

Polyester Chain Dynamics and Outlook in South Asia

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- ✓ Core team of 9 experienced industry consultants each with a minimum of 20 years expertise covering all regional markets in the petrochemical and downstream businesses.
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- ✓ Access to a network of associated specialist consultants and technical consulting companies

Polyester & Downstream Markets

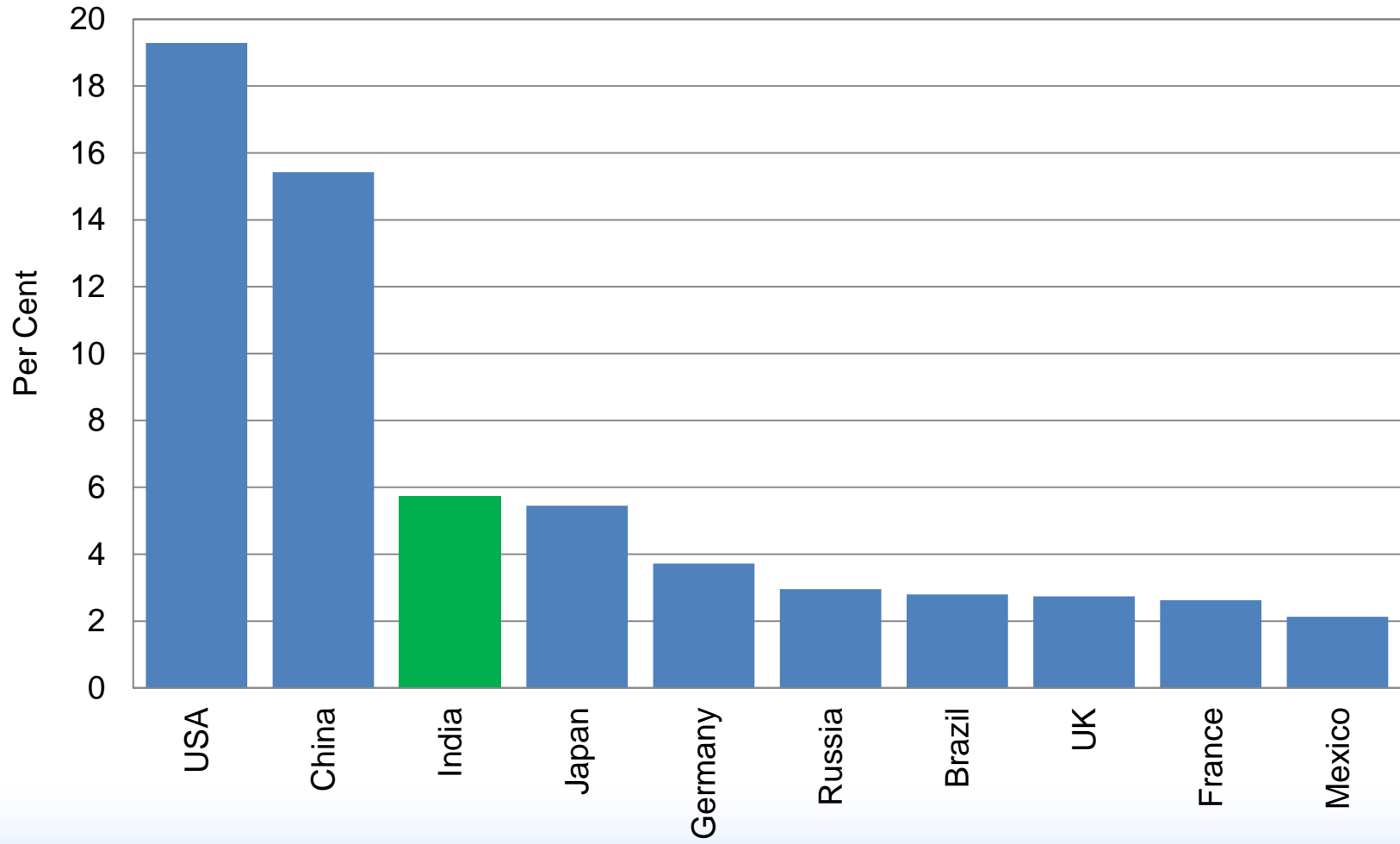
India is set to grow faster than most leading economies

Currently, India has the world's third largest national economy, when measured in PPP terms. Over the next decade, the Indian economy is forecast to grow more quickly than all of the other large economies.

- In 2024, the Indian economy will still be much smaller than those of the USA and China.
- However, it will be much larger than all other national economies.
- Over the next decade, the increment in India's GDP (in PPP terms) is forecast to exceed the increment in aggregated GDP of Japan, Germany, Brazil and Russia.

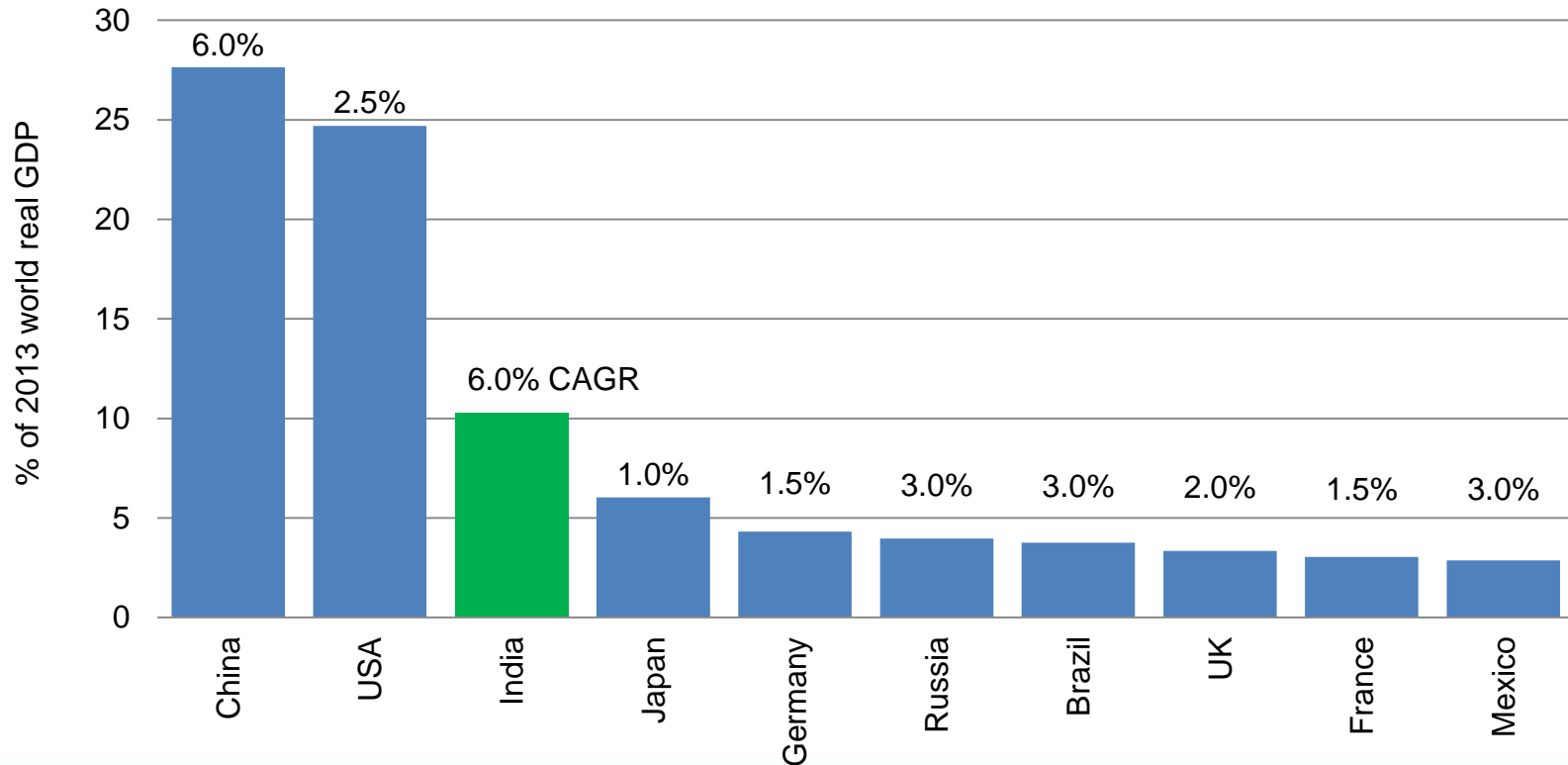
The 10 Largest National Economies

PPP share of world GDP - 2013



Projected Real GDP (PPP Terms) by 2024

The chart below applies growth rate projections to the 2013 world GDP shares of the ten largest national economies to demonstrate how the contribution of India to the global economy will increase in importance over coming years.



Sources: IMF WEO database, April 2014; author's computation; the percentage above each bar is the assumed CAGR for 2013-23 for each country



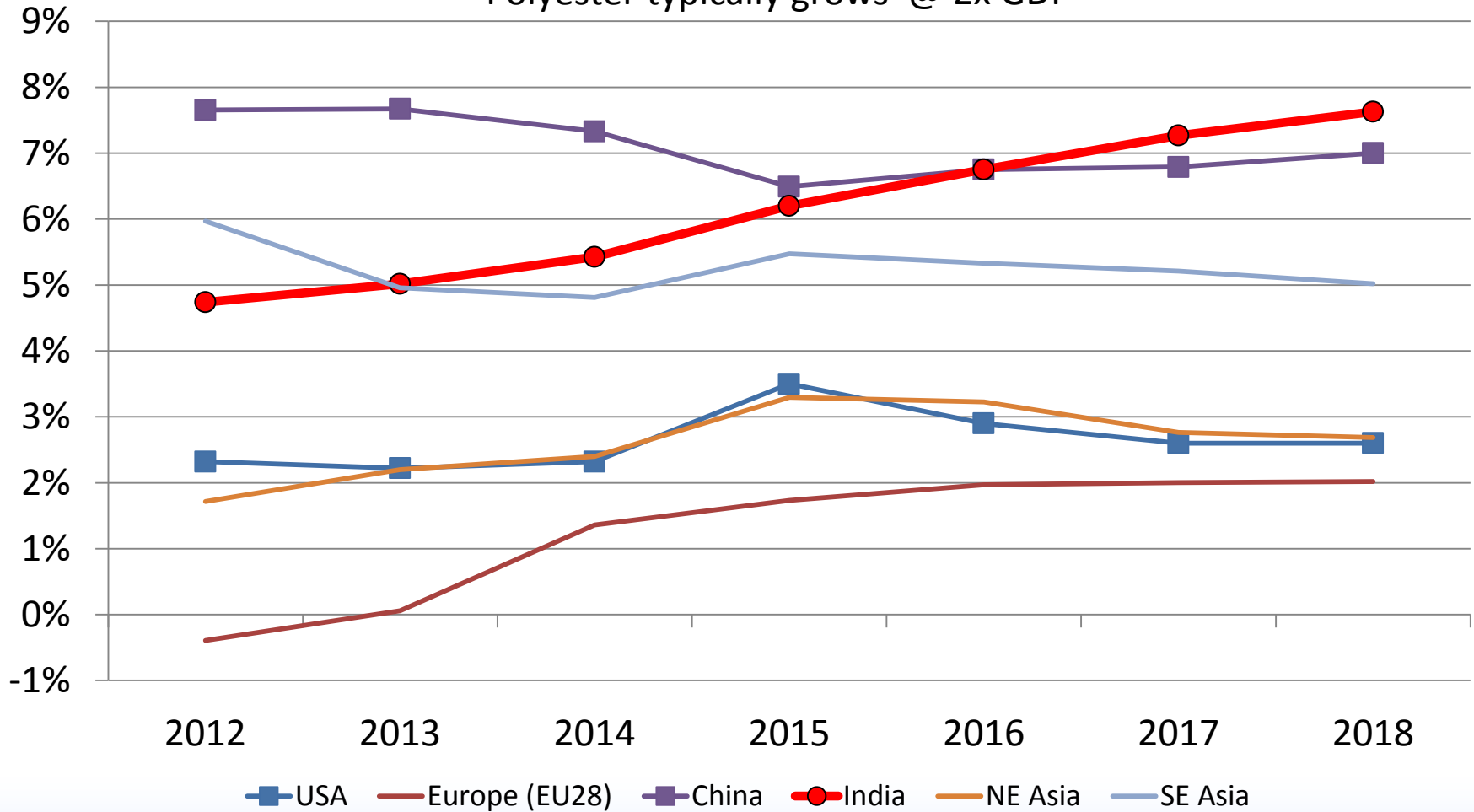
CHINA

INDIA

Selected GDP Forecasts Q1 2015

Consensus points to reasonable economic growth

Polyester typically grows @ 2x GDP

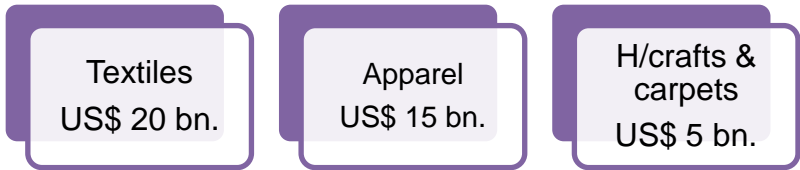
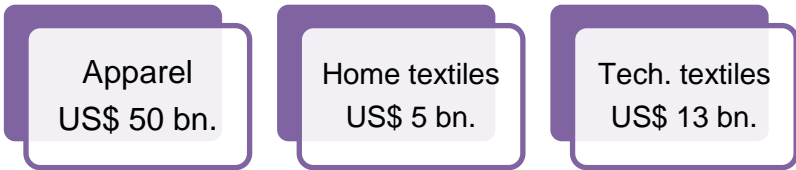


Indian textile & apparel market size is US\$ 108 billion in 2013 and growing at a healthy rate

**Total market size
US\$ 108 billion**

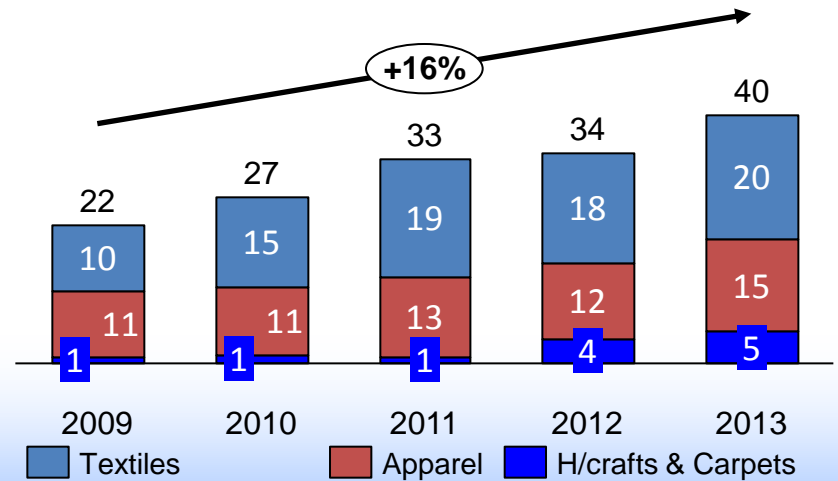
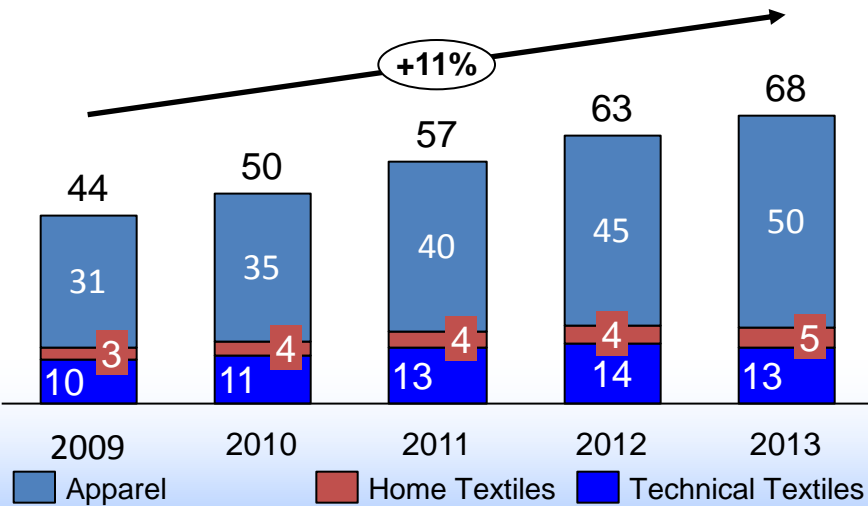
**Domestic consumption
US\$ 68 bn.**

**Exports
US\$ 40 bn.**



Historical growth pattern of domestic market

Historical growth pattern of Indian T&A exports



Source: DGCIS & Wazir Analysis

Note: Exports data for FY

India is the second biggest exporter of textile & apparel

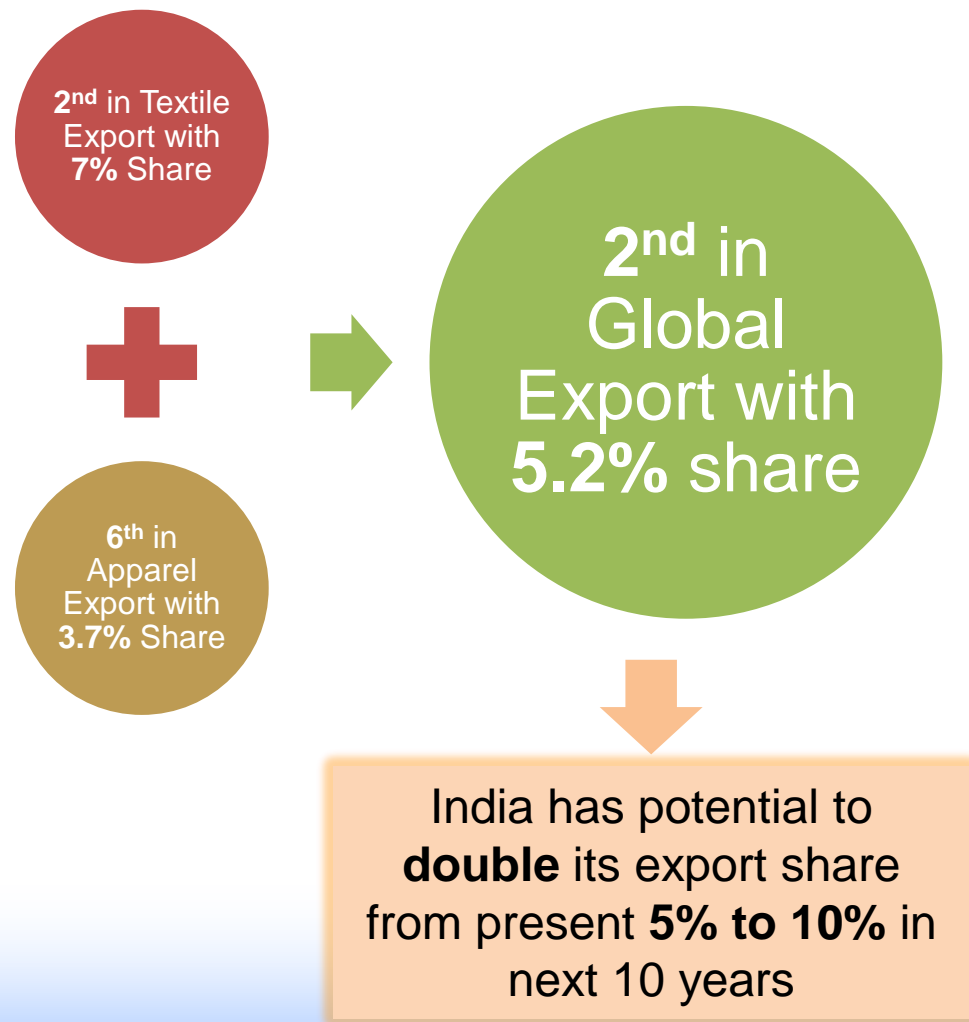
Largest Exporters of T&A

Values in US\$ Billion

Country	2013 Exports
China	274
India	40
Italy	36
Germany	35
Turkey	28
USA	27
Bangladesh	26
Vietnam	22
Belgium	16
France	16
Rep. of Korea	16
Spain	16
Pakistan	14
Indonesia	13

Data Source: UN Comtrade

India's Ranking in Global T&A Trade in 2013



Indian fibres growth is based on strong fundamentals

Growth Drivers for Domestic Apparel & Home Textiles Market

- Demographic dividend
- Increased purchasing power of consumers
- Rapid urbanization
- Increased penetration of organized retail
- Increase in residential and commercial space

Growth Drivers for Domestic Technical Textiles Market

- Growth of industry sectors e.g. automotive, healthcare, real estate, etc.
- Increasing awareness about hygiene and safety among common people
- Increased Government outlay for infrastructure along with private investments in the sector

Growth Drivers for Export Markets

- Government schemes for export promotion and attracting FDI
- Trade agreements with major markets – CEPA with Japan, FTA with EU (under discussion)
- Best alternative to China as supply base

Consumption of Polyester based end products will increase in the domestic market, with strong export potential

Growing categories that will drive demand of Polyester textiles in the domestic market

Women's western wear & Innerwear

- Increase in women's participation in workforce and changes in culture/fashion will push the demand of western office wear, casual wear etc

Active wear

- India's large young population base with increasing awareness towards fitness will increase the consumption of active-wear / sportswear

Work wear / Uniform

- Increasing no. of school-going children & consciousness of corporates towards their image are likely to create more usage of school & corporate uniform

Hygiene Products

- Awareness of Indian women towards health and hygiene will cause increased women's hygiene product usage

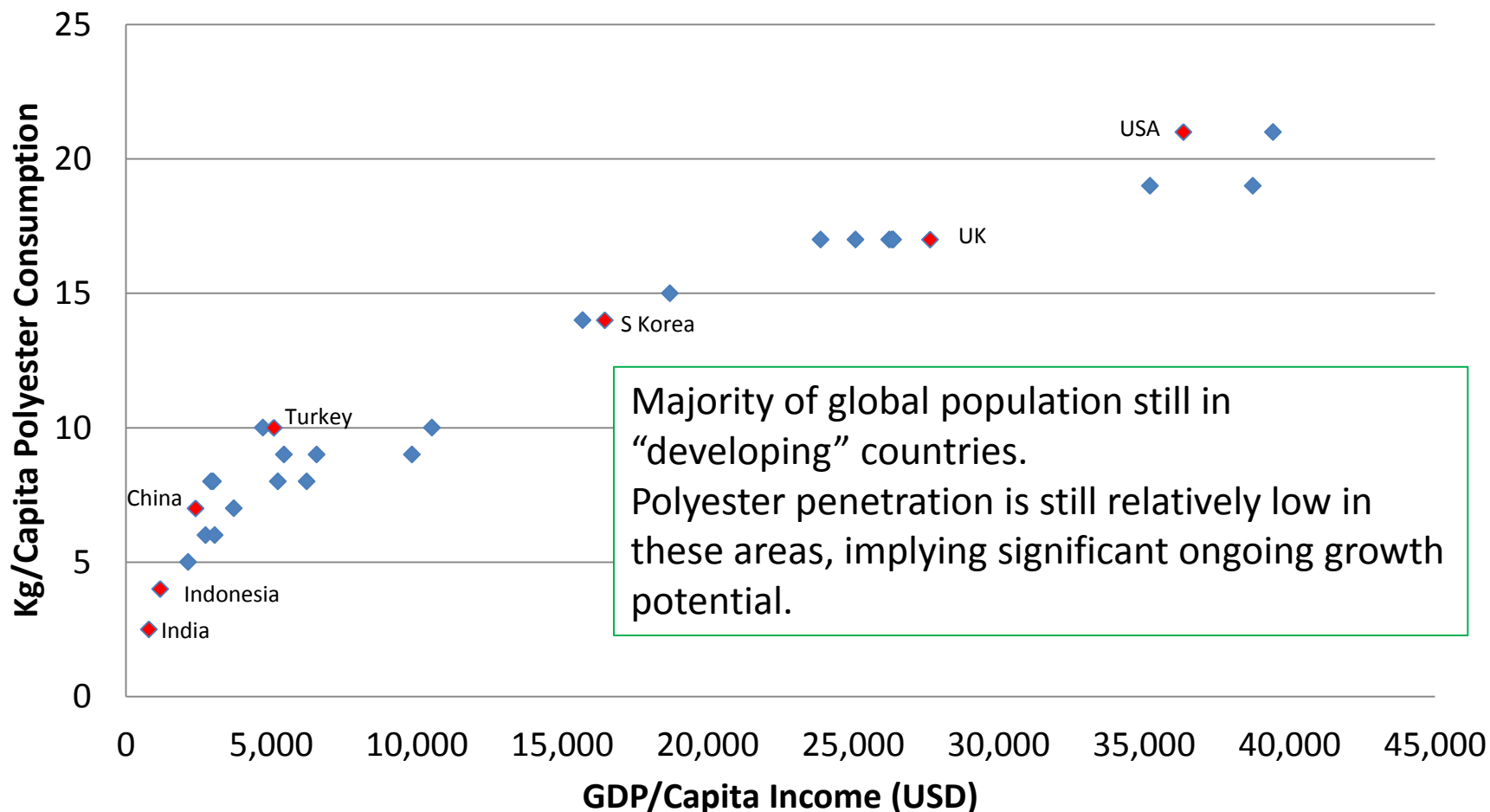
Mobiltech products

- India's emergence as global automobile manufacturing hub will surge the demand of technical textile products e.g. seat belts, airbags, seat covers and headliners

Protective wear

- Stricter compliance norms and increasing workers' awareness towards health and safety will create large demand for protective wear products

Polyester Consumption vs GDP/Capita (Selected Countries)

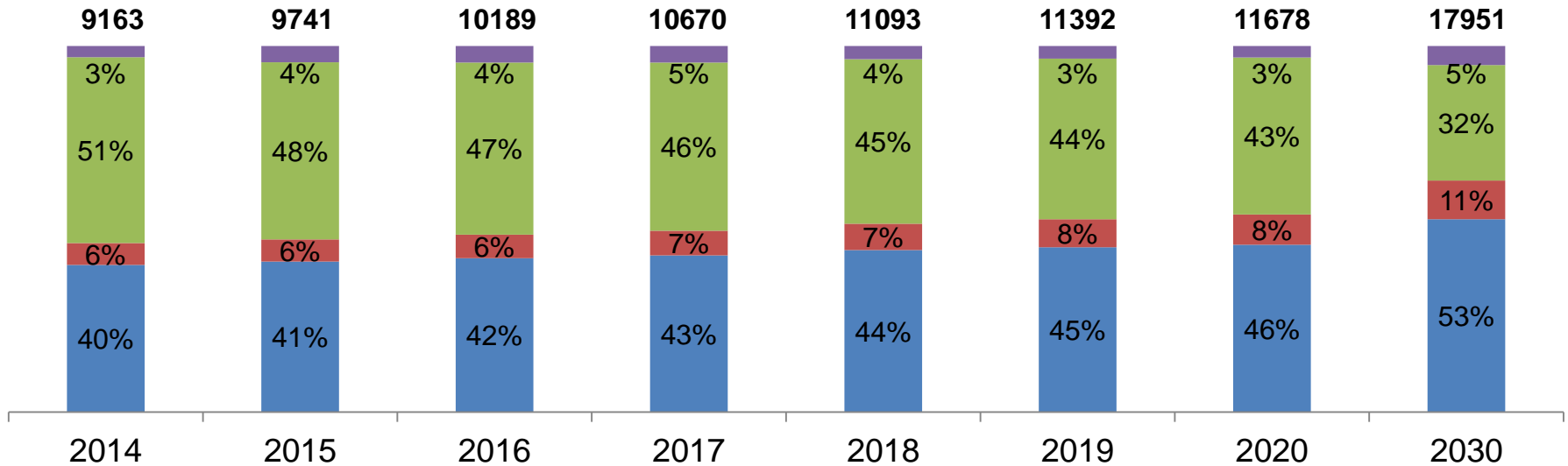


Key Synopsis: Indian textile industry may consume more polyester than cotton within the next five years

Total Fibre Consumption At Mill Level

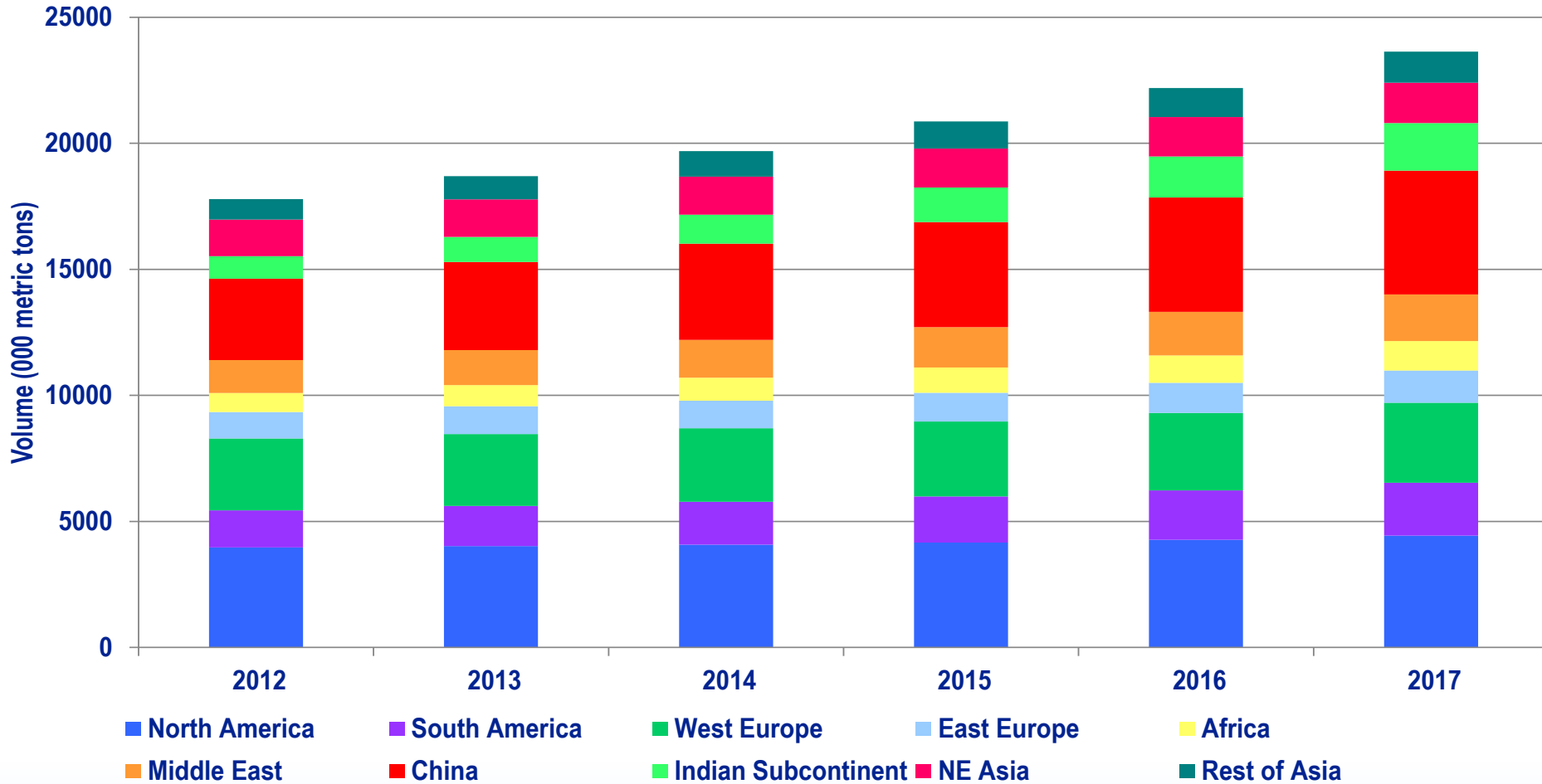
Values in '000 Tonnes

■ Polyester ■ Other MMF ■ Cotton ■ Other Natural Fibres



- Share of manmade fibre in total mill consumption is expected to reach ~65% by 2030. However, the share of cotton is expected to decrease from current level of ~55% to 32% by 2030.
- A drastic change is expected in the mill consumption of polyester fibre, share of which is projected to grow to 53% (9,455,000 tonnes) by 2030.

PET Packaging Resin Growth



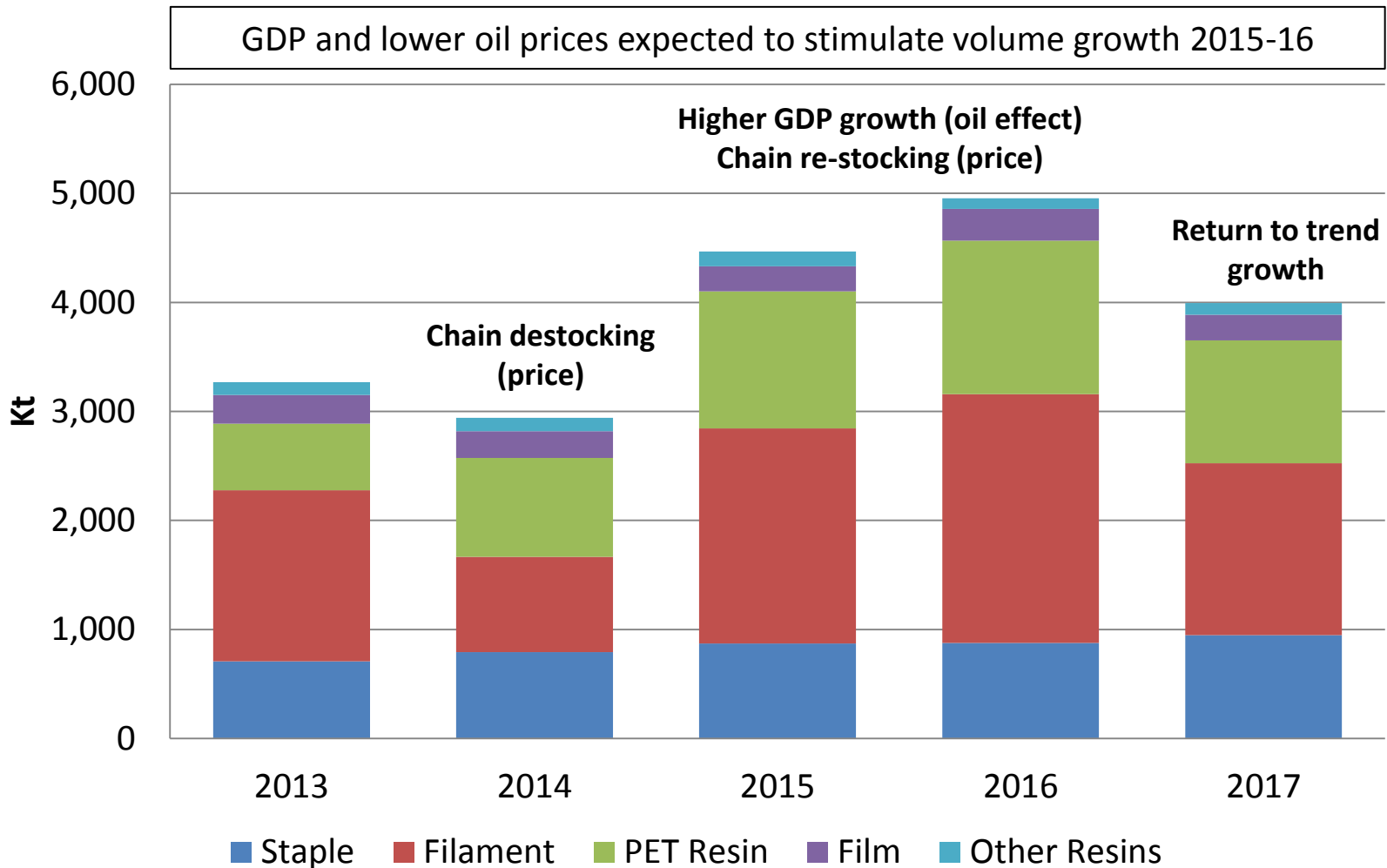
Key Drivers for Polyester 2015-2018

- Lower oil and energy prices could add 0.8%-1% to global GDP growth. Approx \$2tn per year diverted from energy to other expenditure.
- Consumer disposable income will increase as a direct result of lower energy pricing (unlike QE1/2/3)
- Higher population and GDP drives fibre growth. Demand is relatively inelastic for polyester, which sees little inter-product competitive threat
- PET growth is driven by rising living standards, urbanisation and retail sector growth, especially in Asia/Middle East/Africa, innovative package and performance development for food and non-food applications.
- Innovation in niche markets for fibre and packaging driving value-added growth.

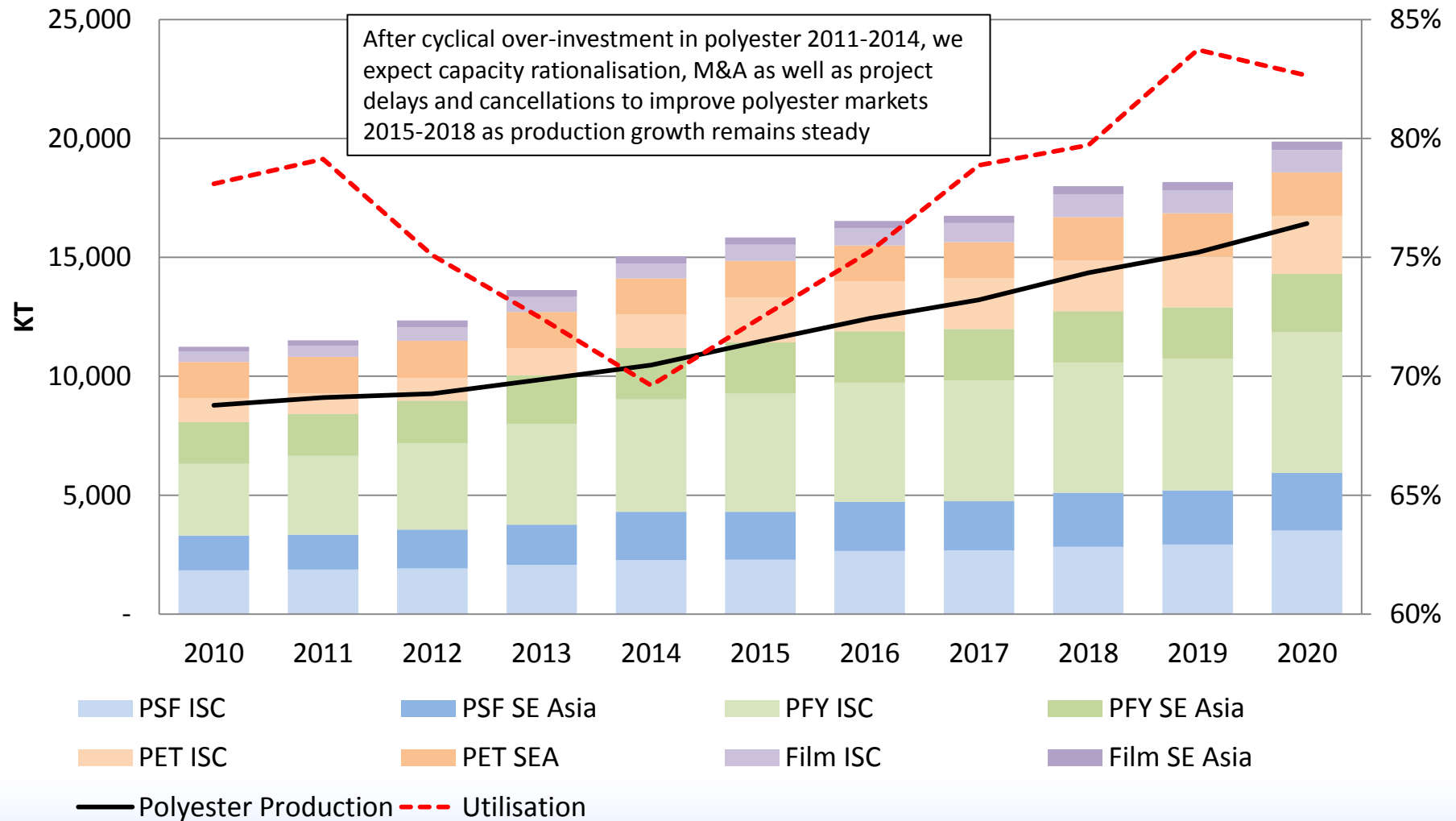
World Polyester Forecast

	2013	2014	2015	2016	2017
Staple	15,600	16,392	17,264	18,141	19,089
Filament	28,167	29,042	31,014	33,296	34,873
Total Fibre	43,767	45,433	48,278	51,437	53,962
PET Resin	18,428	19,335	20,593	22,001	23,128
Film	3,214	3,458	3,688	3,979	4,215
Other Resins	1,876	2,000	2,136	2,232	2,339
Net Polymer Production (excl recycle)	63,186	65,630	69,778	74,311	78,213
Polymer Capacity	79,439	86,909	91,435	96,099	99,456
Polymer Utilisation Rate	80%	76%	76%	77%	79%
Polymer Production Growth	5.2%	3.9%	6.3%	6.5%	5.3%
PSF	4.8%	5.1%	5.3%	5.1%	5.2%
PFY	5.9%	3.1%	6.8%	7.4%	4.7%
PET	3.4%	4.9%	6.5%	6.8%	5.1%

World Polyester Production Growth by Product



South Asia Polyester Capacity Growth by Sector

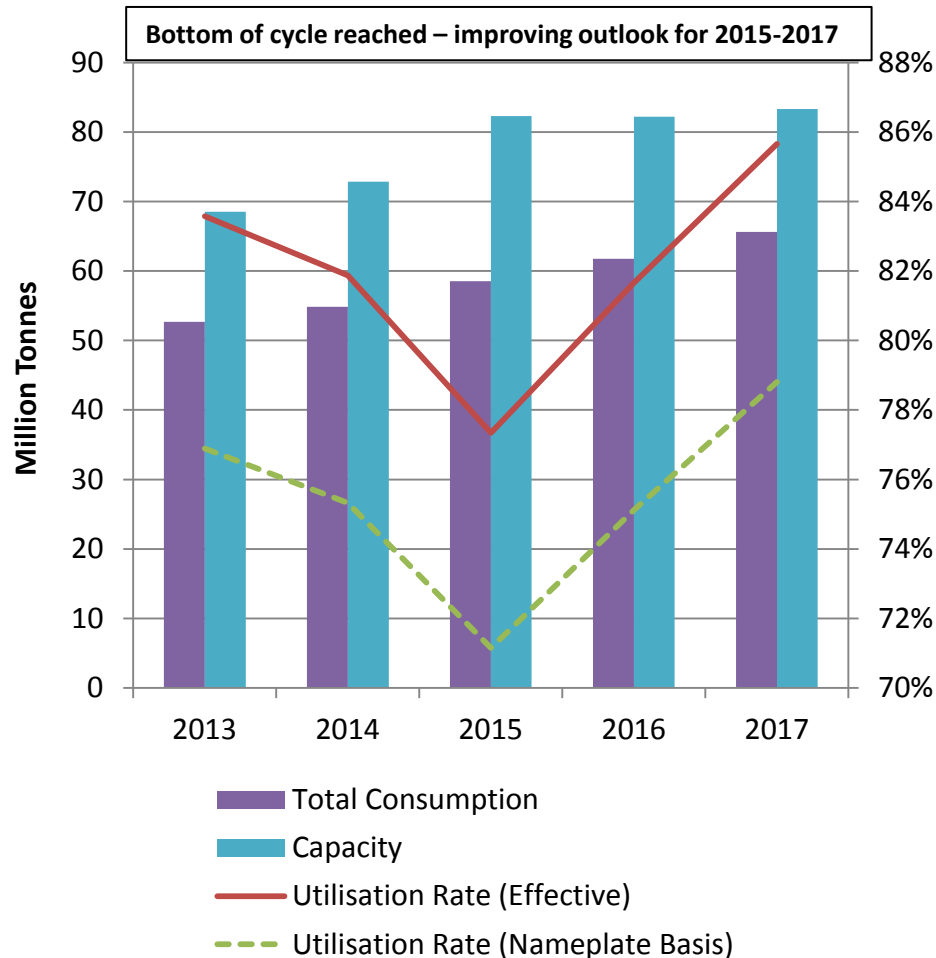


Outlook for Polyester 2015-2017

- Margin cycle may have bottomed out for polyester, with increasingly competitive PX/PTA prices giving positive margin outlook.
- Oil price fall has forced chain destocking in 2014. Forecast is for inventory recovery in 2015 and higher growth (+1% over forecast) by 2016 as oil stabilises at lower levels.
- Scale investment has driven the business cycle, but now anticipating some rationalisation and M&A activity. Utilisation recovering in 2016-17 on strong volume growth and delayed/cancelled projects in Asia.
- Many polyester assets sit idle in China, Korea, and Taiwan and are likely to be scrapped as M&A options are limited. Actual industry utilisation is higher than nameplate rates would indicate.

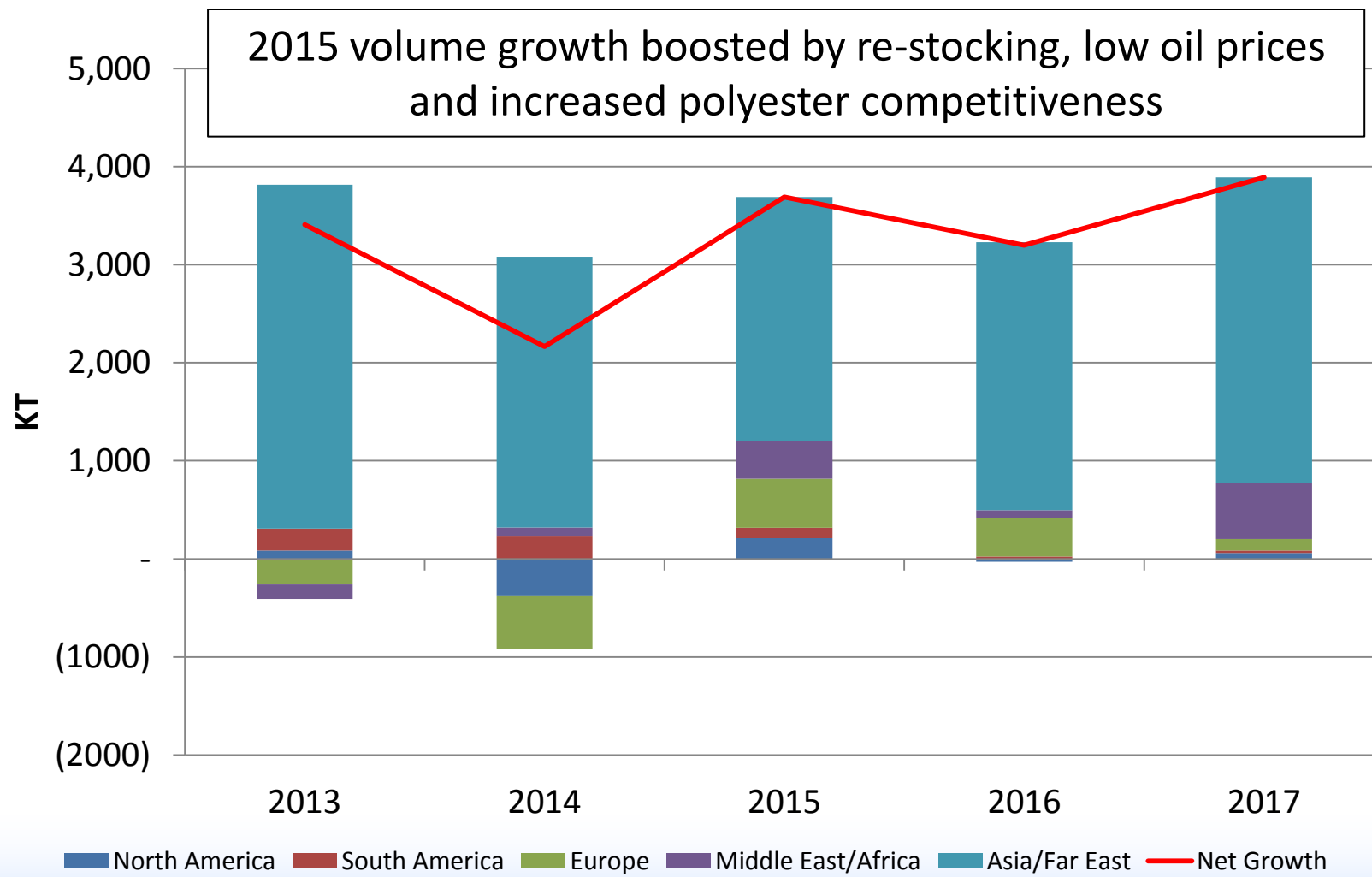
Paraxylene & PTA Markets

World PTA Supply Demand



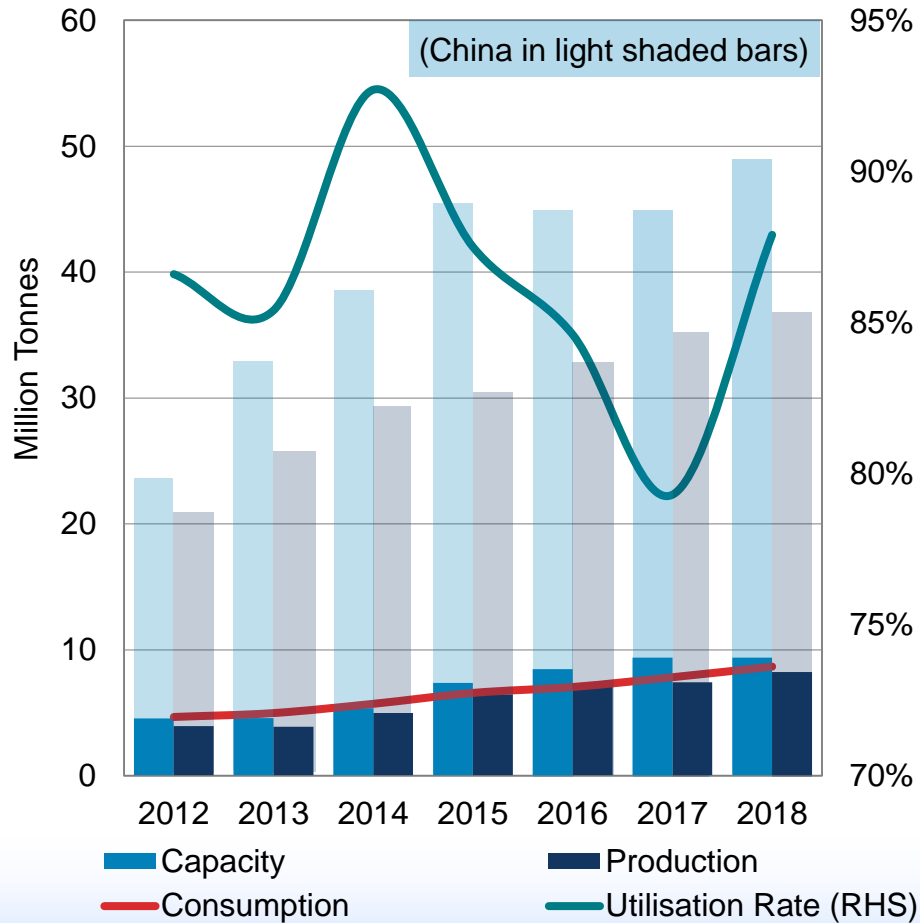
- Demand growth remains solid at 6% .
- Market pricing dynamics begin to see positive recovery.
- Net capacity additions forecast to stabilise post-2015.
- Plant closures are being seen, rationalisation set to pick up pace in 2015.
- Production discipline starts to emerge in China with positive impact on margins
- Effective utilisation rates support margin recovery in next 2-3 years

World PTA Production Growth by Region

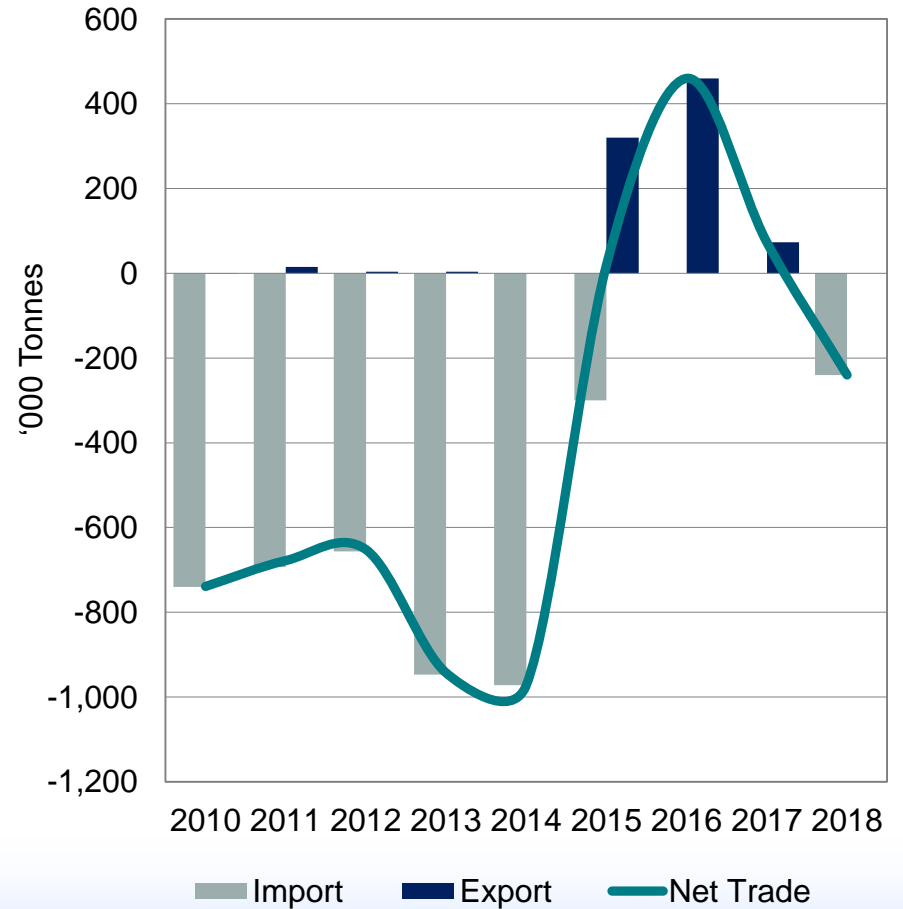


India small compared to China and becomes a PTA exporter 2015-2017

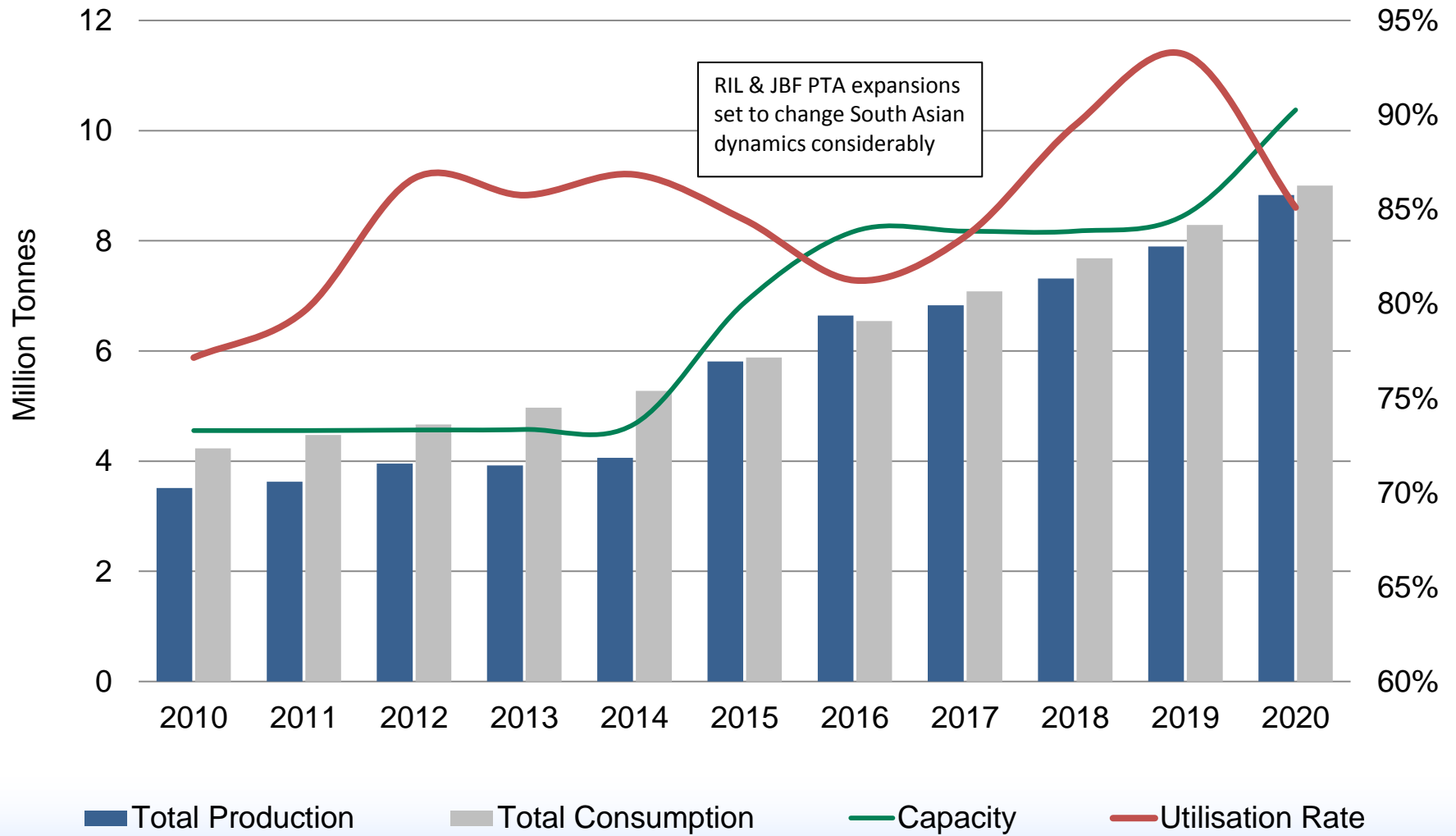
China dominates PTA pricing and polyester economics



New capacity additions (RIL and JBF) turn India in to PTA exporter 2015-2017



Indian Subcontinent PTA Supply Demand



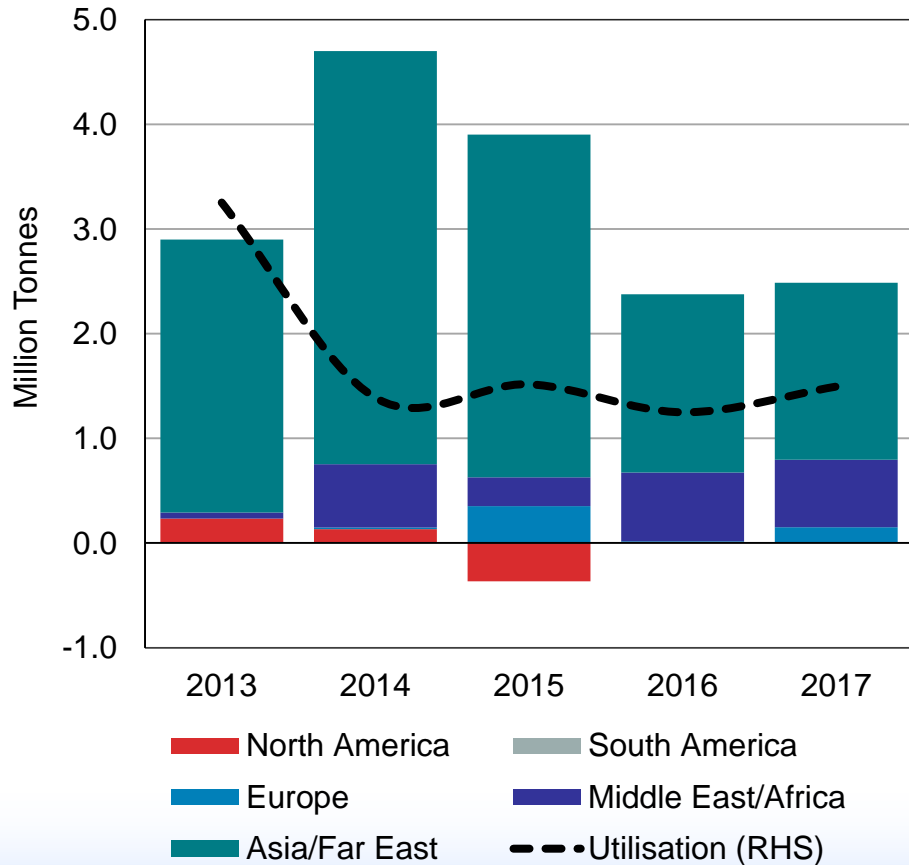
Outlook for PTA

- South Asia margins have potential to improve as China's "discipline" to hold lower production levels establishes a new modus operandi.
- Cash generation now paramount in China as recognised by central bank decision to cut interest rates. This policy move should reinforce local production discipline, supporting margin recovery.
- Rate of investment is slowing in Asia, but capacity will continue to be added into 2015, diluting the industry's effort to restructure.
- Any project not yet under construction now likely to be delayed or is considered very doubtful.
- Investment in India will redefine Asian PTA trade and will inevitably have a major impact on N Asia and Middle East balances
- Lower energy prices will provide cost benefit to many PTA producers via lower production costs

World Paraxylene Capacity Growth 2012-2017

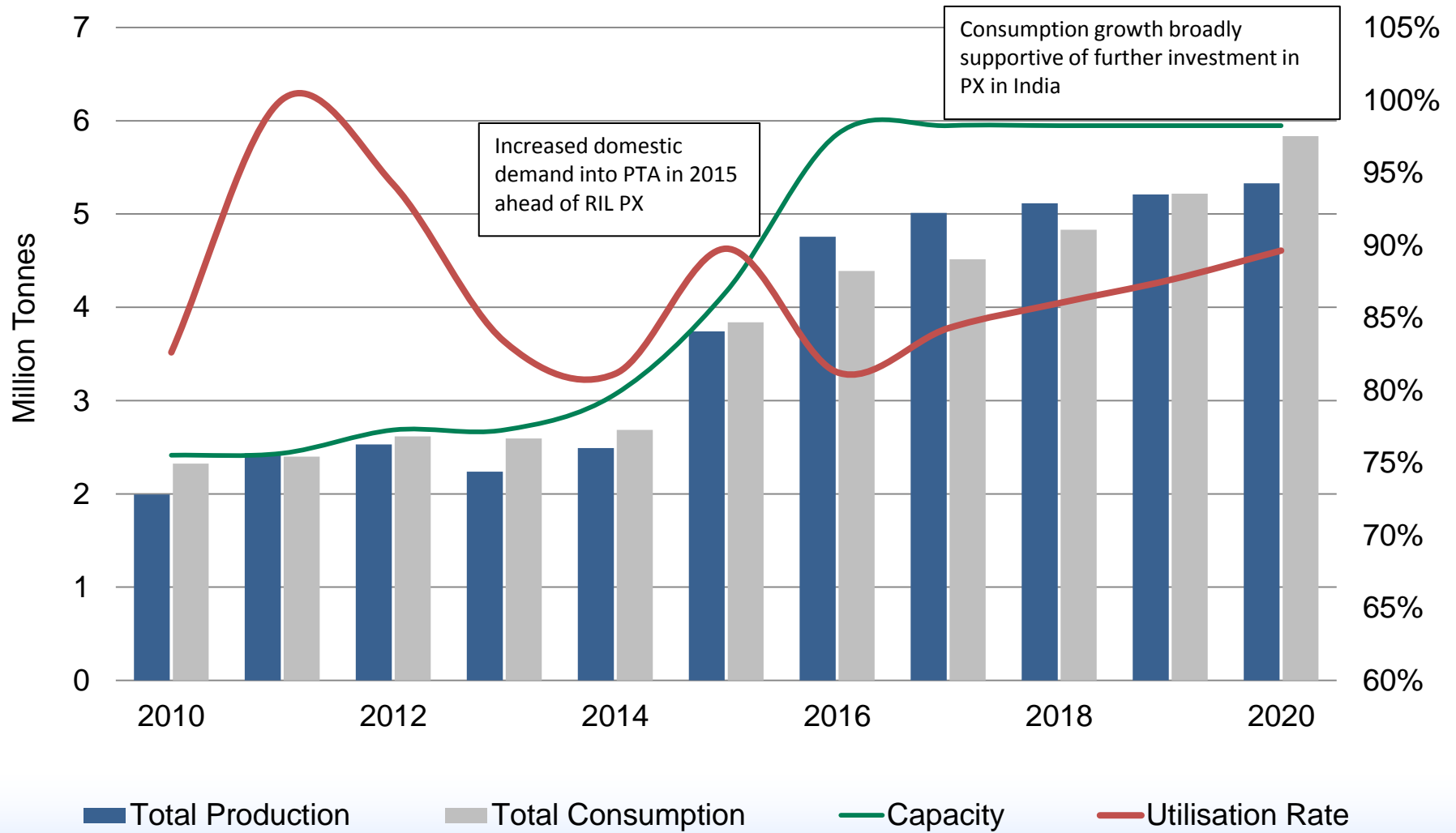
Growth per annum

MT	2.9	4.7	3.5	2.4	2.5
%	7.5	11.3	7.7	4.8	4.8

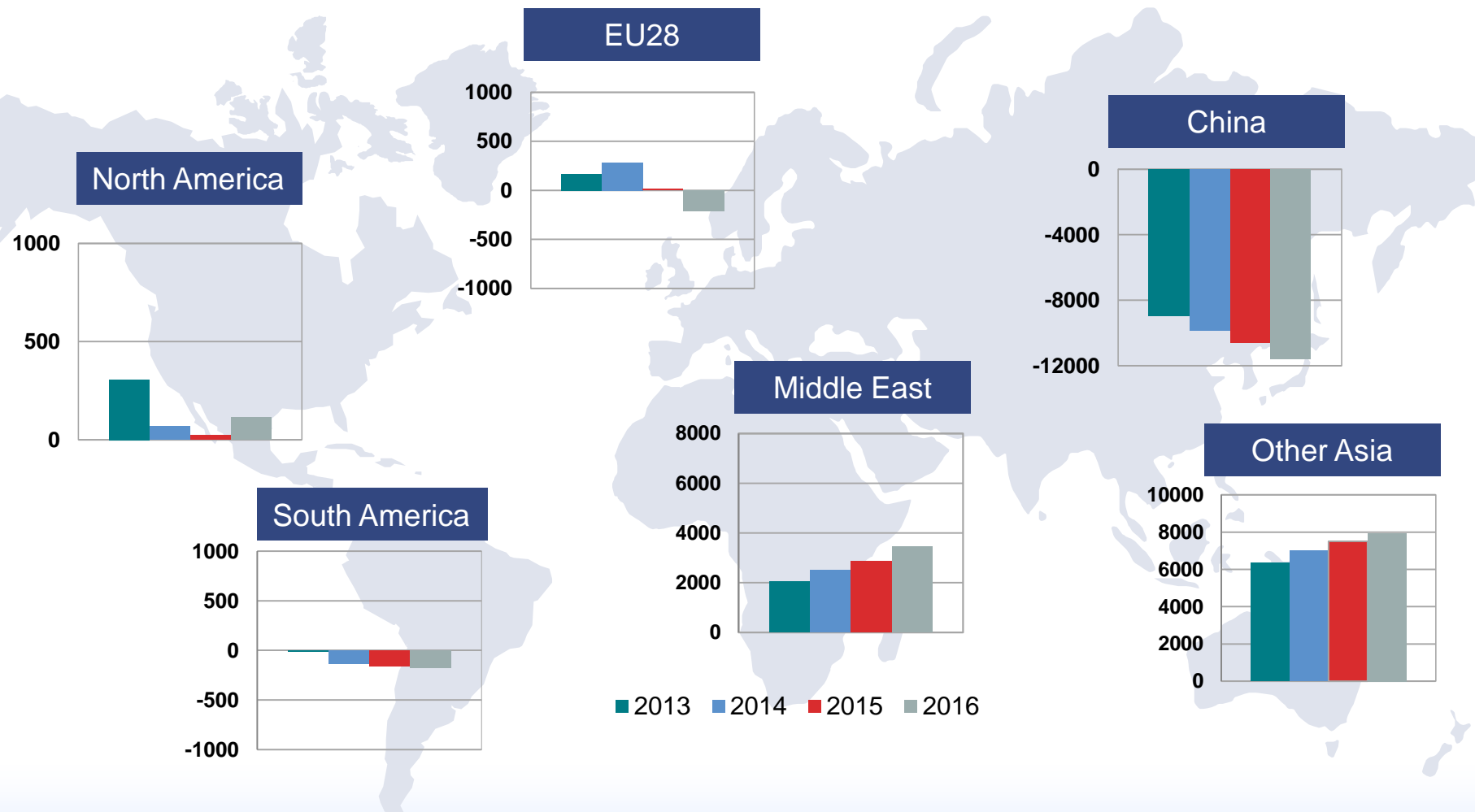


- 11 new PX units started 2013-2014, increasing competitive supply
- Utilisation rates drop from the high 80's to the low 80's.
- Asset closures (or idling) in Korea, Japan and Taiwan has been underway for 12 months already. Anticipate similar asset outages in Europe and North America.
- PX buyers now in stronger position than in prior years as excess supply increases competition
- RIL set to expand in India by end 2015
- Further projects in India being evaluated

Indian Subcontinent Paraxylene Supply Demand



Regional PX Net Trade 2013-2016 (Thousand Tonnes)



W Hemisphere balanced. China is the major importer. Middle East, N Asia and S Asia all net exporters

Paraxylene Summary

- China remains the focus of consumption growth in the medium term and is struggling to meet domestic demand, with growing deficit of 10 million tes +
- Feedstock for new PX growth is not widely available to all potential investors
- India has an advantage via good access to feedstock heavy naphtha
- Increasing scale and complexity of build and higher capex per tonne for grassroots projects
- Supply addition in 2014 has reversed the business cycle
- PX markets increasingly competitive and highly integrated
- Middle East PX increasingly important dynamic for South Asian markets
- PX-naphtha spreads set to decline to cyclical low 2015-2017
- Planned capacity under construction likely to keep PX market highly competitive and well-supplied until 2018/2019