

Fibres Update for The SYFA 2021 Fall Conference

Laura Murphy

November 2021





Agenda

- The Fun Stuff
- Wood Mackenzie Background
- The Raw Materials
- The Numbers
- The Price Forecasts
- The Other Stuff
- And Finally.....



The Fun Stuff

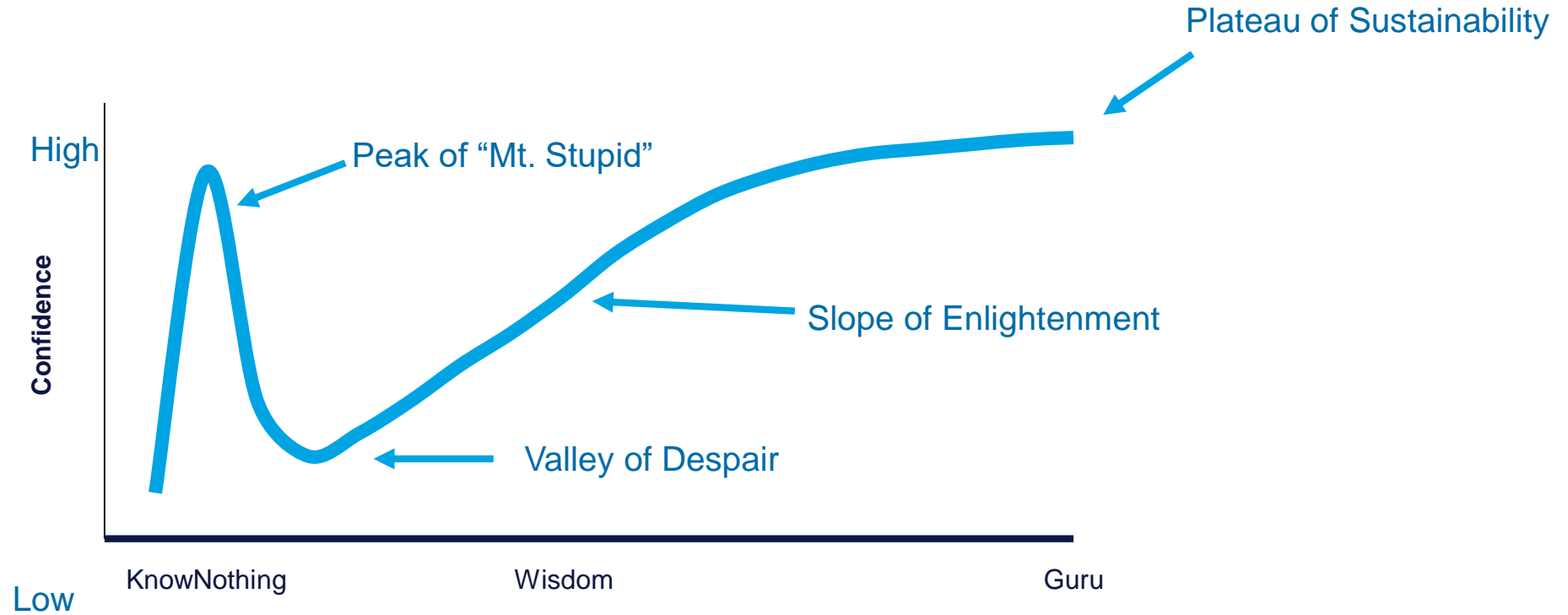


Cognitive Bias

- A cognitive bias influences how you think, and how you interpret information
- It can be positive or negative
- Per Wikipedia:
 - » A **cognitive bias** is a systematic pattern of deviation from norm or rationality in judgment.^[1] Individuals create their own "subjective reality" from their perception of the input. An individual's construction of reality, not the objective input, may dictate their behavior in the world. Thus, cognitive biases may sometimes lead to perceptual distortion, inaccurate judgment, illogical interpretation, or what is broadly called irrationality

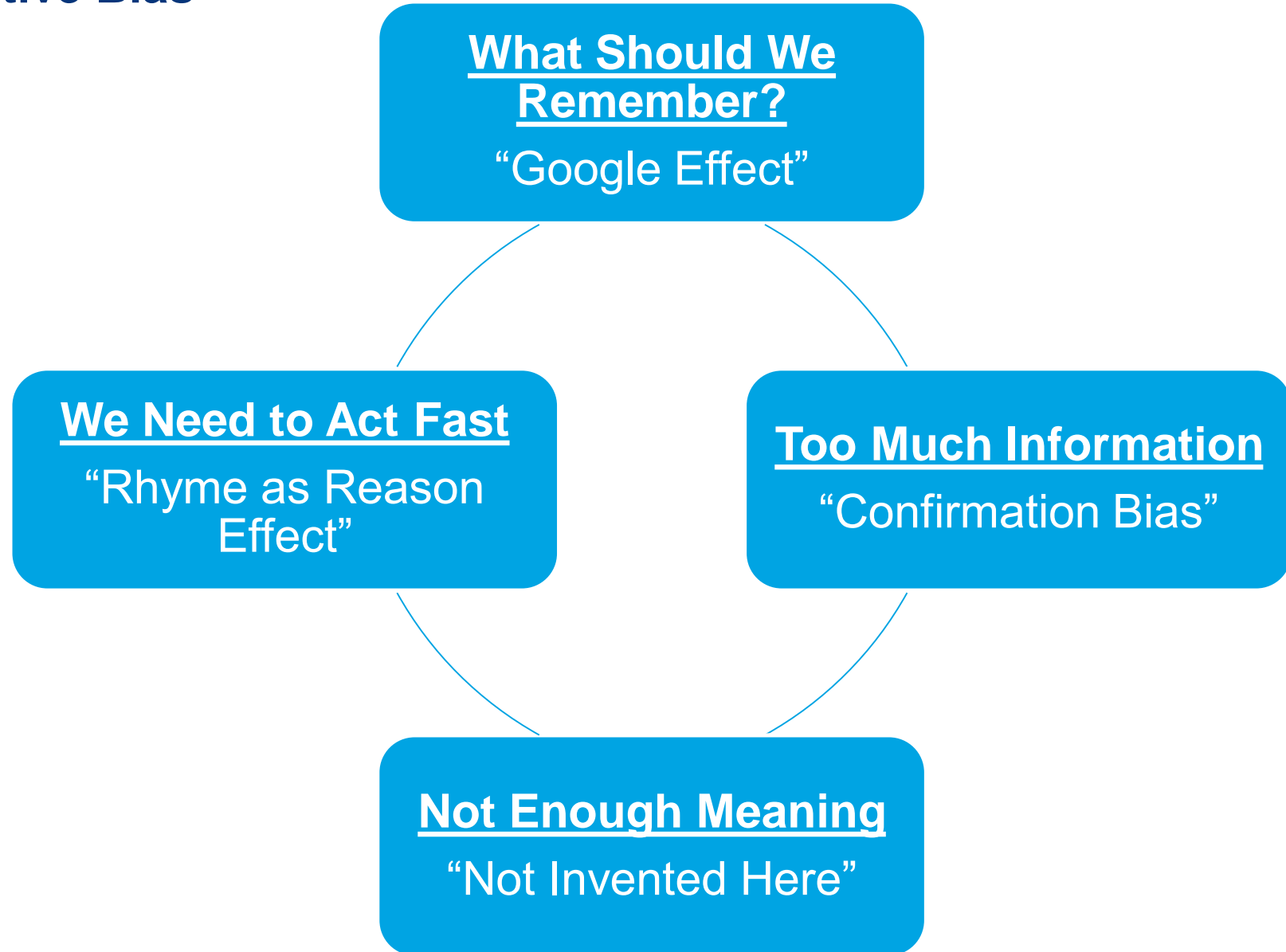
Dunning – Kruger Effect

“Cognitive bias where unskilled people overestimate their ability and experts underestimate theirs”





Cognitive Bias



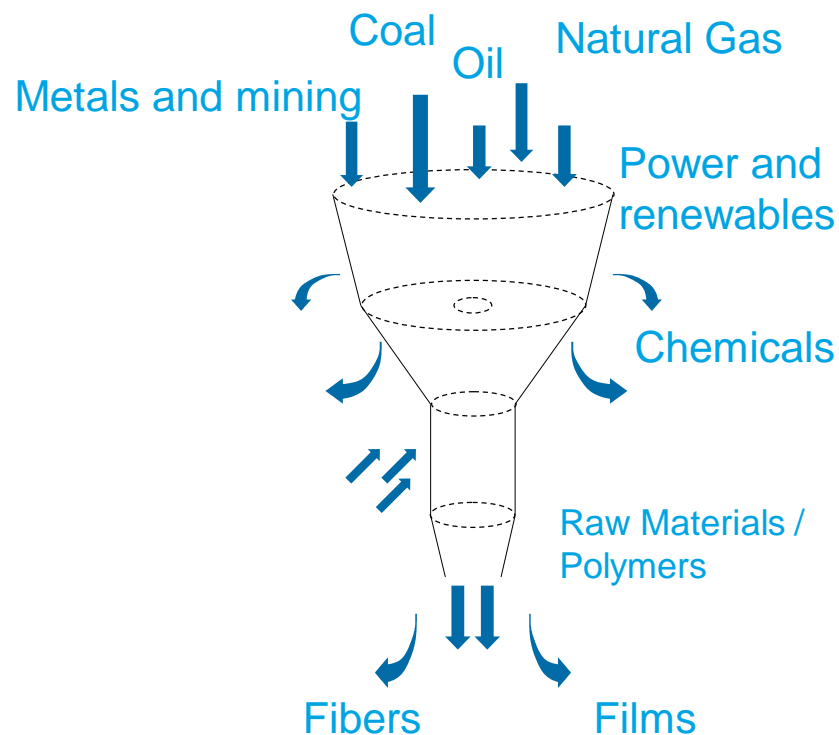


Wood Mackenzie Background



Wood Mackenzie Chemicals - Fibers

- Verisk Analytics (NASDAQ:VRSK)
 - » Bought Wood Mackenzie in 2015
 - » Bought PCI Group in 2015
 - » Fibers / Films
 - » Chemicals
 - » Polymers

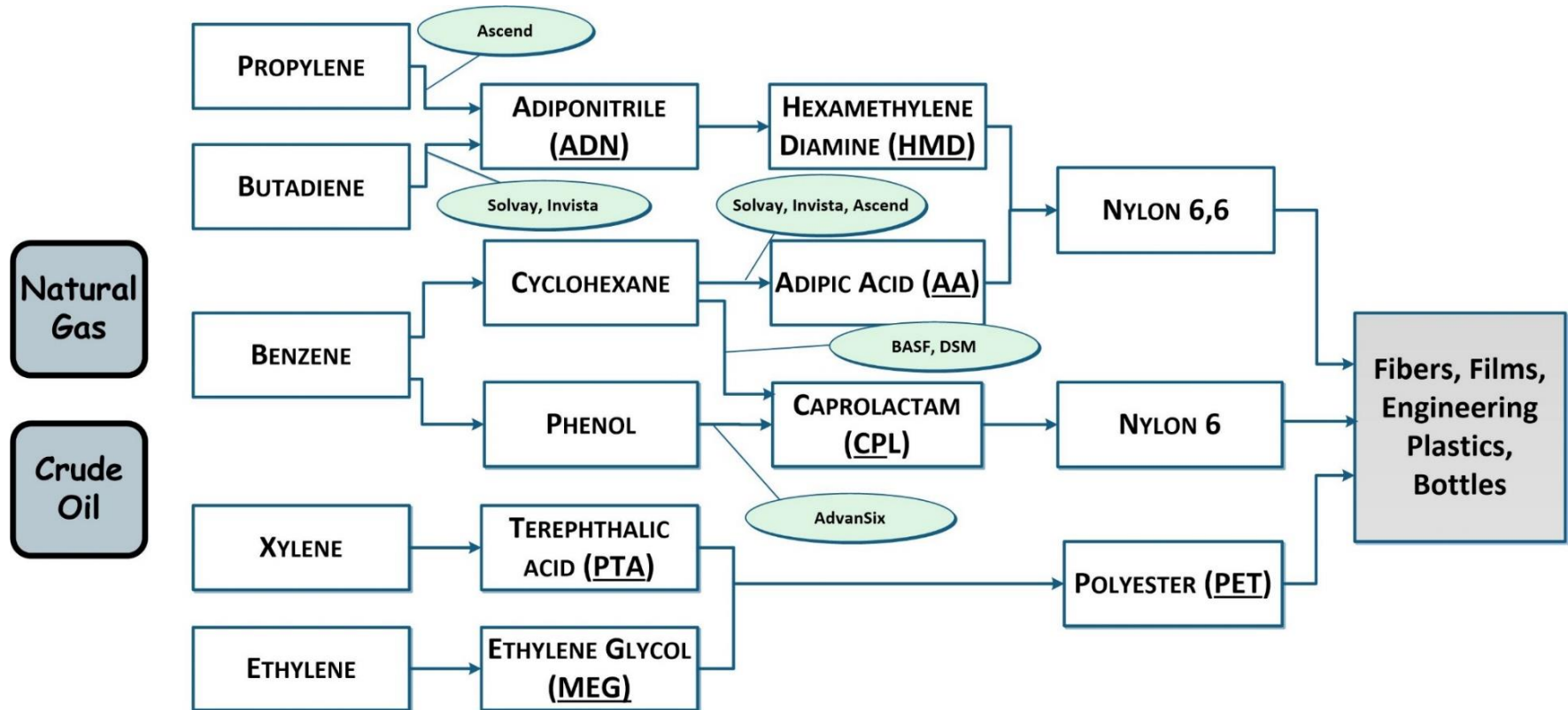


Wood Mackenzie Chemicals



The Raw Materials

Raw Materials Overview



The Drivers

Headwinds

Forces majeure

Labor

Auxiliary shortages

Raw material pricing

Hurricanes/freezes

Tornadoes

Power failures

Tailwinds

Demand

Ocean freight

Made in America

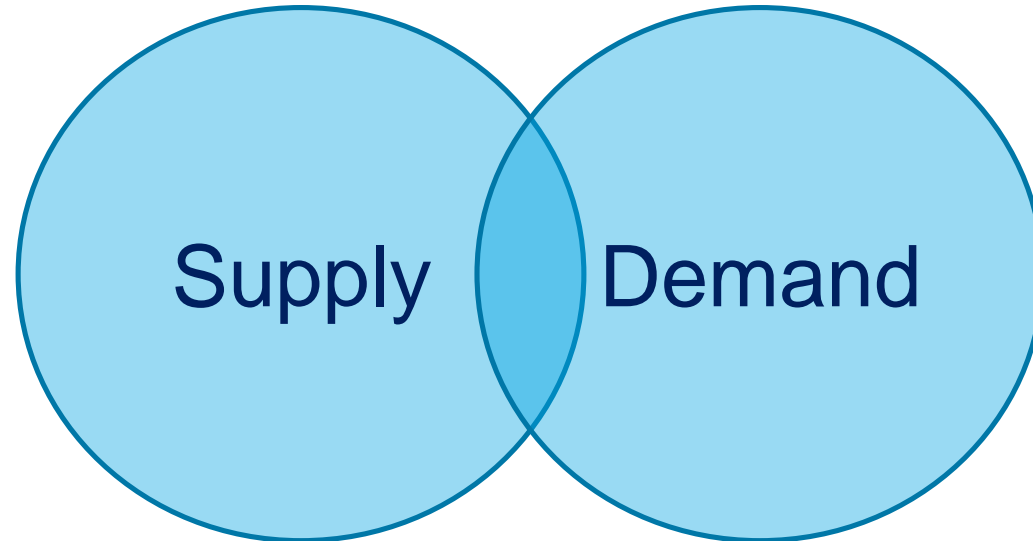
legislation

Infrastructure bill

Circularity/sustainability

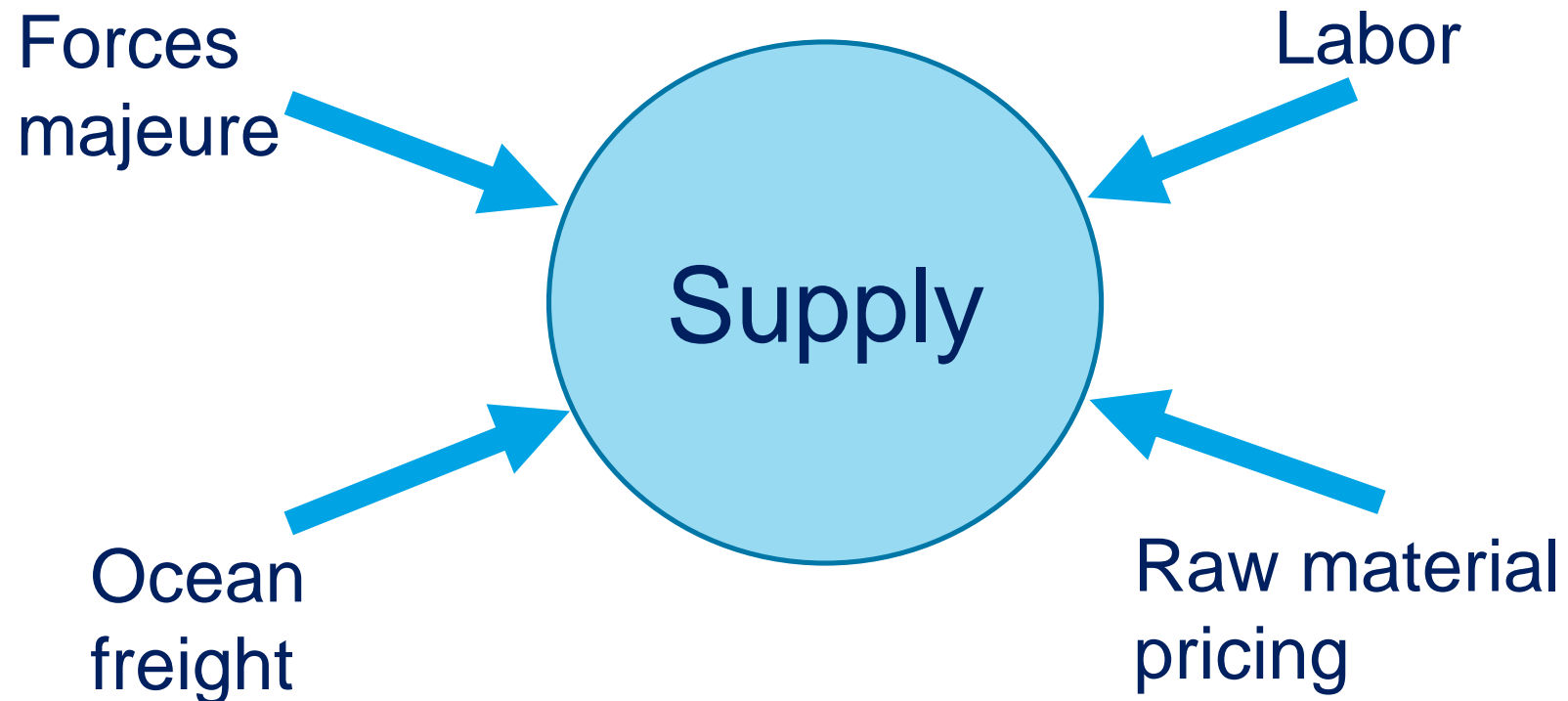
/accountability

Supply & Demand – normally balanced



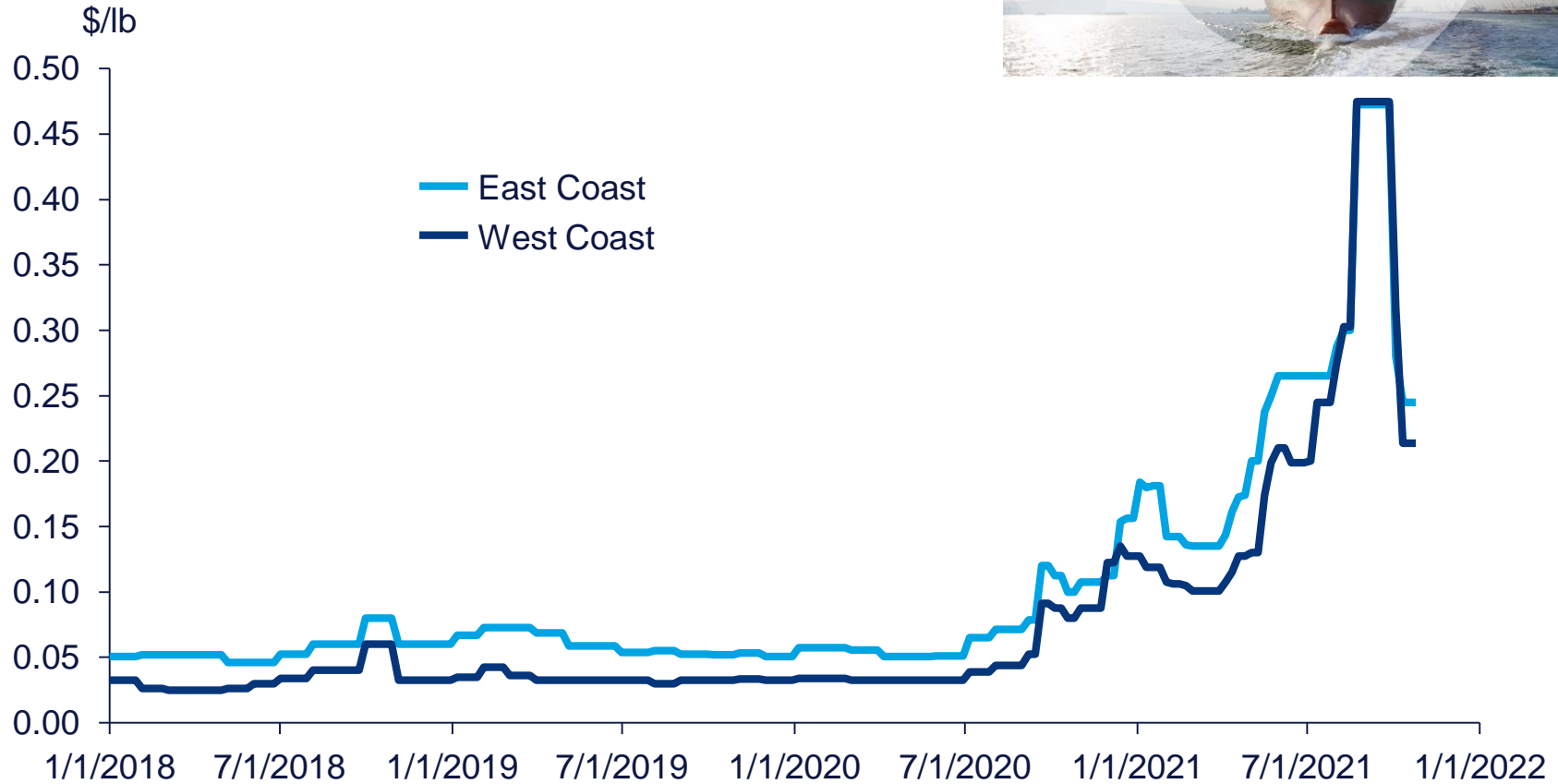
Supply & Demand

With stimulus checks there are disastrous effects, and labor is hard to find



Ocean freight

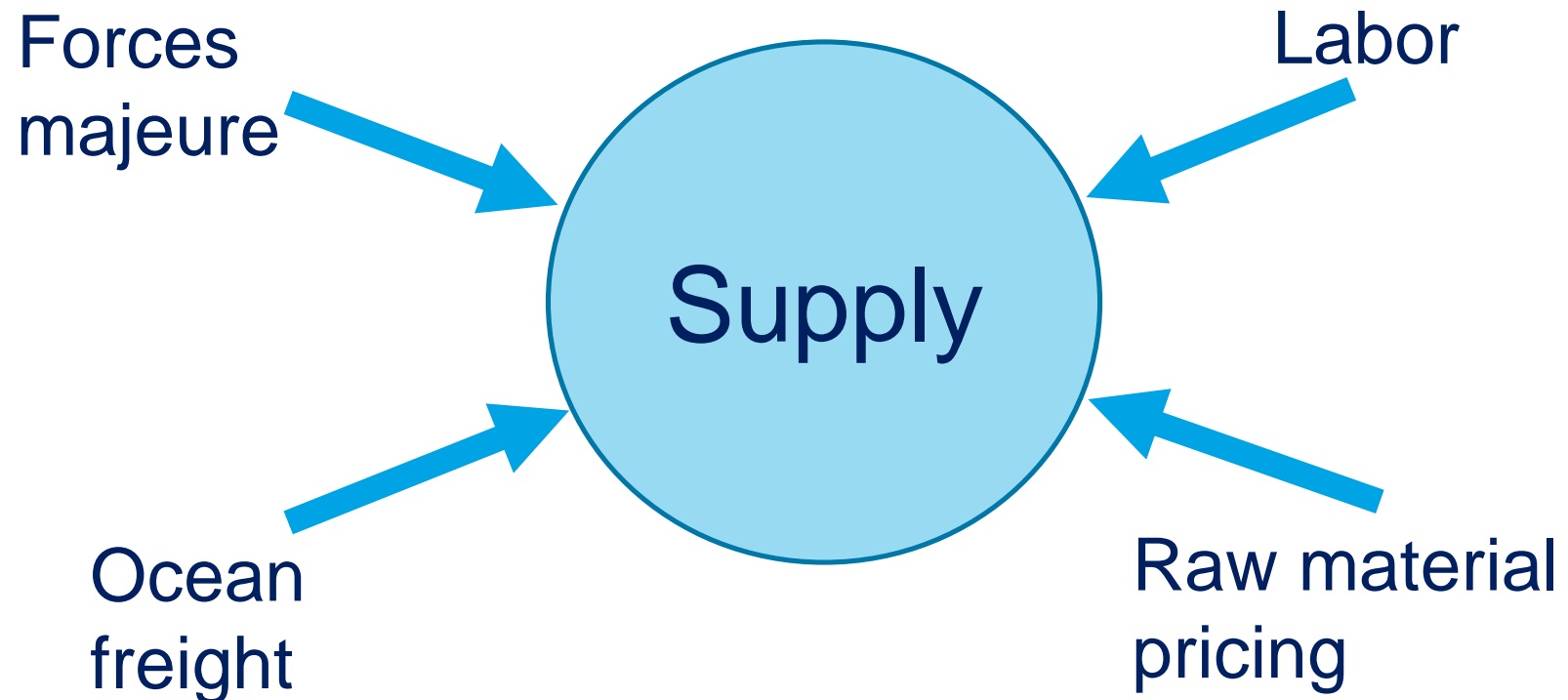
If the ocean freight is high, you must still supply



Source: Wood Mackenzie Chemicals

Supply & Demand

The forces majeure, they shall occur, and we will endure



Prices!

If the price is right, it must be out of sight

Oil: **+31%**
Natural Gas: **+106%**

Propylene: **+39%**
Butadiene: **+86%**
Benzene: **+24%**
PTA: **+26%**
MEG: **+32%**

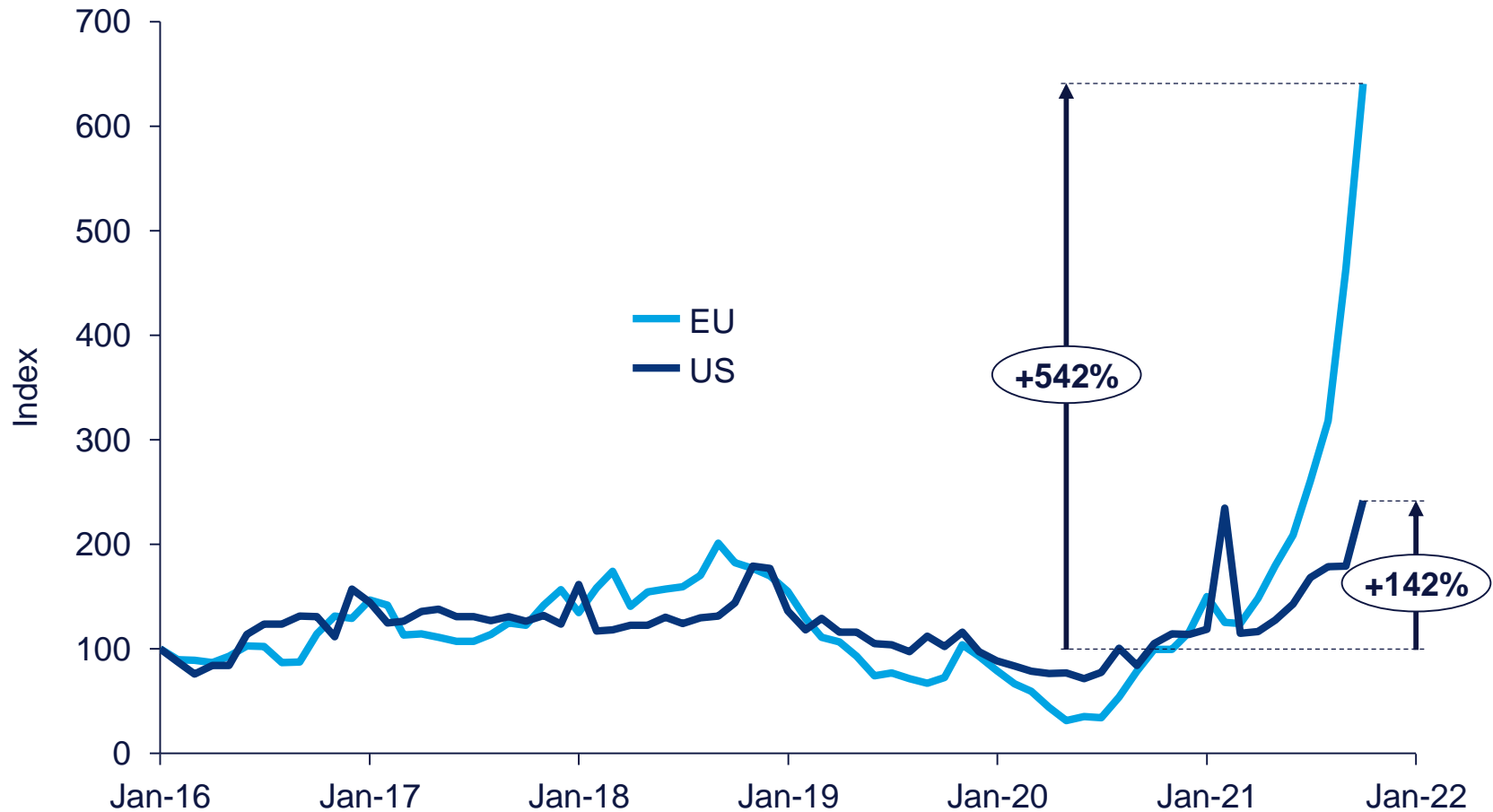
PET Resin: **+39%**
Nylon 66 Polymer: **+54%**
Nylon 6 Polymer: **+43%**
Polypropylene: **+46%**

1.2d PSF: **+24%**
PET textured filament: **+30%**
PET 1000d low shrink: **+39%**
Nylon 66 Industrial: **+46%**
40d Spandex: **+51%**

Year to date, September or October

Prices!

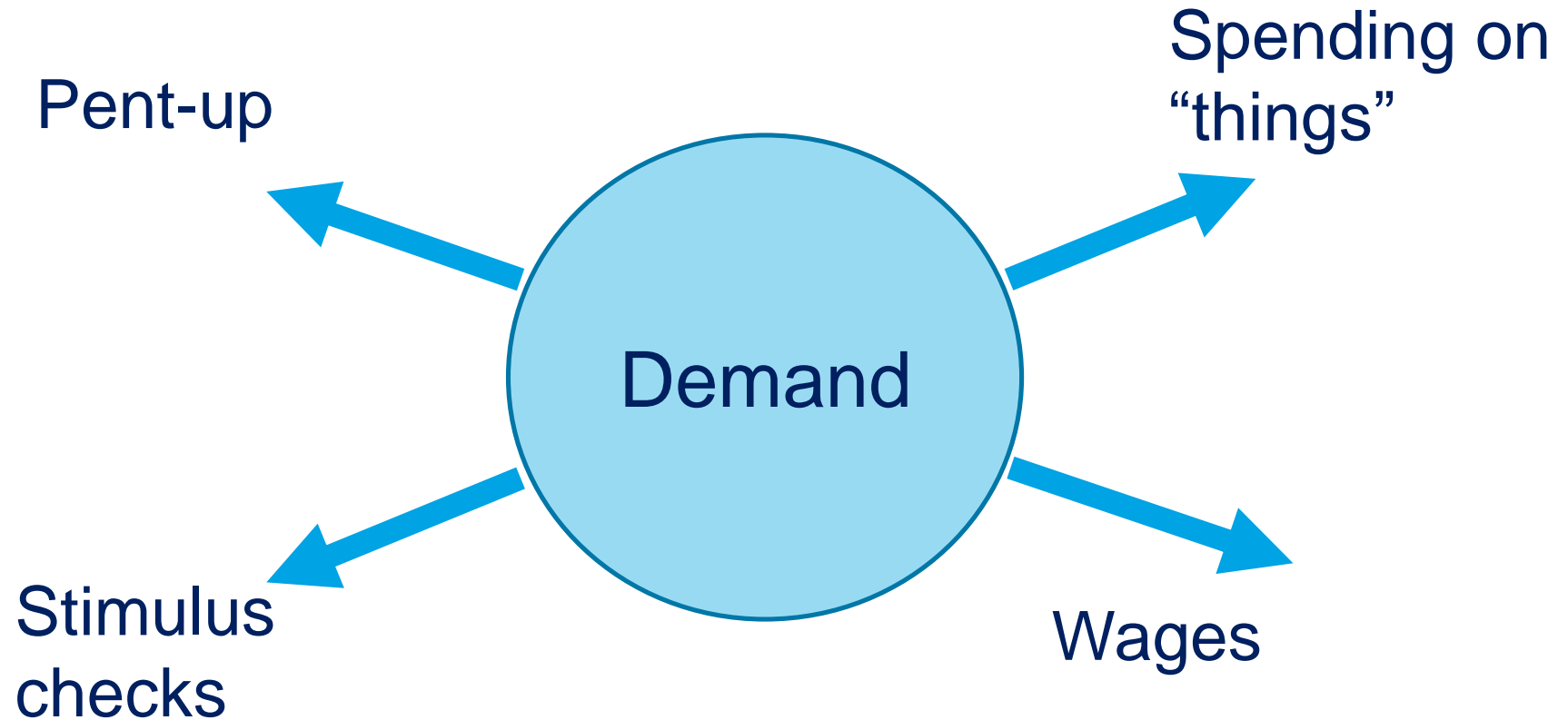
Natural gas prices in Europe and US Jan 2016 = 100



Source: Wood Mackenzie Chemicals

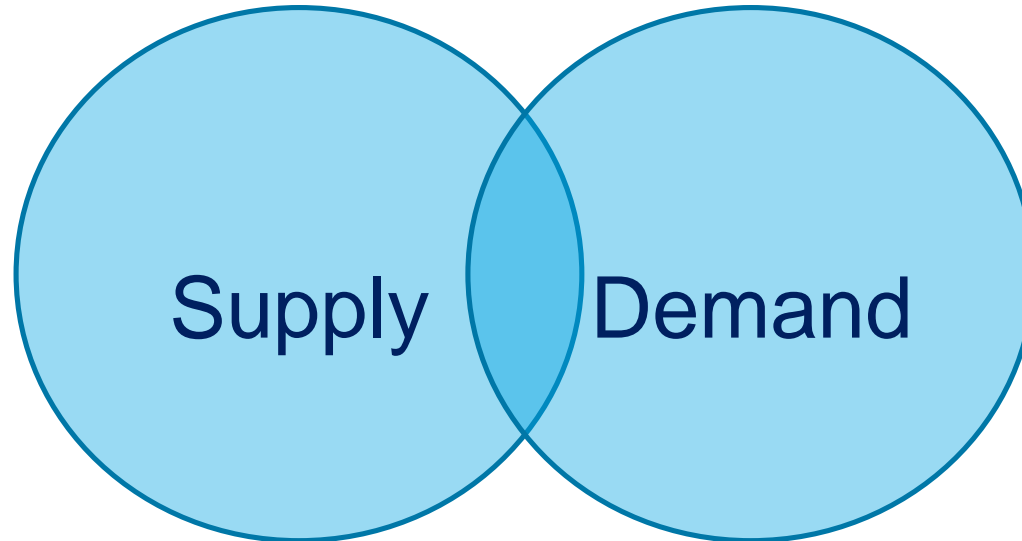
Supply & Demand

Higher wages to spend means more stuff in demand



Supply & Demand - unbalanced

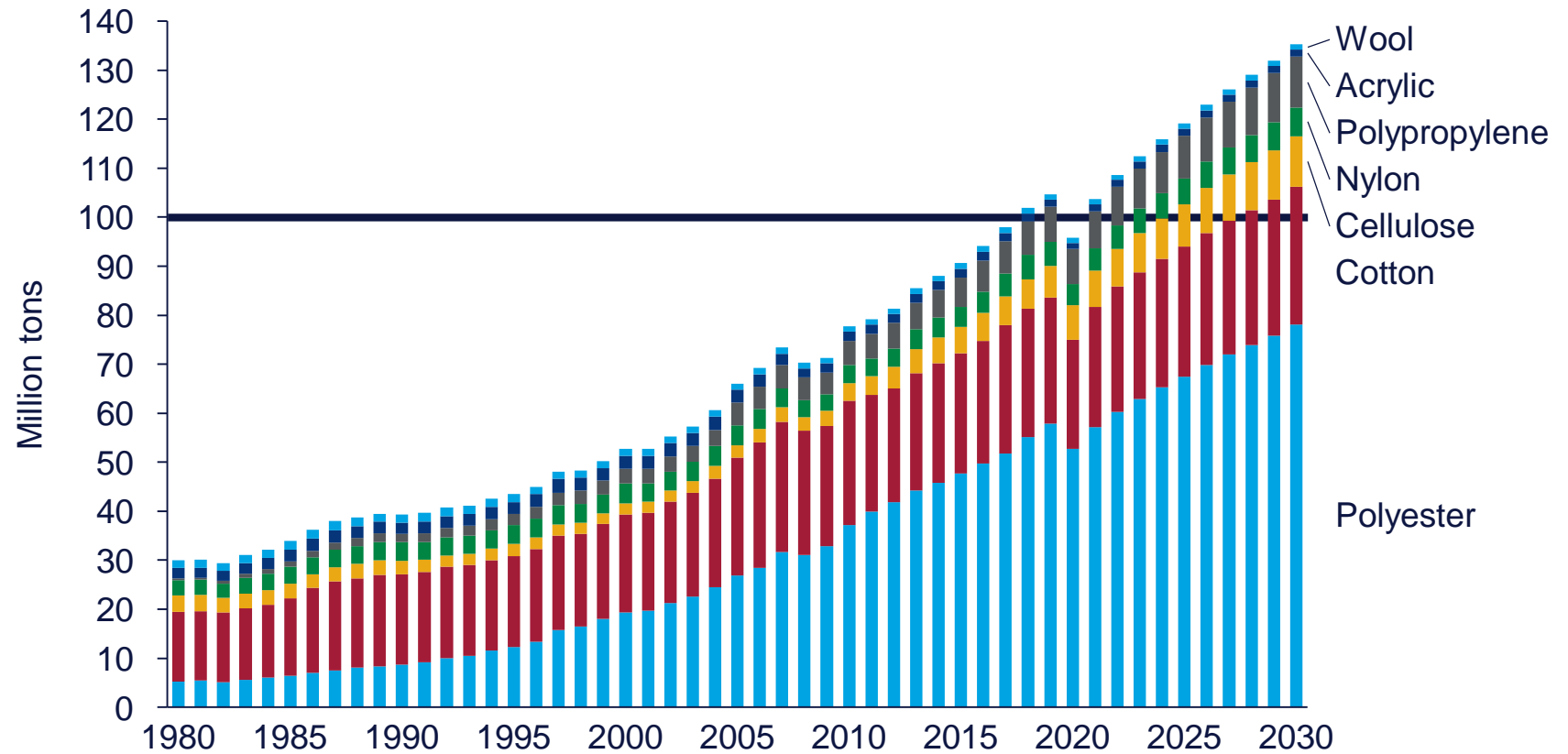
Supply is tight, demand is strong, so what could go wrong?





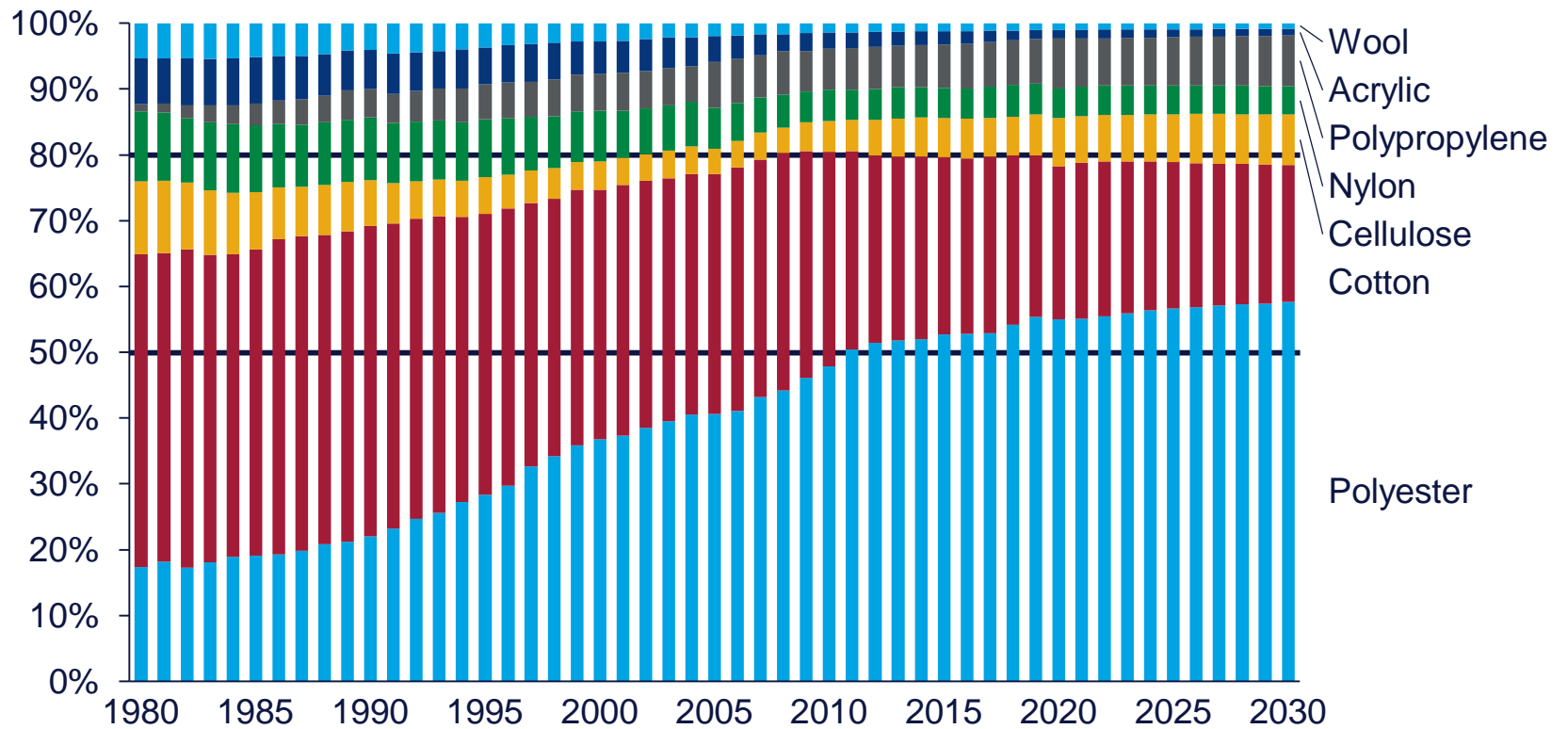
The Numbers

Total Mill Consumption



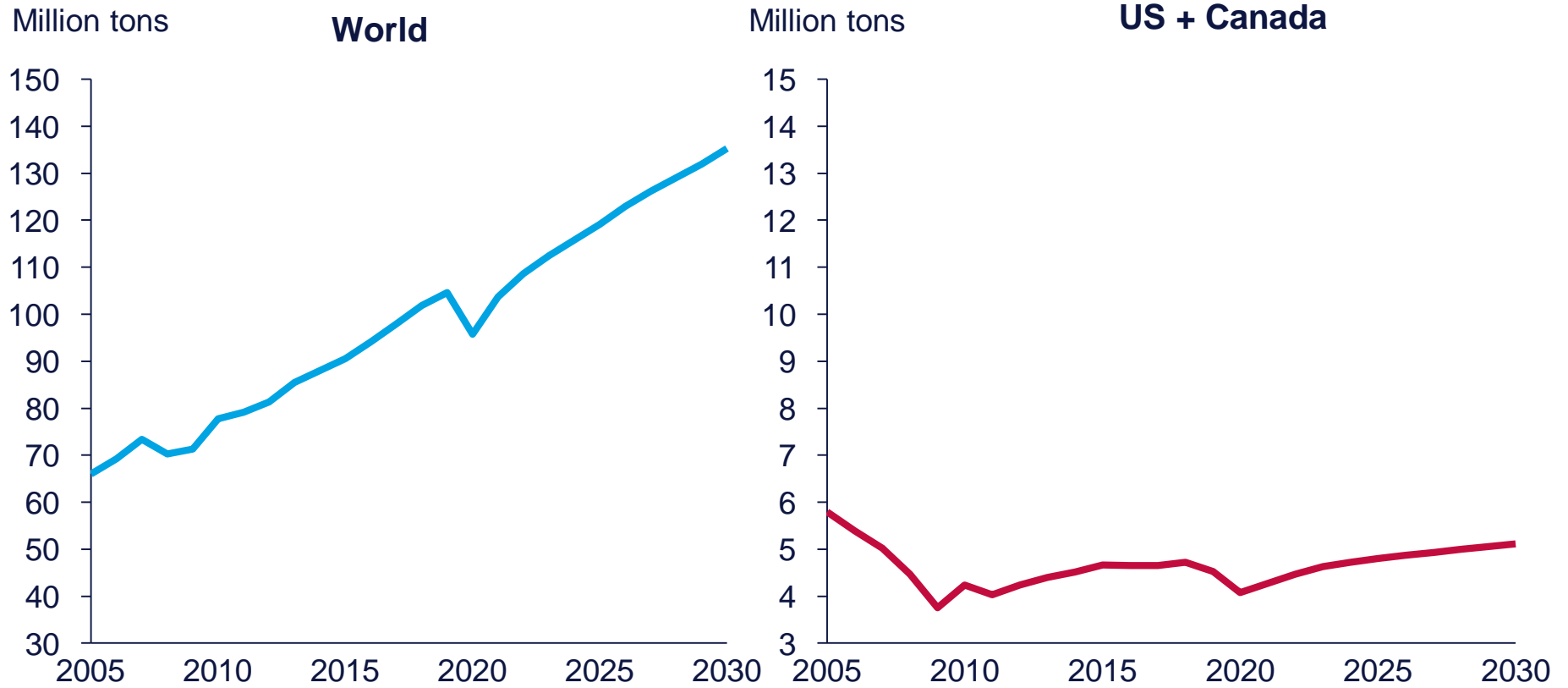
Source: Wood Mackenzie Chemicals Fibers Long Term Report

Total Mill Consumption



Source: Wood Mackenzie Chemicals Fibers Long Term Report

Total Mill Consumption

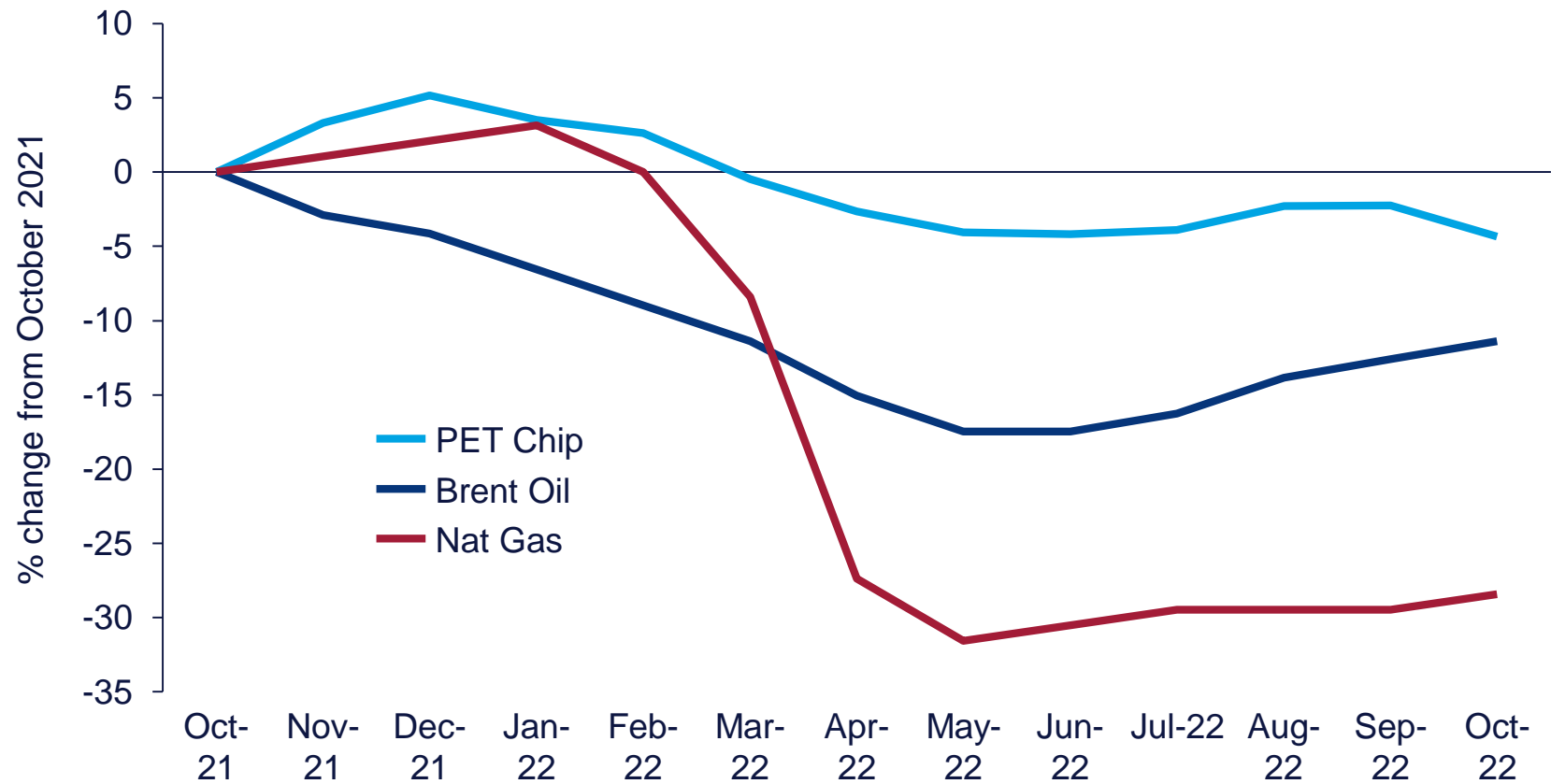


Source: Wood Mackenzie Chemicals Fibers Long Term Report



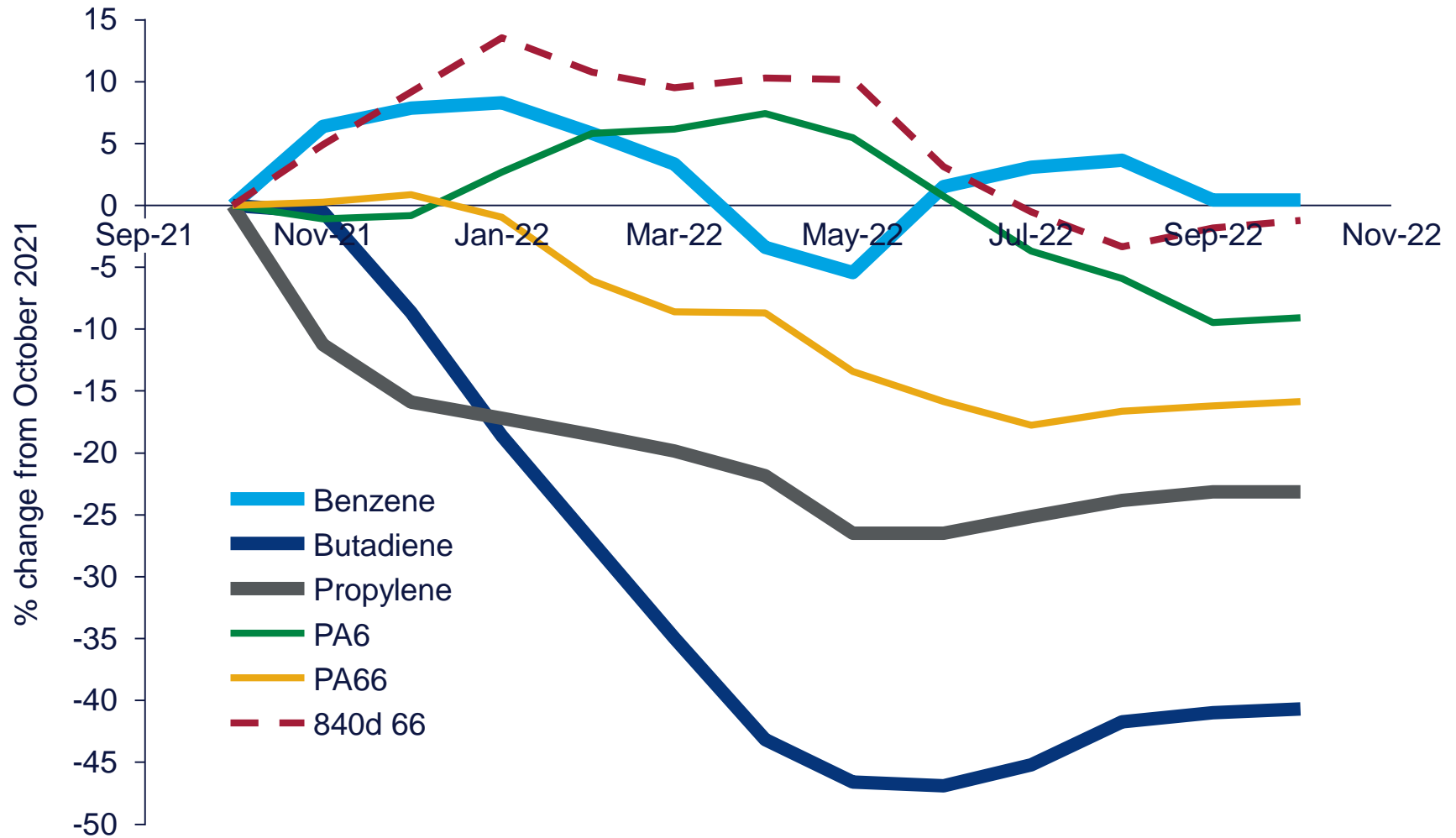
The Price Forecasts

Price Forecasts – Energy and polyester chain



Source: Wood Mackenzie Chemicals

Price Forecasts – Nylon chain



Source: Wood Mackenzie Chemicals

The Other Stuff



What else to think about...

- Circularity
 - » Like-to-like recycling
 - » Bottle wars
 - » Carbon neutrality
- Labor
- Inflation
- Extended producer responsibility
- China's new coal/energy practices
-
-
-

What else to think about...

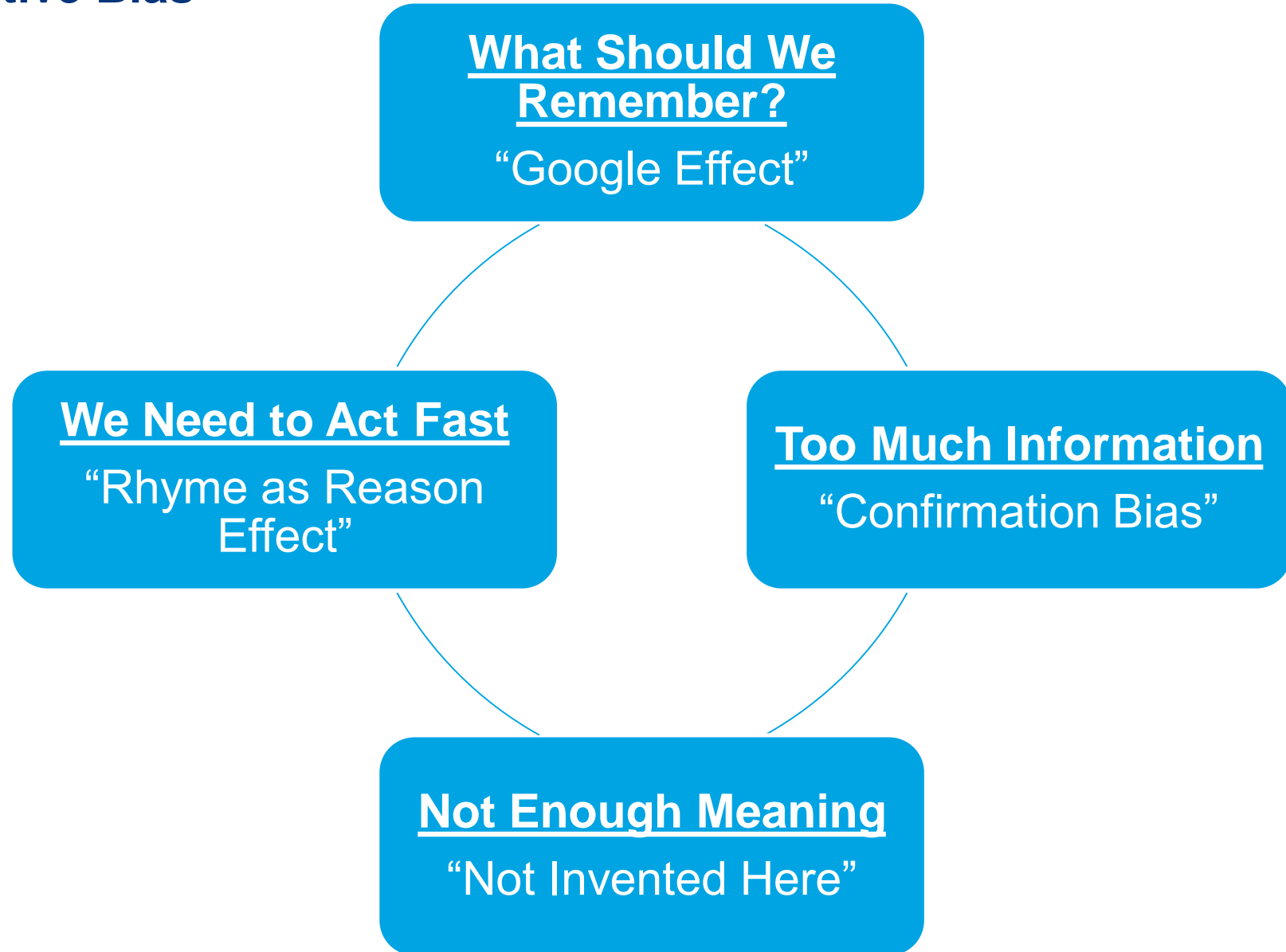
China's 14th Five Year Plan for the textile industry

Indicator	2025 Target	Comparing with 2020
Total fibre processing volume	Account for over 50% of world production	Similar with 2020
Textile and apparel export value	Account for over 30% of world value	Export value account for 33.9% of world trade in 2019.
Consumption ratio for apparel, housing textile, Industrial textile	38% : 27% : 35%	End consumption ratio for apparel, housing textile and industrial textile were at 40% : 27% : 33% in 2020.
CO ₂ emission per unit of industrial added value	Down 18% from 2020	
Water recycle rate in the dyeing industry	Above 45%	40% in 2020
Recycled fibre production	Account for 15% of total fibre production	

And Finally...



Cognitive Bias



Questions?

Laura Murphy

Research Director, Fibres Wood Mackenzie Chemicals

Biography

Laura joined PCI Wood Mackenzie in 2017 after more than 25 years in the nylon and polyester industrial fiber business. Laura's roles have spanned many areas of business including process engineering, strategic planning, technical sales & marketing and customer account management. She currently is the research director for the fibres team with Wood Mackenzie.

Prior to joining PCI Wood Mackenzie, now known as Wood Mackenzie Chemicals, she worked for DuPont, Kordsa, Hailide America, and most recently Nexis Fibers where she was the market manager for The Americas and South Africa.

Laura grew up in Rhode Island and received a B.S. chemical engineering degree from Rensselaer Polytechnic Institute. In her spare time, she is an avid underwater photographer and is currently trying to improve her golf handicap. She enjoys the occasional glass of pinot noir in her suburban Philadelphia home.

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