

Natural Gas

The Next 10 Years

Nikos Tsafos

Senior Fellow, Energy Security and Climate Change Program

Naval Postgraduate School

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Why natural gas?

The global energy system **increasingly relies** on natural gas to meet its needs—and by 2040, even in a scenario where the world meets its climate goals, **gas could be the #1 energy source** in the world.

Gas is a deeply **political fuel** that interacts with several cross currents from foreign policy to geoeconomics, to sanctions and climate change. It is also a **complex fuel** that analysts so often get wrong.

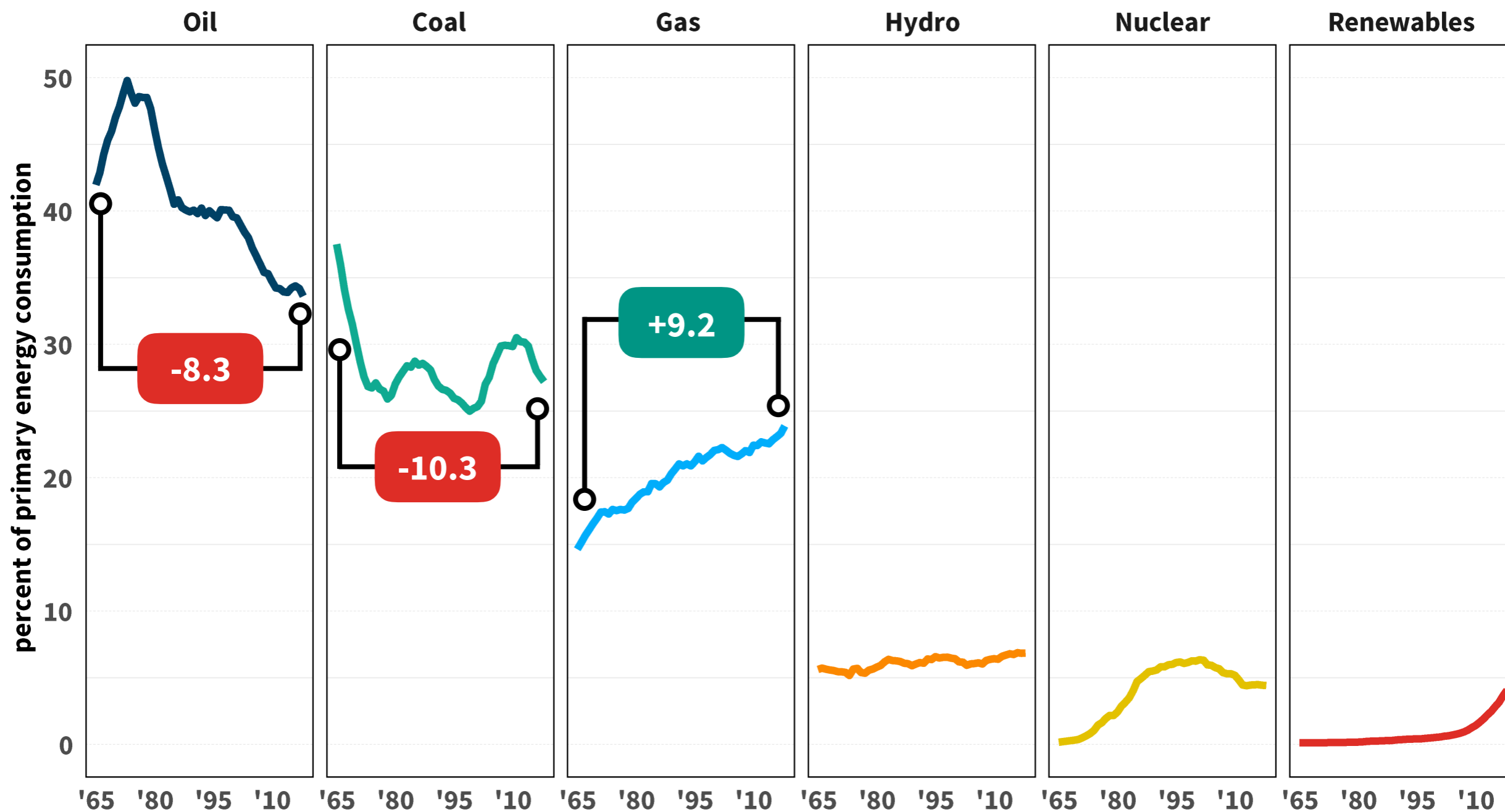
This presentation

The global market for natural gas is being **transformed**, but change is often evolutionary and multi-layered—broad generalizations can mislead rather than illuminate.

The next 10 years will be shaped by the rise of **four mega-players** and by a steady tension between gas as a solution and gas as a problem in the **energy transition**.

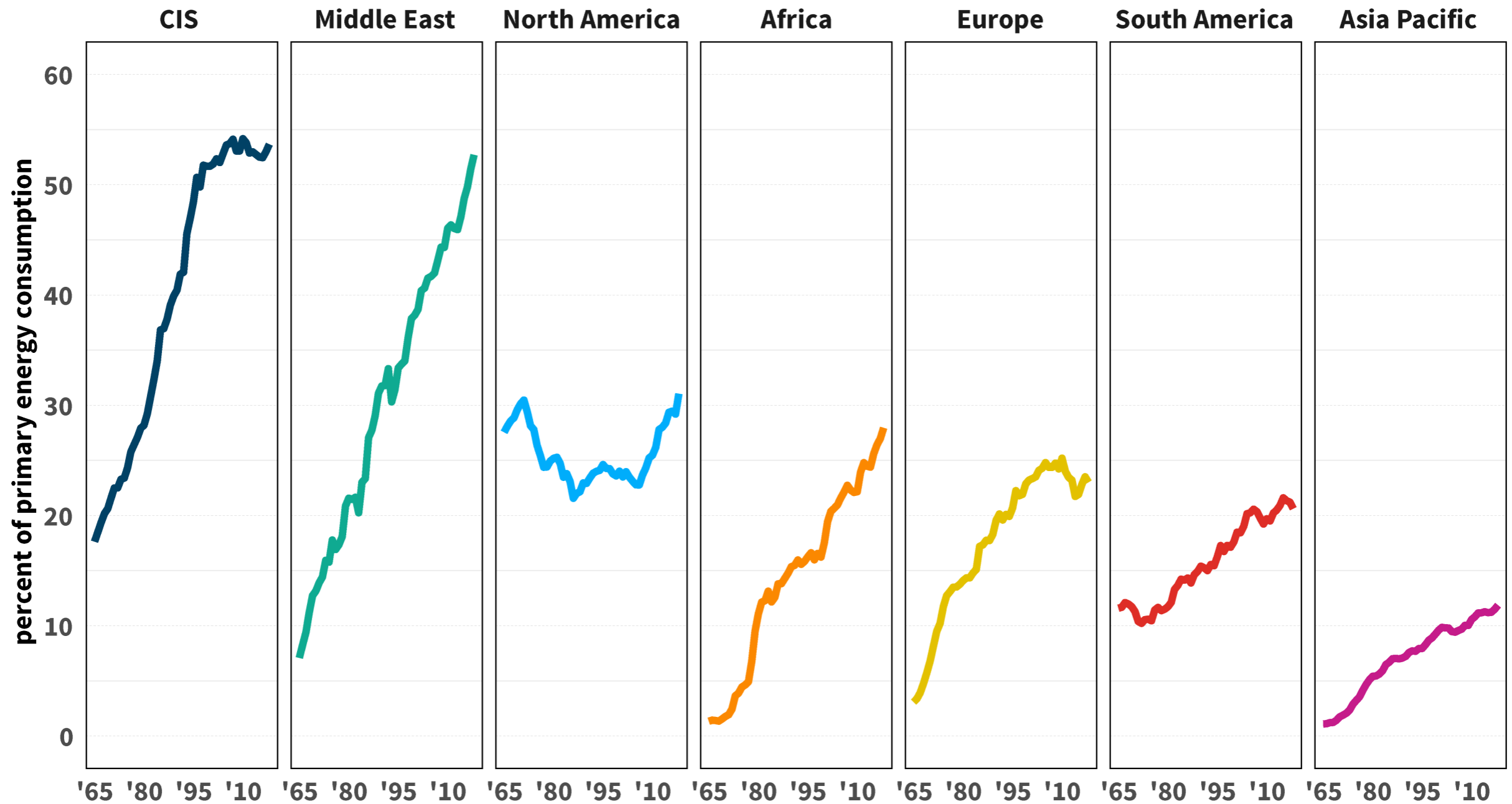
Profound transformation for gas markets

Gas has gained market share from oil and coal



Source: BP, Statistical Review of World Energy (June 2019).

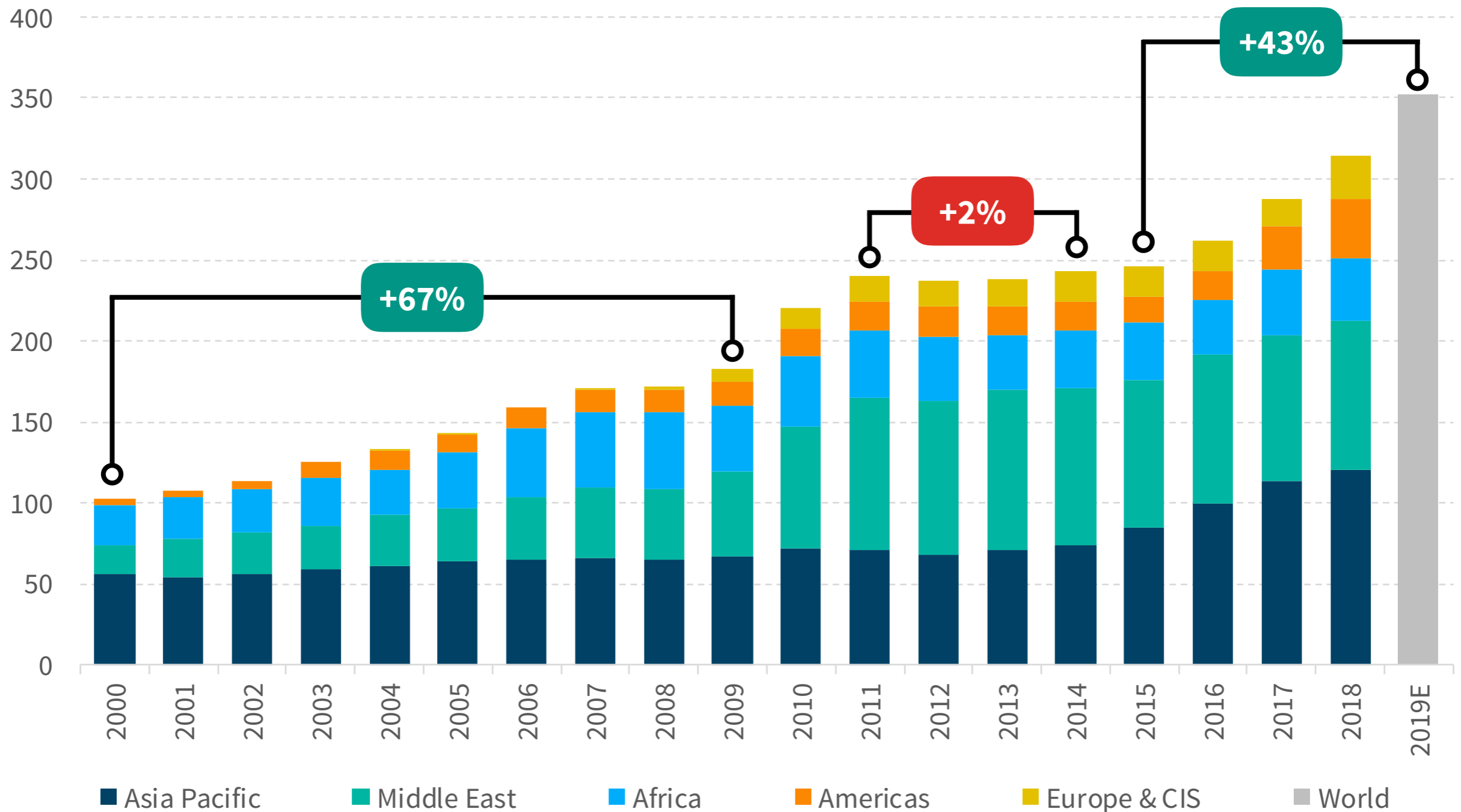
Market share remains regionally uneven



Source: BP, Statistical Review of World Energy (June 2019).

There is an unprecedented boom in LNG supply

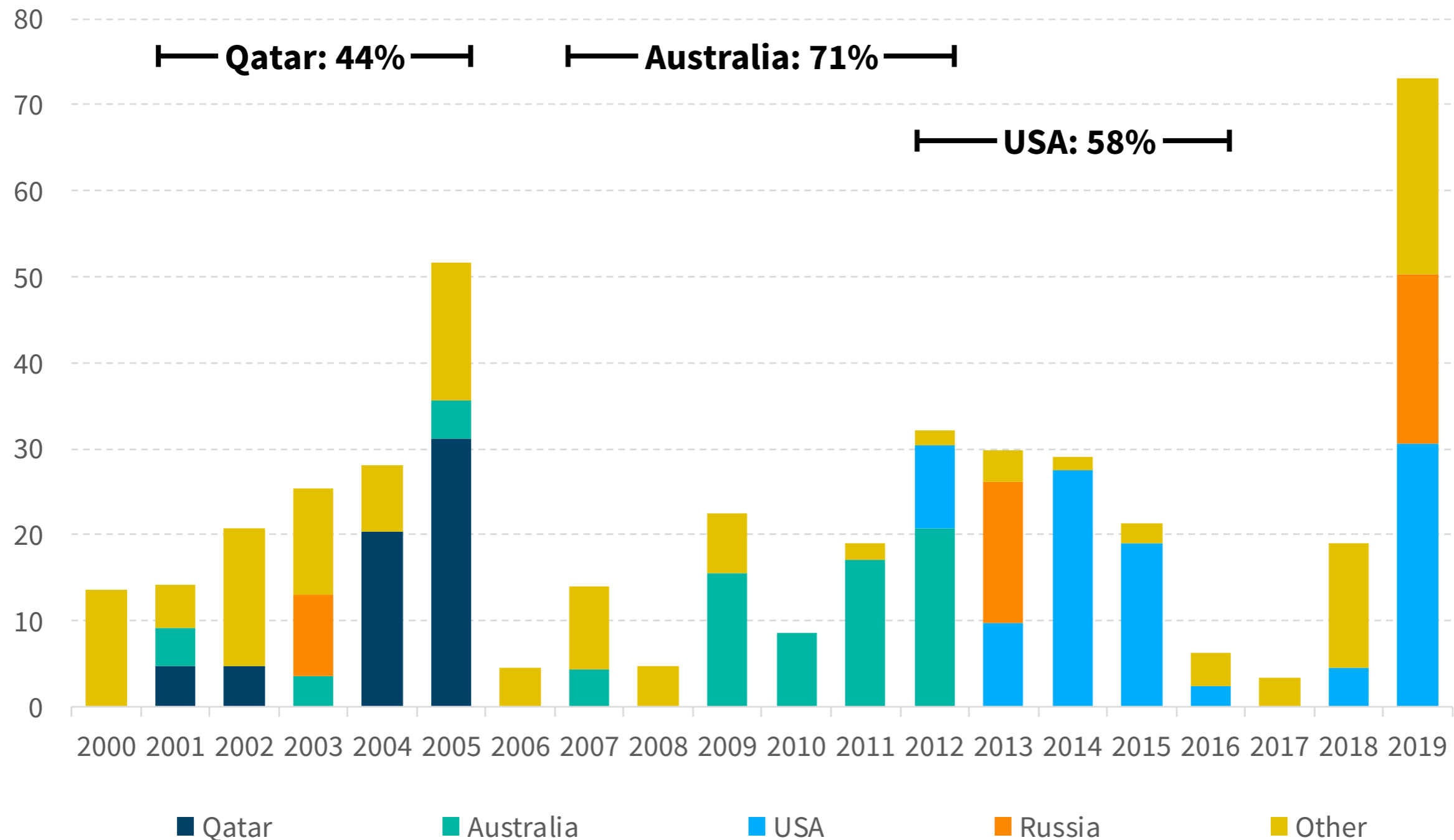
million tons of liquefied natural gas



Source: BP, Statistical Review of World Energy (June 2019); 2019 estimate from IHS Press release.

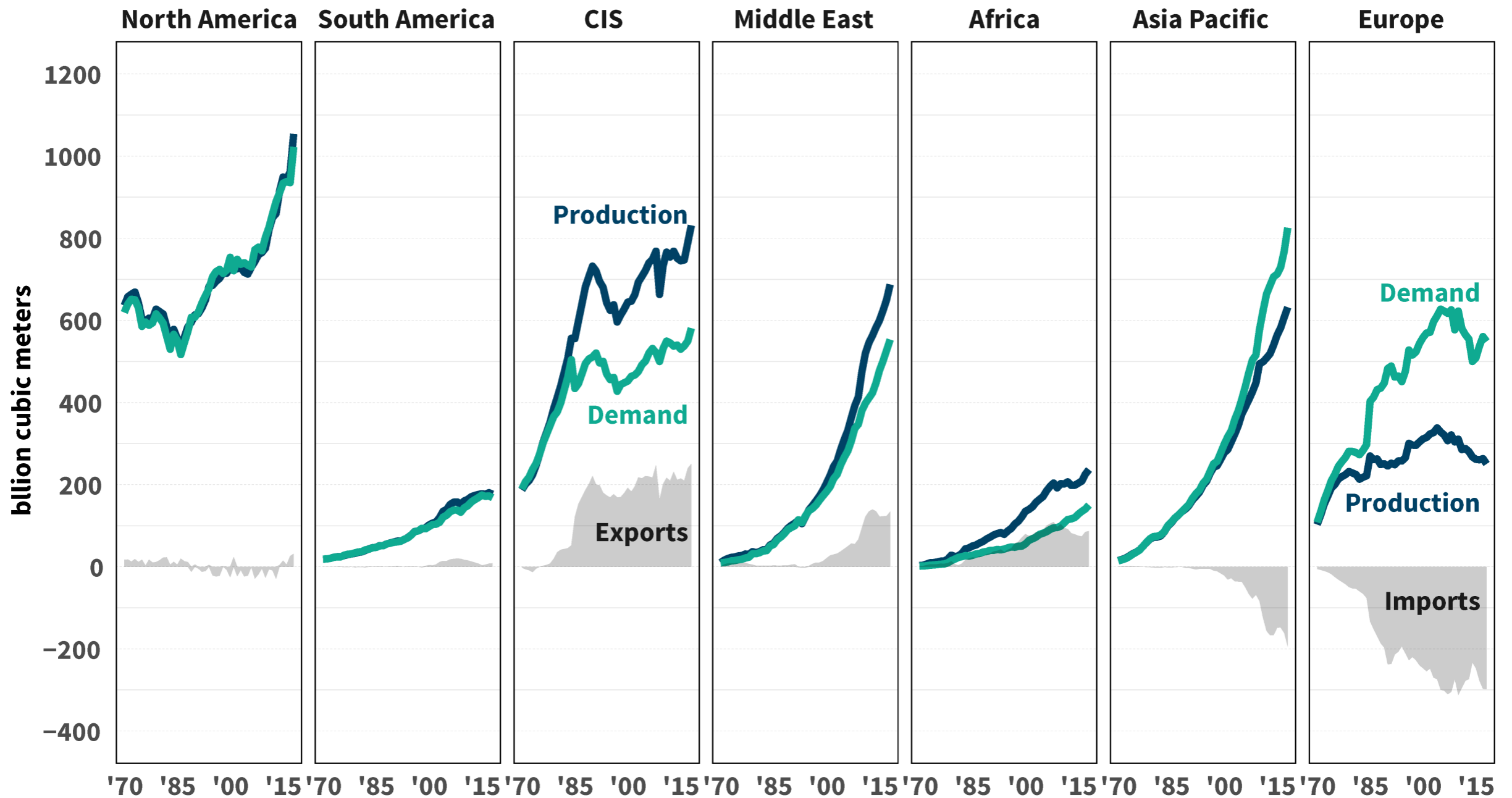
Record-level investment in new supply

million tons of liquefied natural gas (annual capacity)



Source: Company reports and industry press.

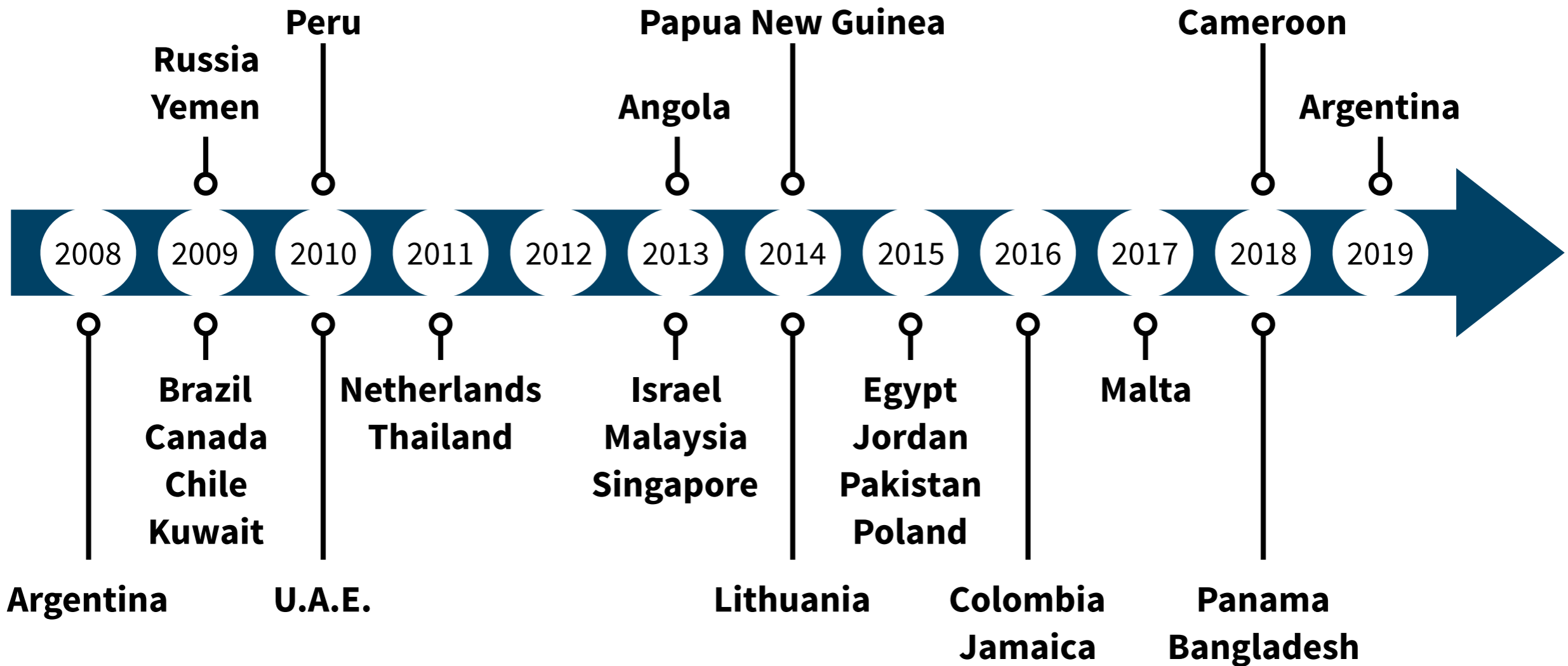
U.S. gas exports will rewire global gas system



Source: BP, Statistical Review of World Energy (June 2019).

More and more countries joining the LNG club

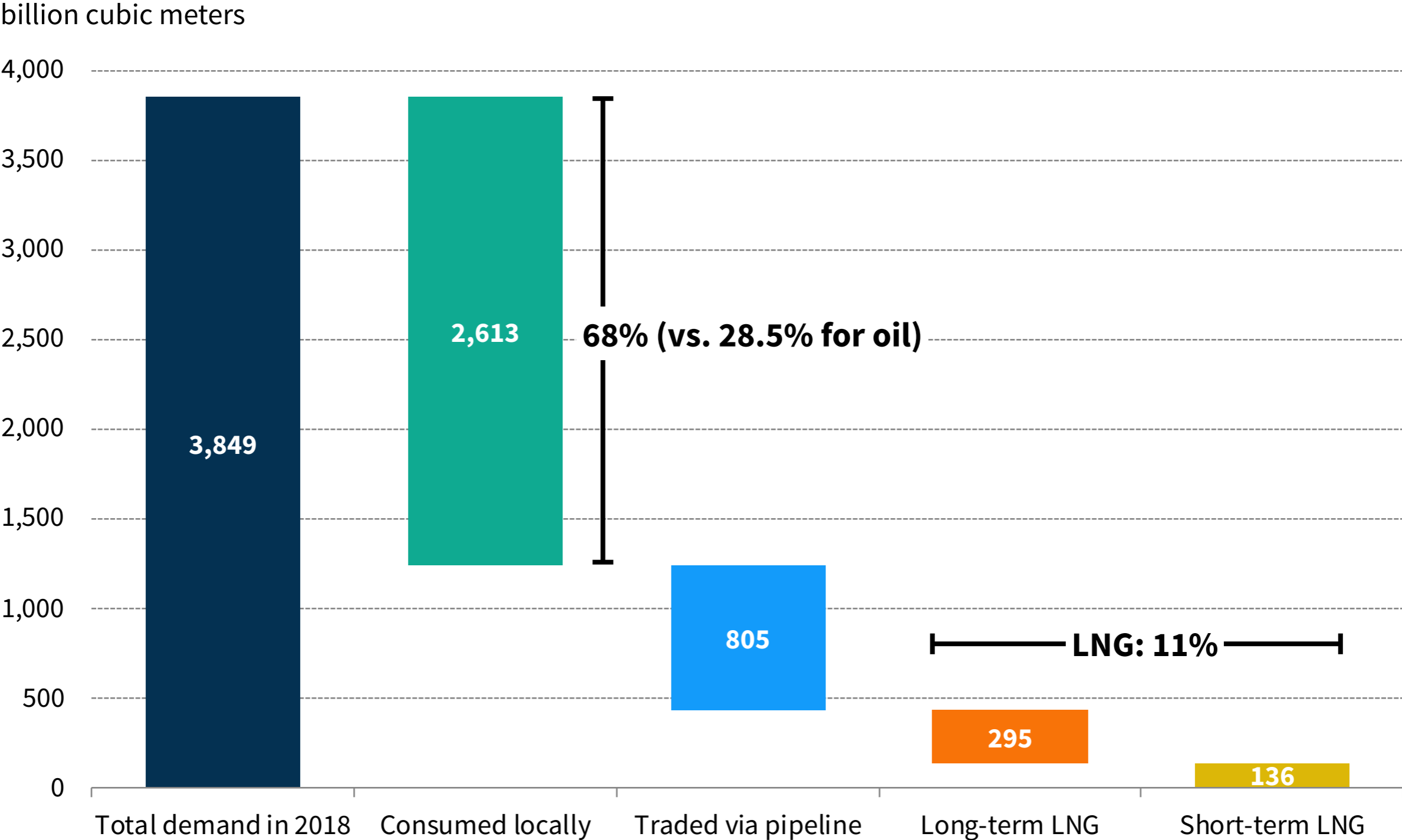
New LNG exporters



New LNG importers

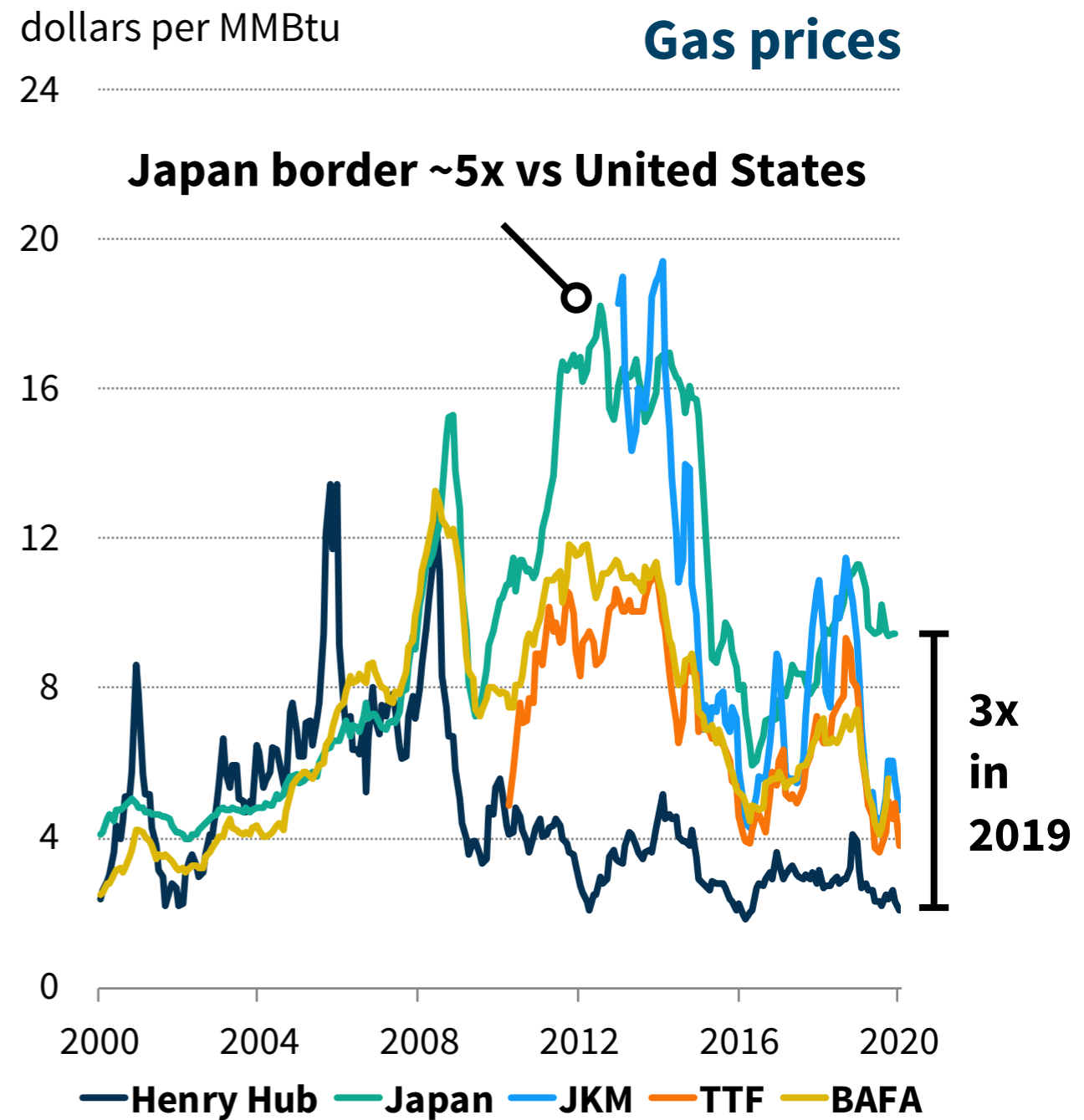
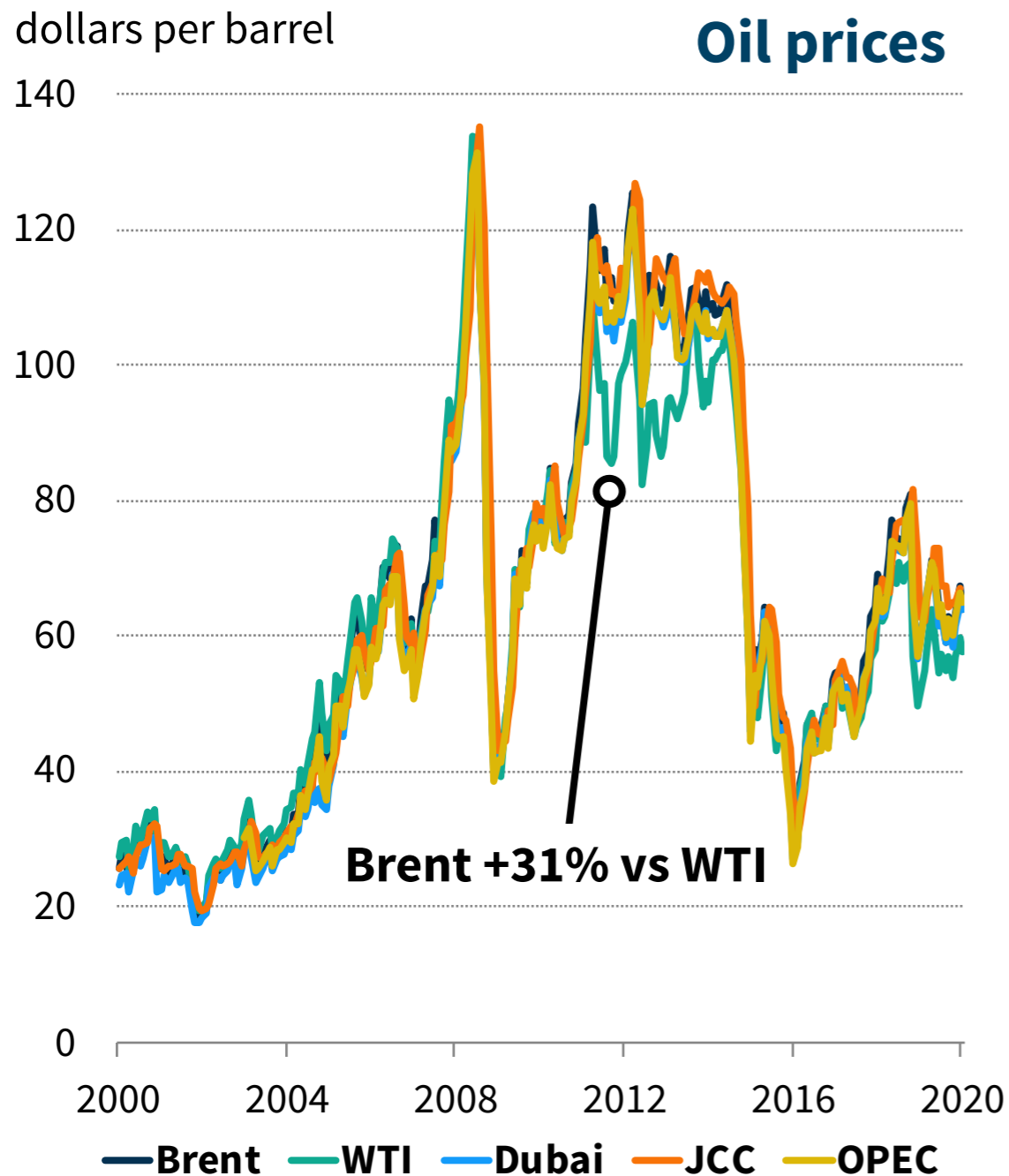
Source: BP, Statistical Review of World Energy (June 2019); IGU, World LNG Report 2019; company reports.

But most gas (still) never crosses a border



Source: BP, Statistical Review of World Energy (June 2019); spot estimate from IGU, World LNG Report 2019.

Gas prices vary widely (unlike oil)

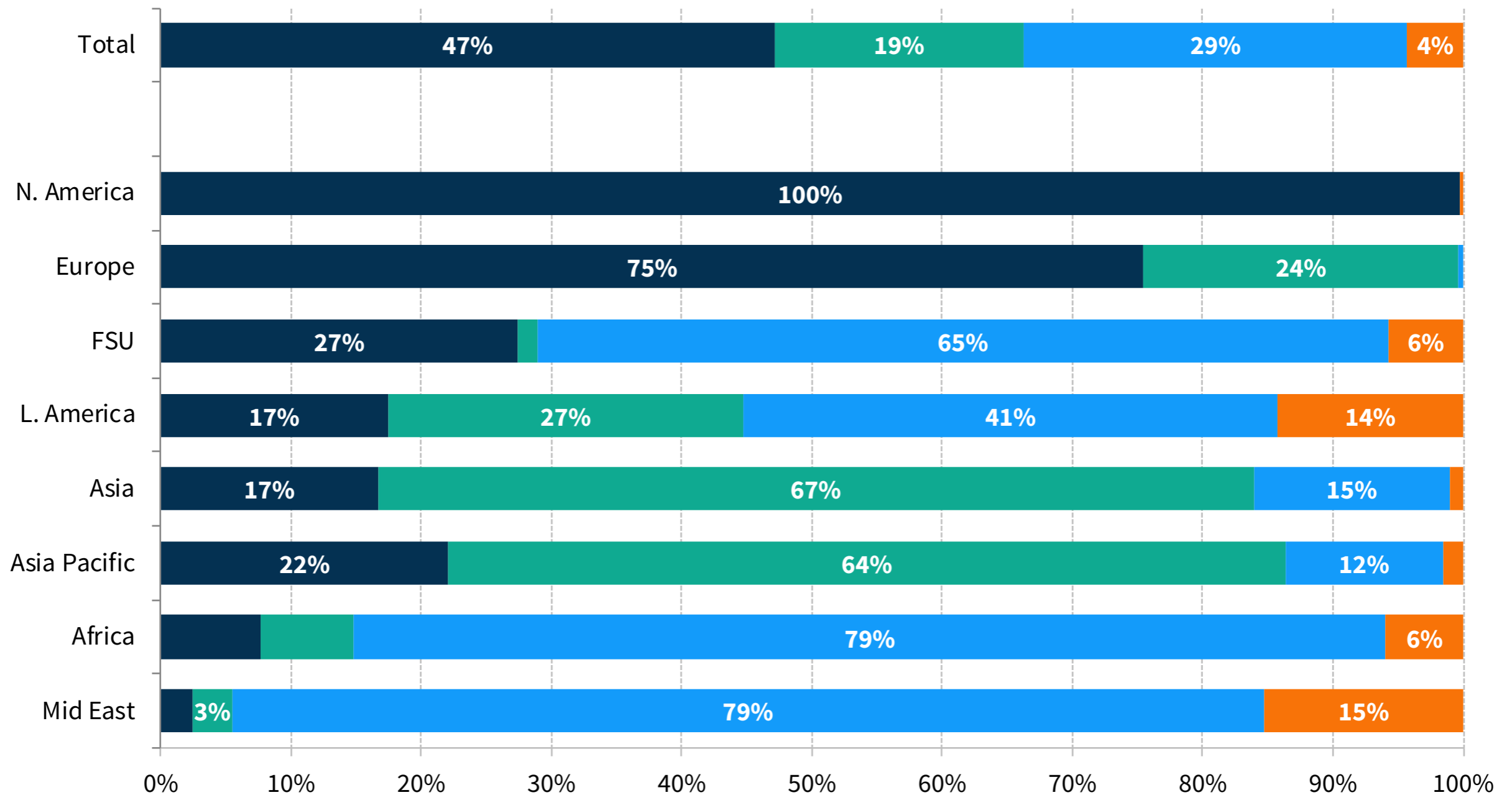


Source: EIA, World Bank, Petroleum Association of Japan, OPEC, Japan Customs, Platts, ICE UK, BAFA.

Most regions have a hybrid pricing system

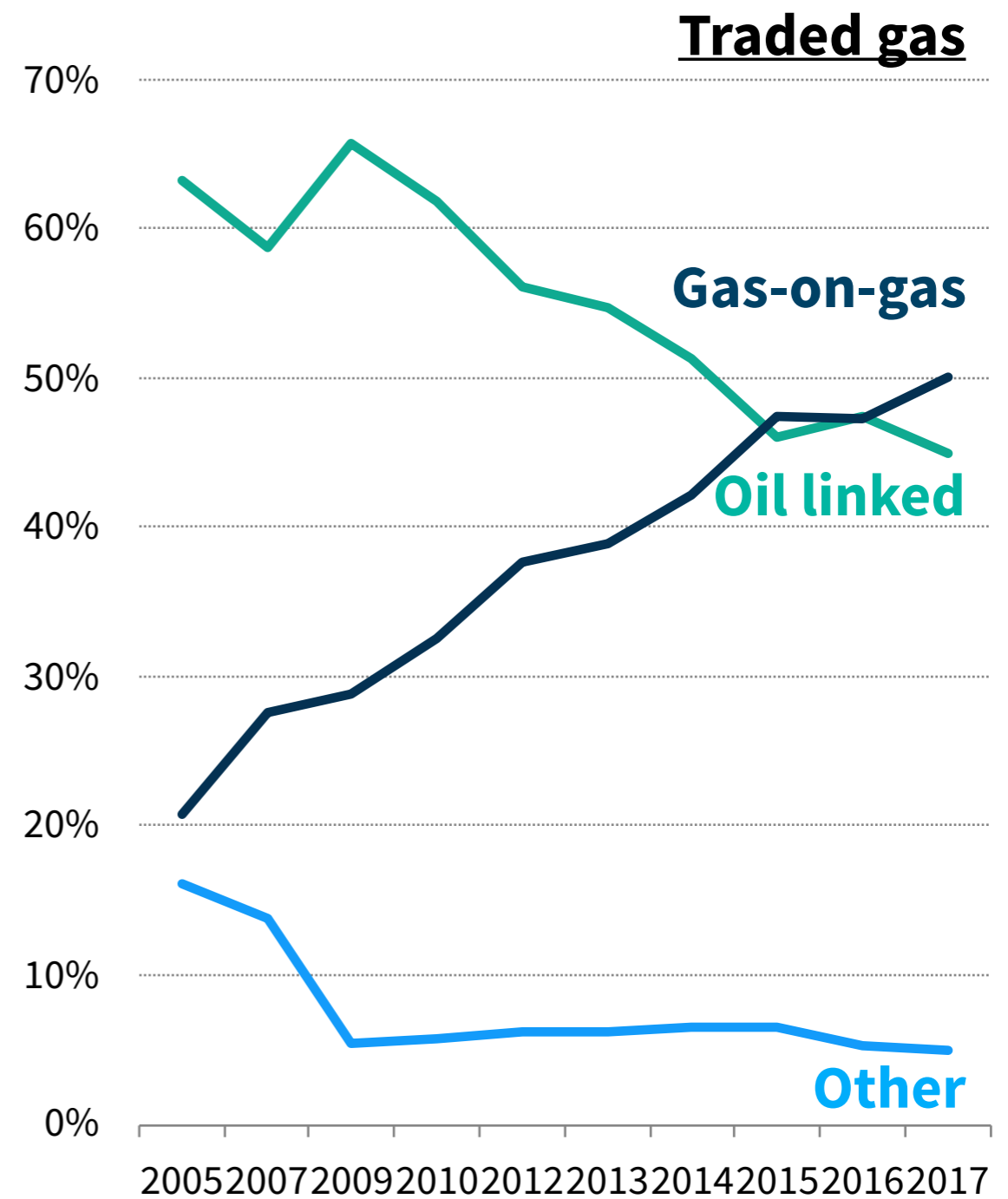
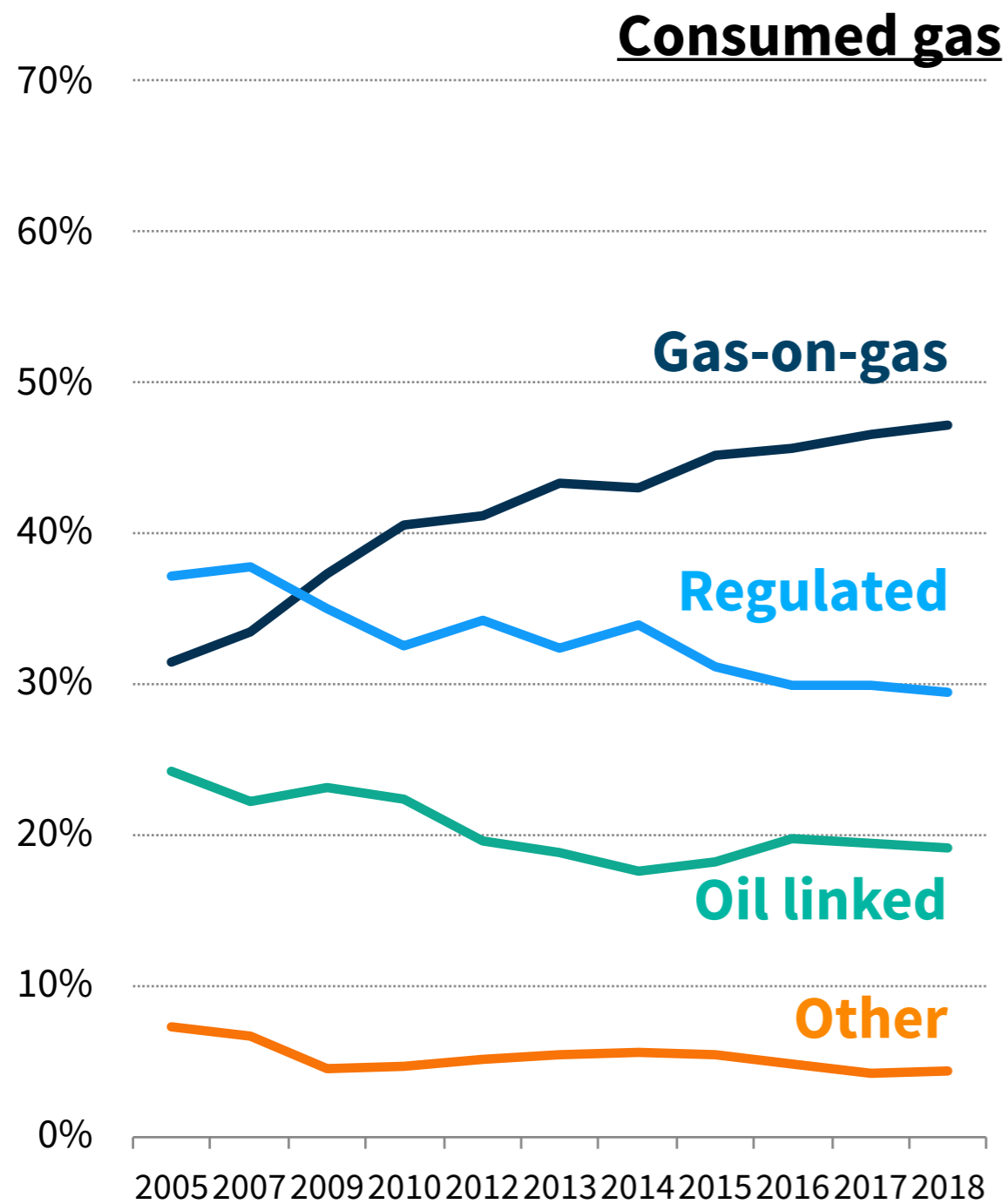
GAS PRICE FORMATION BY REGION (2018)

■ Gas-on-Gas ■ Oil indexed ■ Regulated ■ Other



Source: IGU (2019), [Global Gas Price Report](#).

Slow and steady shift to gas-on-gas pricing



Source: IGU (2019), [Global Gas Price Report](#).

A multi-layered transformation

Market share

Gas' global market share is rising, but penetration (and growth) is regionally uneven.

New supply

We are in the midst of an unprecedented supply boom, coupled with record-level investment in new supply.

Trade flows

North America will rewire trade flows in a market that is more complex and integrated.

Prices

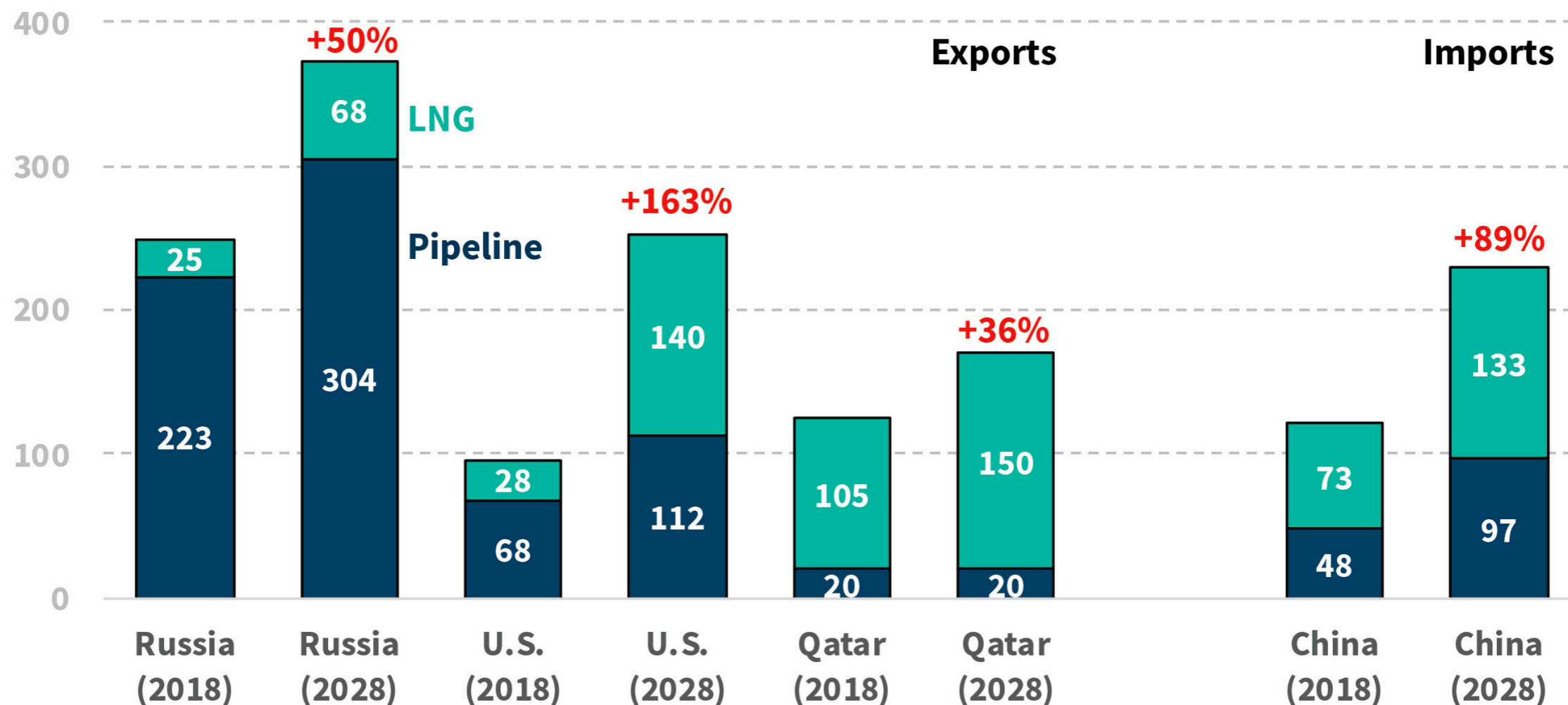
Steady move to gas-on-gas pricing, but price disparities still exist, and most regions have a hybrid pricing system.

The mega-players, the energy transition

Four players will define the next decade

The Gas Mega-Players in 2018 and 2028

billion cubic meters (bcm)



Source: Tsafos, [The Era of the Gas Mega-Players](#), September 10, 2019.

Gas market more integrated and competitive

More integrated

Gas trade has mostly taken place within regions or within defined corridors. But Russia, the United States, Qatar, and China are all global players.

More competitive

U.S. market driven by private sector; large players in Russia and China are competing; only Qatar has consolidated position under QP.

Source: Tsafos, [The Era of the Gas Mega-Players](#), September 10, 2019.

But greater temptation to exert market power

Market structure

Move to gas-on-gas pricing and growing linkages between regions mean the market is more susceptible to efforts to exercise market power.

Spare capacity

All the major players will have some form of “spare capacity,” three at the hands of governments and one in the hands of the private sector.

Source: Tsafos, [The Era of the Gas Mega-Players](#), September 10, 2019.

A gas market with lots of geopolitical wrinkles

Russia

Can it leverage partnerships into geopolitical gain?

Qatar

How will it pick partners?
Market access, overseas assets, geopolitics?

China

How to boost energy security in a market dominated by the United States)?

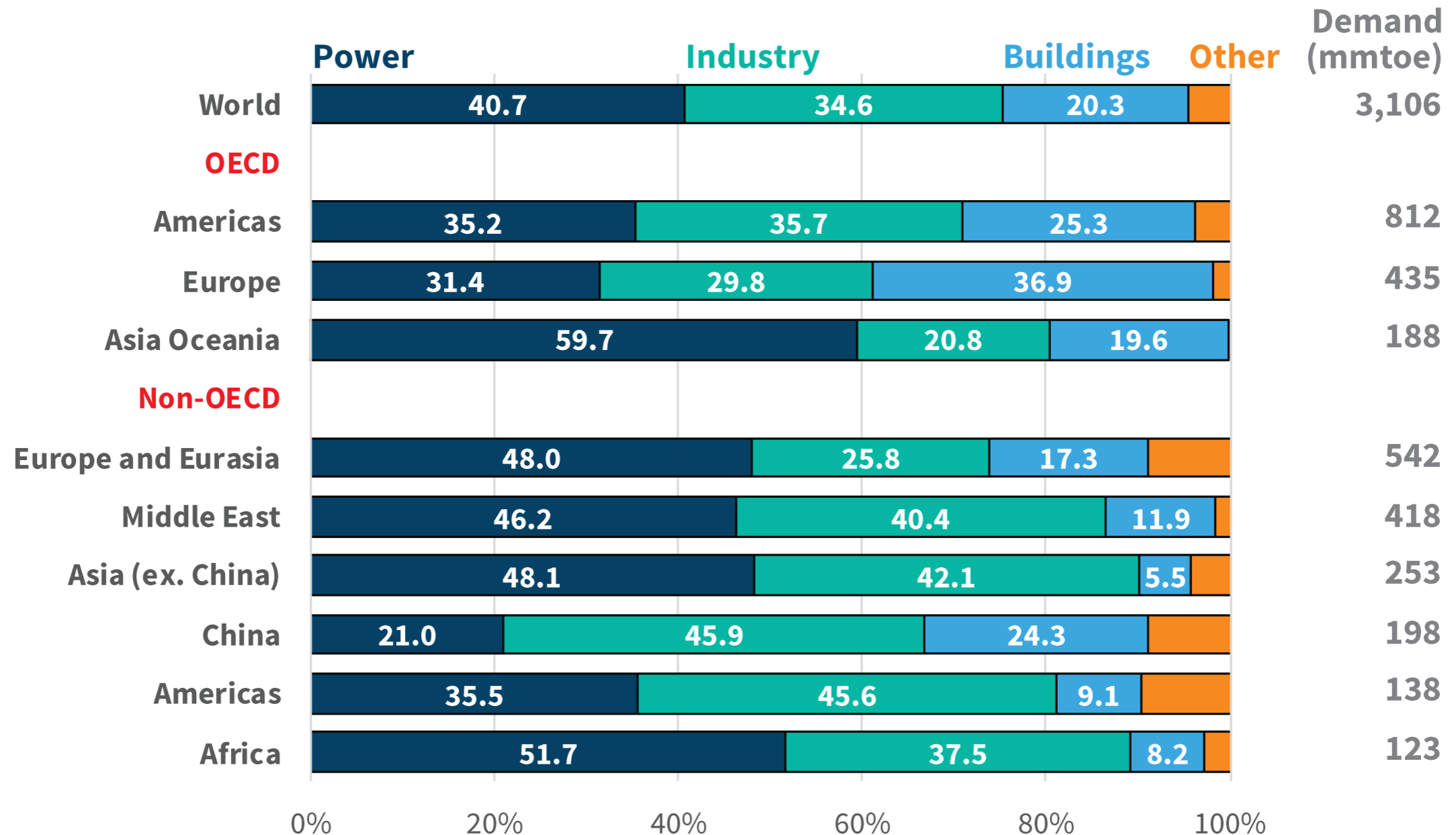
United States

How much to politicize LNG to boost exports and support energy security of allies; or through linkage to trade and sanctions?

Source: Tsafos, [The Era of the Gas Mega-Players](#), September 10, 2019.

Gas serves different needs in different markets

Natural Gas Consumption by Sector and Region (2017)



Source: Tsafos, [How Will Natural Gas Fare in the Energy Transition?](#), January 14, 2020.

A simple schematic for gas in the energy transition

		Natural Gas in the Energy Transition	
High climate benefits (i.e., ideal for gas to grow market share or defend it)	<p>Gas can help advance decarbonization but is struggling to compete for market share.</p> <p>Examples: Coal-to-gas switching in India and SE Asia; gas in heavy-duty transport (trucks); gas in industry and electricity in sub-Saharan Africa.</p>	<p>Gas can help advance decarbonization, plus gas is in a competitive position to defend or expand market share.</p> <p>Examples: Coal-to-gas switching in electricity and industry; oil-to-gas switching in electricity (e.g., Middle East); marine transport).</p>	
	<p>Gas can play a smaller role in decarbonization, plus it is struggling to compete for market share.</p> <p>Examples: In buildings (where not already used); in electricity systems with low-carbon alternatives; in passenger cars (as electric vehicles scale up).</p>	<p>Gas can play a smaller role in decarbonization but is in a competitive position to defend or expand market share.</p> <p>Examples: In electricity systems with low-carbon alternatives; in buildings (if gas is used now); in industry (until alternatives scale up).</p>	
		Gas less competitive	Gas more competitive

Source: Tsafos, [How Will Natural Gas Fare in the Energy Transition?](#), January 14, 2020.

Where will gas grow and where not

Power

Gas will grow versus coal where gas is cheap or helped by policy; but will be squeezed by renewables.

Industry

Strong role in petrochemicals; energy industry own use set by use of fossil fuels overall; few options for high-temperature process heat.

Buildings

Gas use driven by a few places; electrification, district heating, hydrogen, will challenge gas but displacement will be slow.

Transport

Likely missed window for passenger vehicles (and heavy duty transport too); marine transport most promising market.

Source: Tsafos, [How Will Natural Gas Fare in the Energy Transition?](#), January 14, 2020.

Conclusion

The global market for natural gas is being **transformed**, but change is often evolutionary and multi-layered—broad generalizations can mislead rather than illuminate.

The next 10 years will be shaped by the rise of **four mega-players** and by a steady tension between gas as a solution and gas as a problem in the **energy transition**.