


# GAS

## Medium-Term Market Report 2015



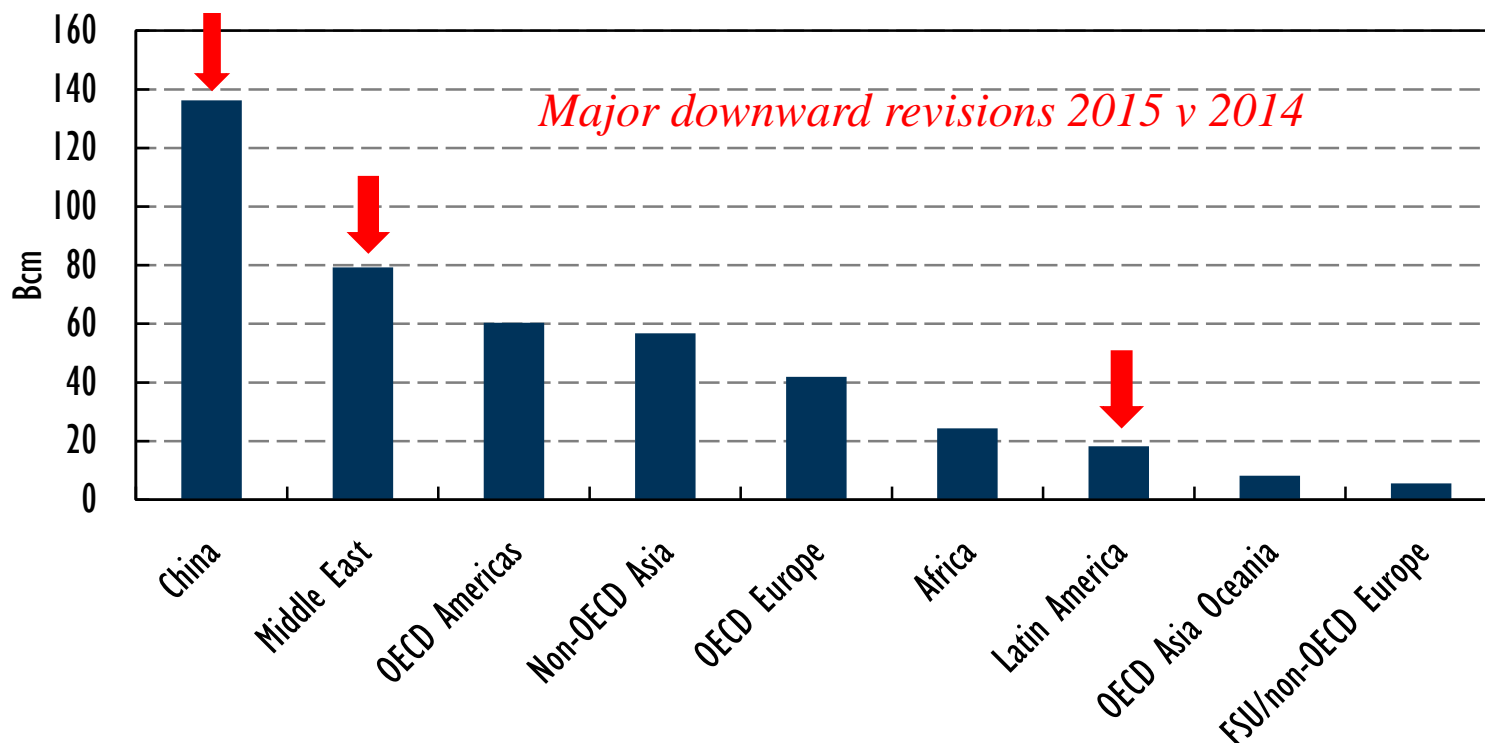
**Laszlo Varro**  
**Head of Gas Coal and Power Markets**  
**International Energy Agency**

### Market Analysis and Forecasts to 2020

# Global gas demand increases amid growing uncertainties

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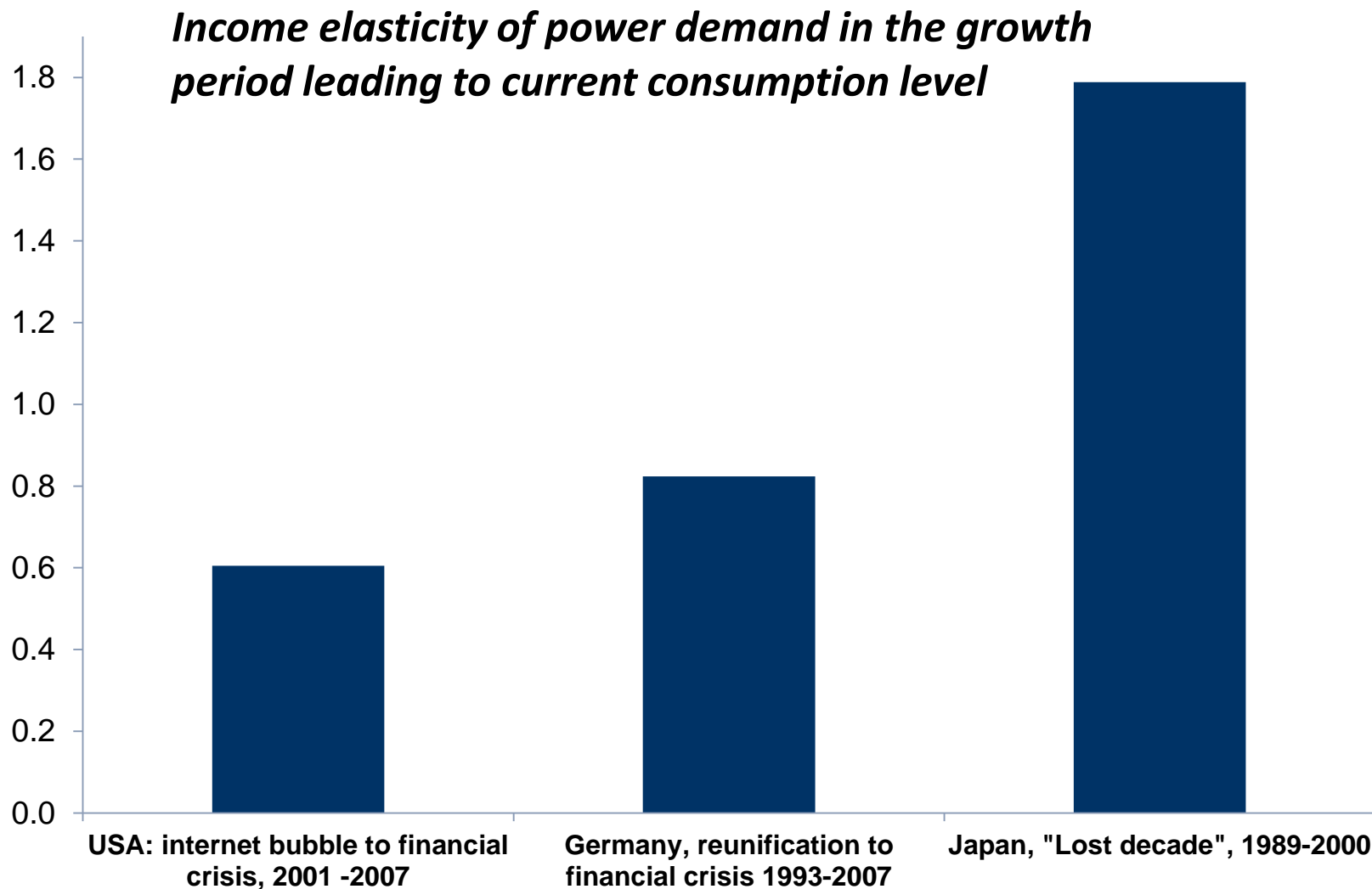
Incremental gas demand by region, 2014 - 2020



- Global gas demand will re-accelerate following a marked slowdown in both 2013 and 2014.
- Global gas demand is projected to grow 2% on average by 2020.

# GDP used to have a large impact on electricity up until recently

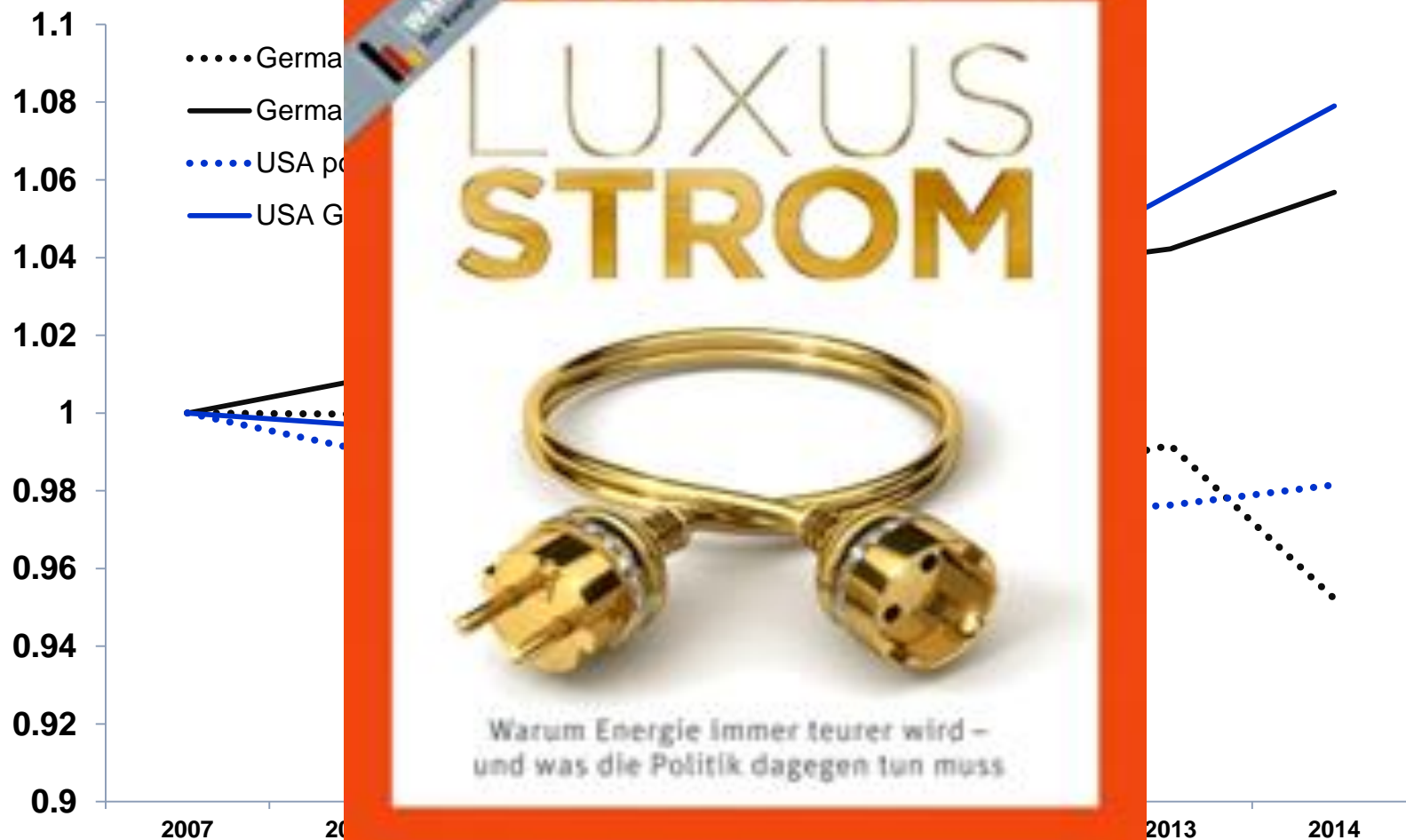
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# It is not only the financial crisis and not explained by electricity prices

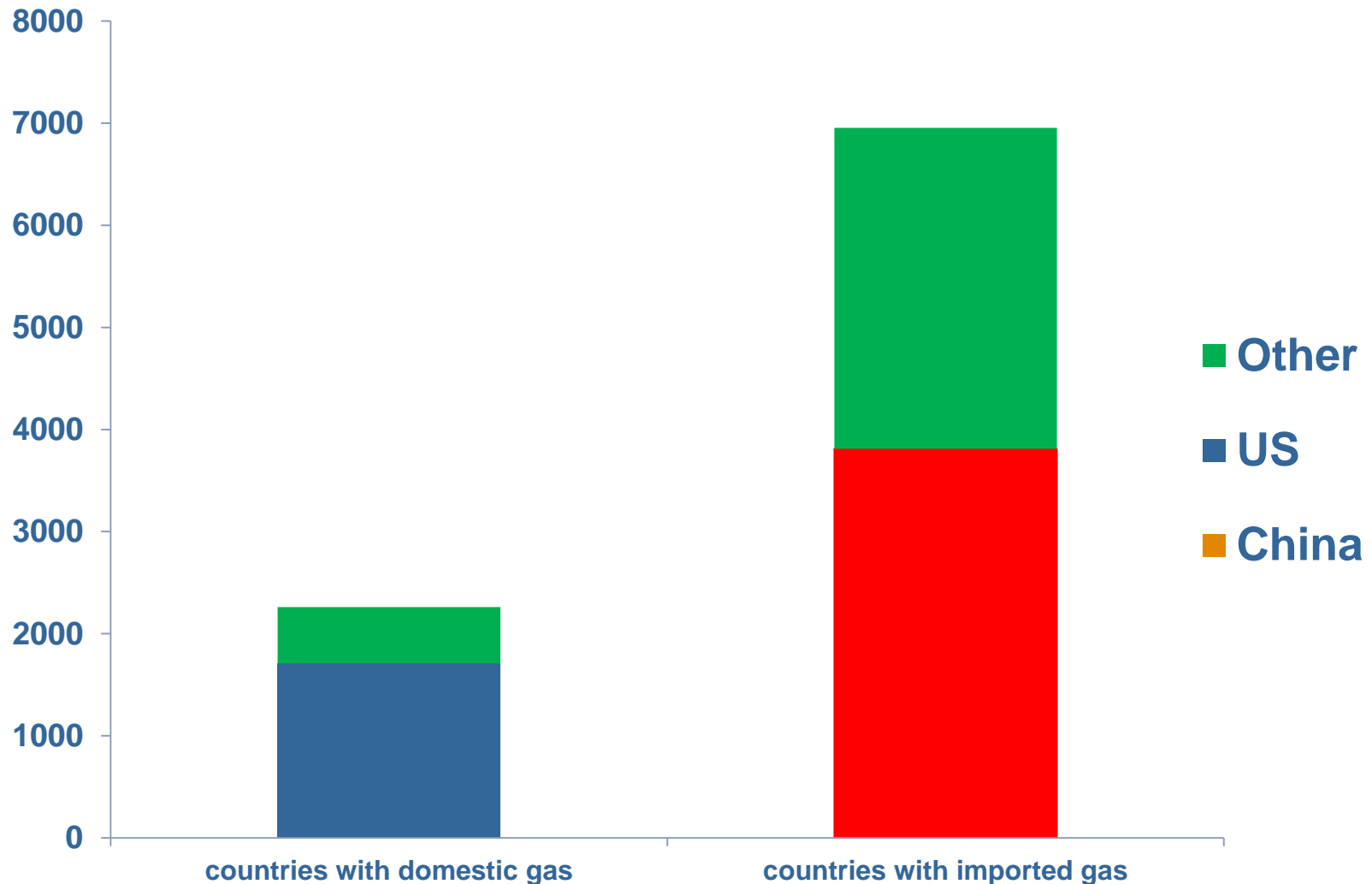
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# Coal mainly competes with long distance gas imports

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## *Global coal-fired power generation (TWh)*



# A young and efficient coal fleet in Asia takes advantage of low coal prices

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*Manjung, Malaysia*

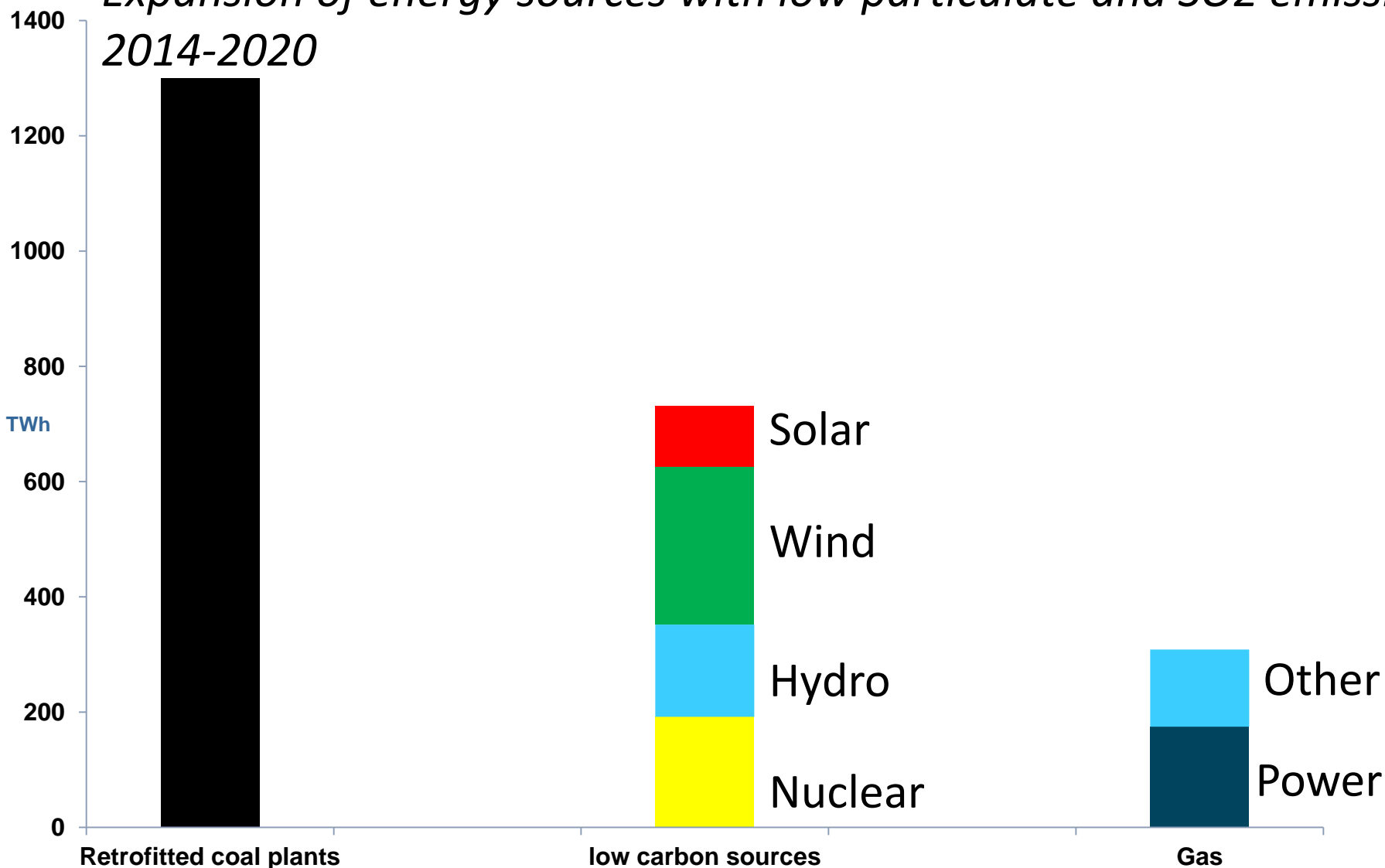
- 350 GW coal capacity came online in 2010-2014
- 80% of the global ultrasupercritical fleet is in Asia
- To cut the load factor of an USC plant one needs 4\$/mbtu LNG or 8\$ LNG and a 50\$/ton carbon price

# Who is cleaning the air in China?

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*Expansion of energy sources with low particulate and SO<sub>2</sub> emissions*

*2014-2020*

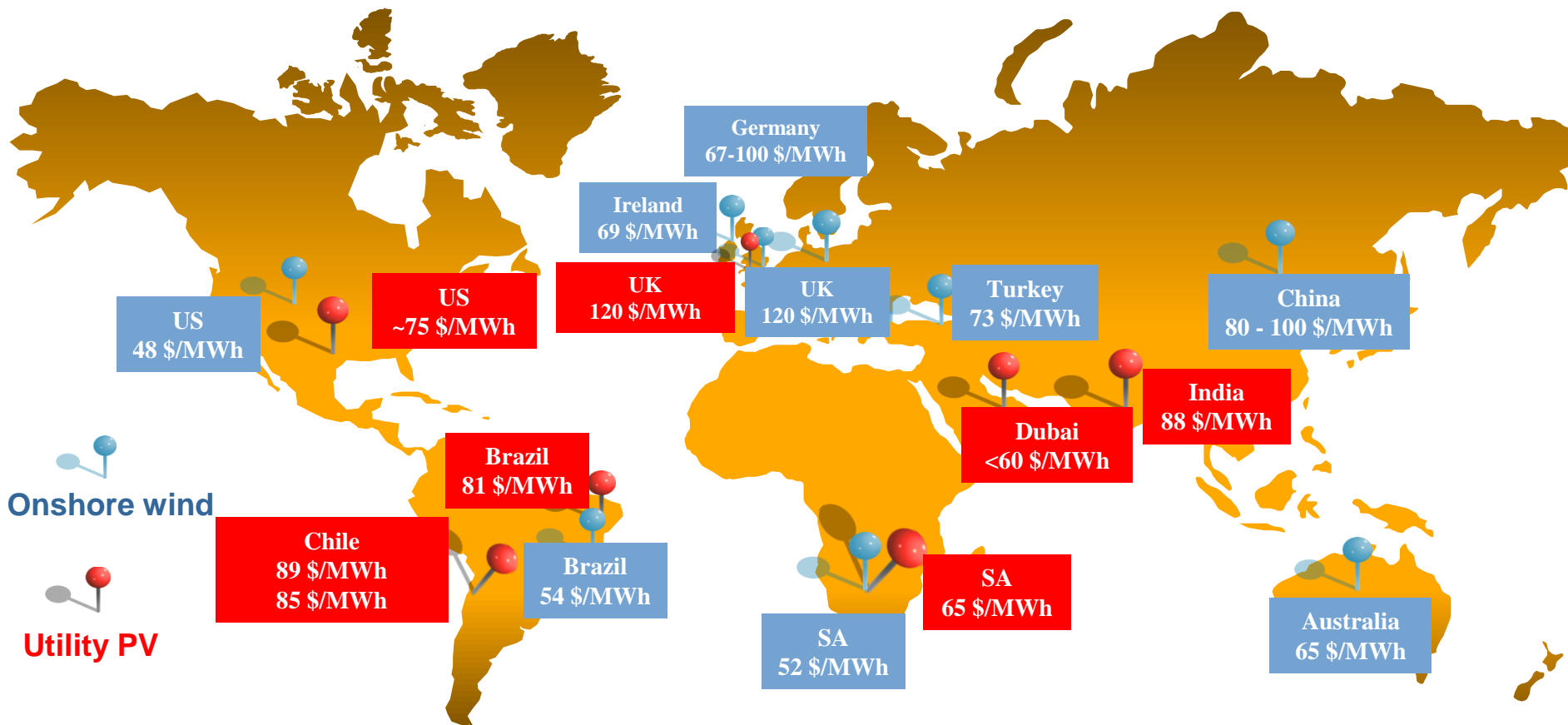




# Is LNG still competitive with wind and solar?

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Recent long-term remuneration contract prices (e.g. auctions or FITs)



- Combination of technology cost reduction, better resources, appropriate regulatory framework attracting financing
- Long-term PPAs and price competition effective drivers



# Integration of renewables : gas in competition with Silicon Valley

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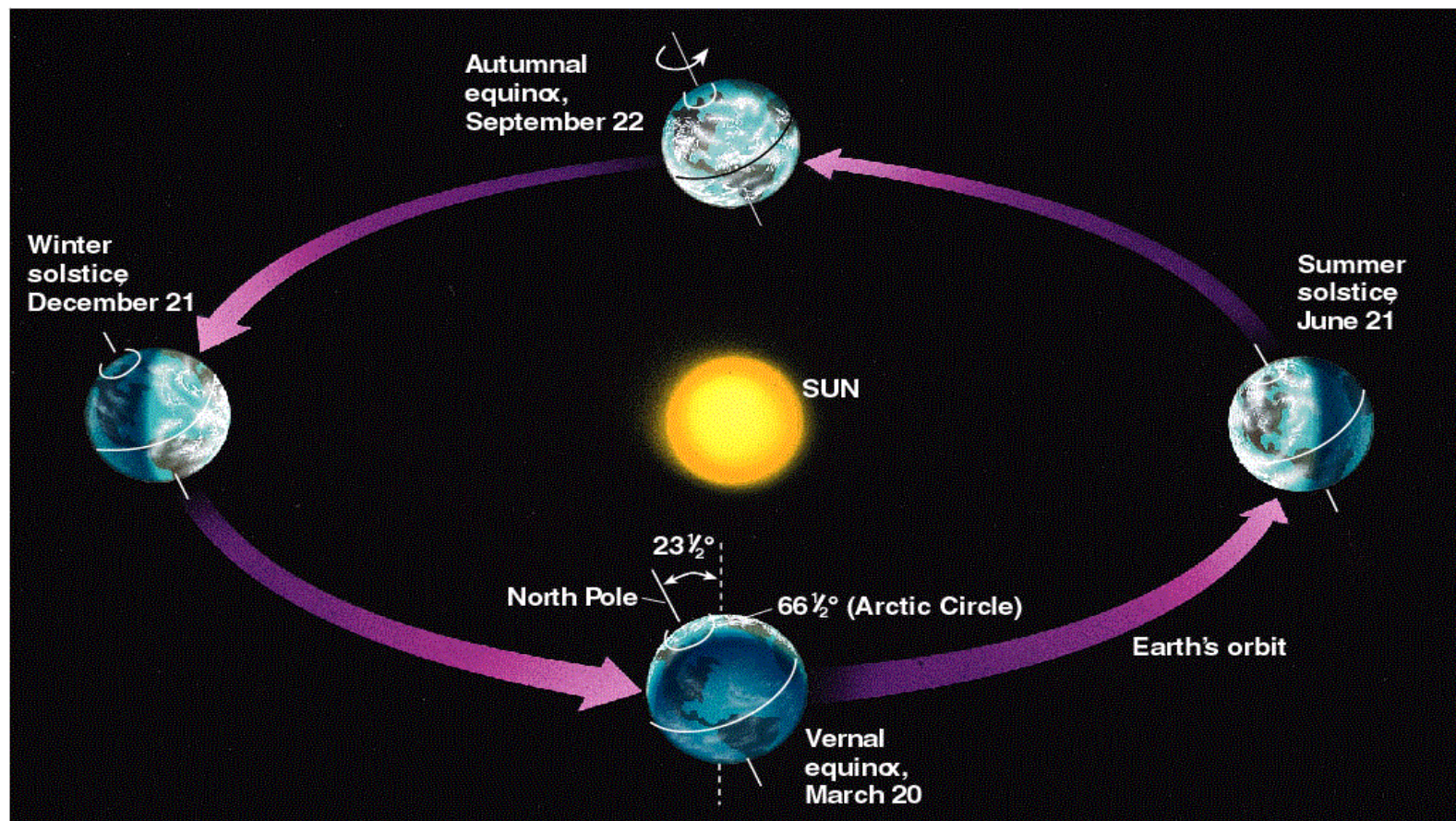
- Better forecasting algorithms
- Close to real time operation
- Improved grid monitoring and TSO collaboration
- System friendly renewables





# Will solar + batteries make gas capacity redundant?

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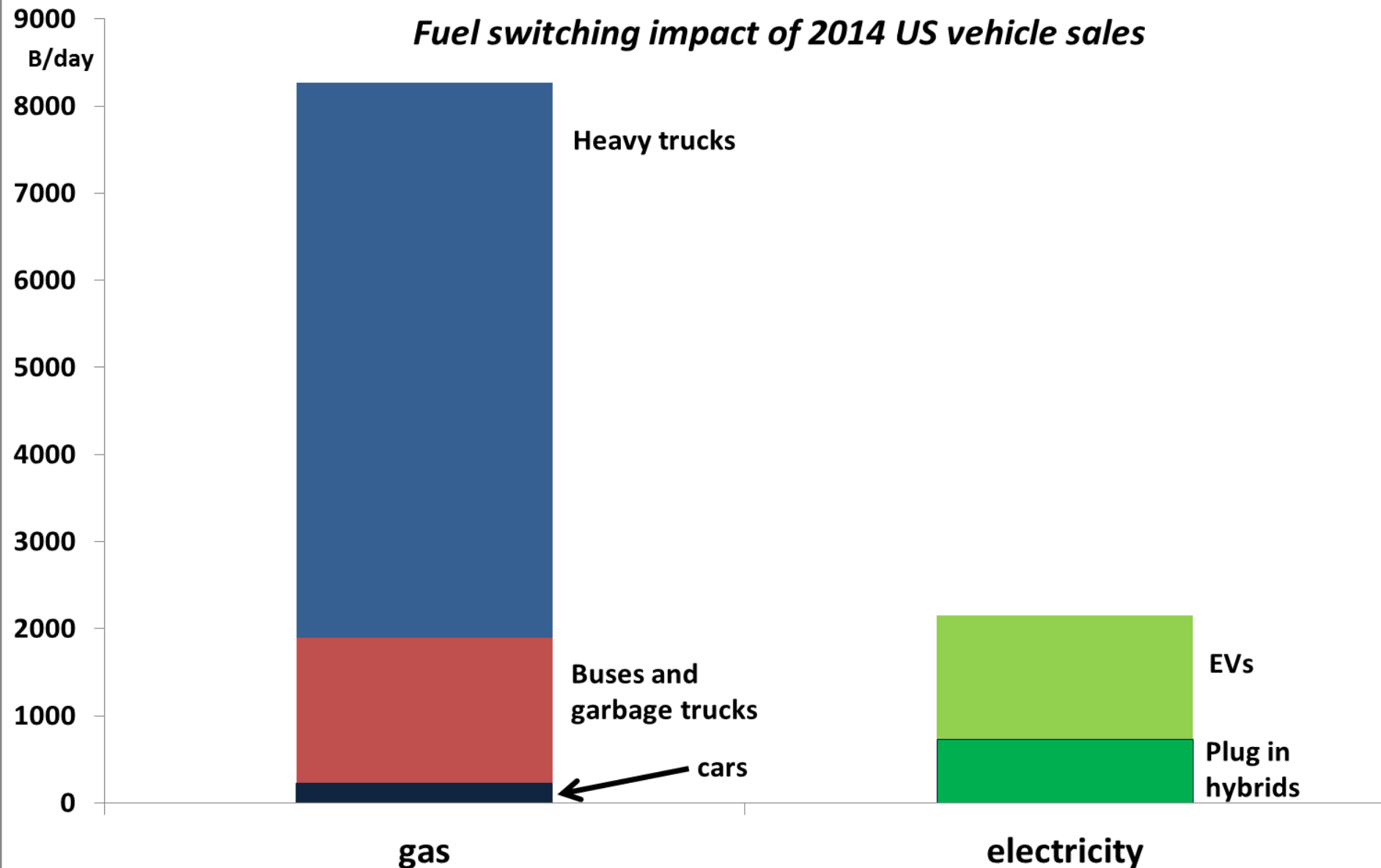


At 40 – 50 latitude (EU, Japan, New York) up to 85% of PV production is between 15<sup>th</sup> March and 15<sup>th</sup> October

# Alternative vehicles and lower oil prices

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*Fuel switching impact of 2014 US vehicle sales*





# LNG as a marine bunker fuel

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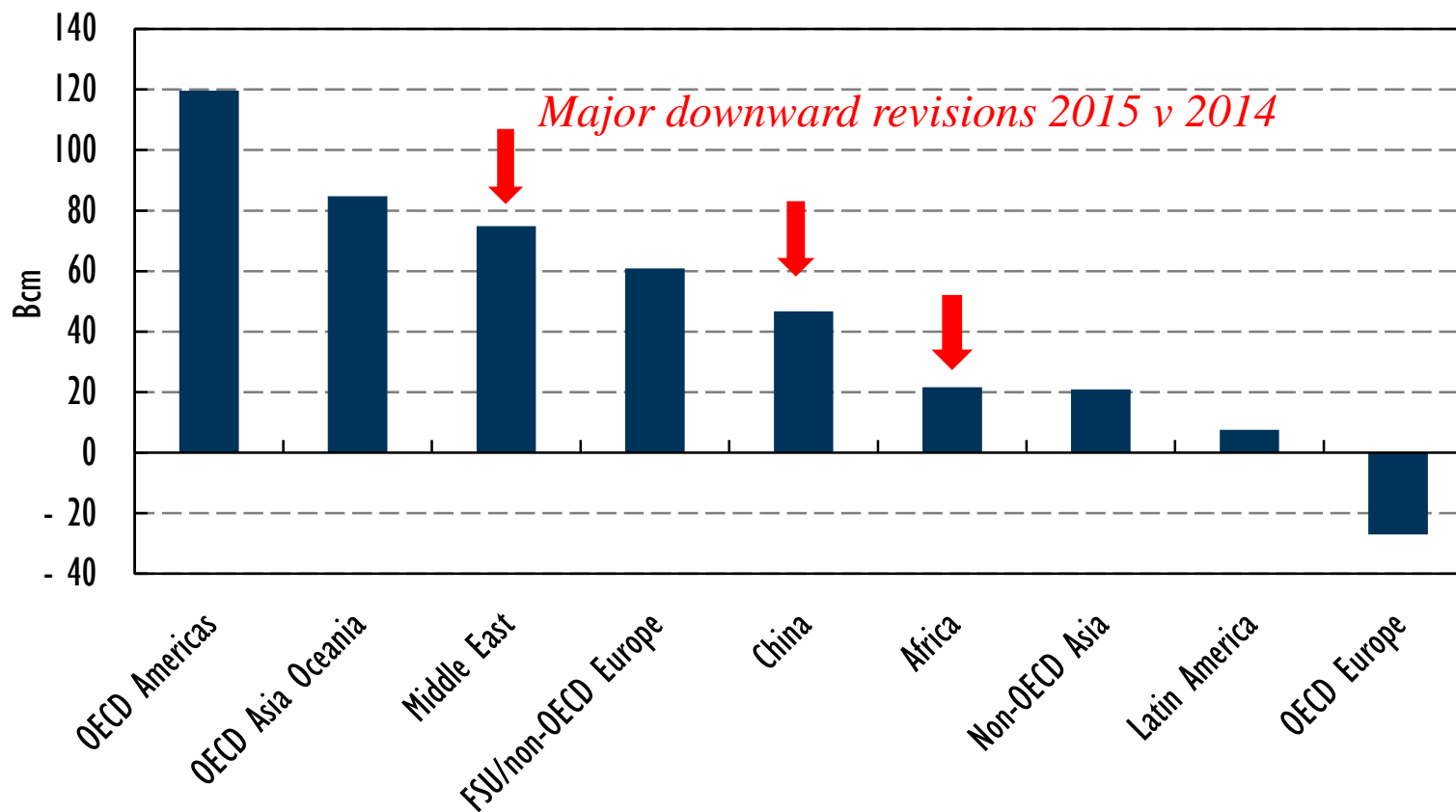
- **SO2 regulations on bunker**
- **Less constraining space and weight limits on ships**
- **Major ports with already existing LNG facilities nearby:  
Yokohama, Singapore,  
Shanghai, Dubai,  
Rotterdam**



# Global production growth shifts towards OECD countries

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Incremental gas supply by region, 2014 - 2020



# Low oil prices fail to stop North American production expansion

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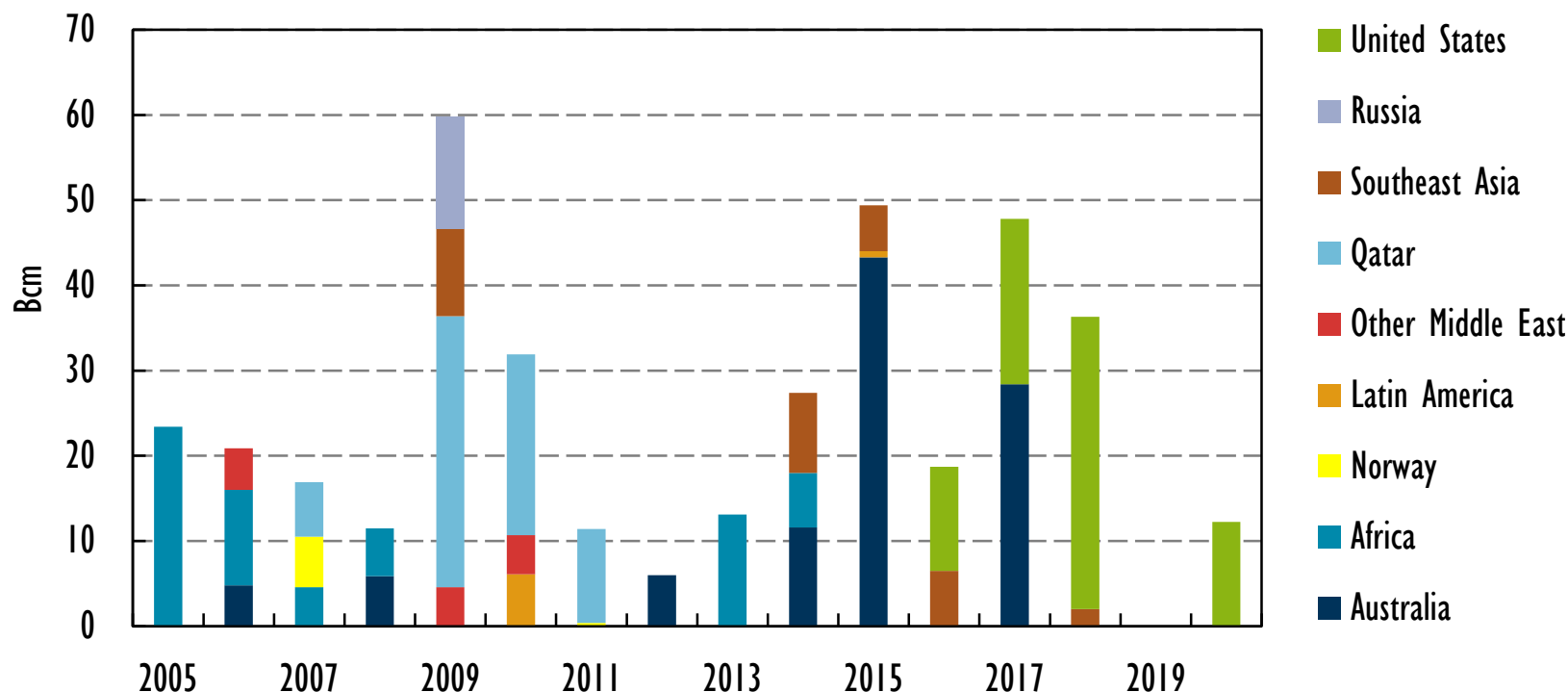
- Marcellus
- Cost deflation
- Technological progress
- Access to capital



# Second wave of additional LNG supply is coming soon

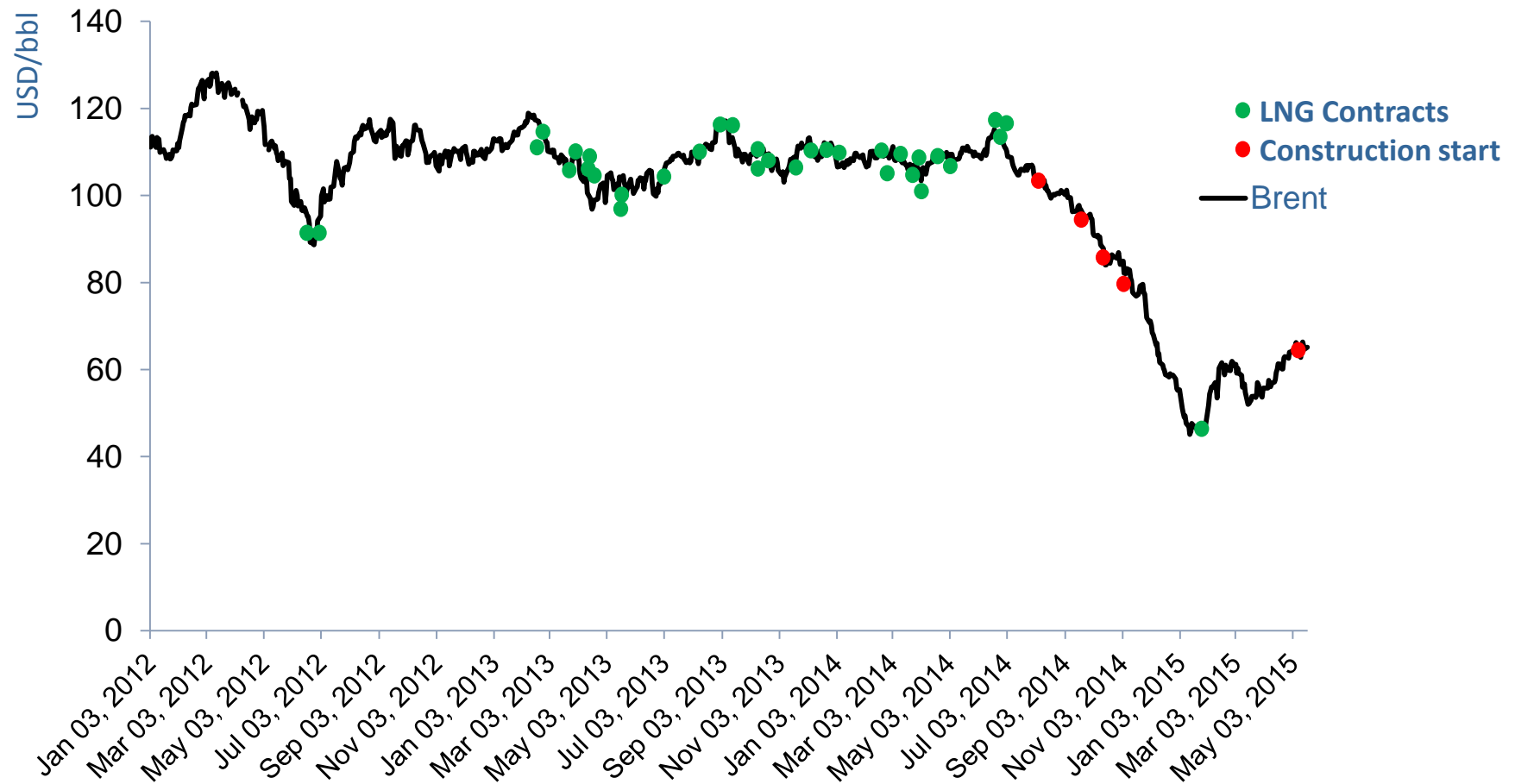
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Additional LNG export capacity by year, 2005 -20



# Buyers seem to become cautious on the competitiveness of Henry Hub based LNG

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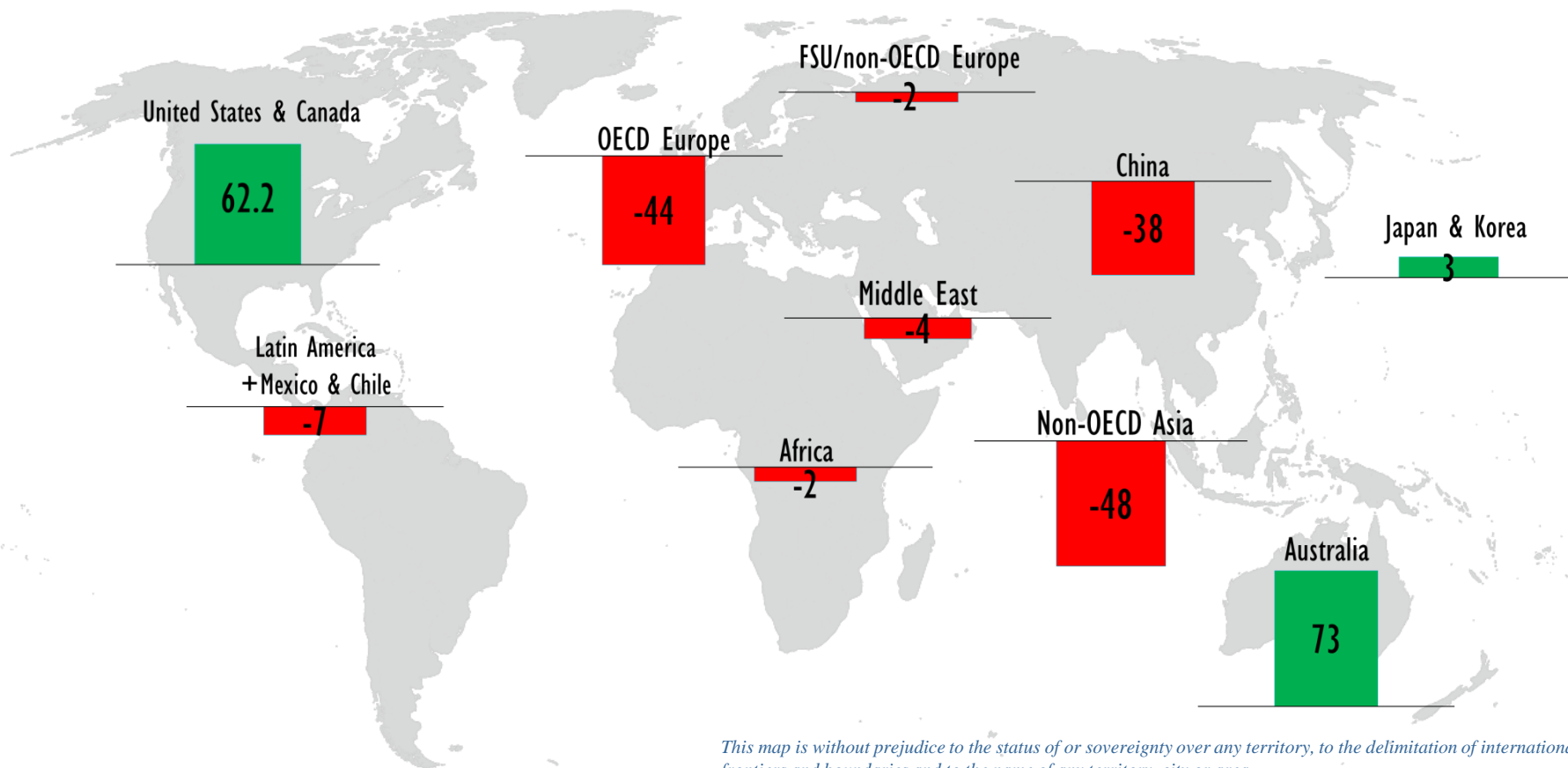
- *Financing of projects with previously signed contracts is unproblematic*
- *Only one small contract (0.75 Mt/Y) was signed since oil peaked*



# Global LNG trade flows will shift

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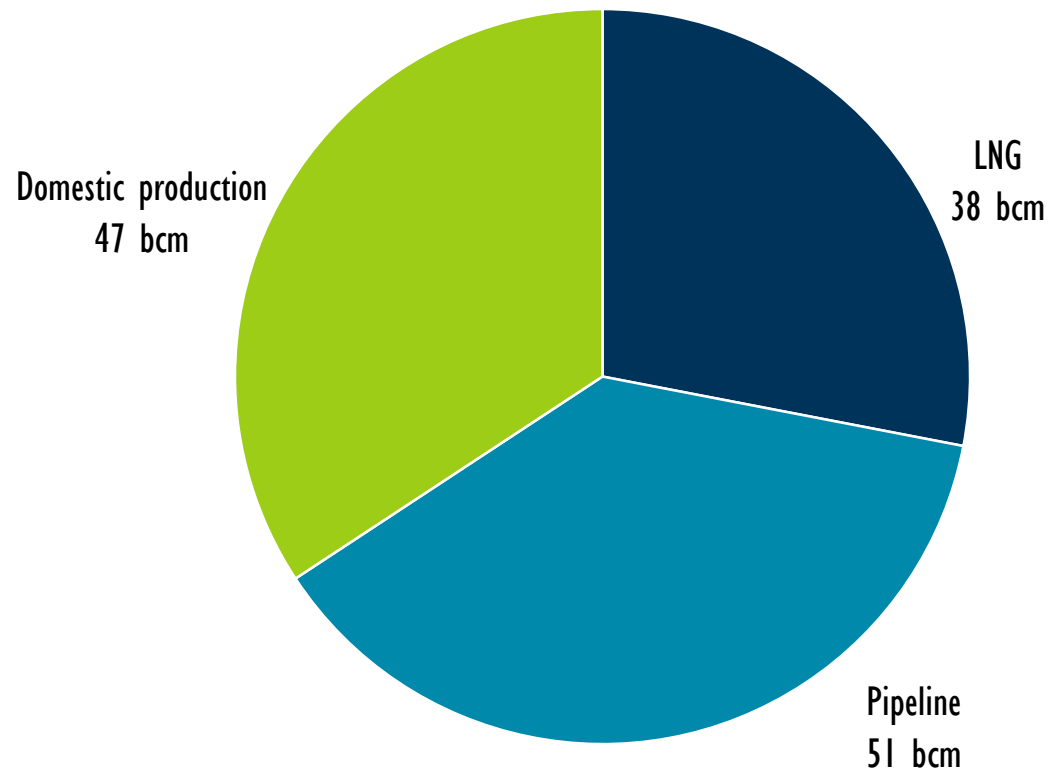
Change in LNG net trade: 2014-20 (bcm)



*This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.*

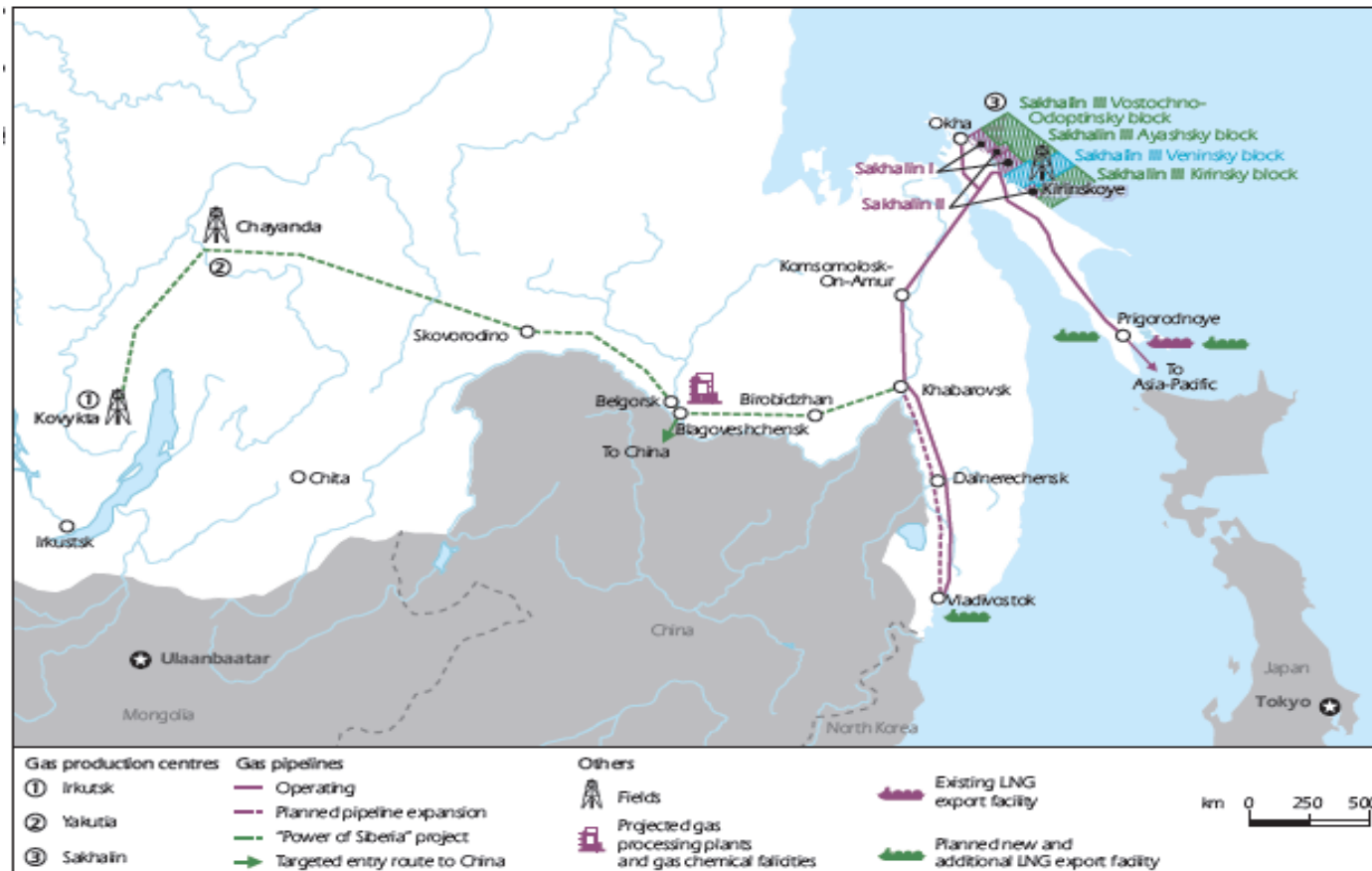
# China's supplies become more diversified

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# 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*
- *Pipeline projects rely on Russian suppliers and rouble costs*

# The age of capital discipline

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Oil at 100\$

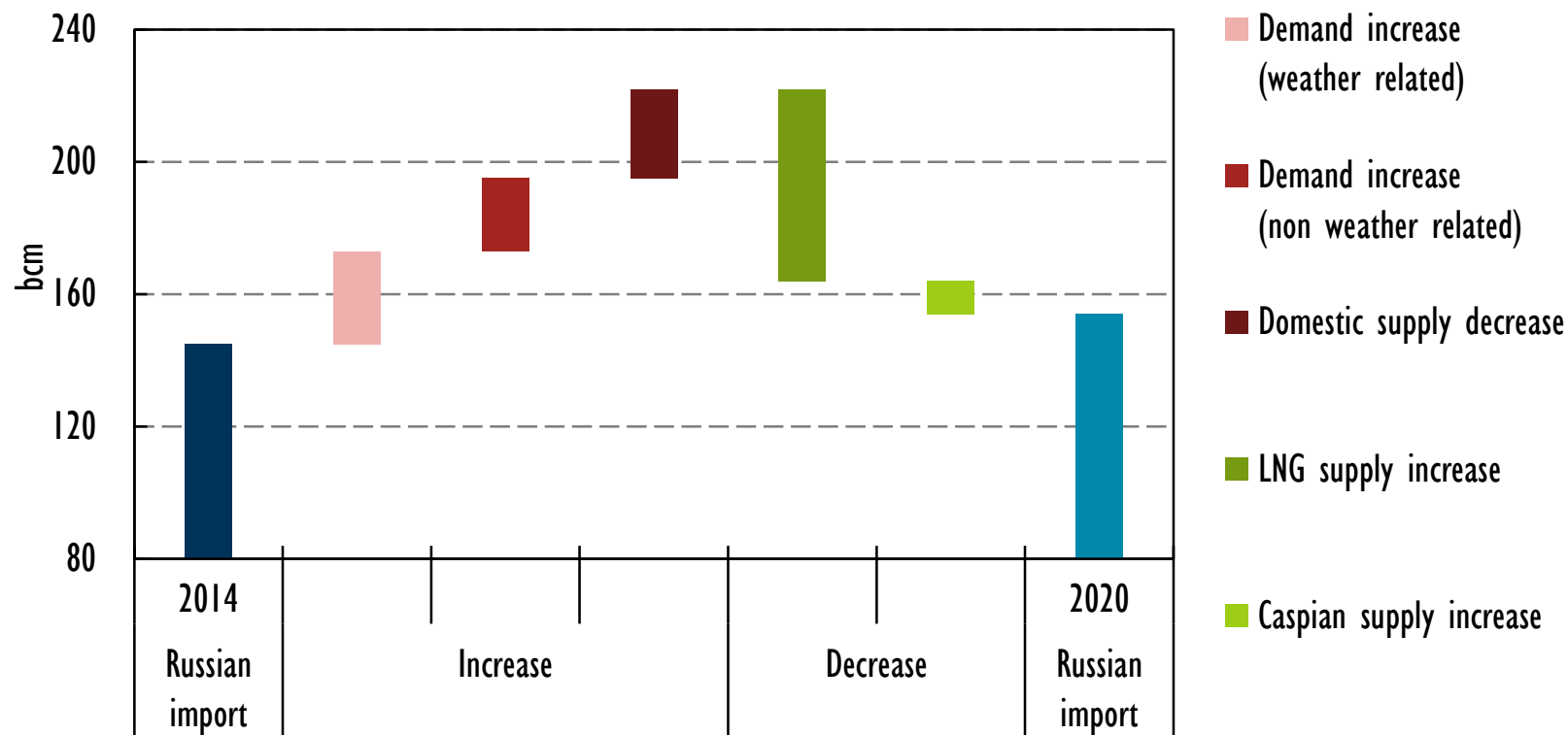


Oil at 60\$



# Europe import dependency rises

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# Reducing EU dependency on gas imports: running faster to stand still

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## WEO NPS 2035 without increasing gas imports to the EU:



*120000 windmills to compensate for declining coal generation*



*PV on 52 million rooftops to compensate for decommissioned reactors*



*5 times the current EU biogas production to compensate for declining gas upstream*



# Restoring the trust in gas

## Changing the perception of gas imports

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**Thank you for your attention!**