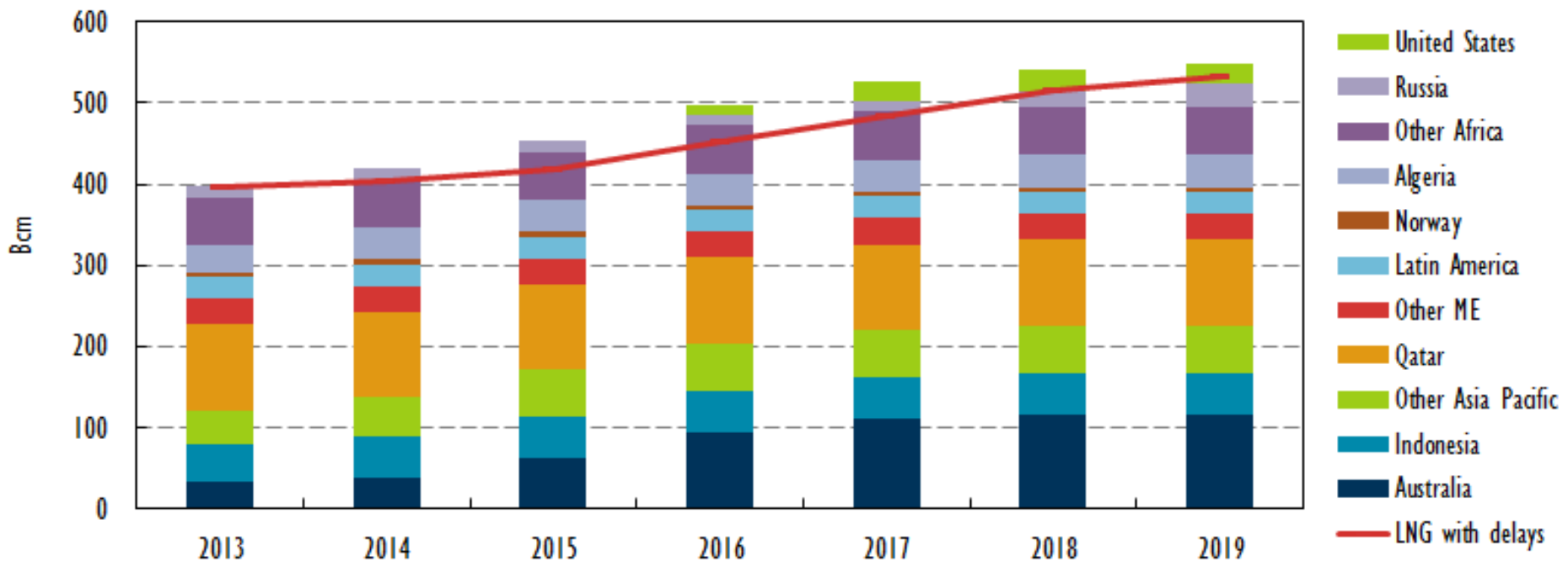


- A growing population and economy drives the demand for power
- To maintain oil exports, gas is expected to increase as well.
- But low domestic gas prices in the Middle East make it dependent on associated gas production.

# Two OECD regions contribute to 40% of the additional supply

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*LNG liquefaction capacity, existing and under construction*

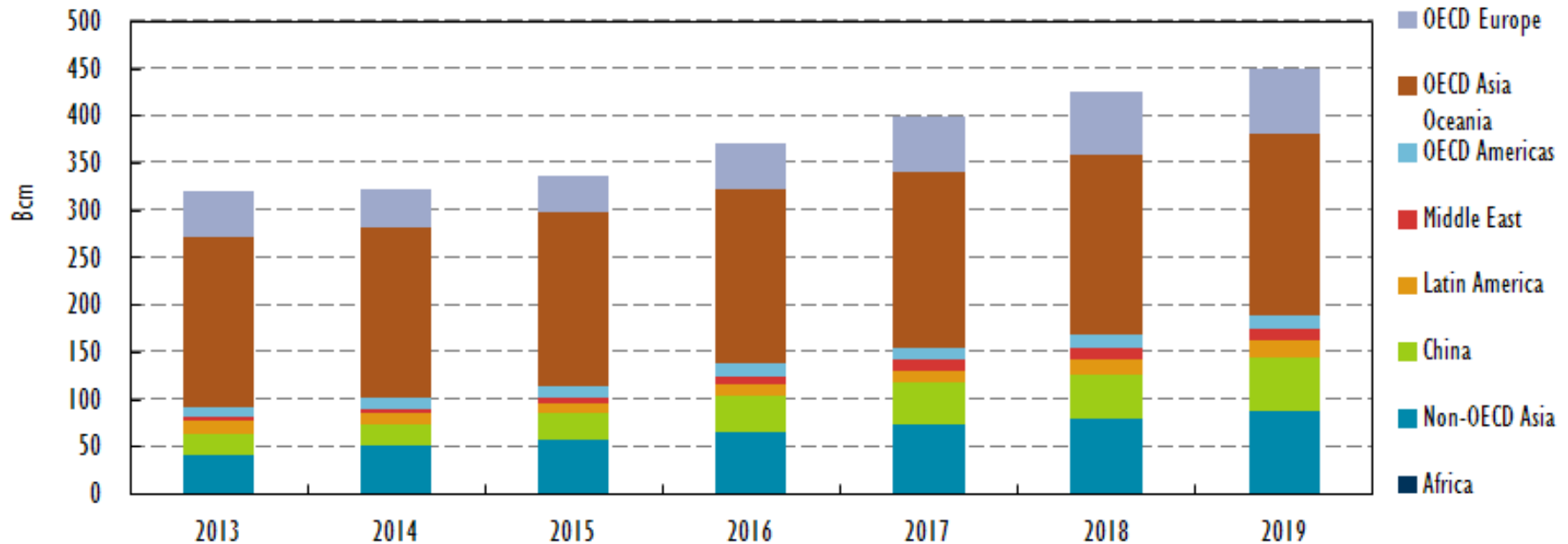


- 150 bcm of LNG export capacity under construction, half of that is coming from Australia

# Most of the new LNG will be consumed by Asia

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*LNG imports, 2013-19*



- Consequently, global LNG trade will rise from 320 bcm in 2013 to 450 bcm in 2019

# LNG markets: waiting for the cavalry

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## Market Analysis and Forecasts to 2019