

ICIS LINKEDIN LIVE DISCUSSION

Ukraine crisis: *what are the implications for global energy and chemicals?*

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Serving customers in over **130 countries**

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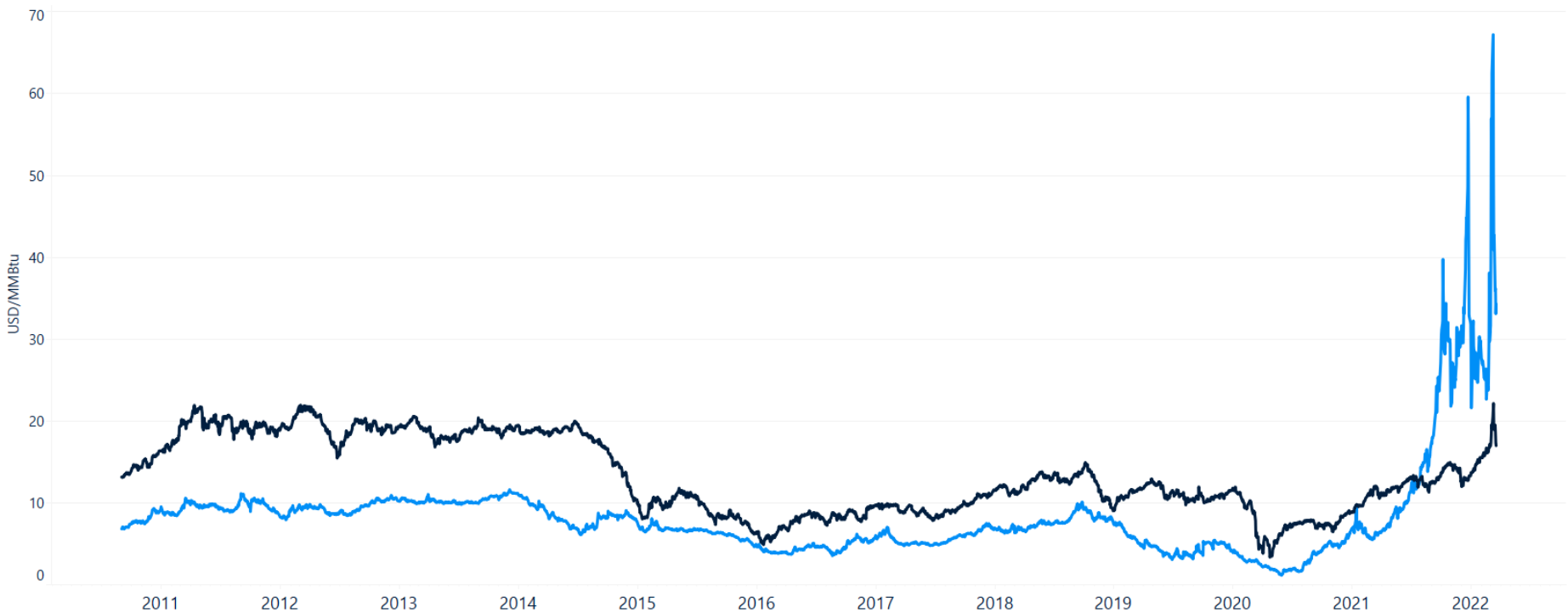
ICIS pricing data is widely **acknowledged as a benchmark** across many of the world's most established commodities, bringing certainty to planning and decision making.

Conflict precipitates an energy crisis



Natural gas and oil comparison

■ ICIS Brent Month +1 Closing value
■ ICIS TTF Price Assessment Month +1 Bid-offer range

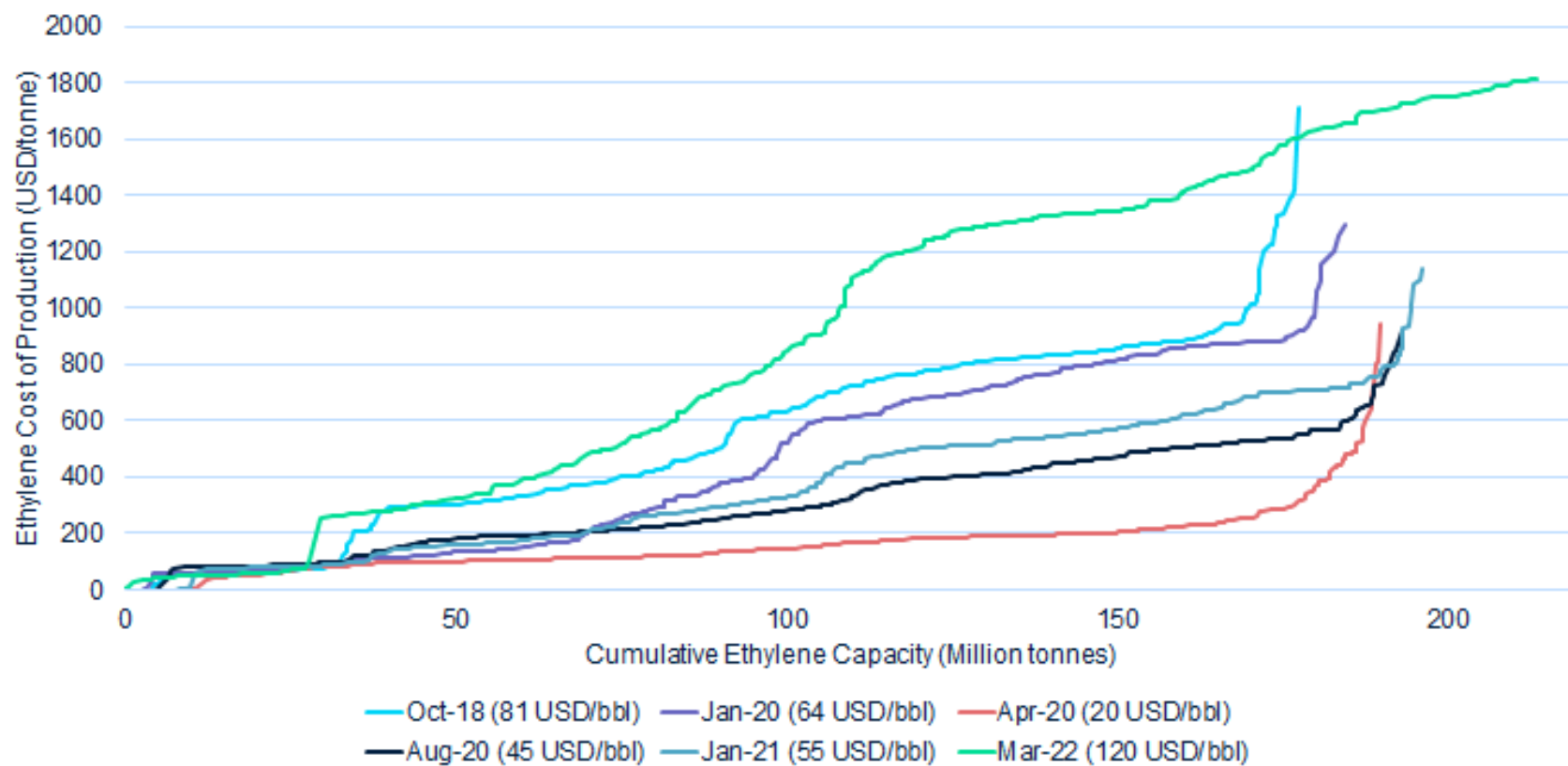


SOURCE: ICIS LNG Edge (Updated till 17 March 2022)

Chemical industry cost picture has changed



Ethylene cost curves



Source: ICIS Plant Cost Evaluator

Agenda



- 01** How will global energy markets reshape in the light of conflict in Ukraine?
- 02** Can the world cope without Russian crude supplies?
- 03** Russia's position in the Global Chemical industry: What is the long-term impact of the sanctions on the Russian chemical industry?
- 04** Scenarios for China's imports of PE and PP in 2022 and 2023 in the context of uncertain growth and "political" and well as economic operating decisions.
- 05** How will the Russian invasion of Ukraine affect the global economy?

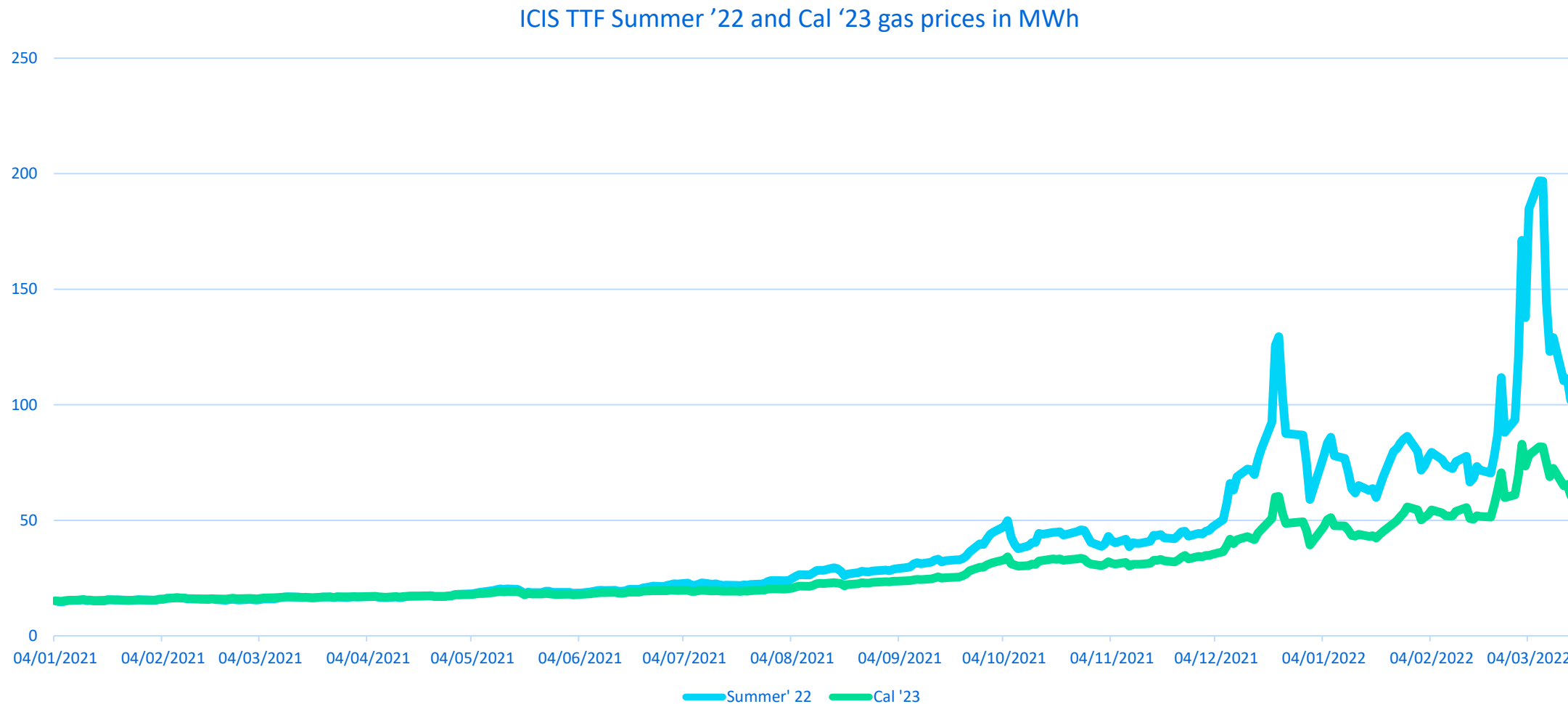


How will global energy markets reshape in the light of the war in Ukraine?

Aura Sabadus

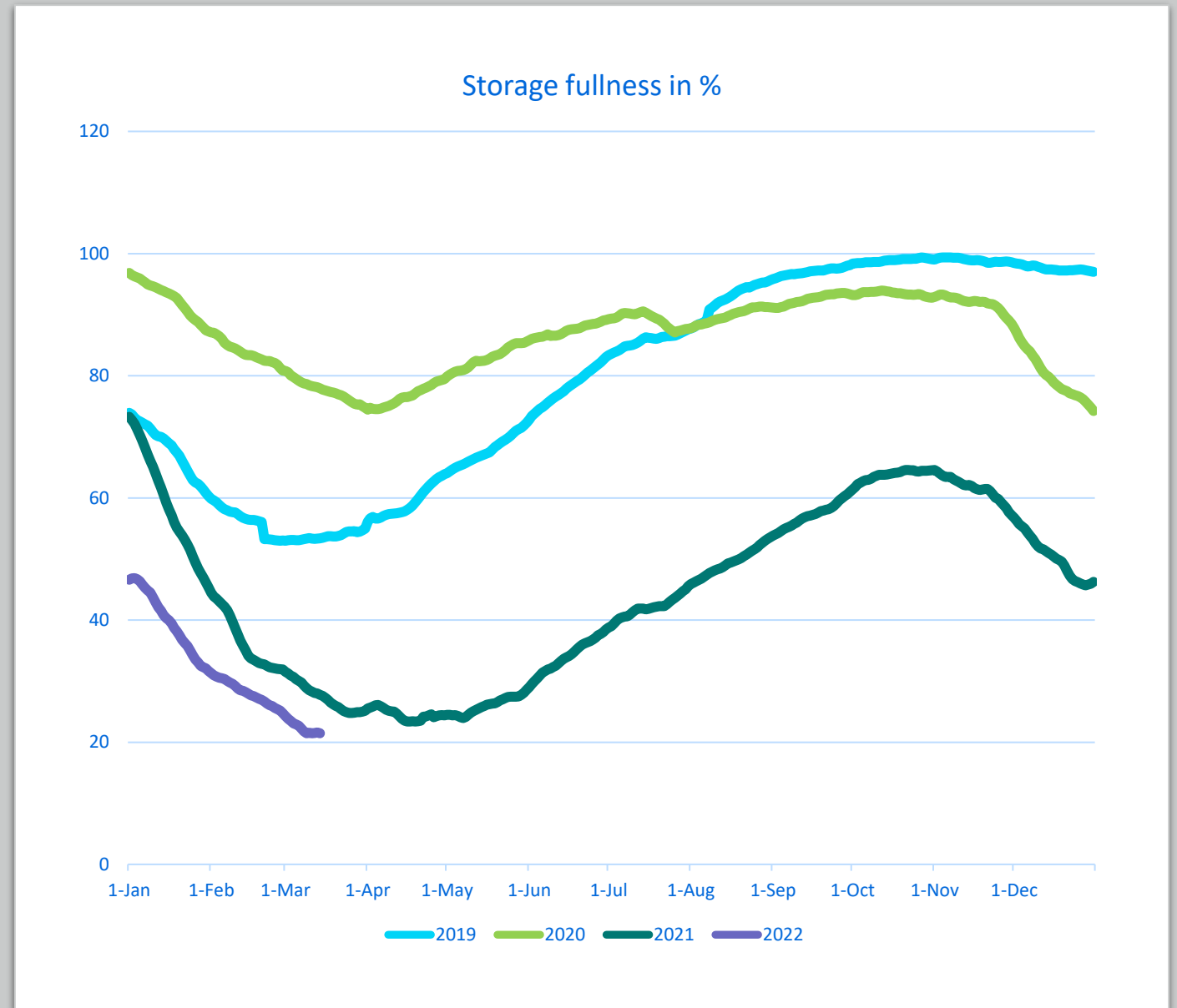
Senior Market Reporter, ICIS

Evolution of gas prices

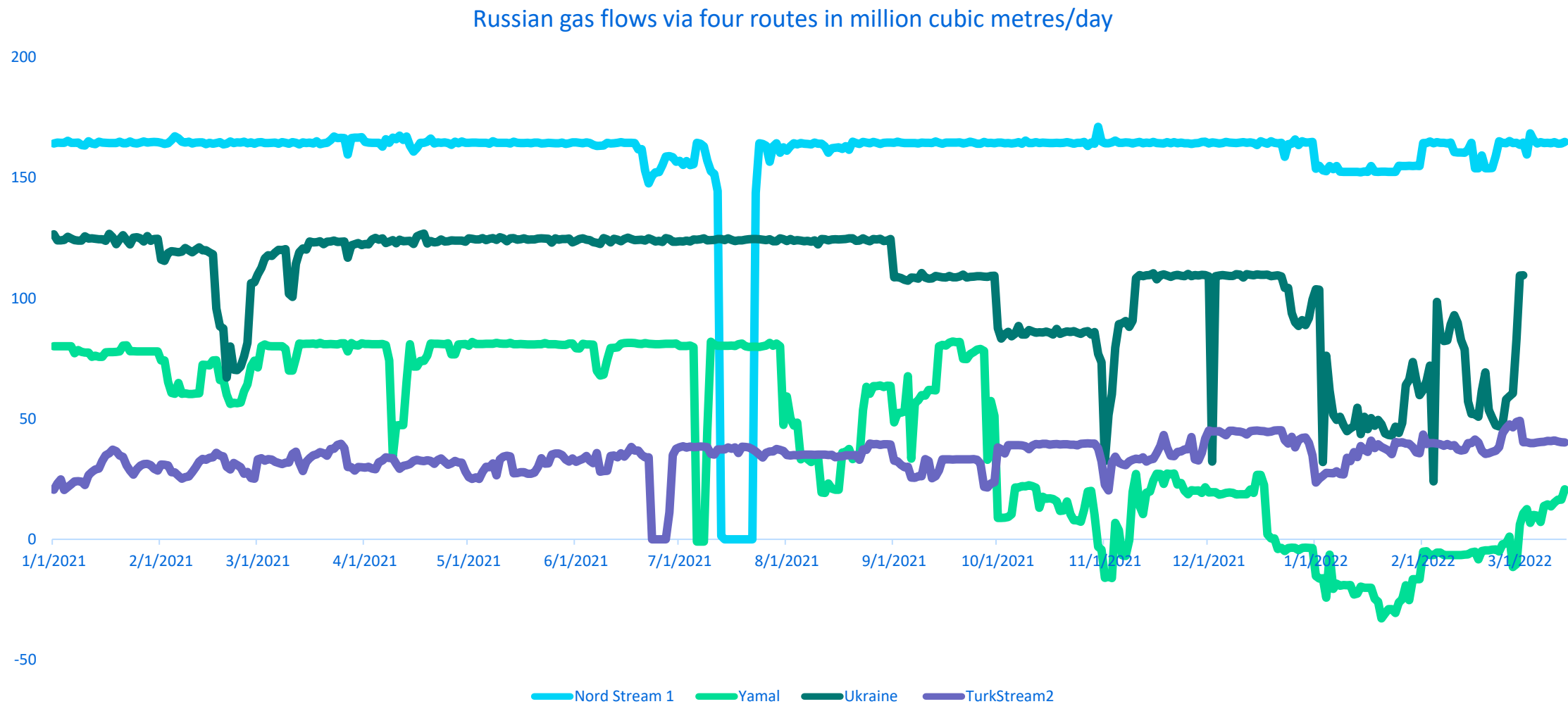


The storage factor

- European storage facilities are at some of their lowest levels ever.
- The EU and national governments of EU member states are looking to introduce compulsory stockholding.
- Gas demand is likely to remain high during the spring and summer months of 2022



Can Russian gas be switched off?



Source: European transmission system operators

Short-term solutions

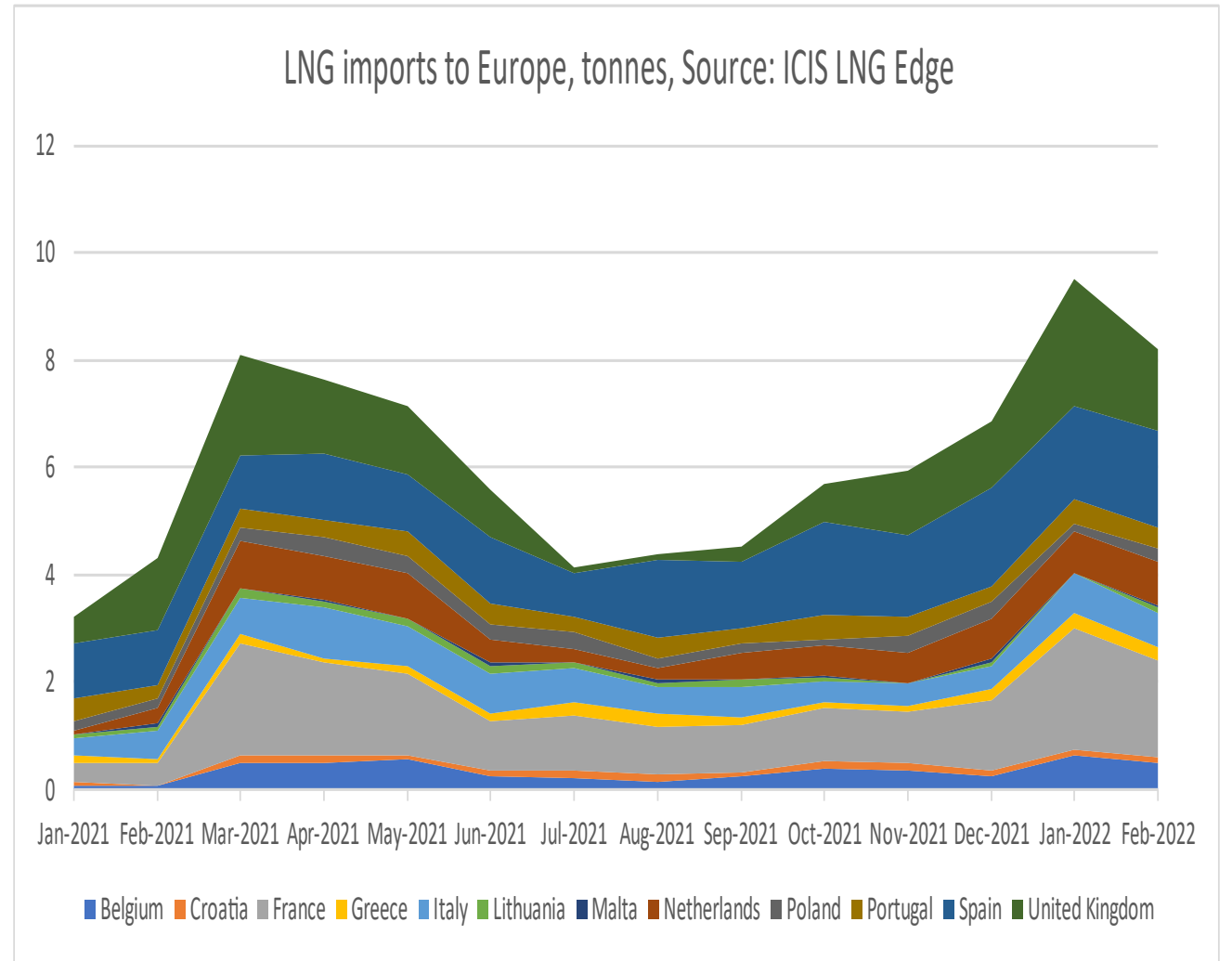


- Anticipate demand destruction as many industrial consumers are reducing off-takes
- Many consumers will be preparing to cut dependence on Russian gas. Bulgaria, for example, one of the most dependent countries in the EU, said it would not seek to renew its long-term contract which expires at the end of 2022.
- Banks may temporarily reverse policy on funding gas infrastructure projects to guarantee access to alternative sources of supply
- Possible fuel switch to coal/nuclear if plants that had been lined up for closure remain in operation. This would amount to gas savings estimated at a maximum 9bcm/year in 2022 (1.6% of Europe's 2021 gas demand), 19.5bcm/year in 2023 and 26.7bcm/year in 2024, according to [ICIS forecasts](#)
- Additional LNG imports
- Potential for ramp-up in domestic conventional and shale gas production

LNG: A short-term option?

- Europe proposes to increase LNG imports to replace around 80% of current Russian imports in 2022. This would amount to ~50-60bcm/year and would have to be replaced from other sources including pipeline gas from Norway, N. Africa or LNG
- Annual total LNG imports could rise to around 130bcm.
- Around 170bcm regasification capacity in Europe (exclusive of UK and Turkish terminals, according to GIIGNL 2021 report)
- There are some bottlenecks in transmission systems across Europe which could prevent some countries from flexible access to volumes imported as LNG. These include border points between Spain-France, Germany-Austria, Austria-Hungary, Greece-Bulgaria
- At what price can LNG volumes be sourced?

Source: ICIS LNG Edge



Long-term outlook



- Fossil fuels and nuclear are likely to remain in use in the short/medium term
- Green transition expected to accelerate, with some countries such as Germany, Italy, the Netherlands, the UK taking measures to increase and encourage renewable capacity
- Production of ‘green gases’ such as biomethane and hydrogen to be promoted and sped up.
- Possibility to review current market arrangements



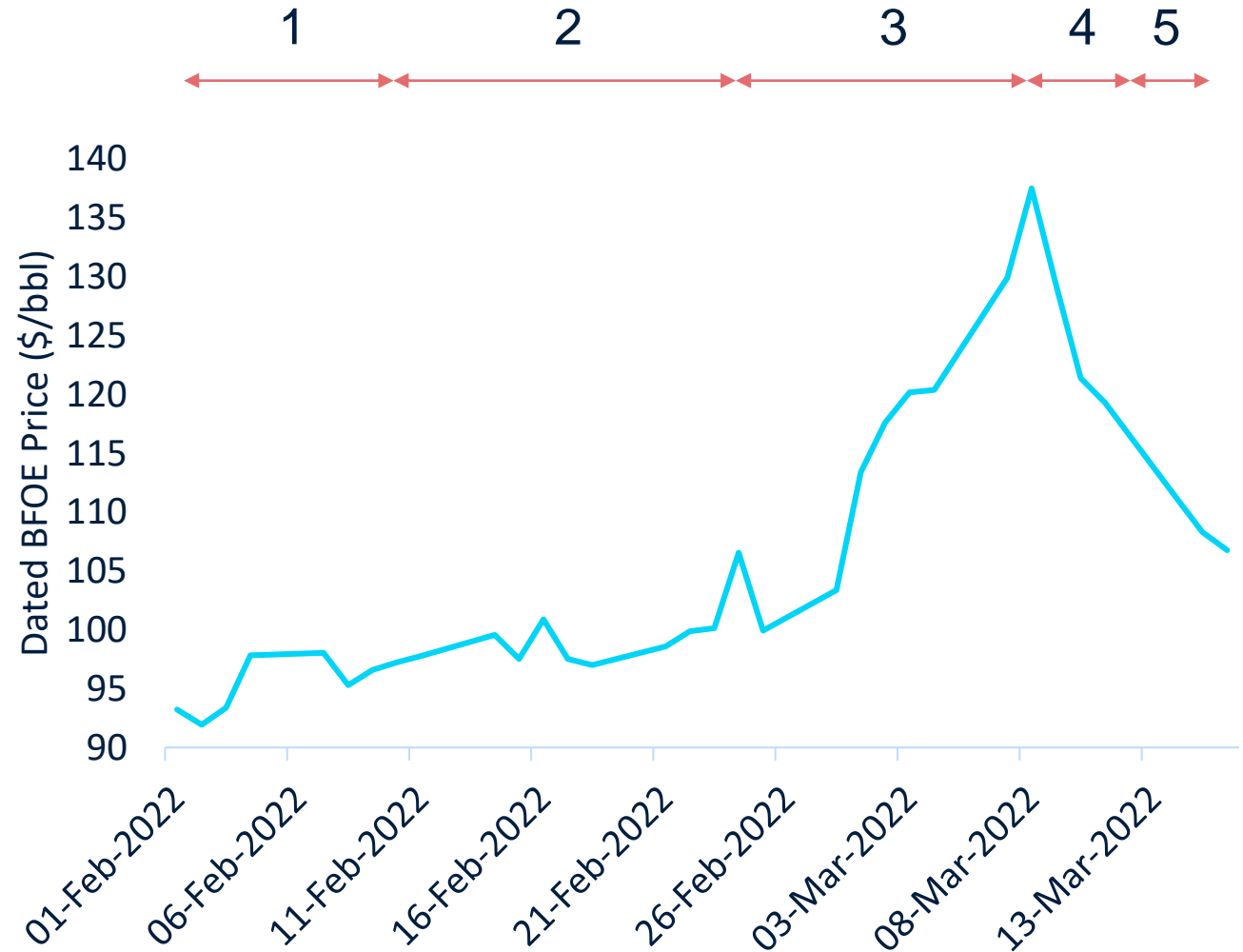
Can the world cope without Russian crude supplies?

Ajay Parmar
Senior Analyst, ICIS

Oil Prices: The Impact Of The Russian Invasion



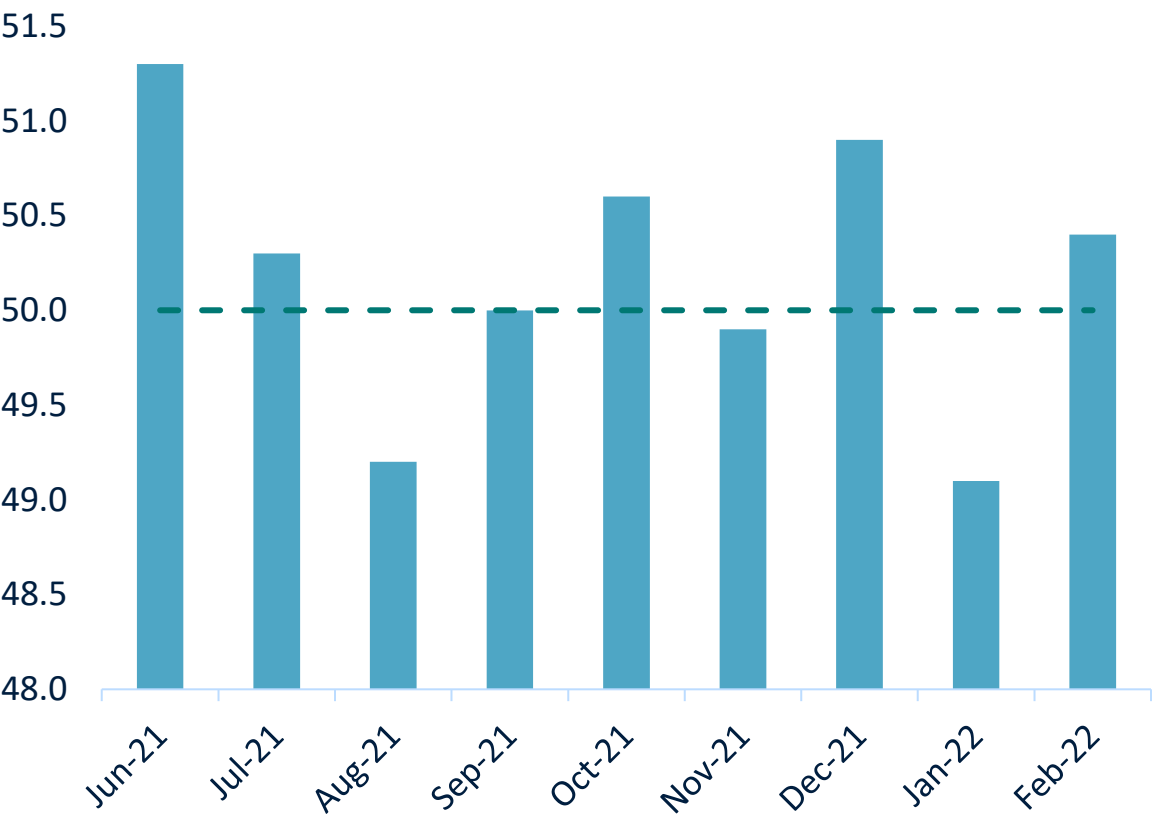
- 1
 - Oil market tight – high prices already
 - Russia supplies ~2.3 million bbl/day crude to Europe, ~2.5 million bbl/day to ROW
- 2
 - Build-up to invasion – prices already breach \$100/bbl
- 3
 - The full scale of the invasion becomes clear
 - Sanctions imposed – Russian oil trade more difficult
 - Russian crude oil exports reduce by ~1.5 million bbl/day
- 4
 - US/UK directly sanctions Russian oil/gas – EU does not join
- 5
 - Peace talks between Russia & Ukraine begin
 - China covid cases rise – oil demand concerns



China Covid Case Spike – Some Reprieve?

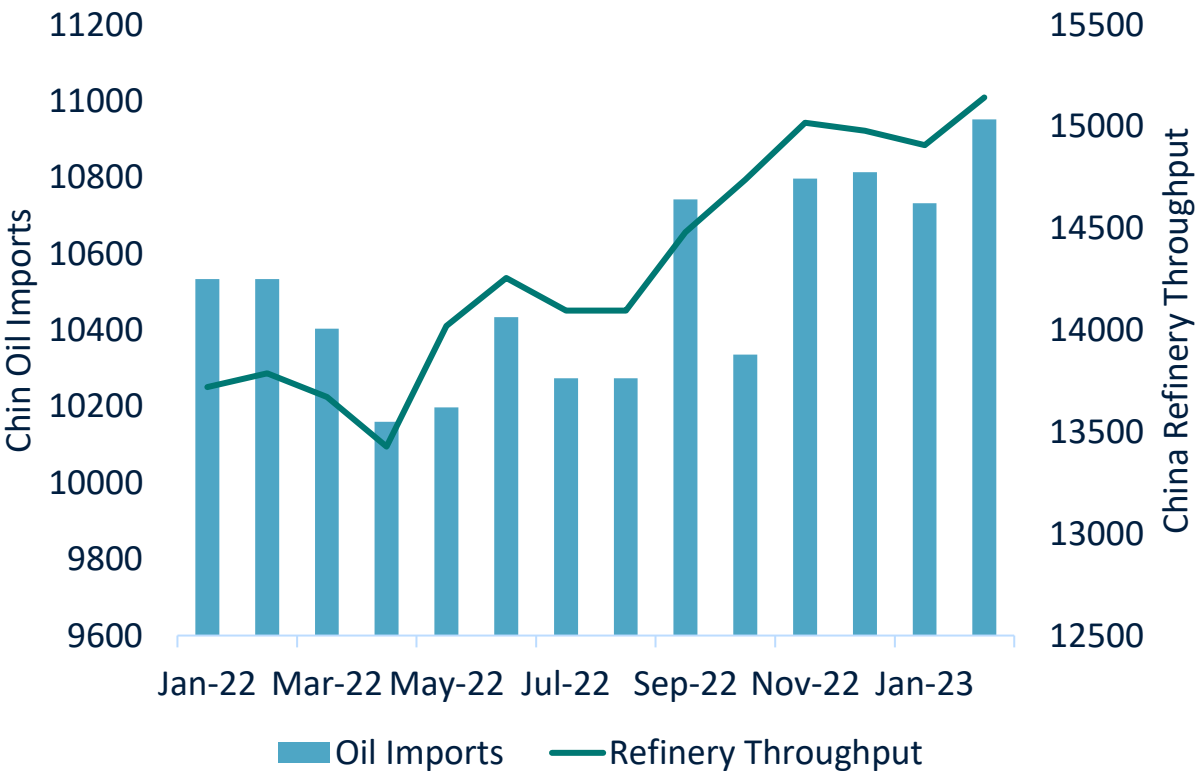


China Manufacturing PMI



Source: Caixin

China Refinery Throughput and Oil Imports ('000 bbl/day)



Source: ICIS China Analytics

What's Next For Oil?



SUPPLY

Russia – exports down by one third, potentially further to go

OPEC+ increasing production by only 400,000 bbl/day per month

US production increases minimal

Only potential source of sizable production is Iran – 1.3 m bbl/day

Overall supply to remain constrained for foreseeable future

DEMAND

China covid cases a key concern for overall oil demand – temporarily

Overall demand growth slowdown in coming months

Summer expected to see demand rebound strongly

Winter 2022/23 – ↑ energy costs, ↑ inflation, ↑ interest rates

Demand expected to rise again in Summer 2023



Russia's position in the Global Chemical industry

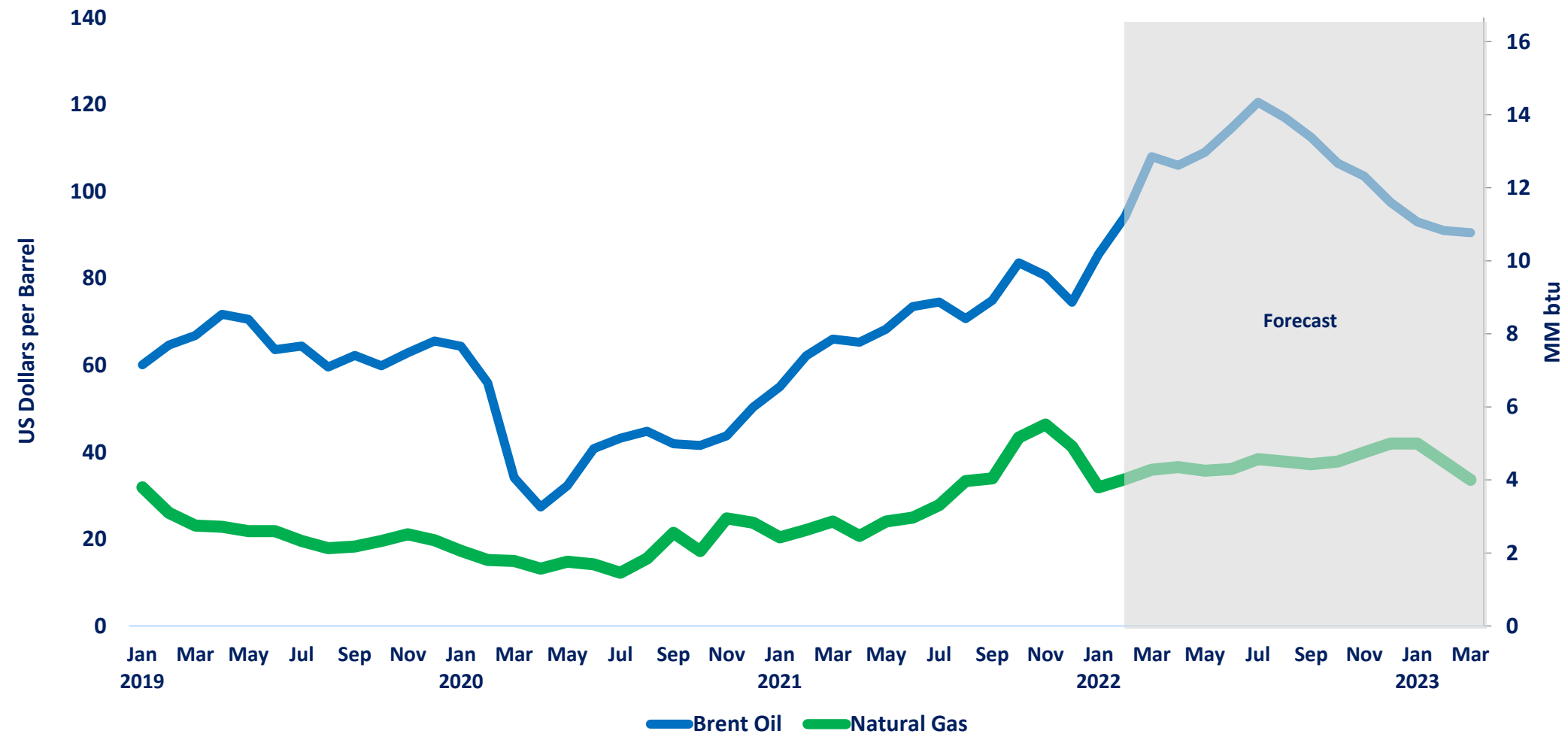
Alex Lidback

VP & Partner, ICIS & CDI Analyst

North America's Chemical Industry Benefits From High Oil Prices



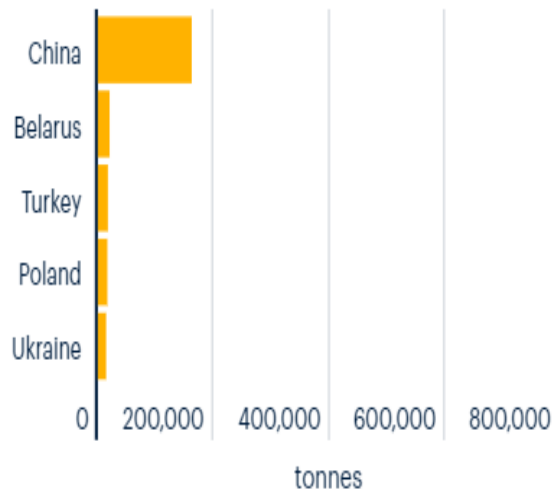
Brent Oil & Natural Gas Prices



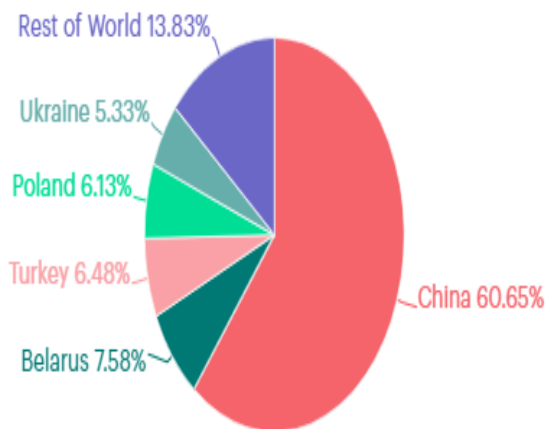
Russia Exports by Destinate & Share of Global Capacity



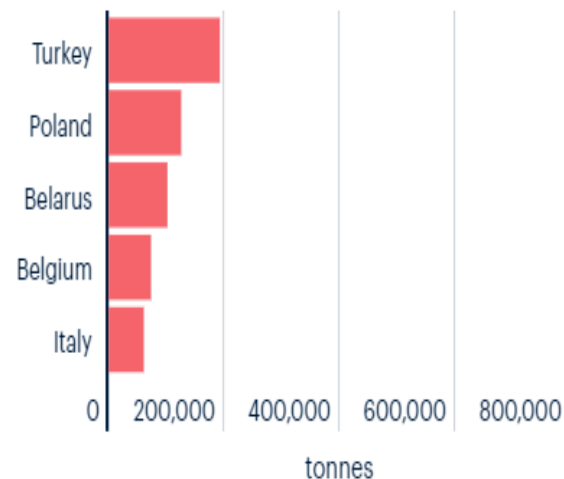
LLDPE (1.4% of world's capacity)



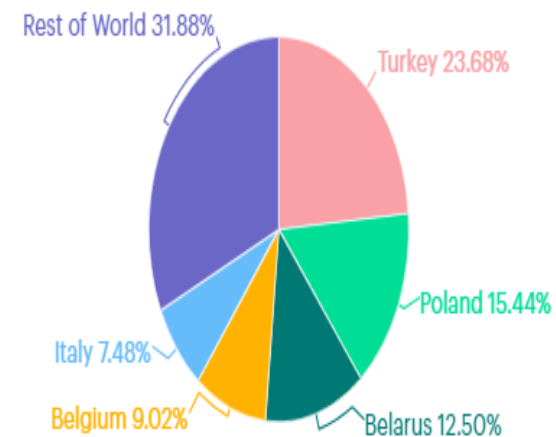
Total exports = 267,993 tonnes



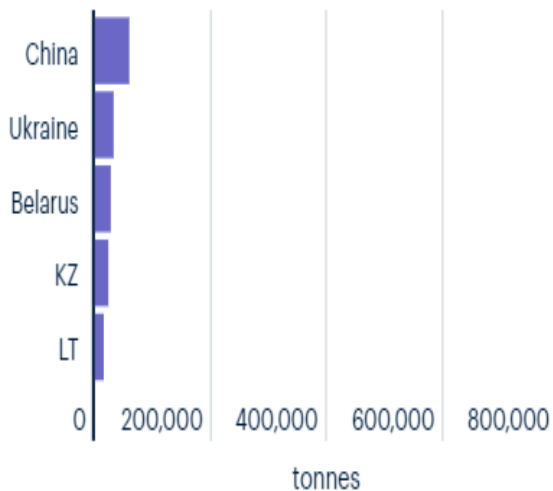
Polypropylene (2.1% of world's capacity)



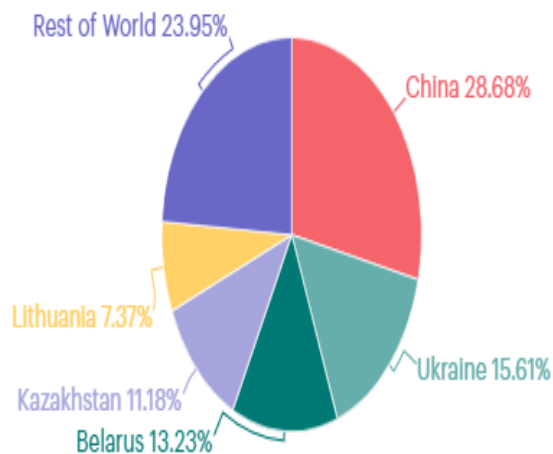
Total exports = 813,566 tonnes



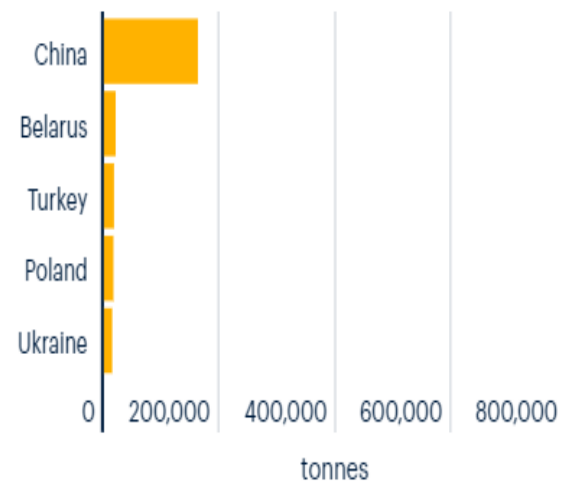
LDPE (2.8% of world's capacity)



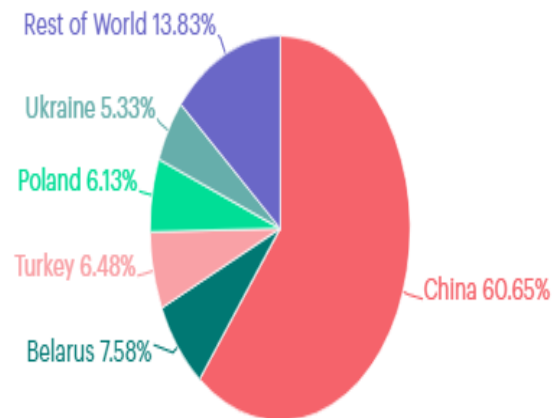
Total exports = 206,634 tonnes



LLDPE (1.4% of world's capacity)



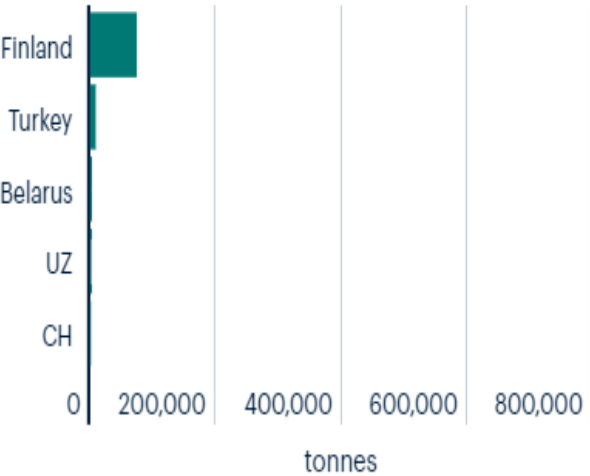
Total exports = 267,993 tonnes



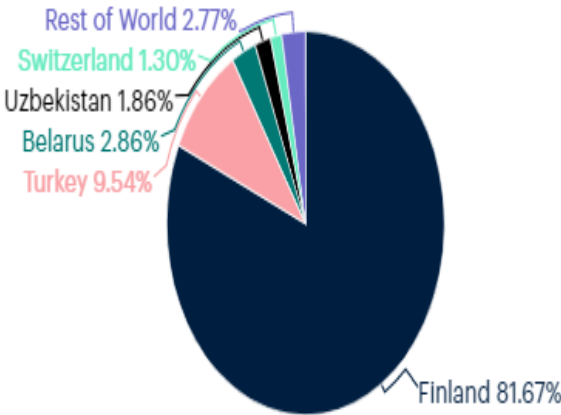
Russia Exports by Destinate & Share of Global Capacity



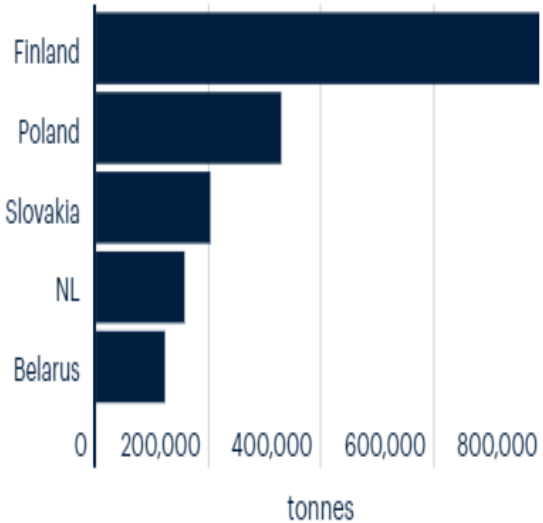
Styrene (1.9% of world's capacity)



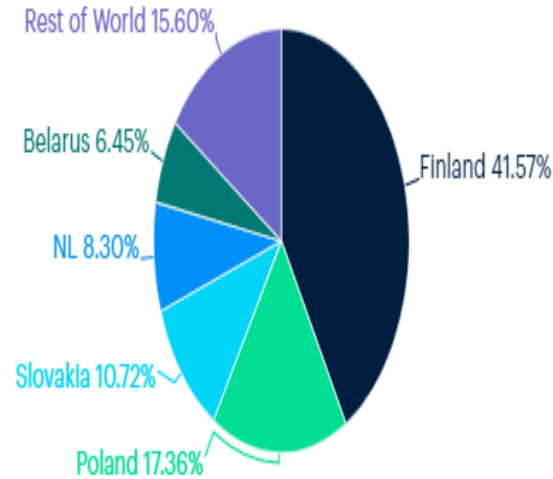
Total exports = 90,581 tonnes



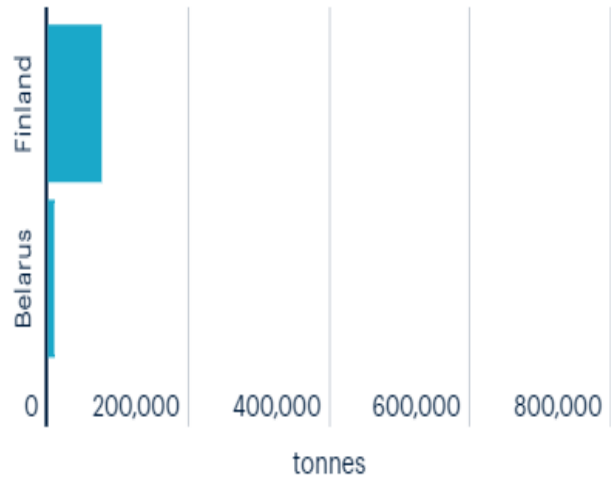
Methanol (2.9% of world's capacity)



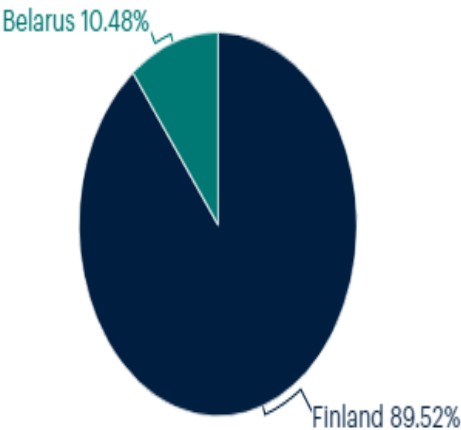
Total exports = 1,893,662 tonnes



Paraxylene (0.7% of world's capacity)



Total exports = 85,245 tonnes



Potential Russian Chemicals Projects Come to a Standstill



Long-term impact on the Russian chemical industry:

- Access to markets are cut and limited
- Equipment replacement will be difficult to procure
- Access to technology severely limited
- Project finance reduced mostly to local banks with high interest rates





China's precarious balancing action: Ukraine and the Common Prosperity Reforms

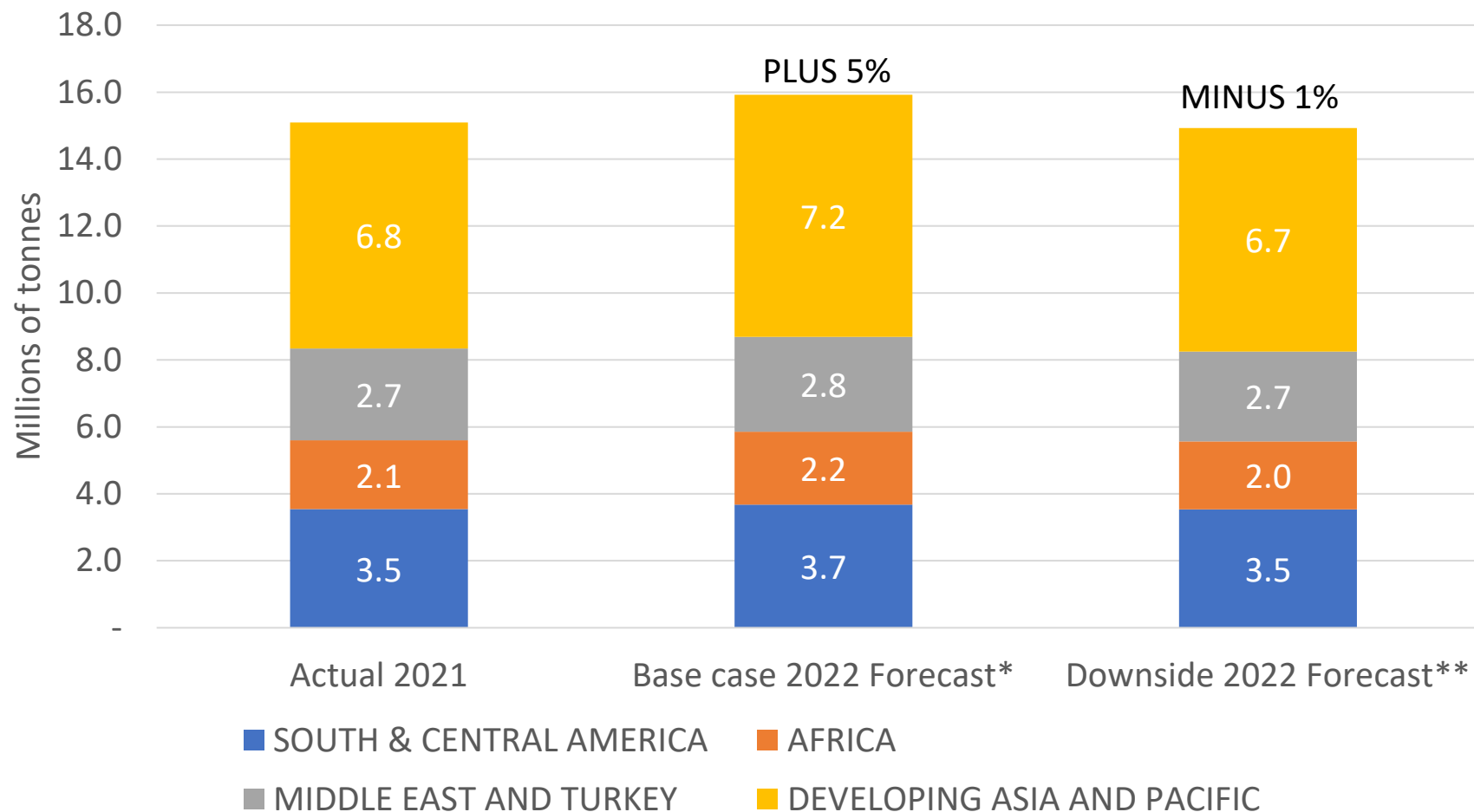
John Richardson

Asia Senior Consultant, ICIS

The developing world's food crisis



Developing world HDPE demand (not including China)



“Ukraine has only compounded a catastrophe on top of a catastrophe
“There is no precedent even close to this since World War II” – David Beasley, executive director of the World Food Program

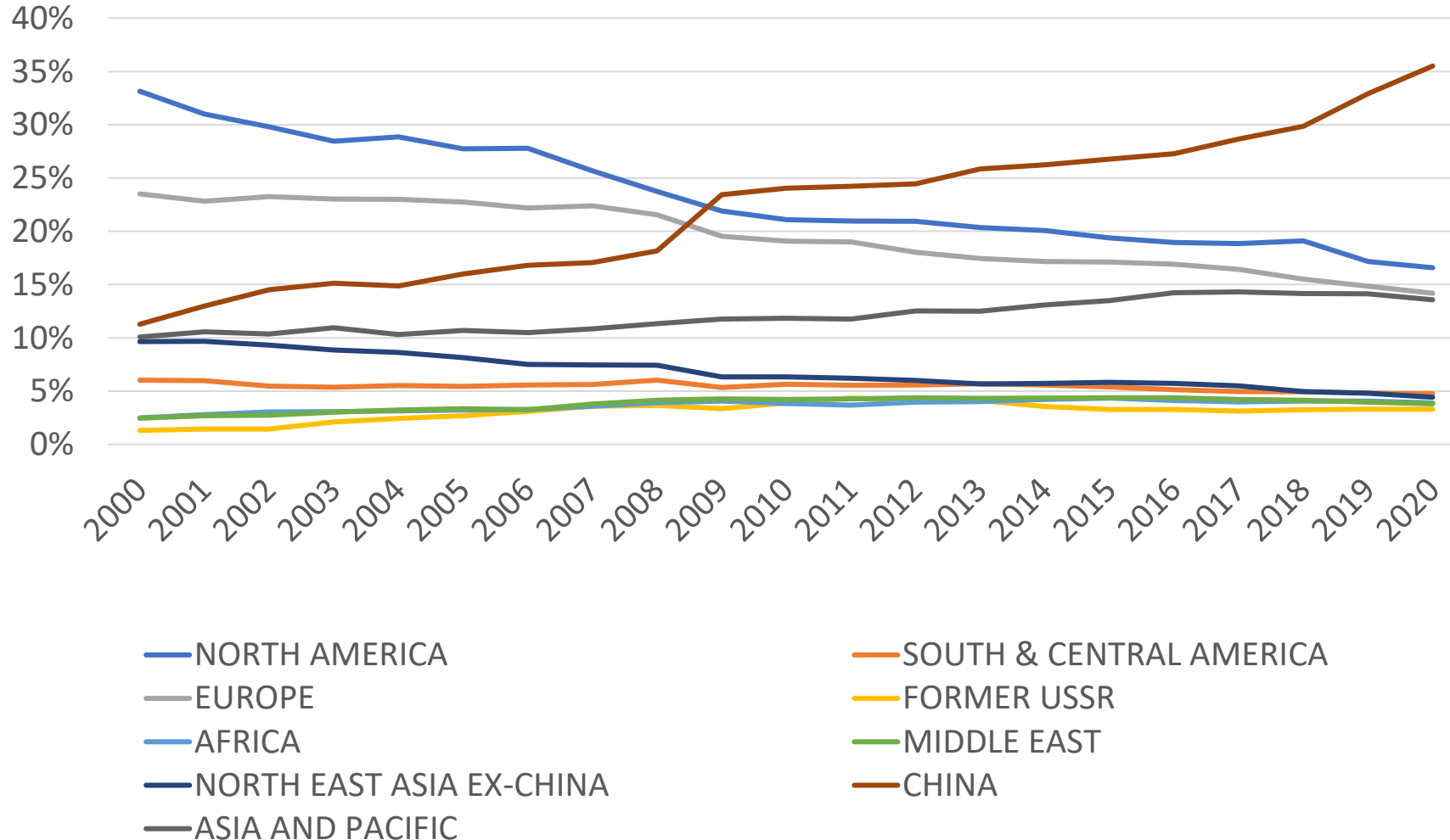
Important to look at:

- Income distribution patterns by country

Energy exporters versus importers

*Strong rebound from pandemic; **2022 declines in demand the same as those which occurred at the height of the pandemic – in 2020 over 2019. *The Downside outcome would reduce global growth from 5% to 1% and global consumption by 1.8m tonnes*

Percentage shares of global HDPE* demand



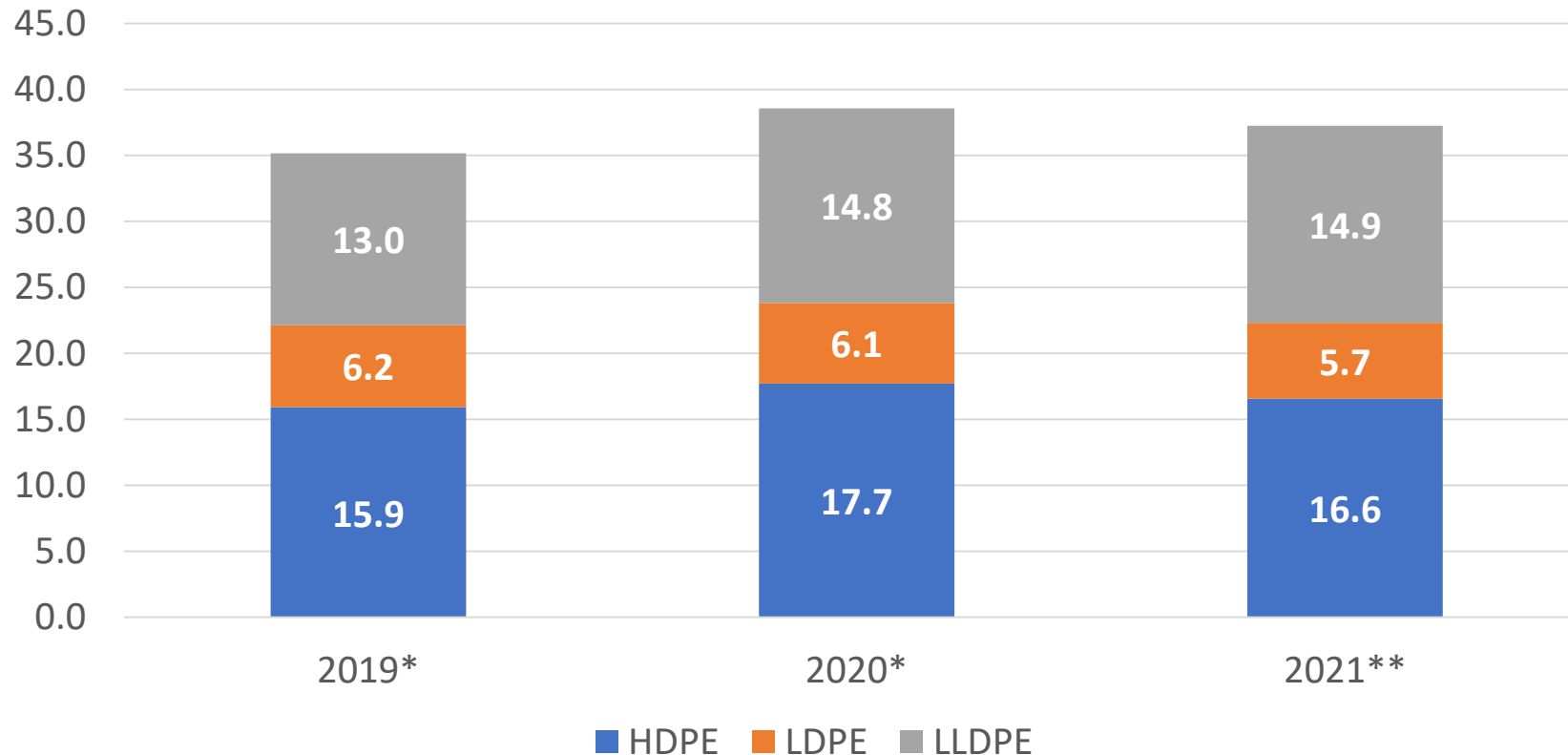
- Phase 1: China joins the World Trade Organization in December 2001
- Phase 2: The 2009 credit boom
- And now Phase 3 – Common Prosperity along with Ukraine and the latest COVID outbreak

**Same story in many other petrochemicals and polymers*

PE demand growth was negative last year for the first time since 2000



China PE demand



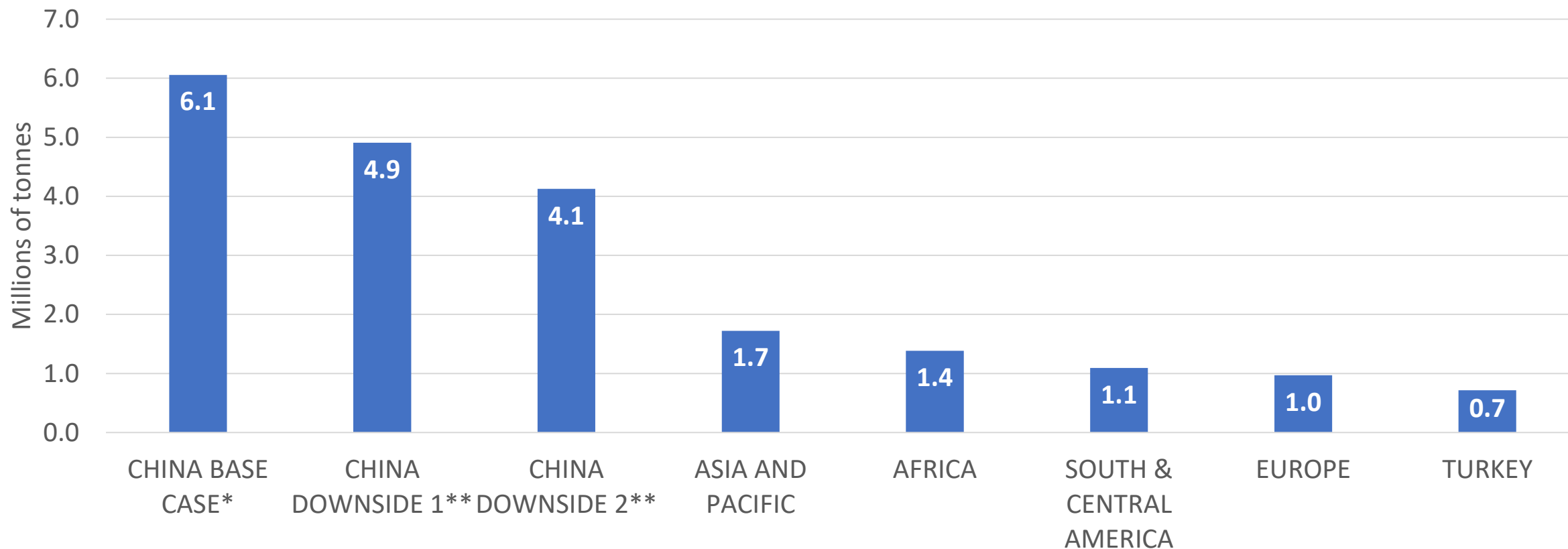
*Actual; **my estimate

- The old “China put” option – the worst things get, the better they will become
- But if China deprioritises Common Prosperity this year and launches major new stimulus, will this work?

Constantly revised scenarios are essential

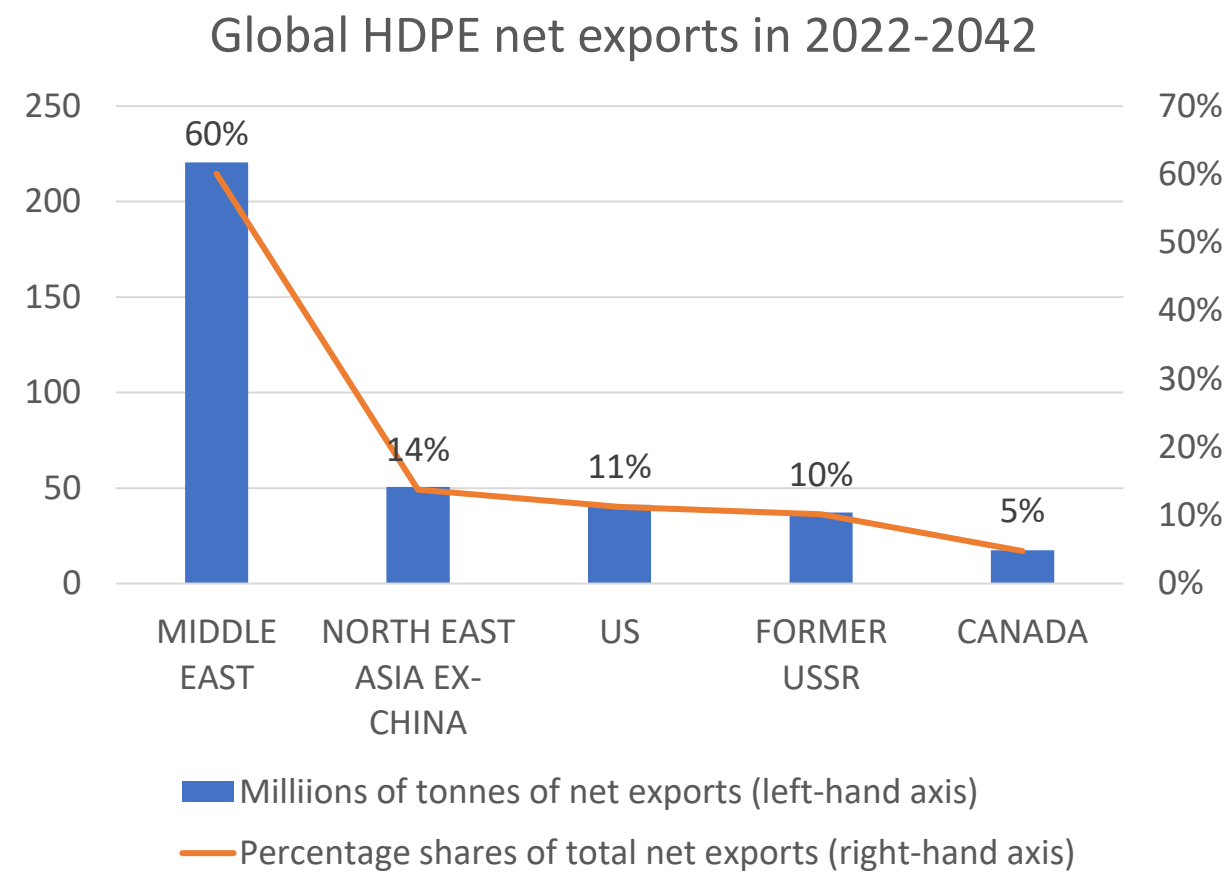
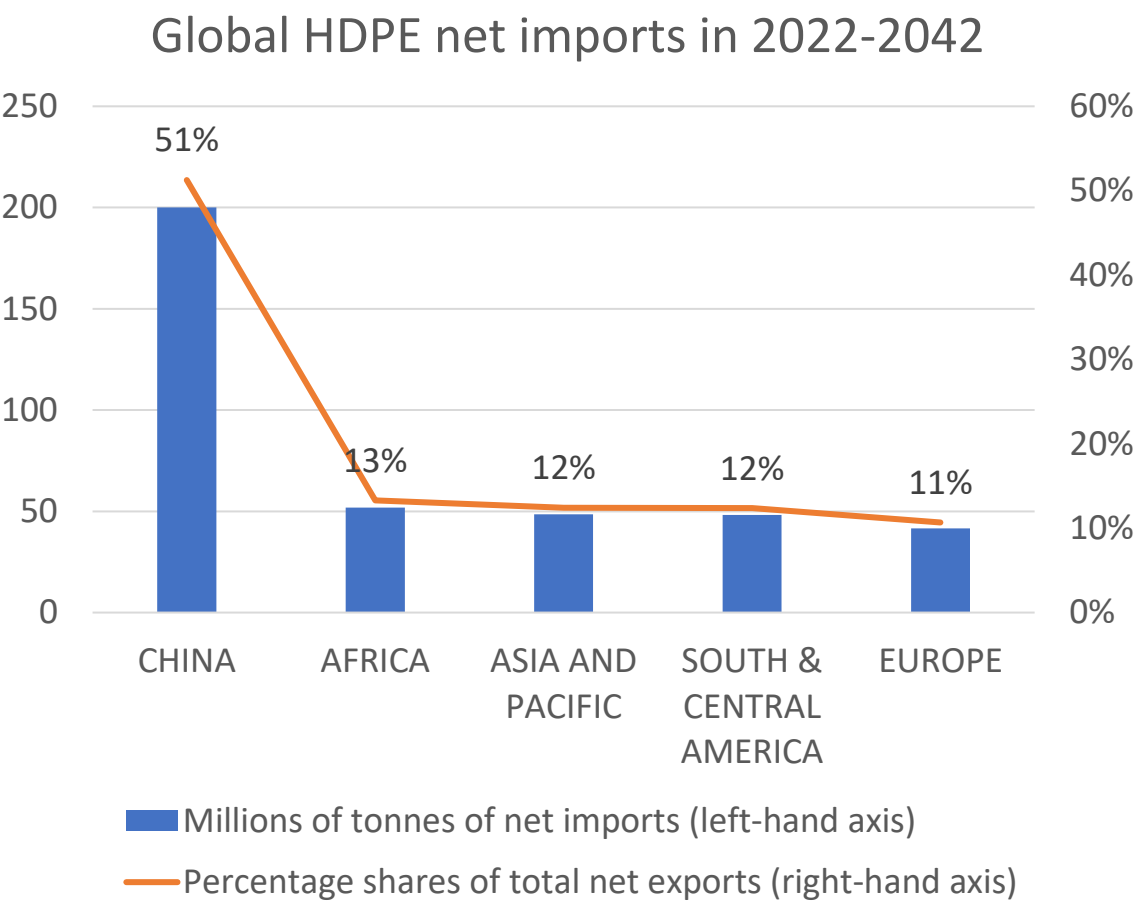


Global HDPE net imports in 2022



*Operating rates at 80% and demand growth at 7%; **operating rates at 83% and demand growth at 5%; operating rates at 86% and demand growth at 3%

Geopolitics have always shaped petrochemicals

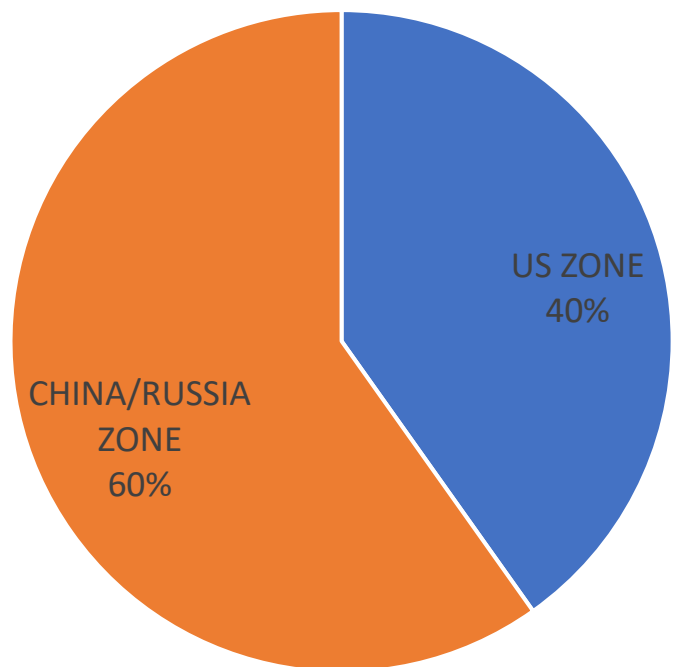


Note: the same in many other petrochemicals and polymers, oil, gas, iron ore and finished goods

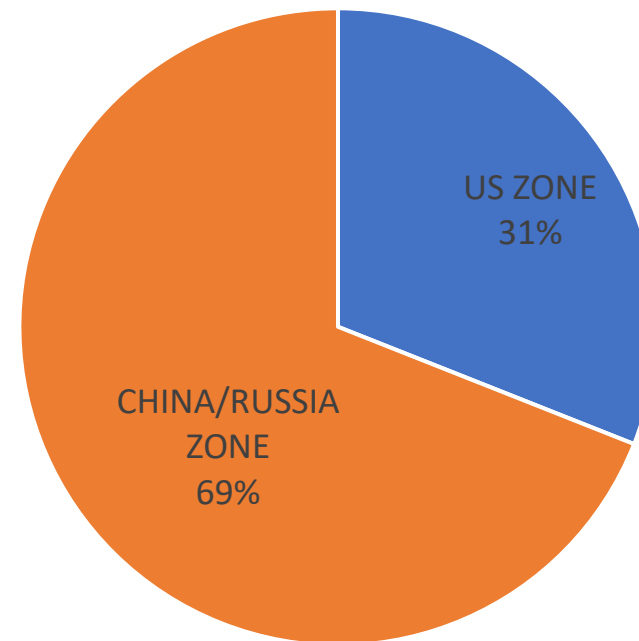
A new geopolitical order?



Scenario 1: Division of global HDPE* demand in 2022-2042



Scenario 2: Division of global HDPE* demand in 2022-2042





How will the Russian invasion of Ukraine affect the global economy?

Kevin Swift

*Senior Economist for
Global Chemicals, ICIS*

Outlook for economic growth being slashed...



Real GDP outlook – early-February vs. mid-March

Year	World	Russia	Euro Area	United Kingdom	United States	China
Early February:						
2021	5.6	4.4	5.2	7.5	5.7	8.1
2022	4.4	2.6	4.0	4.7	3.7	5.2
2023	3.3	1.8	2.3	2.3	2.5	5.2
Mid-March:						
2022	3.9	-4.6	2.9	3.8	3.3	4.9
2023	2.9	-0.8	1.8	1.0	2.3	5.1

...while outlook for inflation being raised



Inflation (CPI) outlook – early-February vs. mid-March

Year	World	Russia	Euro Area	United Kingdom	United States	China
Early February:						
2021	3.8	6.4	2.6	2.6	4.7	0.9
2022	3.9	5.7	3.3	4.8	5.6	2.2
2023	3.1	4.2	1.8	2.5	2.6	2.3
Mid-March:						
2022	5.2	14.8	5.7	6.4	7.5	2.4
2023	4.0	10.2	3.2	3.0	3.5	2.5

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