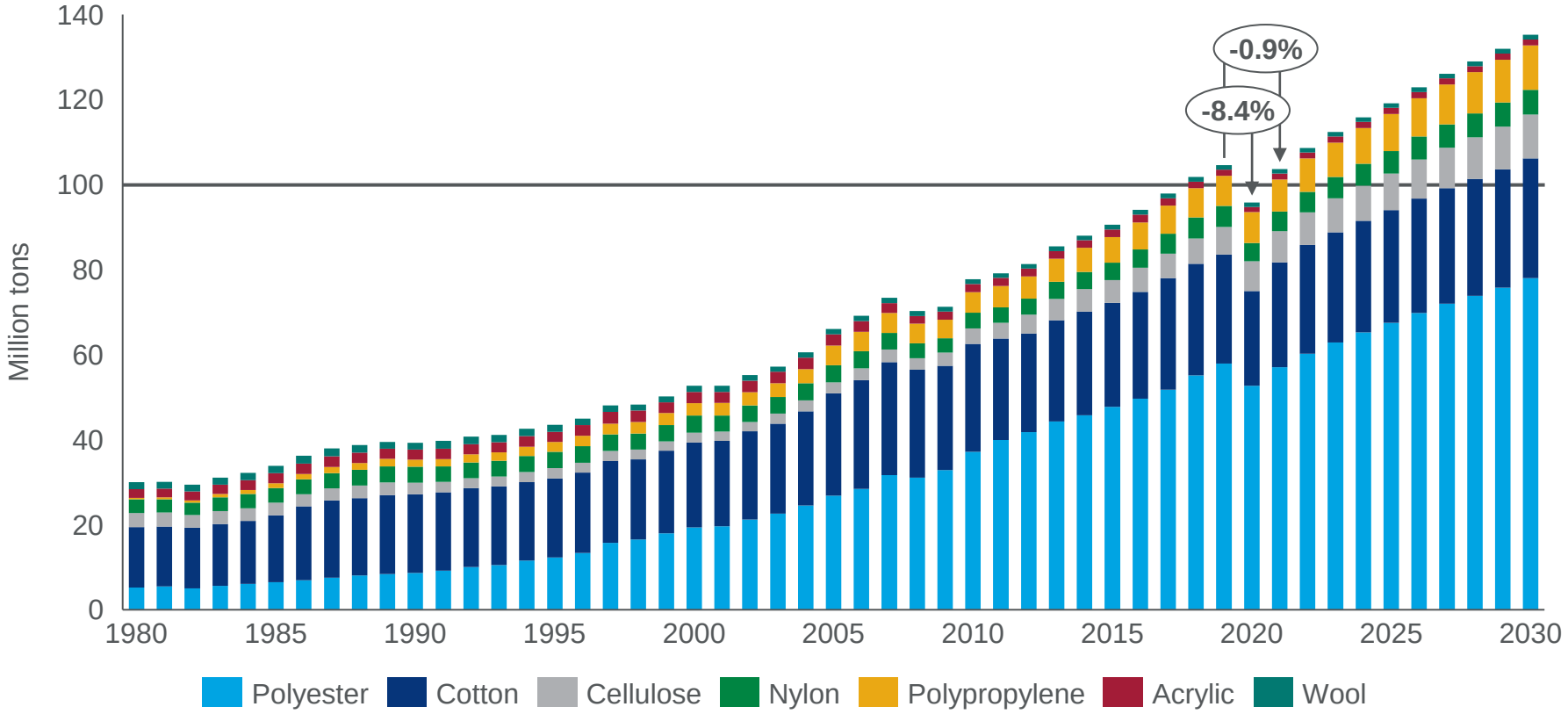
Fibres industry Europe outlook

CIRFS annual meeting, May 2023, Brussels

Alexei Sinitsa, Ph.D., Fibres consultant, Wood Mackenzie Chemicals

1. ‘World of Fibres’ in a few numbers

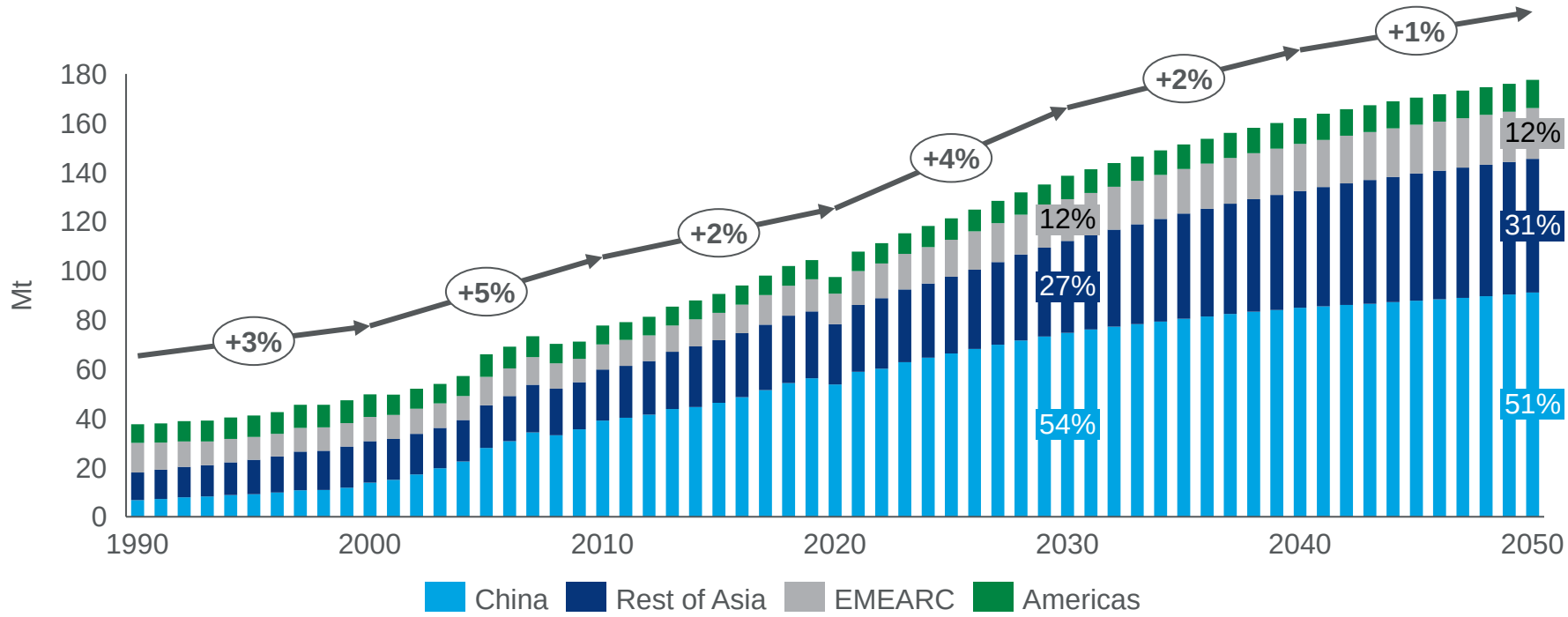
Total Mill Consumption



Source: Wood Mackenzie Chemicals Fibres Strategic Planning Outlook H1 2022

Textile mill consumption – by larger region

While China maintains its dominance through 2050, other Asian countries pick up share. The Americas and the EMEARC region stay steady relative to the rest of the world.



Source: Wood Mackenzie Chemicals Fibres Strategic Planning Outlook H1 2022

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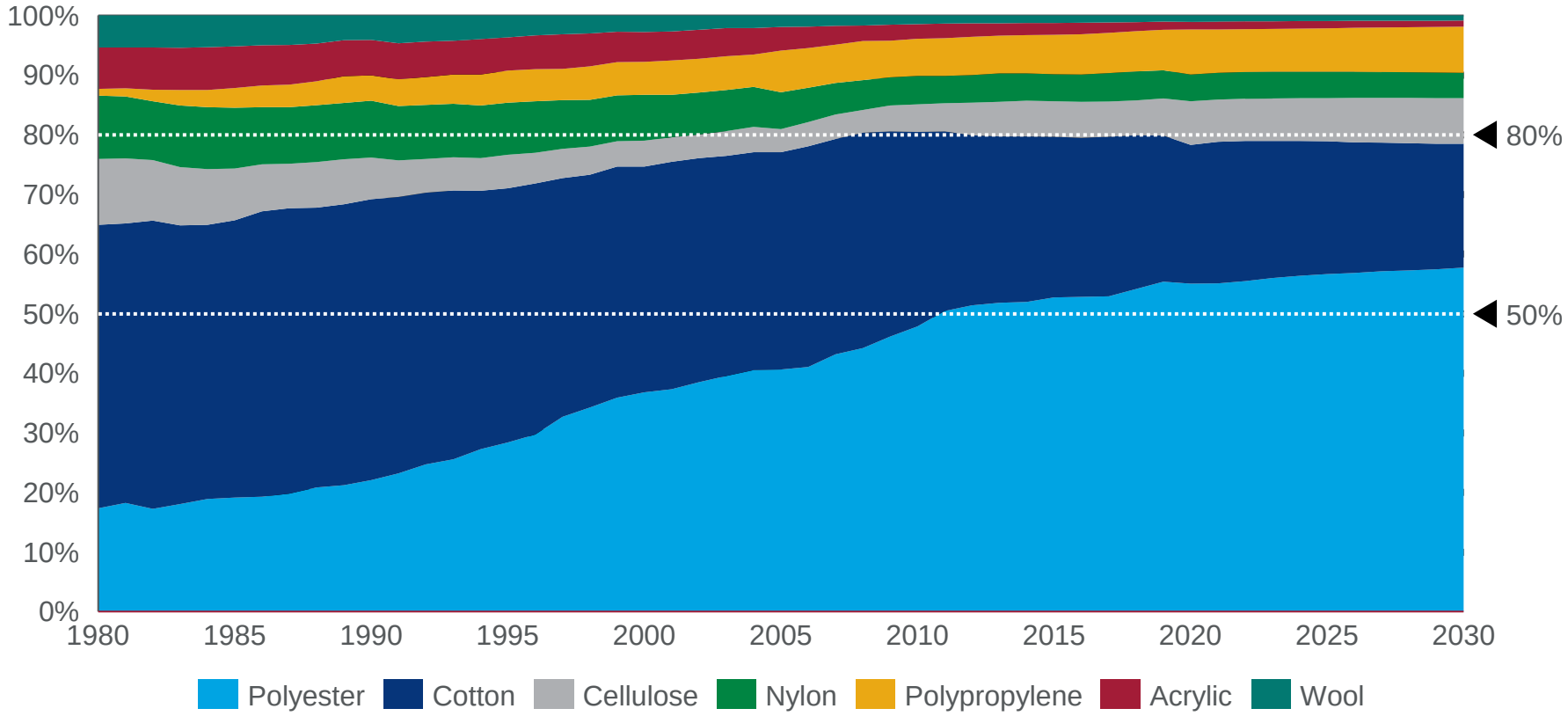
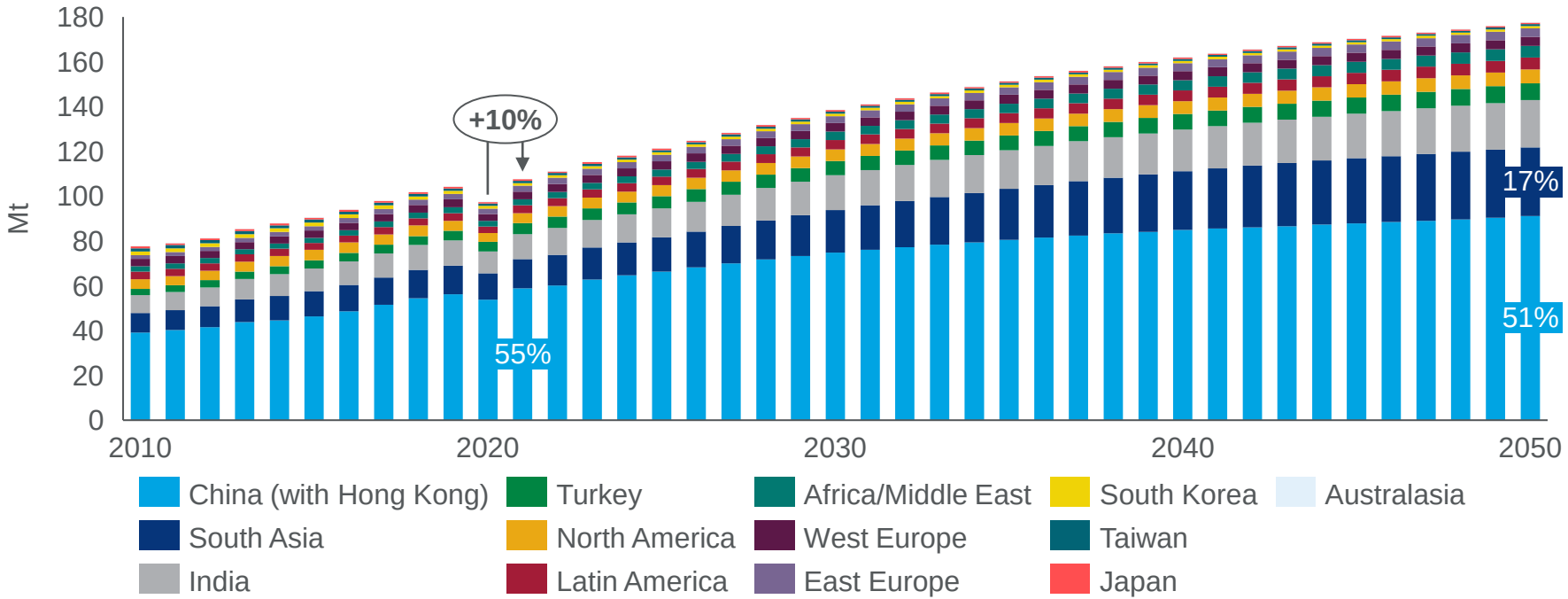


Source: Wood Mackenzie Chemicals Fibres Strategic Planning Outlook H1 2022

Global textile mill consumption (TMC)

Most major consuming regions saw increases in TMC in 2021 in the aftereffects of Covid-19

Global TMC – by region

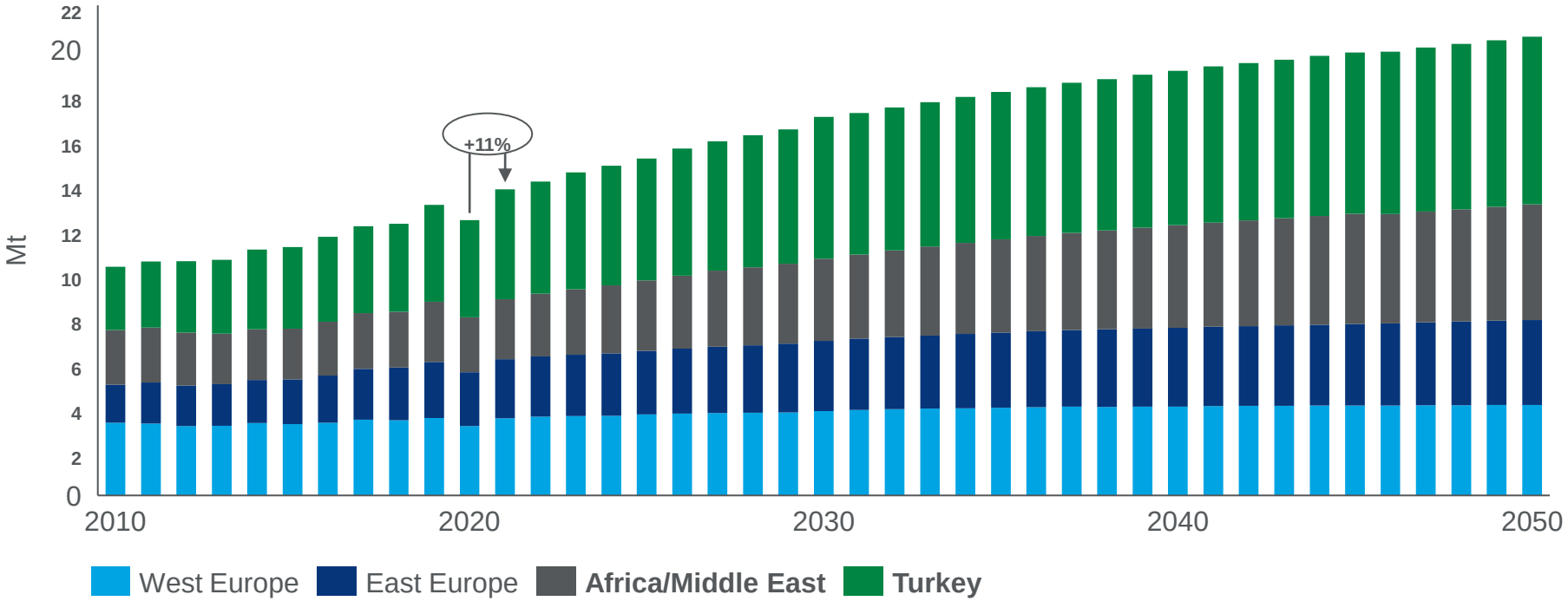


Source: Wood Mackenzie Chemicals Fibres Strategic Planning Outlook H1 2022

EMEA textile mill consumption (TMC)

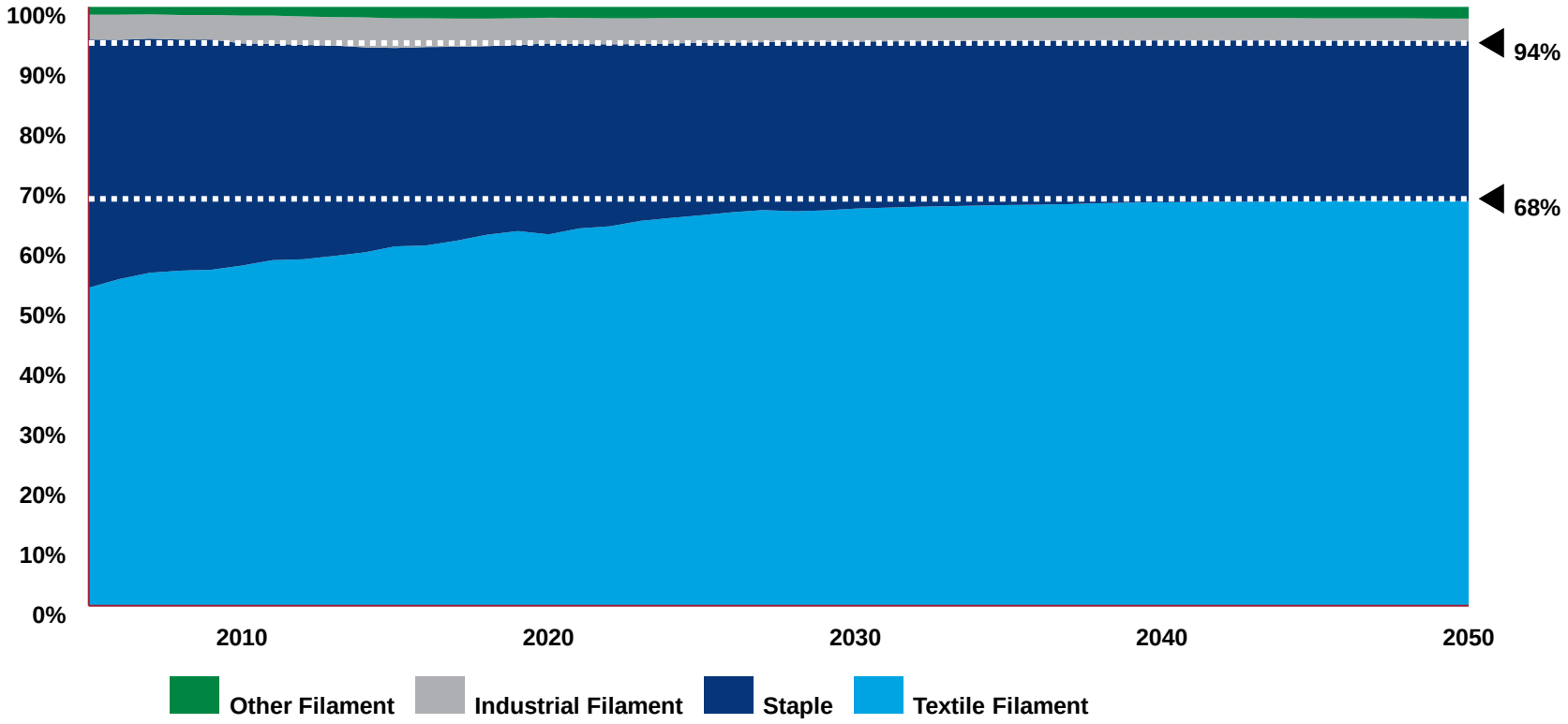
European TMC static under current scenarios, EMEA TMC growth driven by Turkey and MEA

EMEA TMC – by region



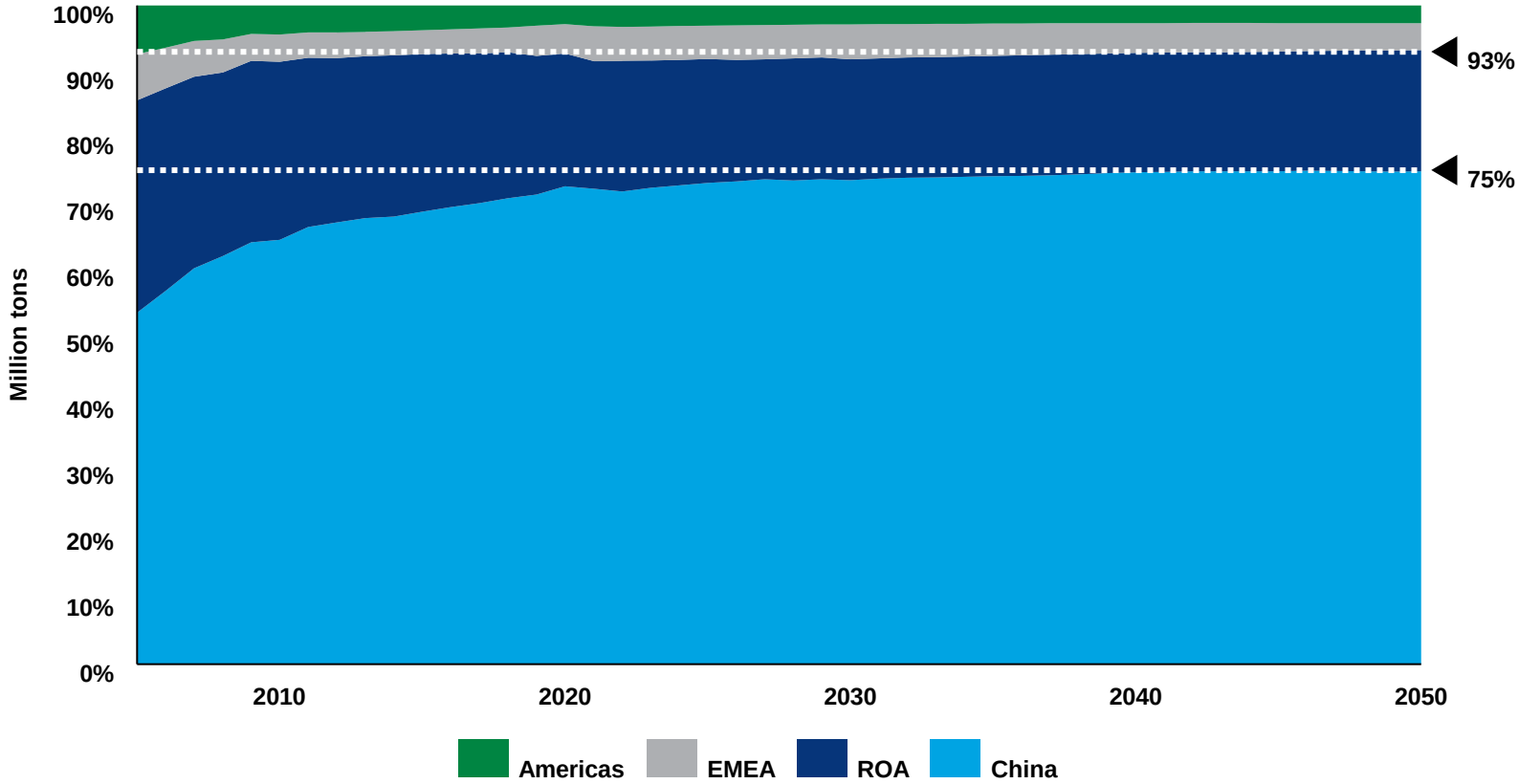
Source: Wood Mackenzie Chemicals Fibres Strategic Planning Outlook H1 2022

Polyester fiber production - what



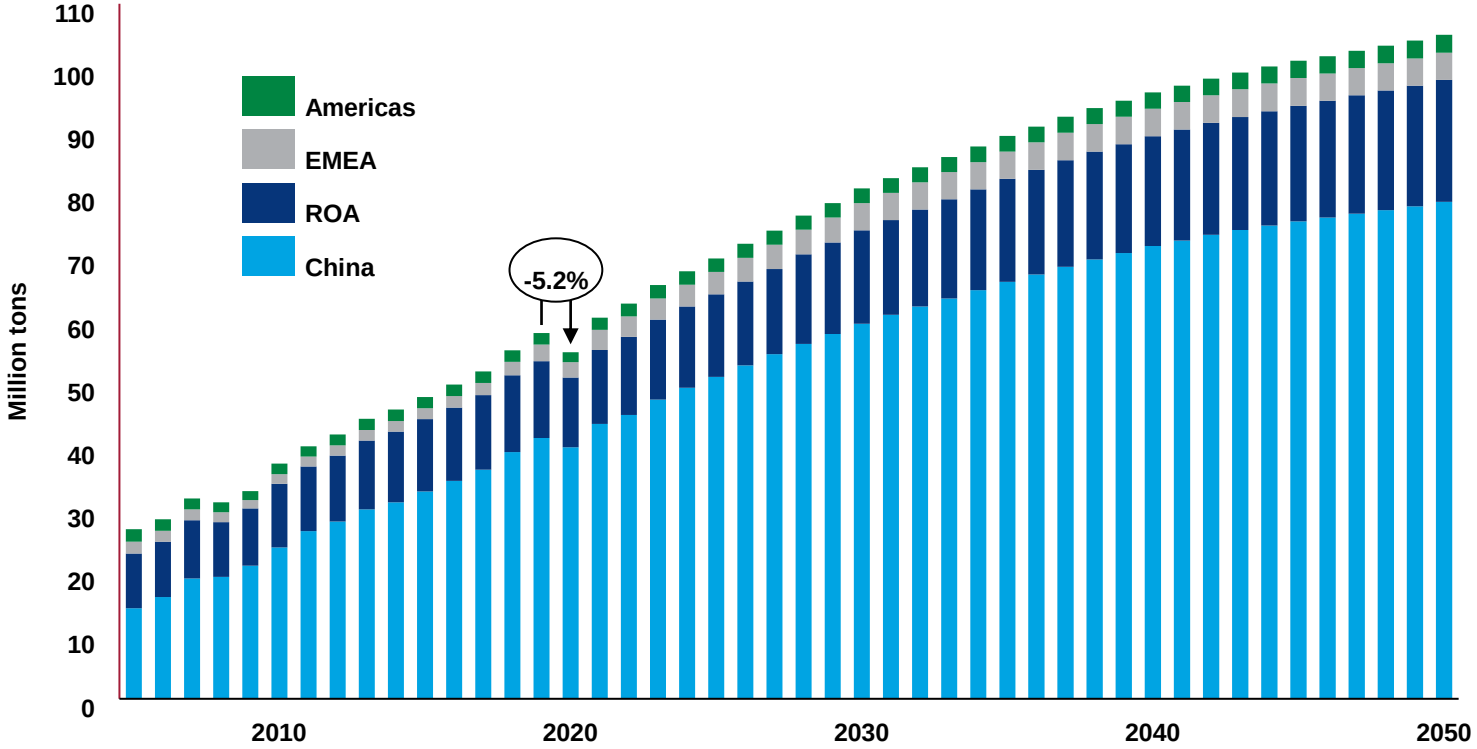
Source: Wood Mackenzie Chemicals Fibres Strategic Planning Outlook H1 2022

Polyester fiber production - where



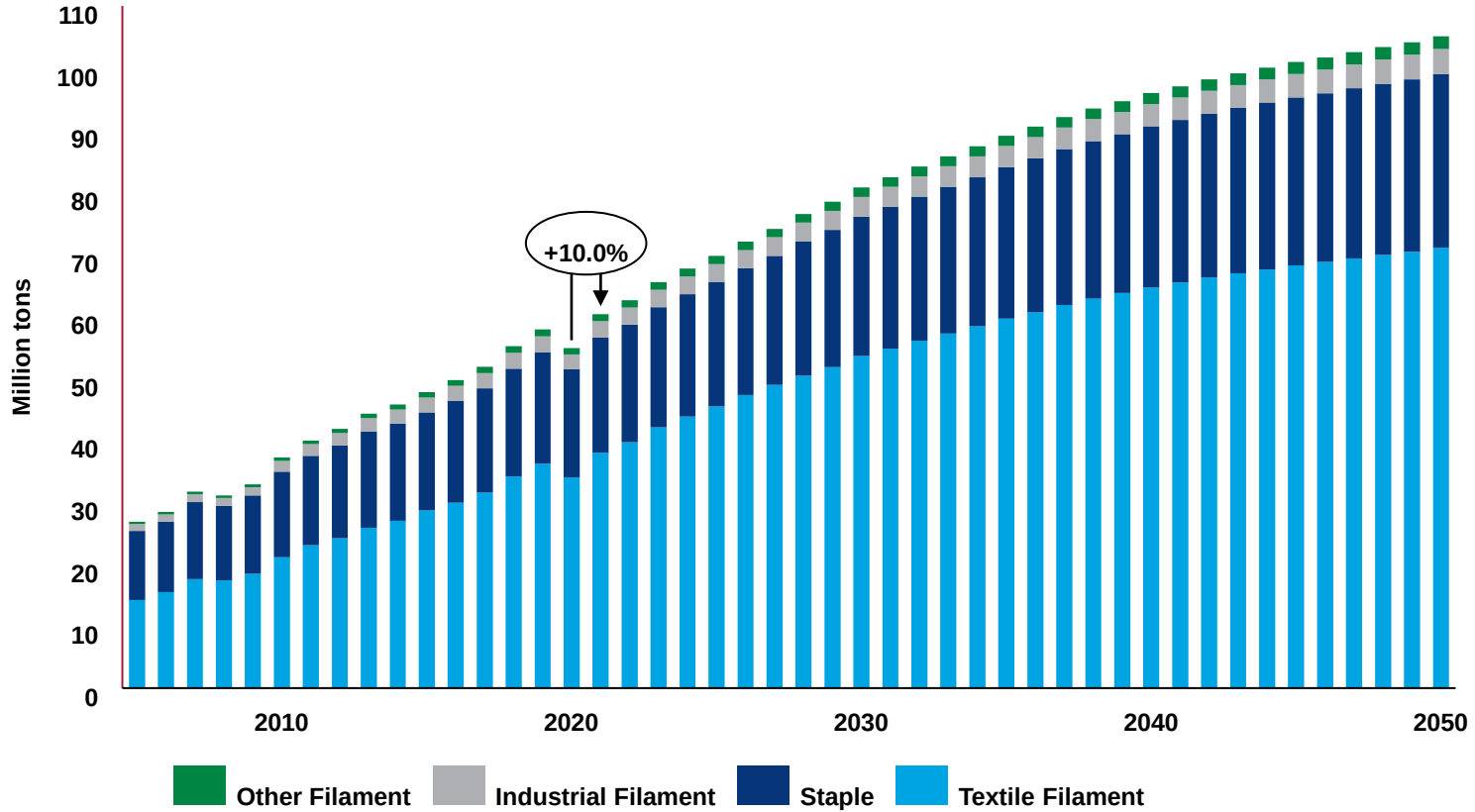
Source: Wood Mackenzie Chemicals Fibres Strategic Planning Outlook H1 2022

Polyester fiber production - where



Source: Wood Mackenzie Chemicals Fibres Strategic Planning Outlook H1 2022

Polyester fiber production - what



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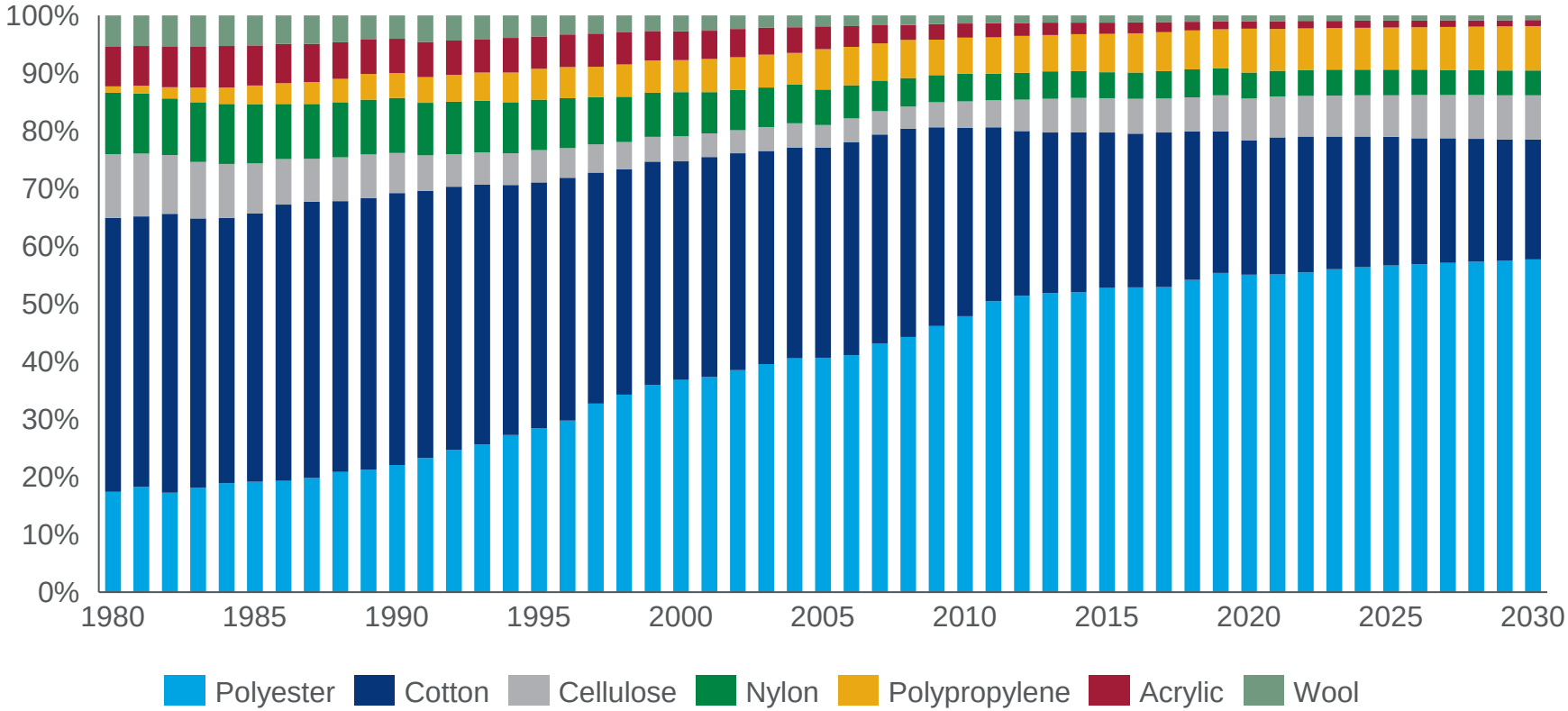
Total Mill Consumption

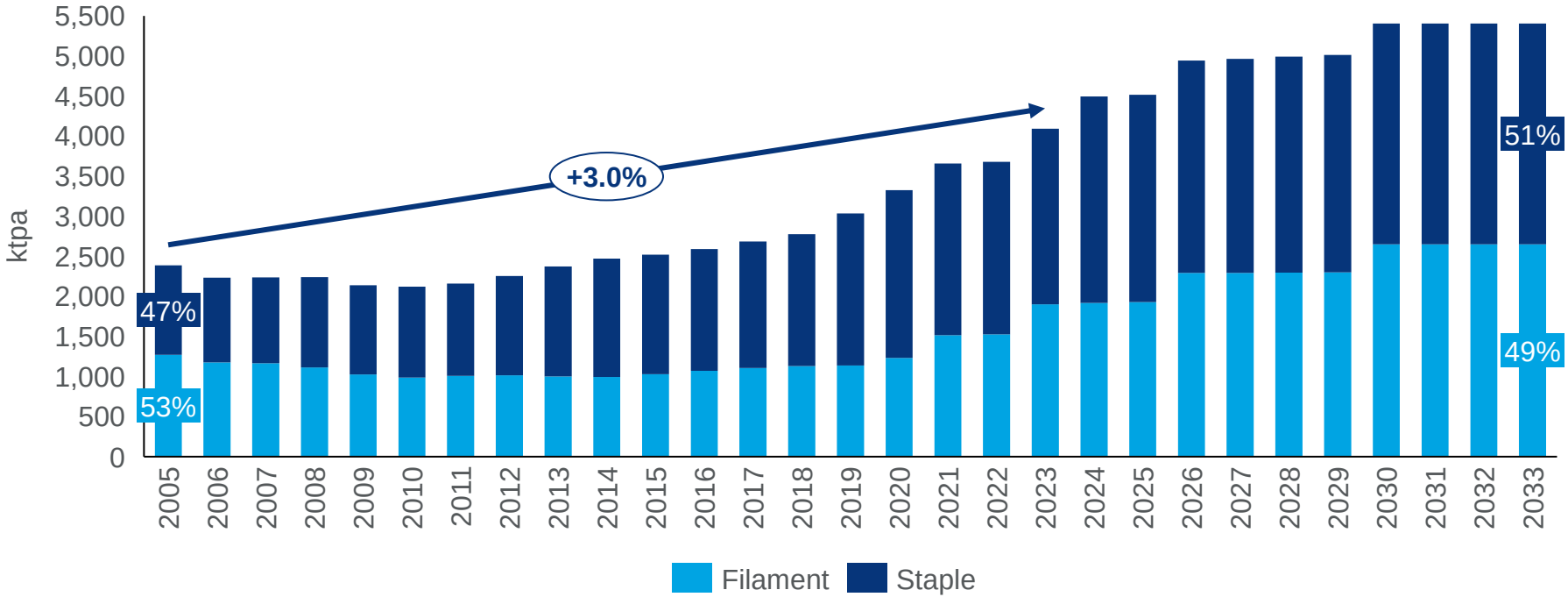


Source: Wood Mackenzie Chemicals Fibers Long Term Report

Situation of Polyester Yarn and Fibre production capacity in EMEA region

Growth is driven by Turkey

EMEA Polyester Fibre spinning capacity

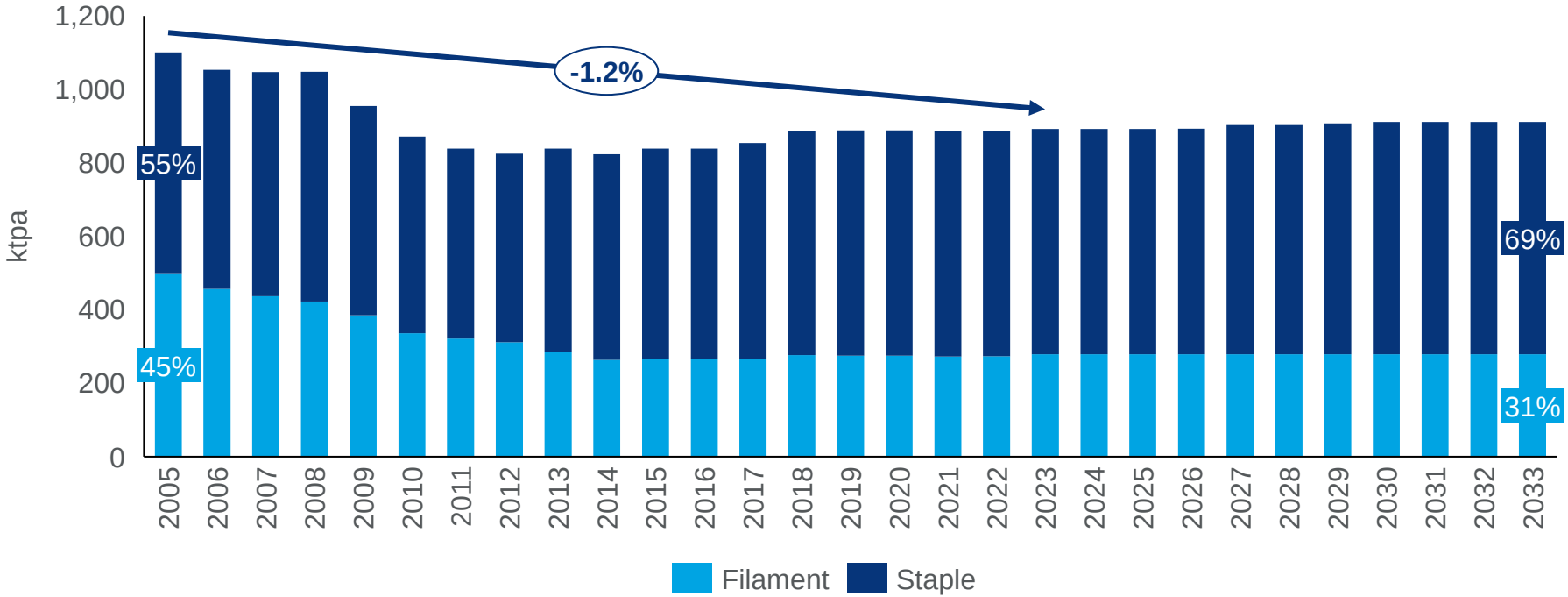


Source: Wood Mackenzie Fibres Long Term Report

Situation of Polyester Yarn and Fibre production capacity in EMEA region

Capacity stagnation is the current scenario, lest further capacity loss occurs

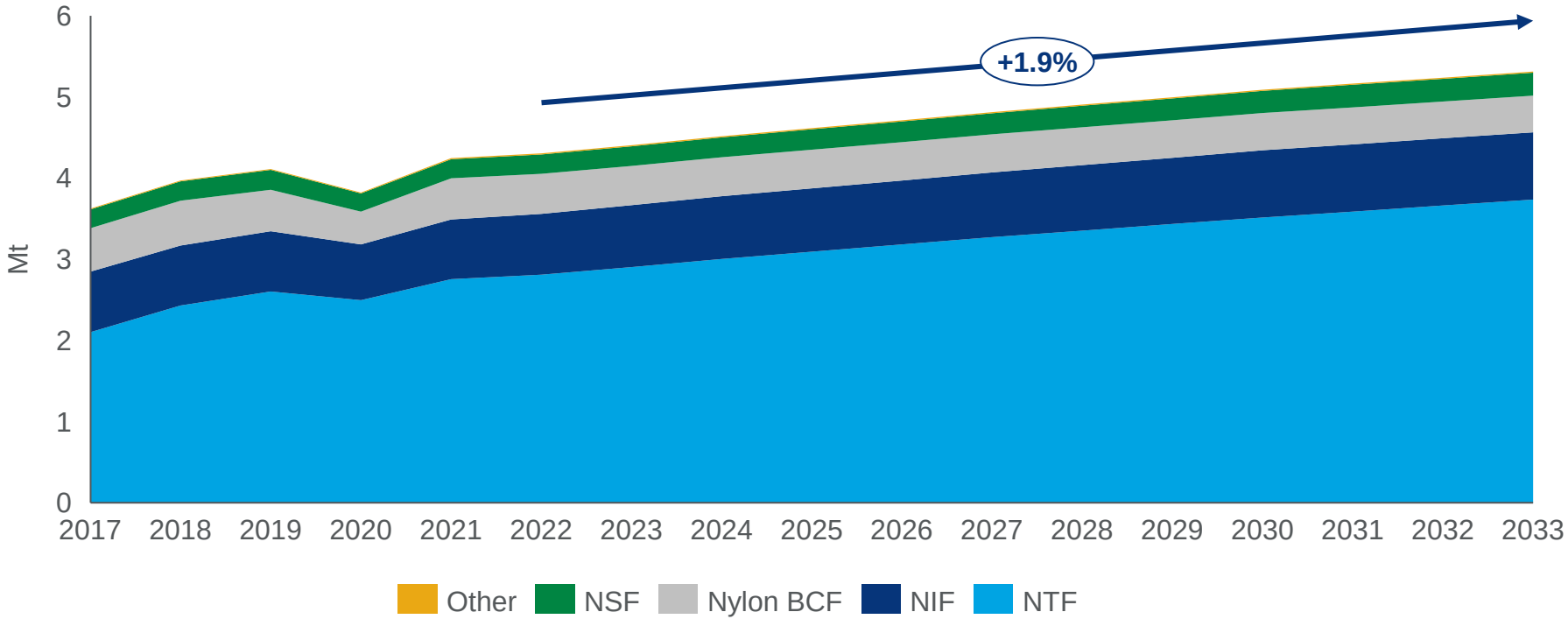
European Union Polyester Fibre spinning capacity



Source: Wood Mackenzie Fibres Long Term Report

Estimated global annual nylon fibre production

While growth is slower than other leading fellow synthetic fibres…



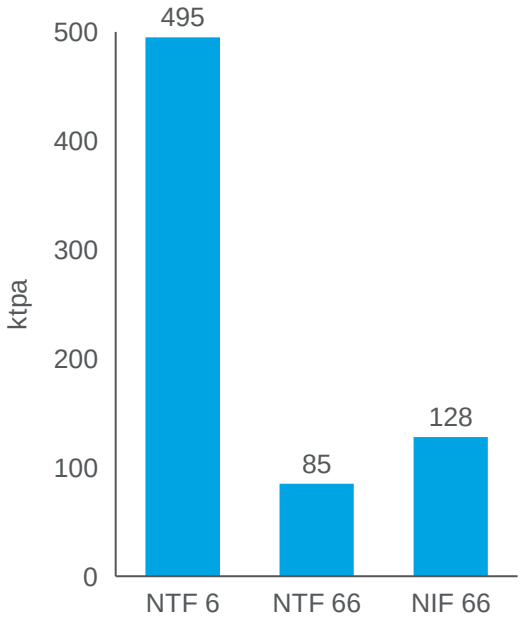
Source: Wood Mackenzie Fibres Long Term Report

Nylon fibres: who will invest in the next wave of nylon fibre projects?

China dominates the nylon 6 fibre production and new projects continue to focus on China. The expected additional ADN supply would lead to a round of nylon 66 fibre investments

Fibres types	NTF 6	NTF 66	NIF 66
Recent dynamics	New projects slowed down in 2021-2022 because of the slow demand growth	Producers are running with low operating rates limited by tight polymer supply and sluggish demand	Increasing auto production supports demand, and producers are operating with relatively good margins
Companies (examples)	Highsun Group Eversun Group Hubei Sanning	Zhejiang Jiahua Fujian Xinsen Yiwu Huading	Hangzhou Dikai Jiangsu Junma Henan Sinowins
Enablers	The cost advantage from those integrated producers	The rising residential income and the popularity for outdoor sports	The ongoing trend for the tyre radialisation and rising airbag numbers per car
Constraints	Slower than expected economic performance	Fail to narrow the price gap with some other fibres	Users fail to regain the confidence of NIF 66
Outlook			

Global capacity additions between 2023-2025

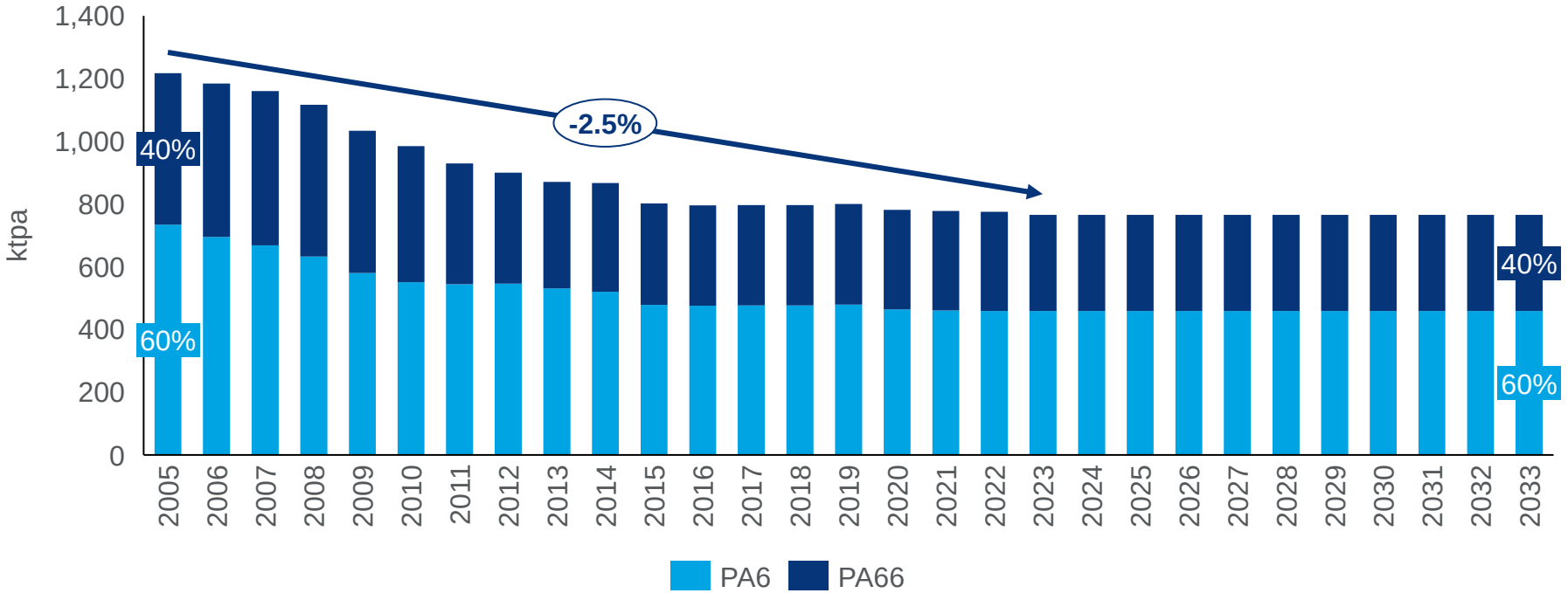


Source: Wood Mackenzie Fibres Long Term Report

Stagnation of PA Yarn and Fibre spinning capacity in EMEA region

While growth continues in Asia-Pacific, EMEA nylon capacities stagnate

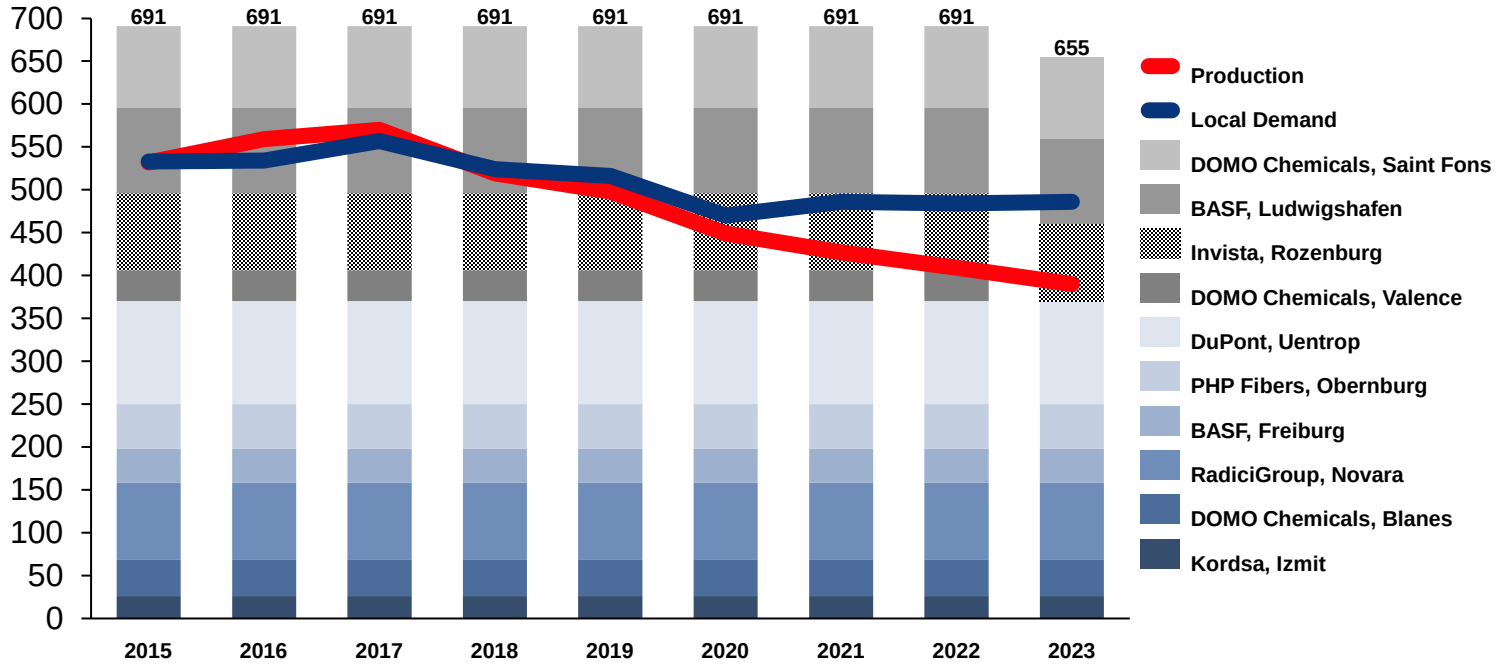
EMEA PA Fibre spinning capacity



Source: Wood Mackenzie Fibres Long Term Report

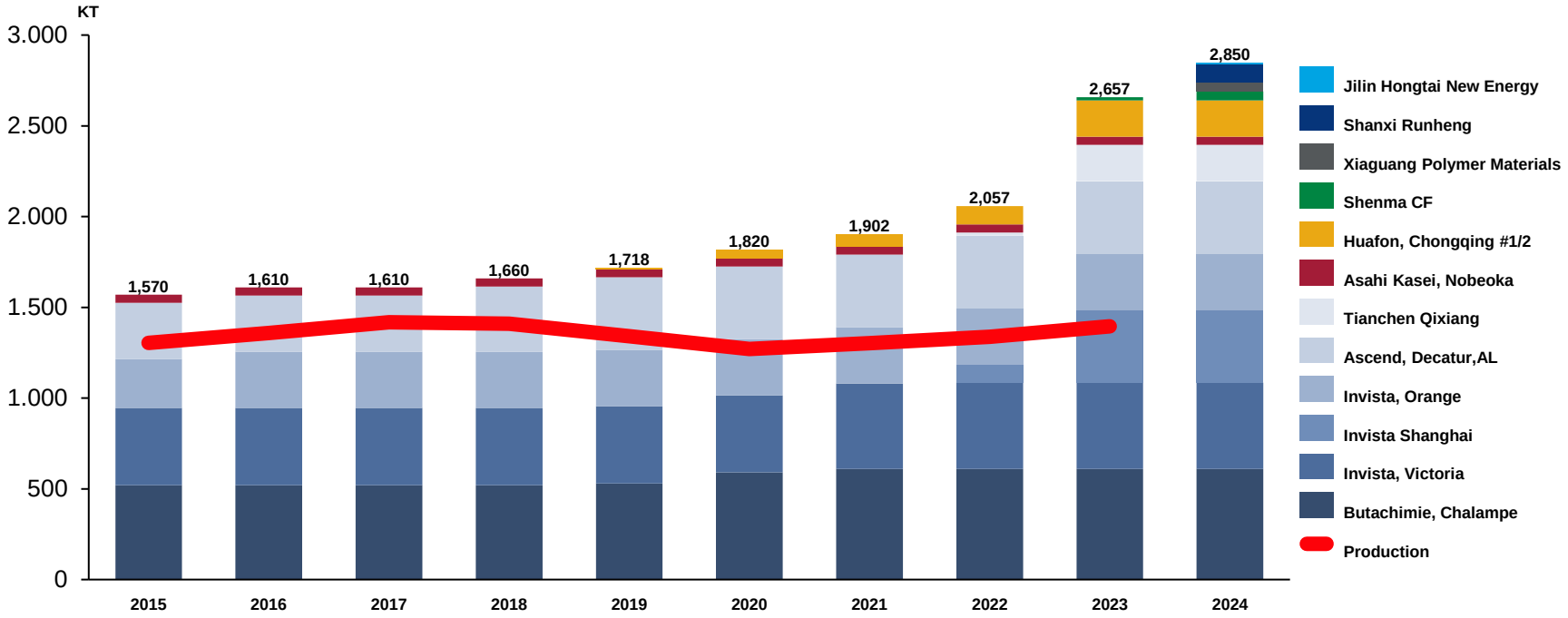
Europe Polyamide 66 capacities x Demand

Lack of competitiveness, stimulates imports and exacerbates the overcapacity issues.



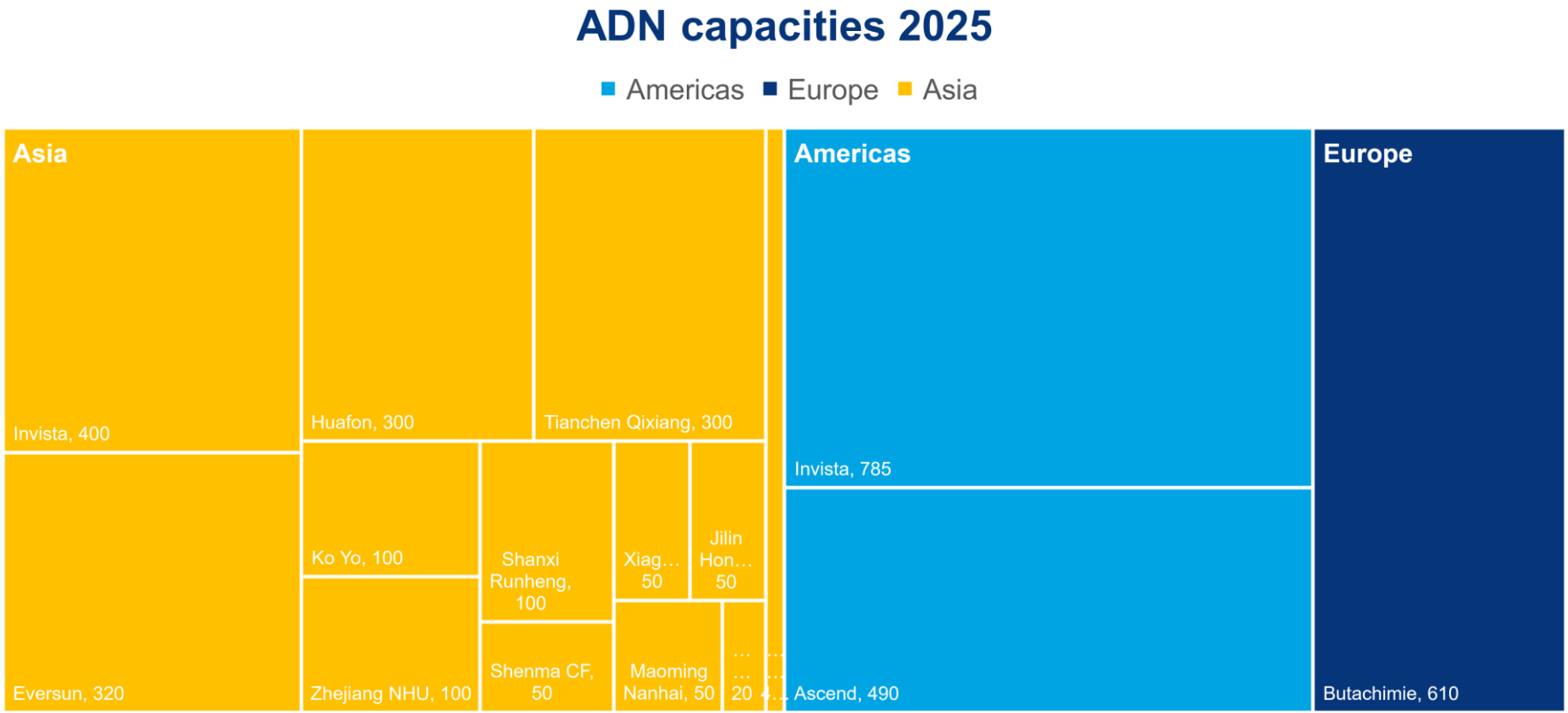
ADN Global supply and demand

As anticipated 2023 with large global overcapacity



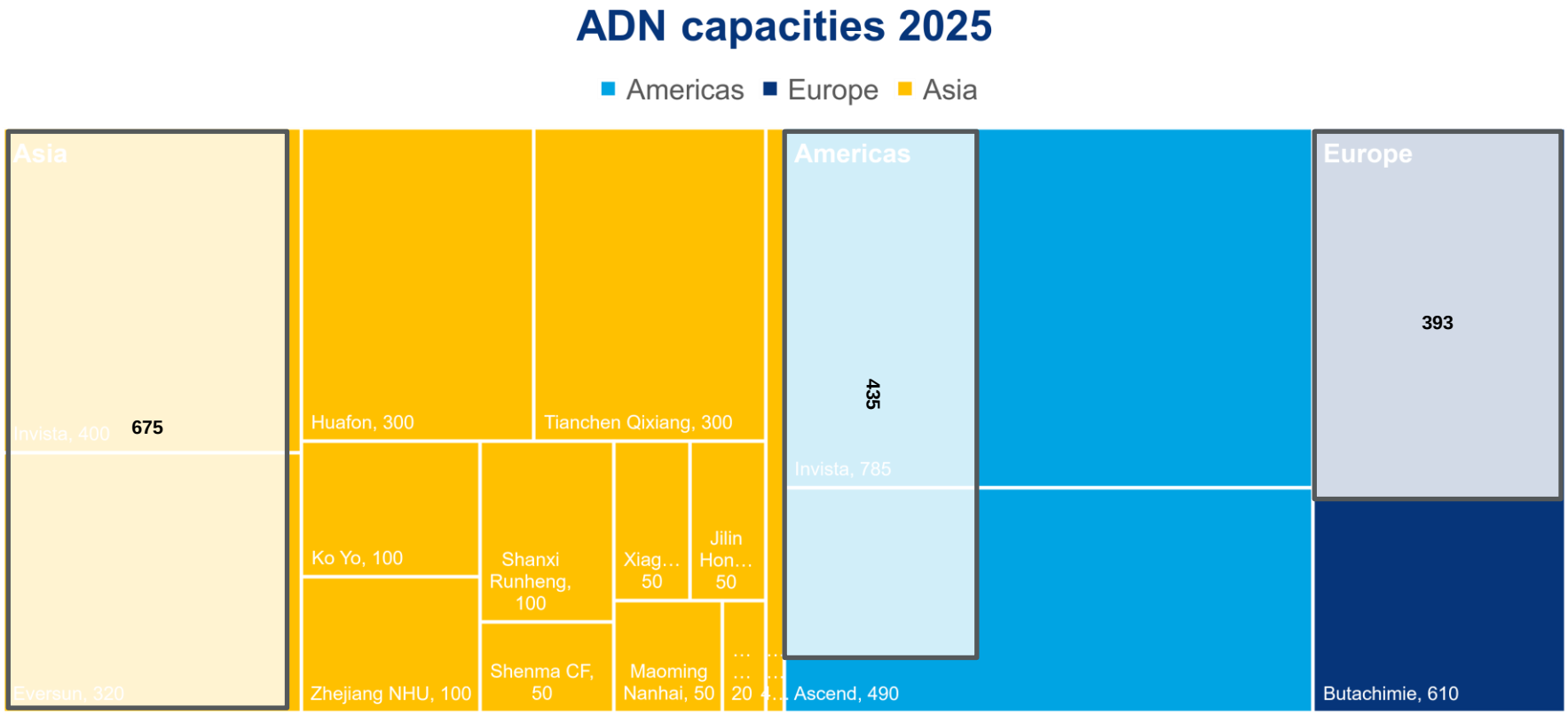
Source: Wood Mackenzie

ADN capacities 2025



Source: Wood Mackenzie

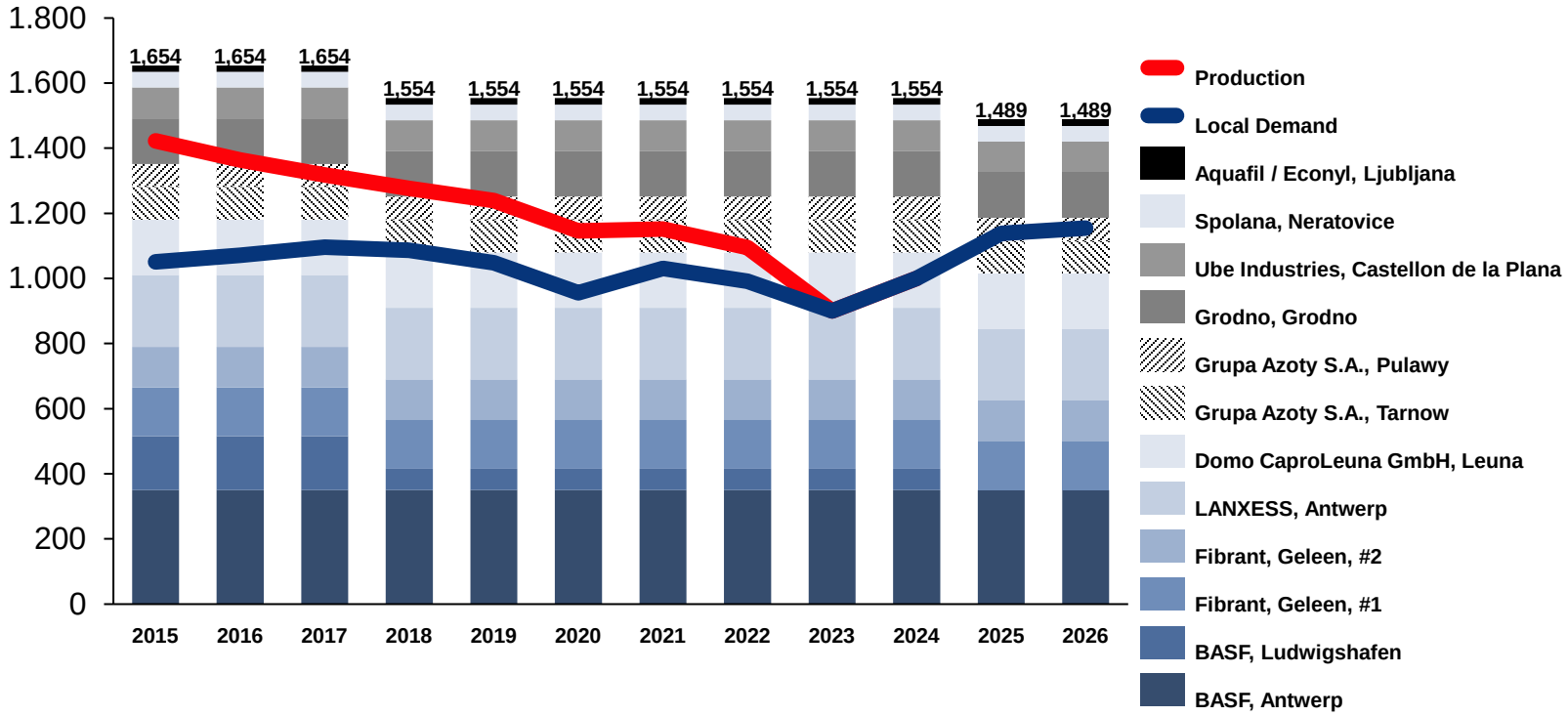
ADN capacities 2025



Source: Wood Mackenzie

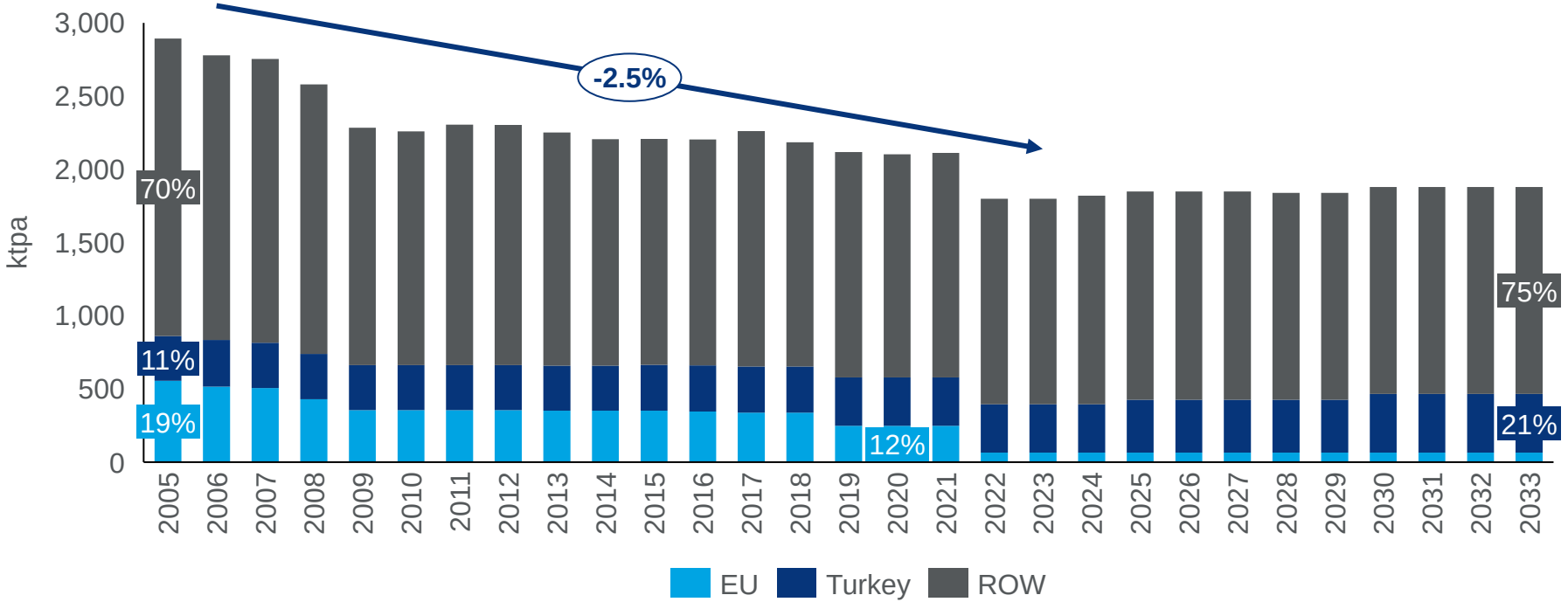
Europe Caprolactam capacities x Demand

Lack of competitiveness hinders exports, stimulates imports and exacerbates the overcapacity issues.



Situation of acrylic Yarn and Fibre spinning capacity

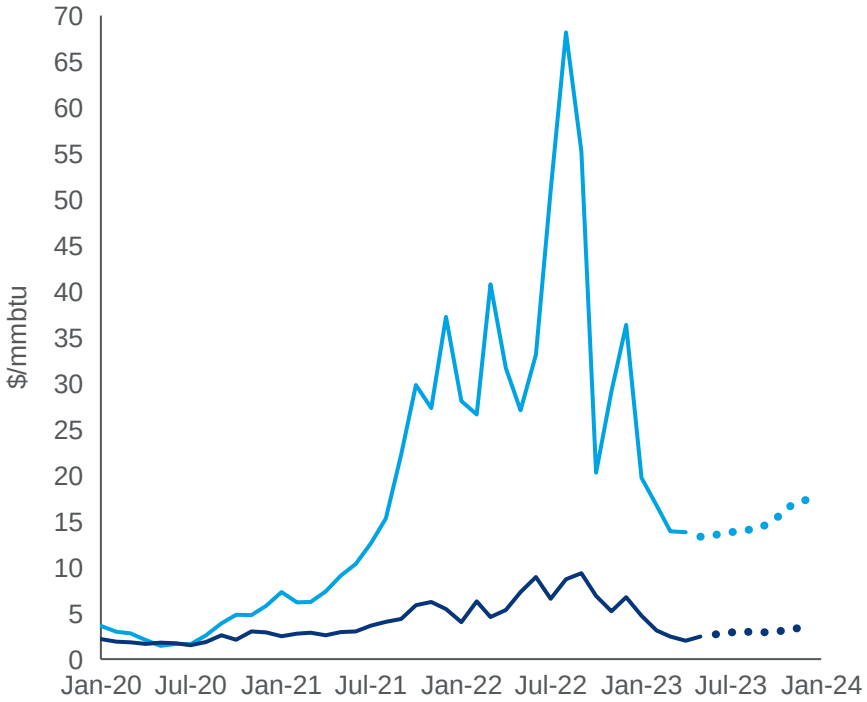
Worldwide Acrylic Fibre manufacturing capacity evolution

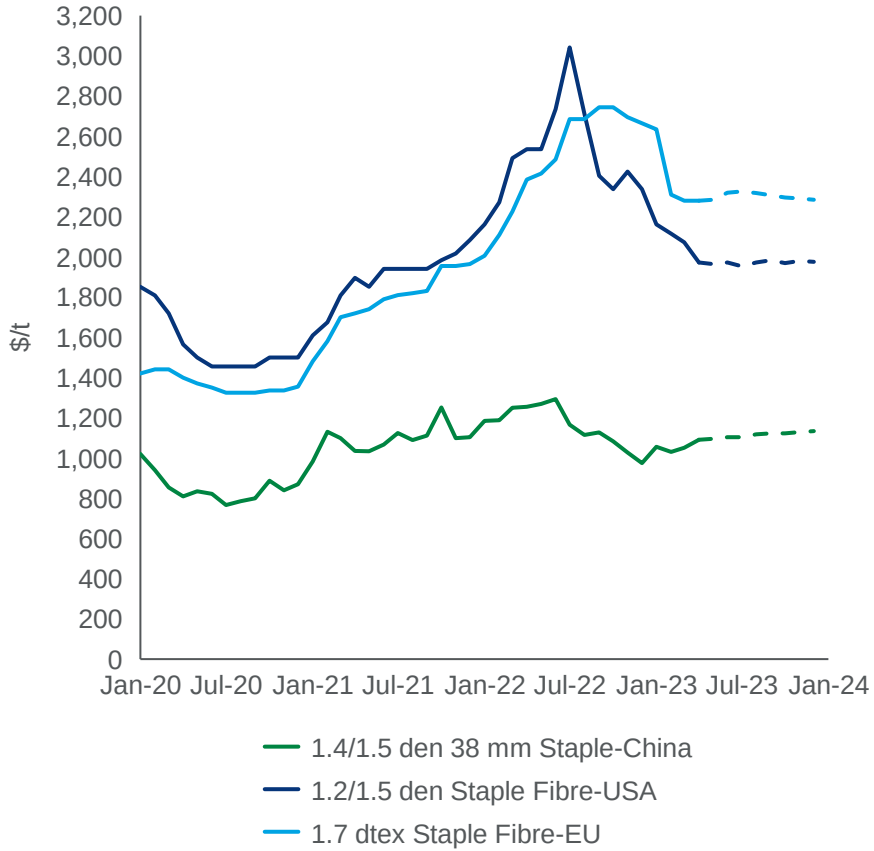


Source: Wood Mackenzie Fibres Long Term Report

2. High costs undermining competitiveness of European fibre ecosystem

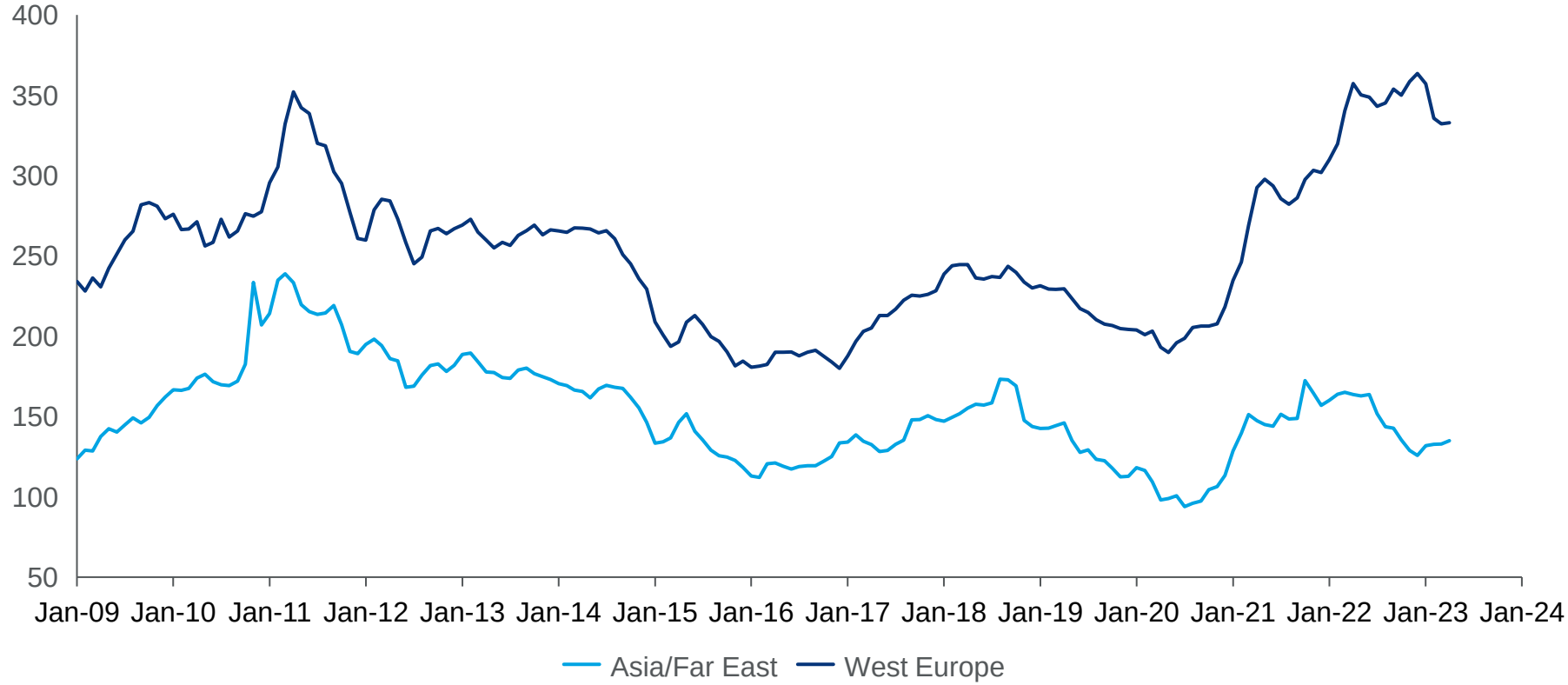
Energy prices – EU and US Natural Gas ... vs. EU, China, USA NTF prices





Source: Wood Mackenzie Chemicals

Wood Mackenzie/PCI Synthetic Fibres Price Index

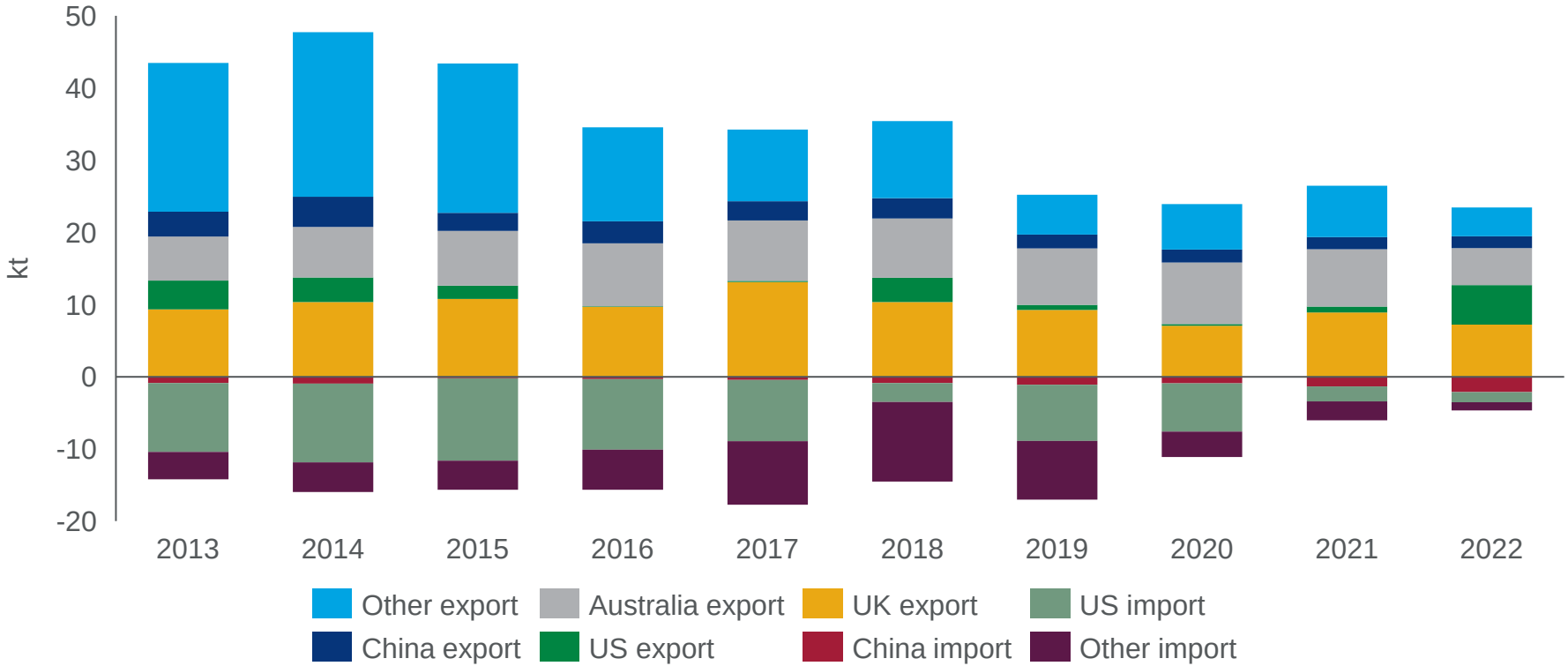


Source: Wood Mackenzie Chemicals

3. Can a solution be found through export?

Transatlantic to the rescue?

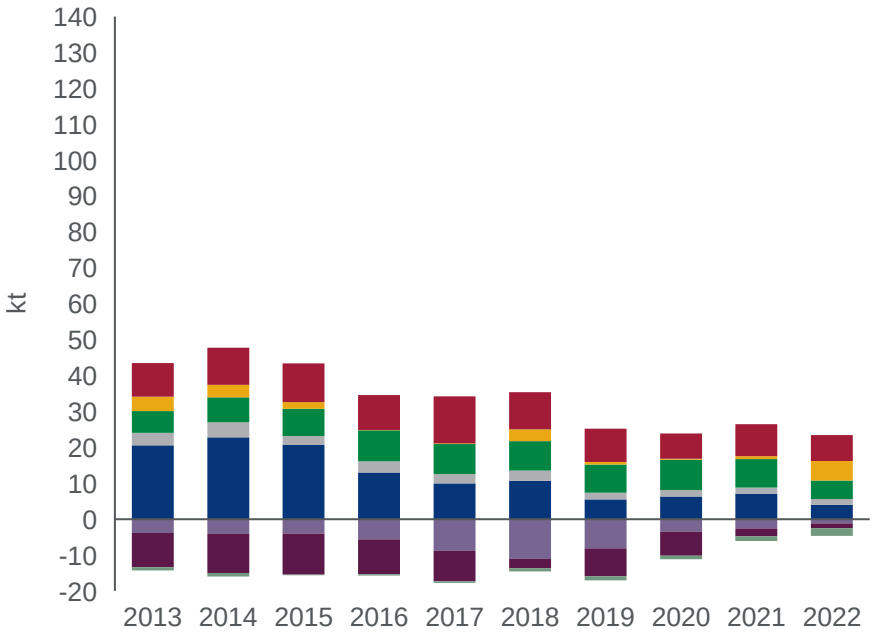
EU27 extra-EU BCF trade



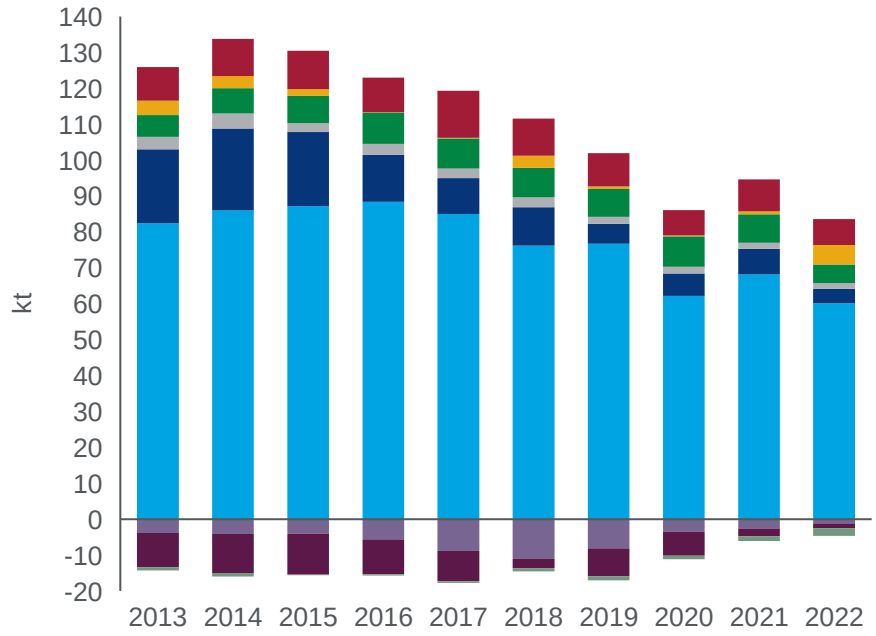
Source: Global Trade Tracker, HS Code: 540232

Transatlantic to the rescue?

EU27 extra-EU BCF trade



EU27 EU BCF flows, including intra-EU



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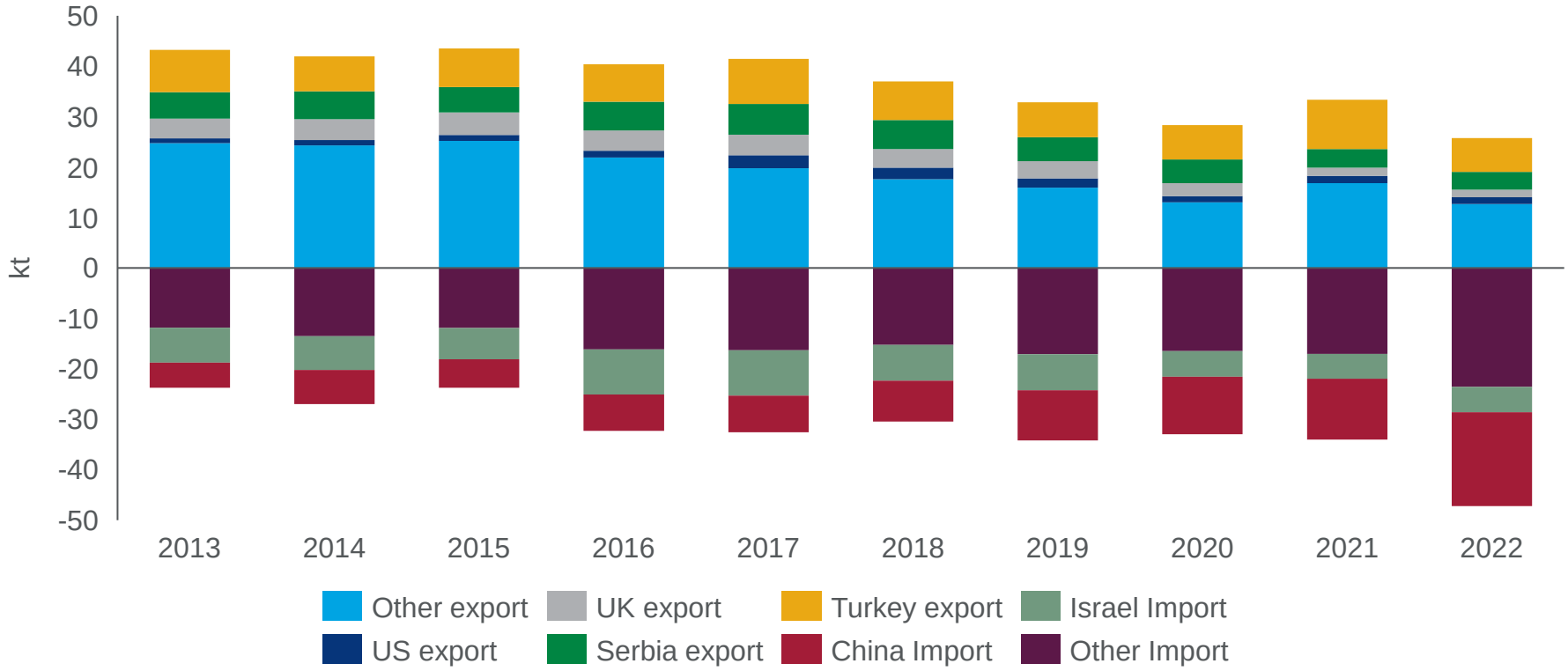
Can we export our way out of trouble?

EU27 extra-EU NTF trade



Source: Global Trade Tracker, HS Codes: 540231, 540241, 540245, 540251, 540261

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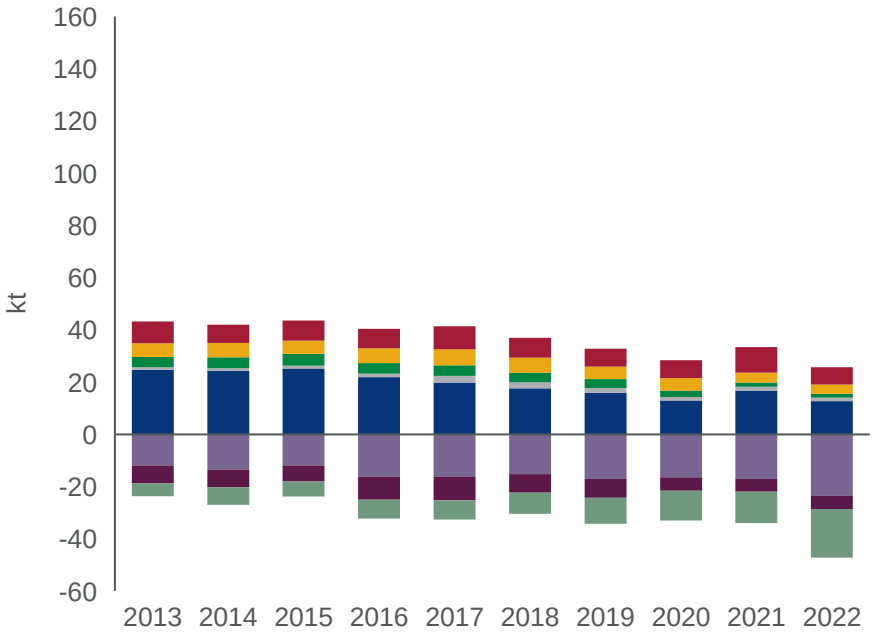
EU27 extra-EU NTF trade



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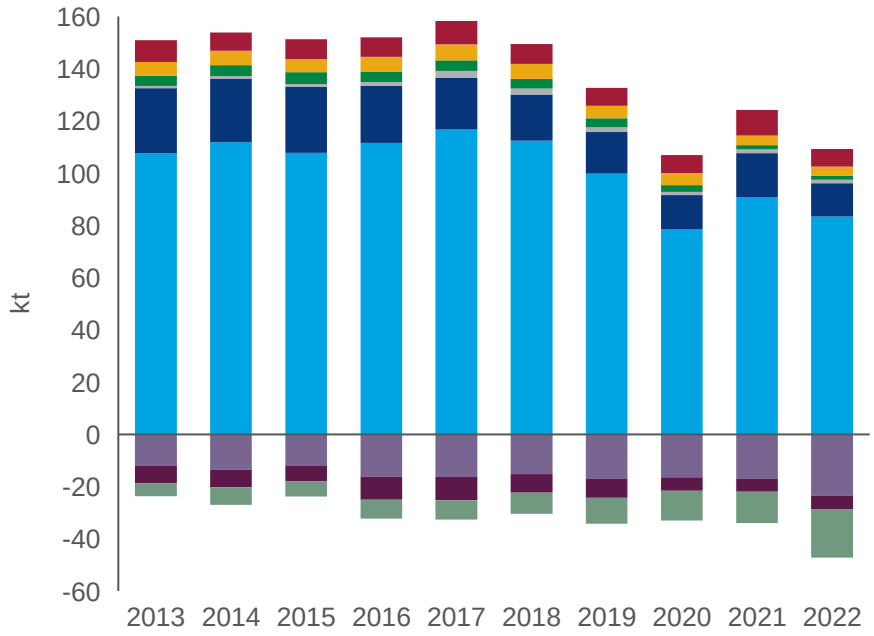

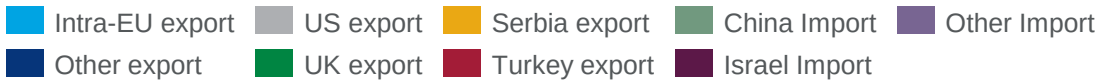

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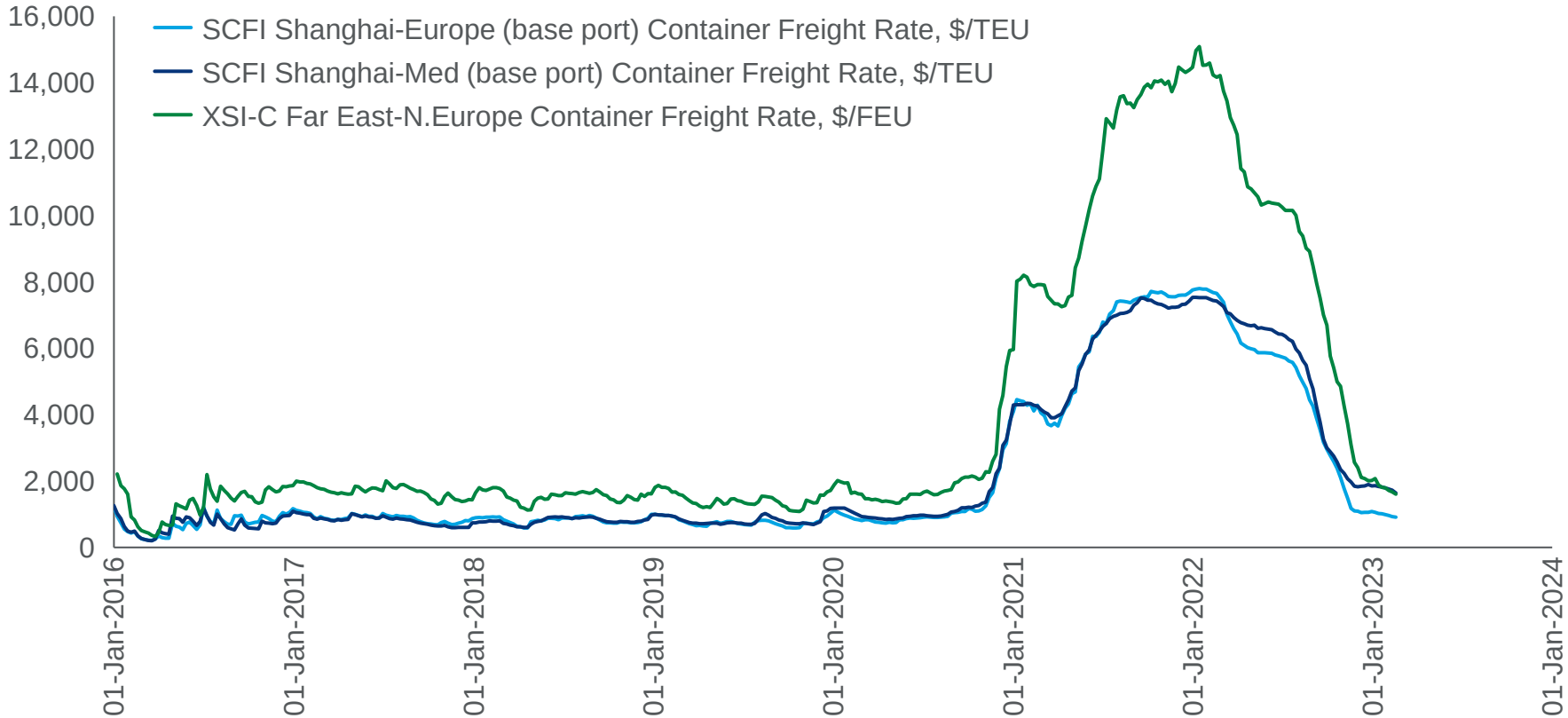
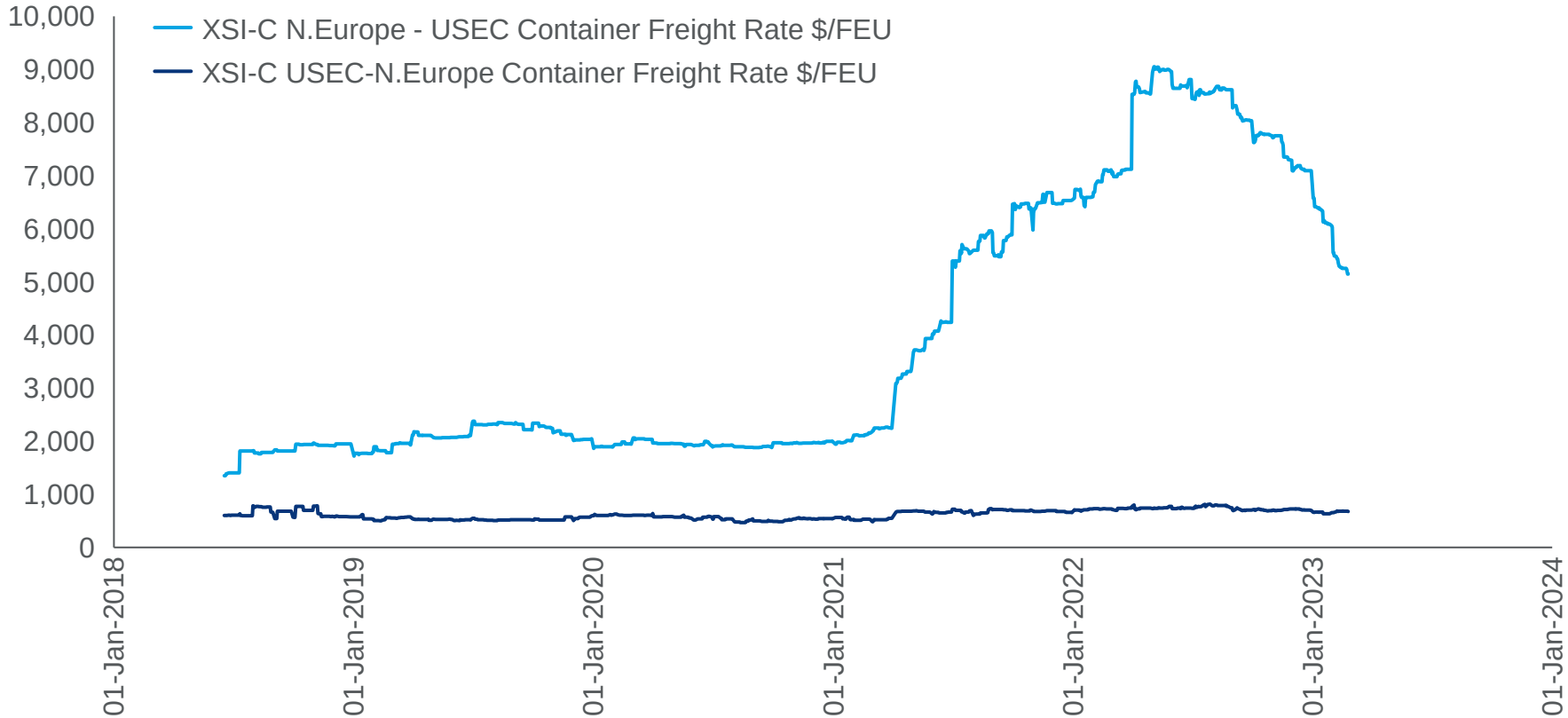
Ocean Freight – from Asia to Europe



Source: Wood Mackenzie Chemicals, Clarksons Shipping Intelligence

Ocean Freight – Transatlantic



Source: Wood Mackenzie Chemicals, Clarksons Shipping Intelligence

4. Sustainability at the core of the offering – as a path to survival?

Sustainability, Pollution, and the Circular Economy

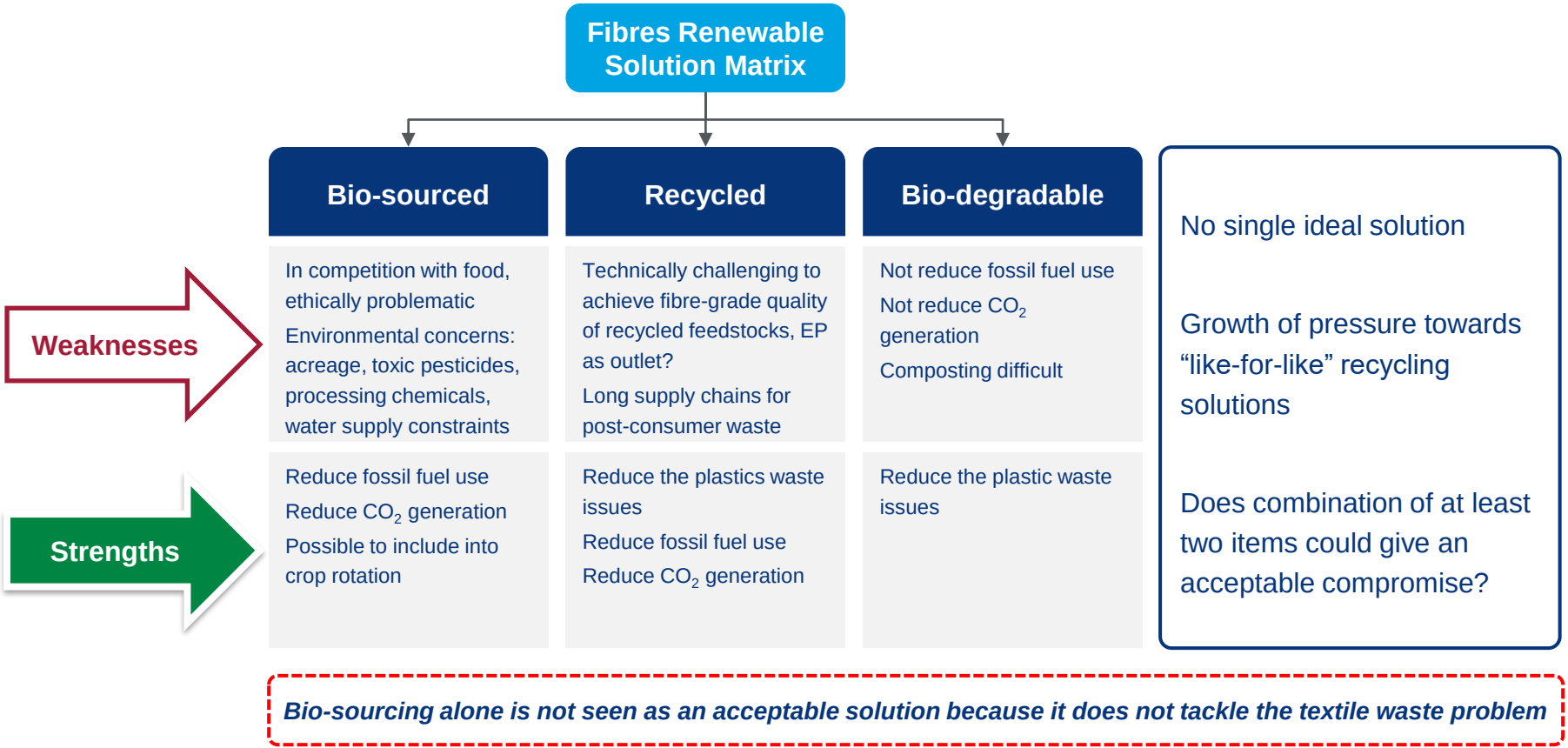
Sustainability debate, and its relevance to fibres

What is “sustainability” and its applicability in the fibres context

- Sustainability in fibres could be delivered via:
  - » Departure from non-renewables:
    - » as feedstocks
    - » as energy source
  - » Circularization of fibre materials
  - » Minimization of environmental footprint:
    - » as CO_2 and other atmospheric emissions
    - » as water effluents
    - » as workplace hazards
    - » as soil pollution and landfill waste

As per United Nations 1987 Bruntland Commission “Report of the World Commission on Environment and Development: Our Common Future”, sustainability is defined as ***“meeting the needs of the present without compromising the ability of future generations to meet their own needs.”***

Fibres - renewable solution



Peculiarities of fibres in sustainability debate: recycling

Not all fibres are born equal, neither are all recycled materials. Open loop solutions are with us, with little fanfare, since decades

Nylon recycling operated, in open loop, for decades, not noticed by politicians, activists, often even customers

Main recycling of nylon materials has been, historically, happening from post-industrial fibre waste into engineering plastics:

- Fibre waste is a preferred recycle feedstock for many non-integrated EP compounders
- Under recent pressures towards more “green” solutions in fibres, textiles and apparel, more “like-for-like” recycling solutions appear, but with few exceptions, they are reliant on post-industrial feedstocks

Polyester recycling has similarly operated, in open loop mode, for decades

Main recycling of polyester bottles, was directed into fibre products, primarily staple fibres

- Consumer pressure for food packaging (primarily bottle industry) towards more circular solutions
- Regulation (SUPD) or attempt to stave off regulation (producer pledges) drives more rPET to “like-for-like” recycling
- Increased bottle collection rates across broader geographies could improve medium-term prospects for recycled fibres, but drive towards bottle-to-bottle is formidable

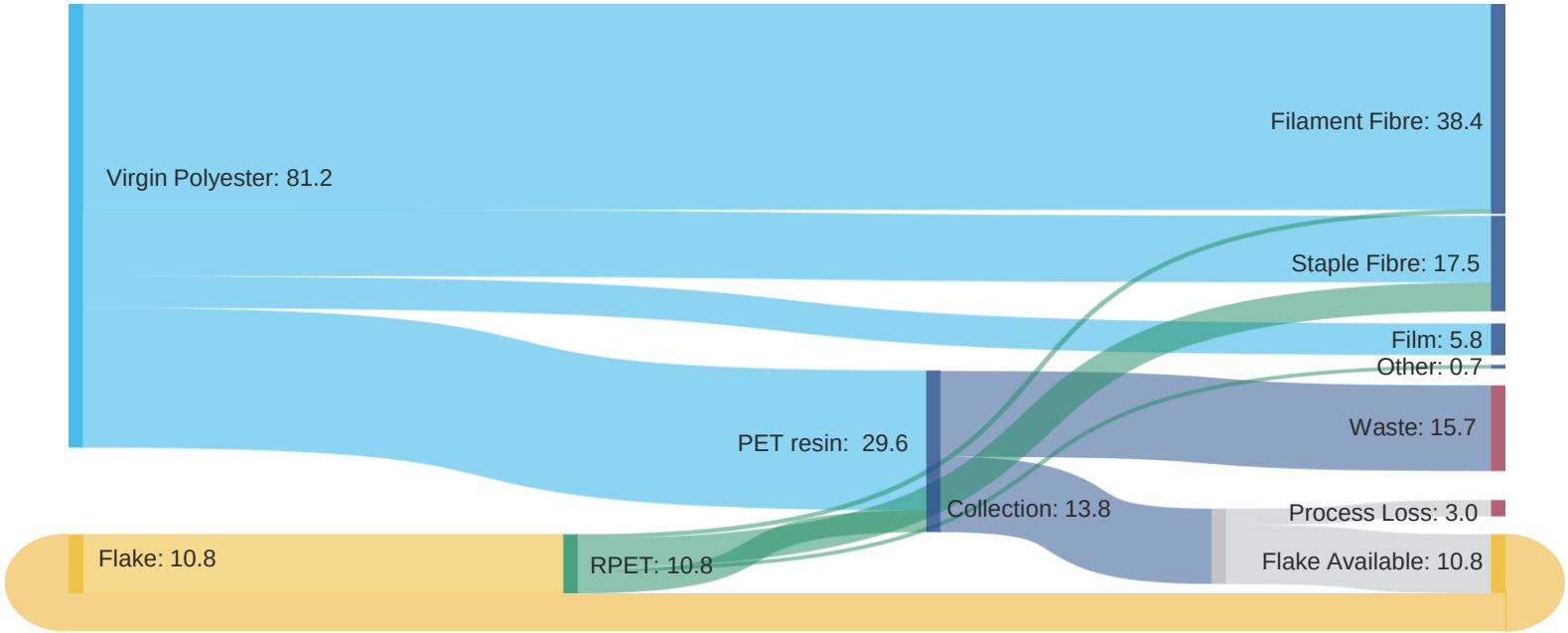
Globally RPET accounts for about 13% of the 81 Mt polyester value chain…

Majority of RPET flake goes into staple fibre followed by PET resin applications

Global 2022 RPET in context of virgin polyester value chain

Units: Mt

Note: PET resin includes both sheet and blow moulding



Source: Wood Mackenzie

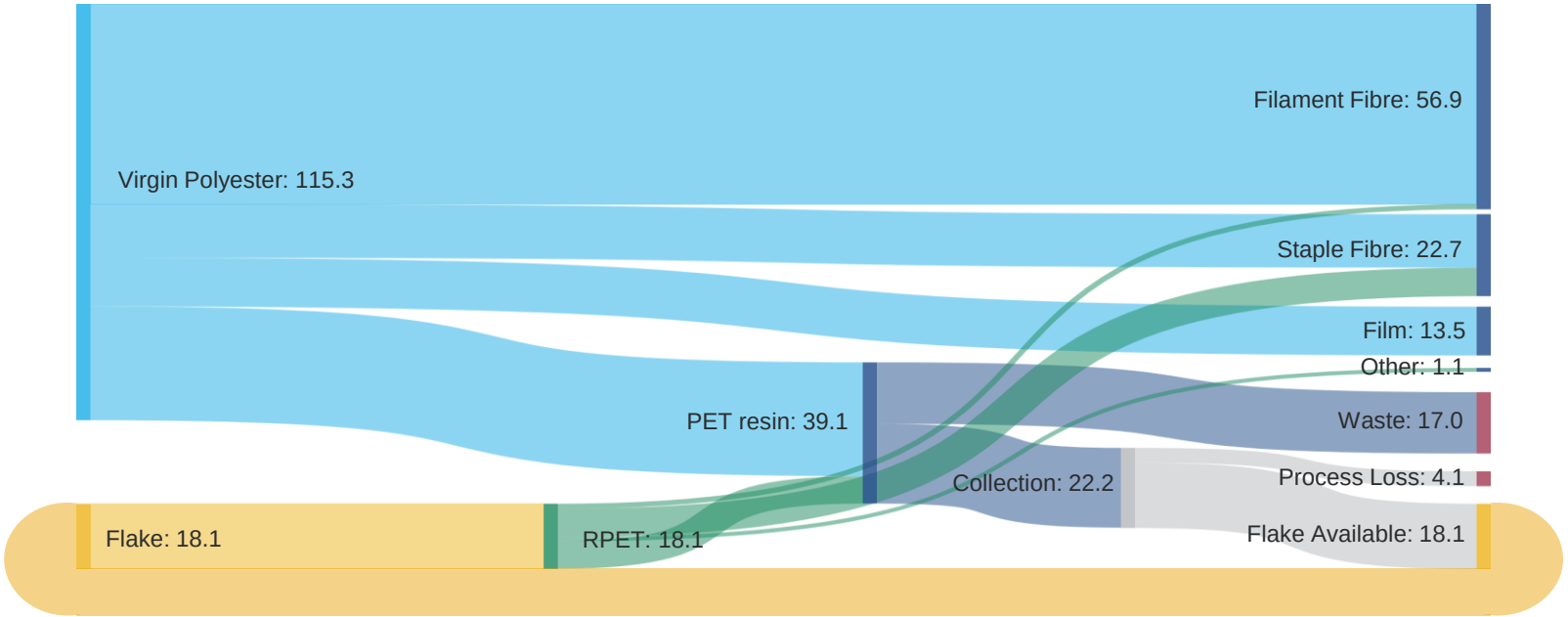
..and by 2032, while the RPET market will almost double in size, it will reach under 16% penetration of the polyester market

Collection will improve to support RPET resin application while penetration into fibre markets is relatively static

Global 2032 RPET in context of virgin polyester value chain

Units: Mt

Note: PET resin includes both sheet and blow moulding



Source: Wood Mackenzie

5. Questions that will not go away…

What else to think about…

Circularity
Like-to-like recycling
Bottle wars
CBAM

Maintaining competence

Inflation

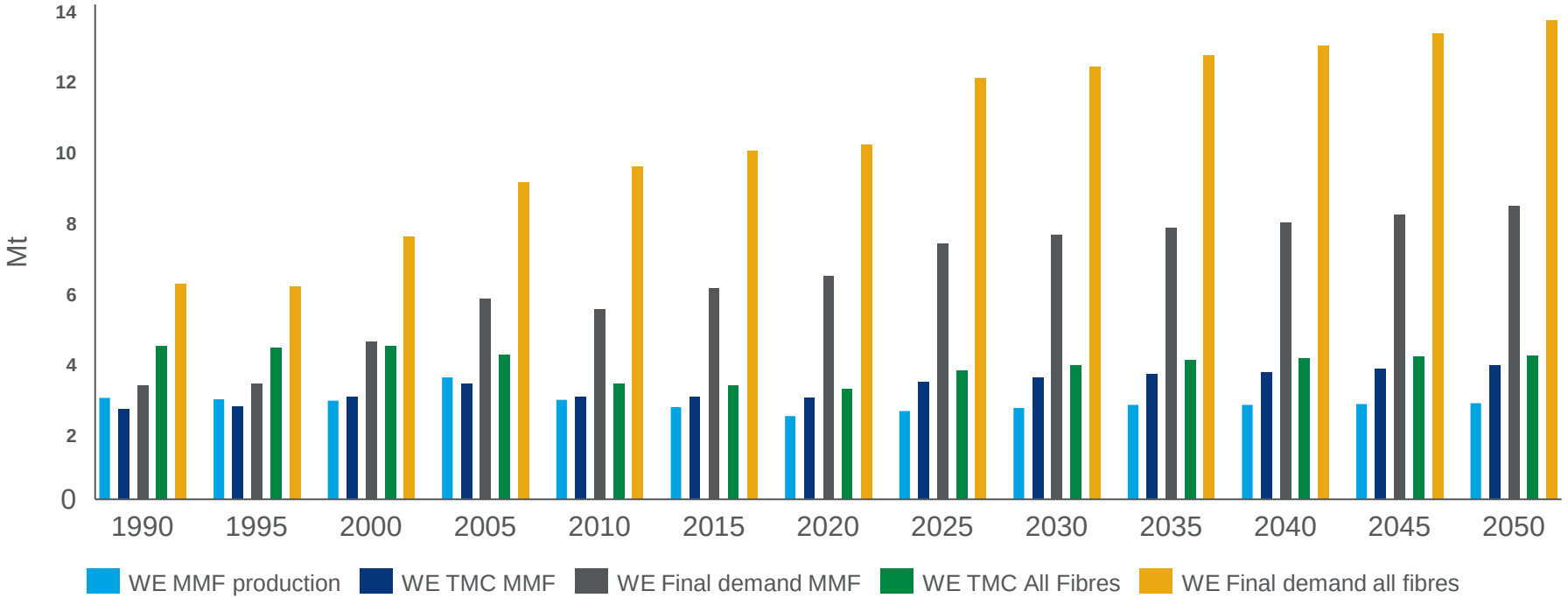
Energy prices

Extended producer responsibility

WE textile mill consumption (TMC) vs demand vs capacity to produce

West European MMF production falling, consumption growing, TMC growth lukewarm

West Europe MMF production, mill consumption, versus final demand for textiles and apparel



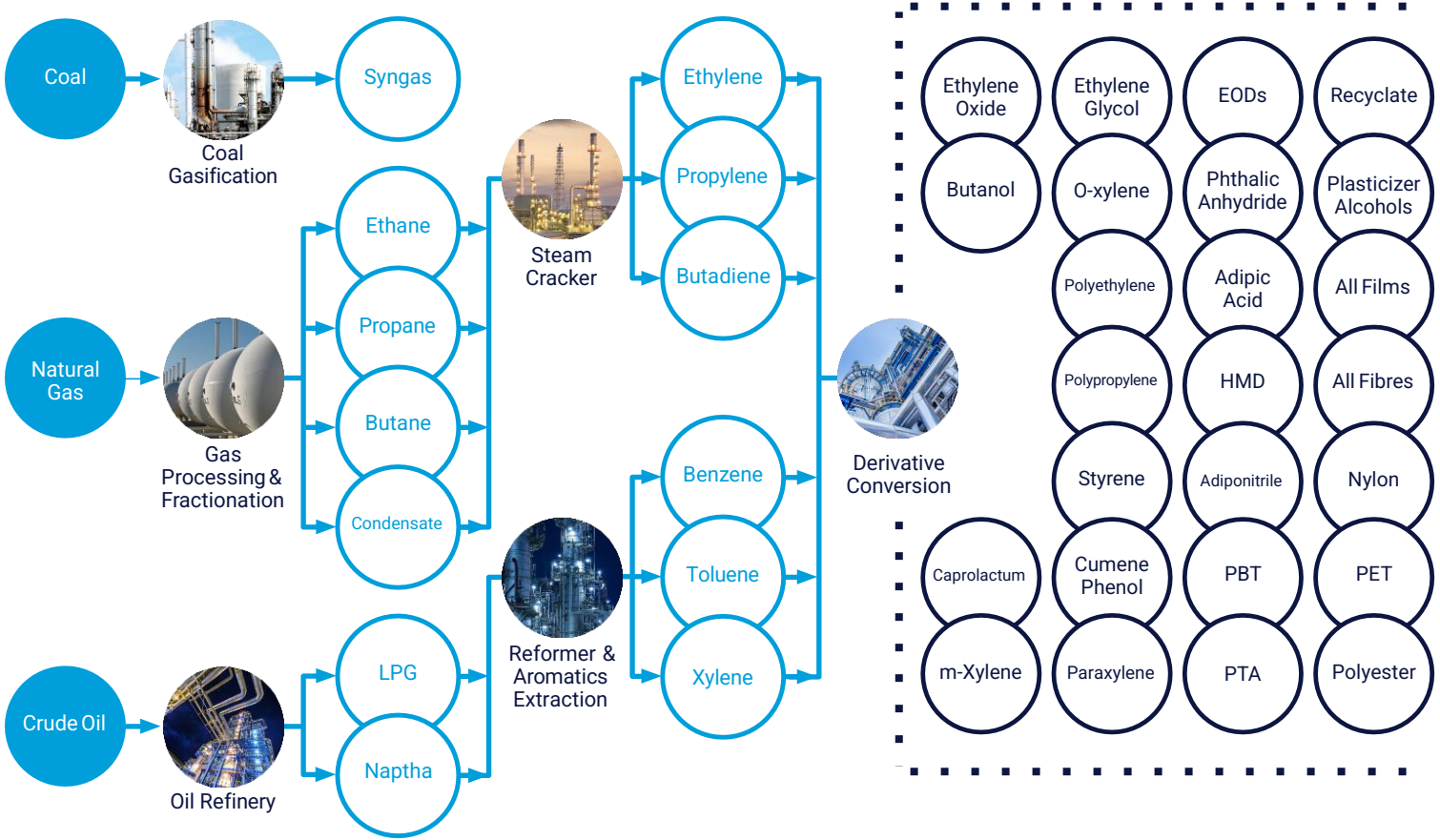
Source: Wood Mackenzie Chemicals Fibres Strategic Planning Outlook H1 2022

6. Wood Mackenzie Fibres Practice at your service

Build your competitive advantage on a perspective that **spans the value chain**

Use our independent, expert analysis across the entire value chain to make better commercial decisions.

Unsurpassed experience, methodologies and insights
across the entire energy to petrochemical value chain



Fibres at Wood Mackenzie Chemicals

Short term services

Fibres Report

- Monthly
- Price discovery and market analysis, with commentary on recent events

Technical Fibres Report

- Monthly
- Price discovery and market analysis
- Concentration on technical fibres – Tyres, automotive, rayon tyre cord and yarn

Long term services

Strategic Planning / Investment Outlooks

- Semi-annually
- Global capacity, production, and demand, textile mill consumption

Specialized services

Global Reports

- Spandex
- Nylon Tyrecord
- HMLS Tyrecord
- Airbag
- Single-client studies

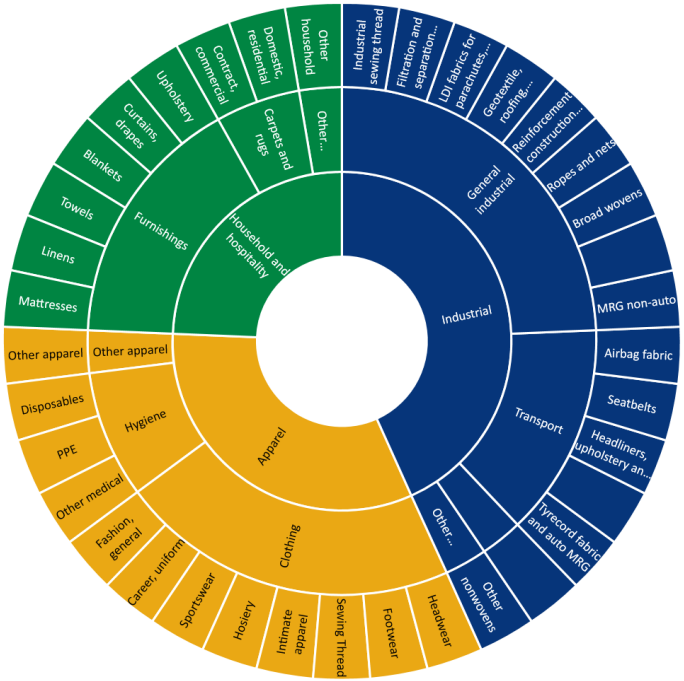
Textiles and apparel applications and materials

Clothing is acknowledged as a basic physiological need. Today, fibres extend to almost all agricultural, industrial and service sectors, to fashion and into the future of space exploration.

- **Textiles and apparel** are the latest demand sectors in our **Materials Applications Platform** (MAP).
- Wood Mackenzie's fibre capacity, production, mill consumption and final demand outlook underpins the textile and apparel MAP forecasts.
- The MAP platform enables the modeling of different sustainability scenarios on fibre and virgin polymer demand across countries and regions.

Fibre Types	
Natural fibres	Cotton
	Wool
Man-Made Fibres	Polyester
	Nylon
	Acrylic
	Cellulosic
	Polypropylene

MAP textile and apparel taxonomy



Source: Wood Mackenzie Chemicals

Q&A

Alexei Sinitsa

Fibres consultant | Wood Mackenzie Chemicals

Biography

Dr Alexei Sinitsa joined Wood Mackenzie in 2018, following more than 20 years experience in the chemicals industry. His industrial career began with Rhône-Poulenc/Rhodia, spanning technical, commercial, executive and consulting roles in the nylon chain, including intermediates, polymers, fibres and downstream applications.

Alexei now leads the European fibres contribution to the Wood Mackenzie monthly Global Fibres Report covering nylon, polyester and other synthetic fibre businesses. He has significant experience across a range of international markets, focusing on West, Central and Eastern European markets in particular.

He graduated in Organic Chemistry with honours from Kiev University, and did his doctoral research with the Institute of Organic Chemistry, National Academy of Sciences of Ukraine.

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