Market Update
Global Kaolin Applications
2014 Annual U.S. Clay Producers Traffic Association Spring Meeting

March 18, 2014

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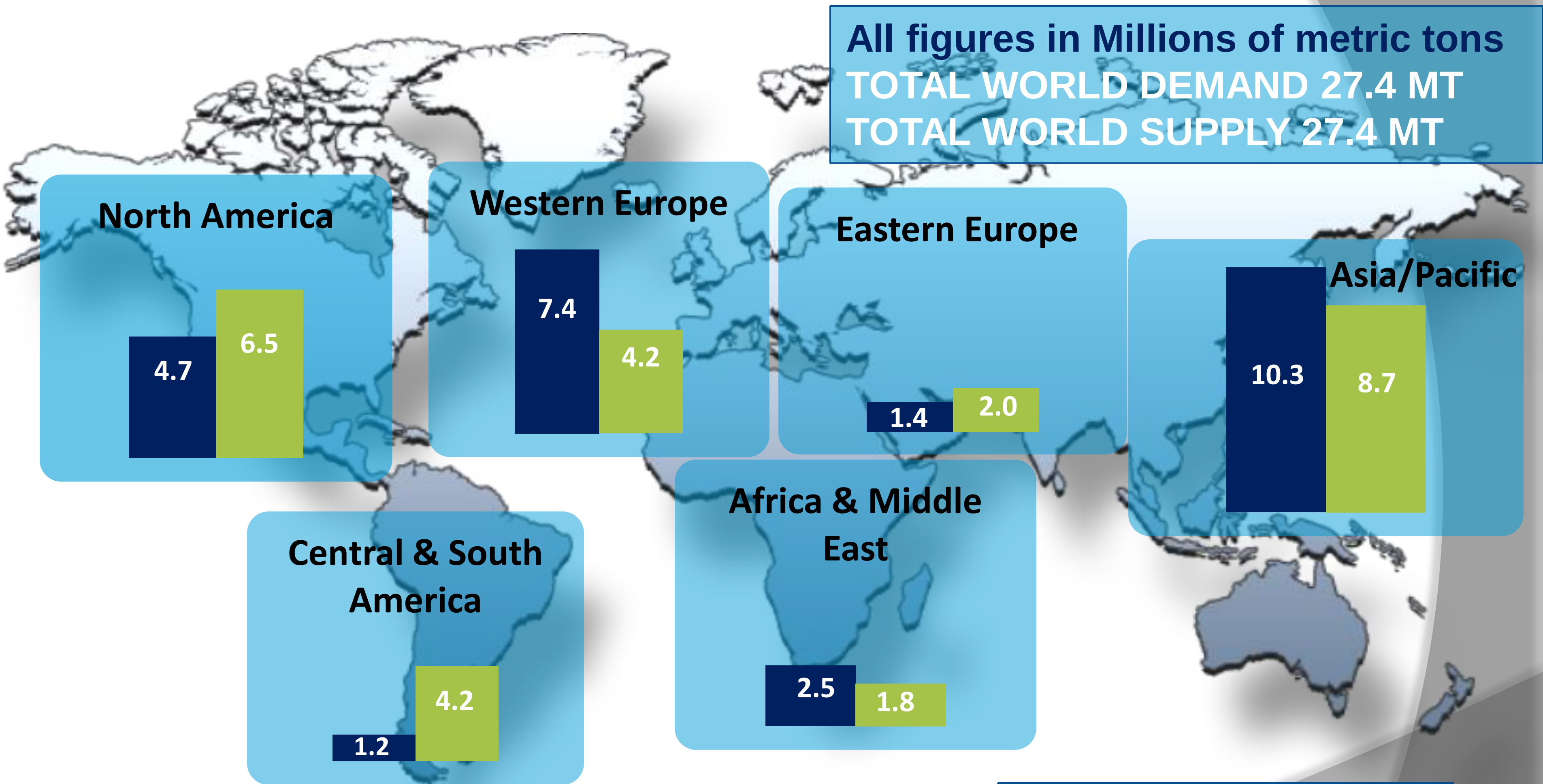
2014 World Kaolin Demand



** Interpolated values from 2012 Freedonia World Kaolin study

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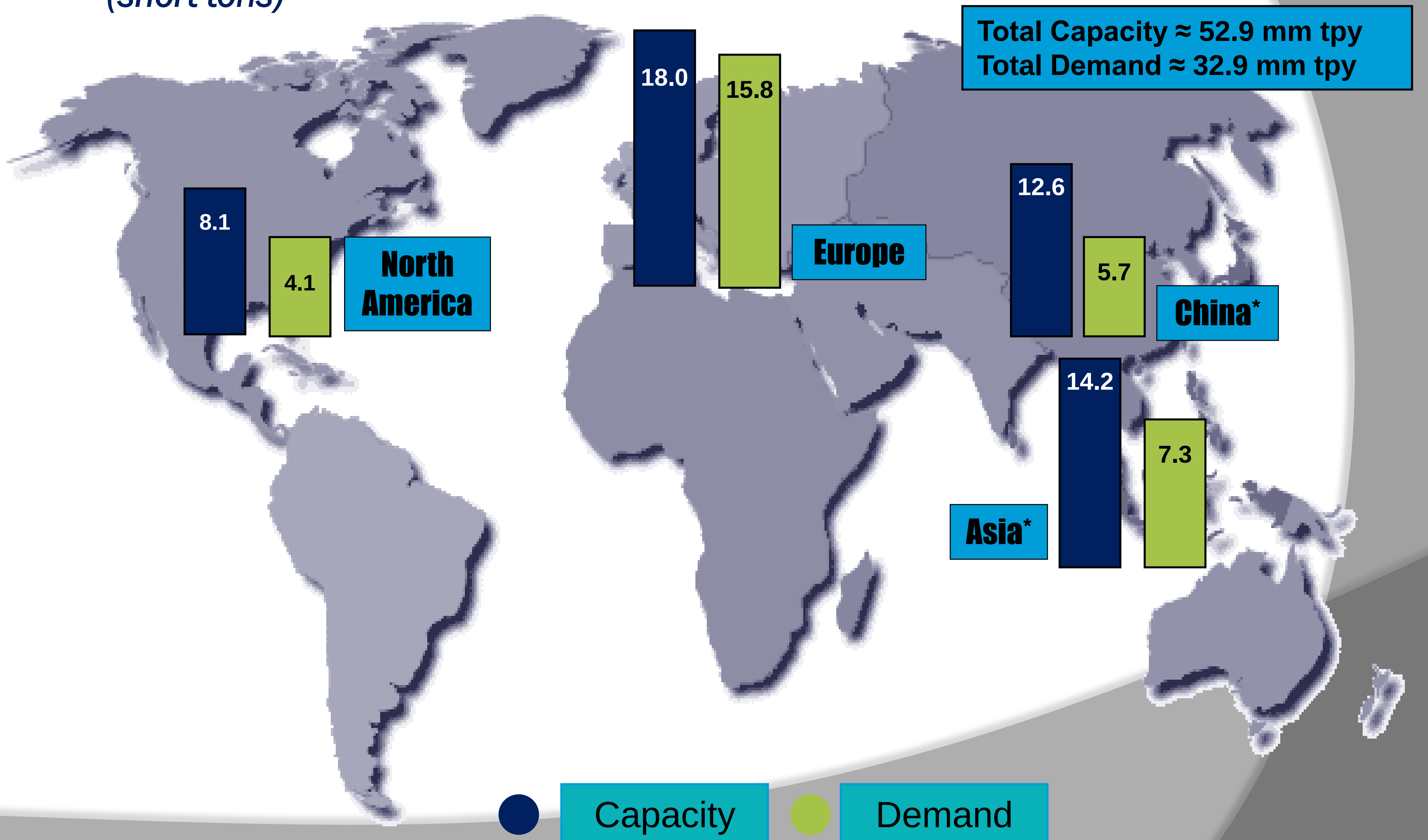
Coated Paper
Capacity vs. Demand 2012
(short tons)



*Coated woodfree only

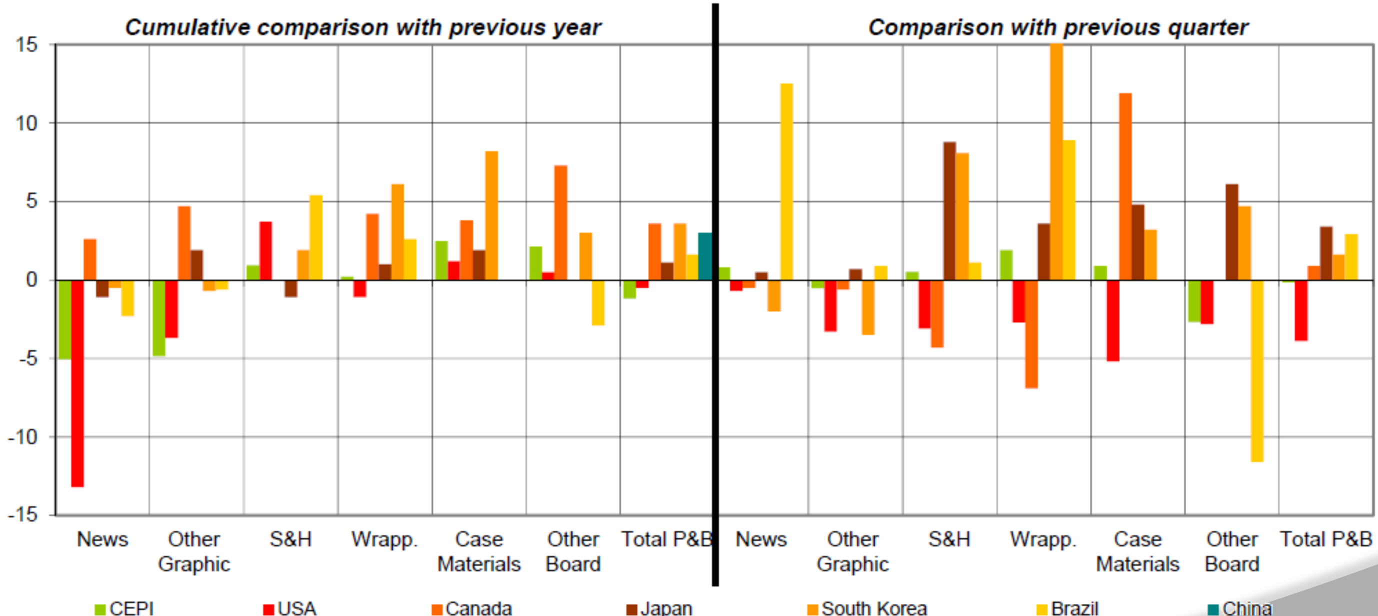
PAPER & BOARD - % Change in Production by Grade and by Country

12 months 2013 / 12 months 2012

	CEPI	USA[1] (AF&PA)	Canada (PPPC)	Japan (JPA)	South Korea* (KPMA)	Brazil (BRACELPA)	China[3] (NBSC)
Newsprint [2]	-5.1	-13.2	2.6	-1.1	-0.5	-2.3	n.a.
Uncoated Mechanical	-5.6	-6.5	n.a.	-2.9	-2.0	n.a.	n.a.
Uncoated Woodfree	-1.6	-1.9	n.a.	-0.5	5.3	n.a.	n.a.
Coated Papers	-6.4	-5.4	n.a.	4.0	-1.9	n.a.	n.a.
Subtotal of Graphic Grades	-4.8	-3.7	4.7	1.9	-0.7	-0.6	n.a.
Sanitary and Household	0.9	3.7	0.0	-1.1	1.9	5.4	n.a.
Wrappings	0.2	-1.1	4.2	1.0	6.1	2.6	n.a.
Case Materials	2.5	1.2	3.8	1.9	8.2	n.a.	n.a.
Other Board	2.1	0.5	7.3	0.0	3.0	-2.9	n.a.
Total Paper & Board	**-1.2**	**-0.5**	**3.6**	**1.1**	**3.6**	**1.6**	**3.0**

** Figures estimated by CEPI based on 11 months*

PAPER & BOARD - Comparison of % Changes by Grade and by Country



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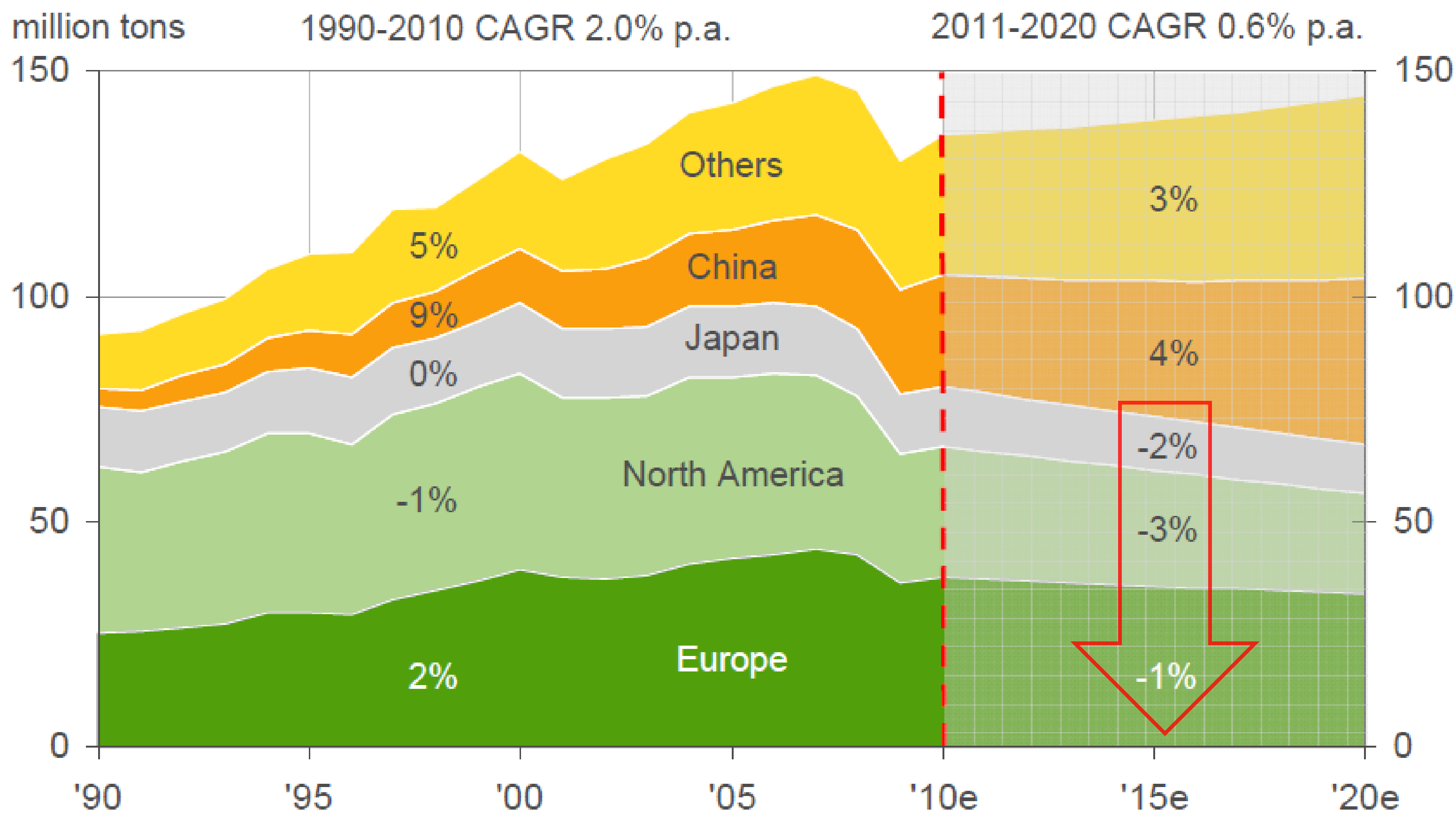
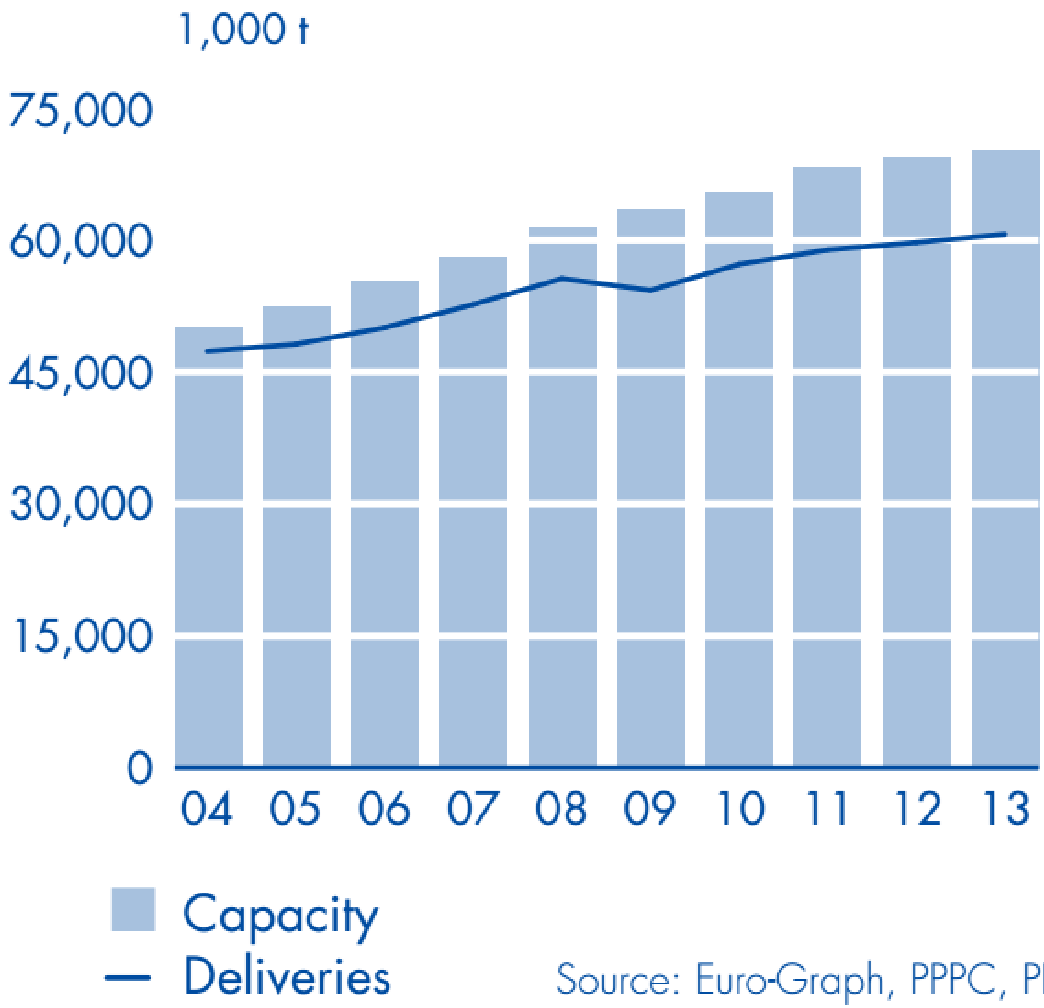
The Shifting Graphics Paper Market

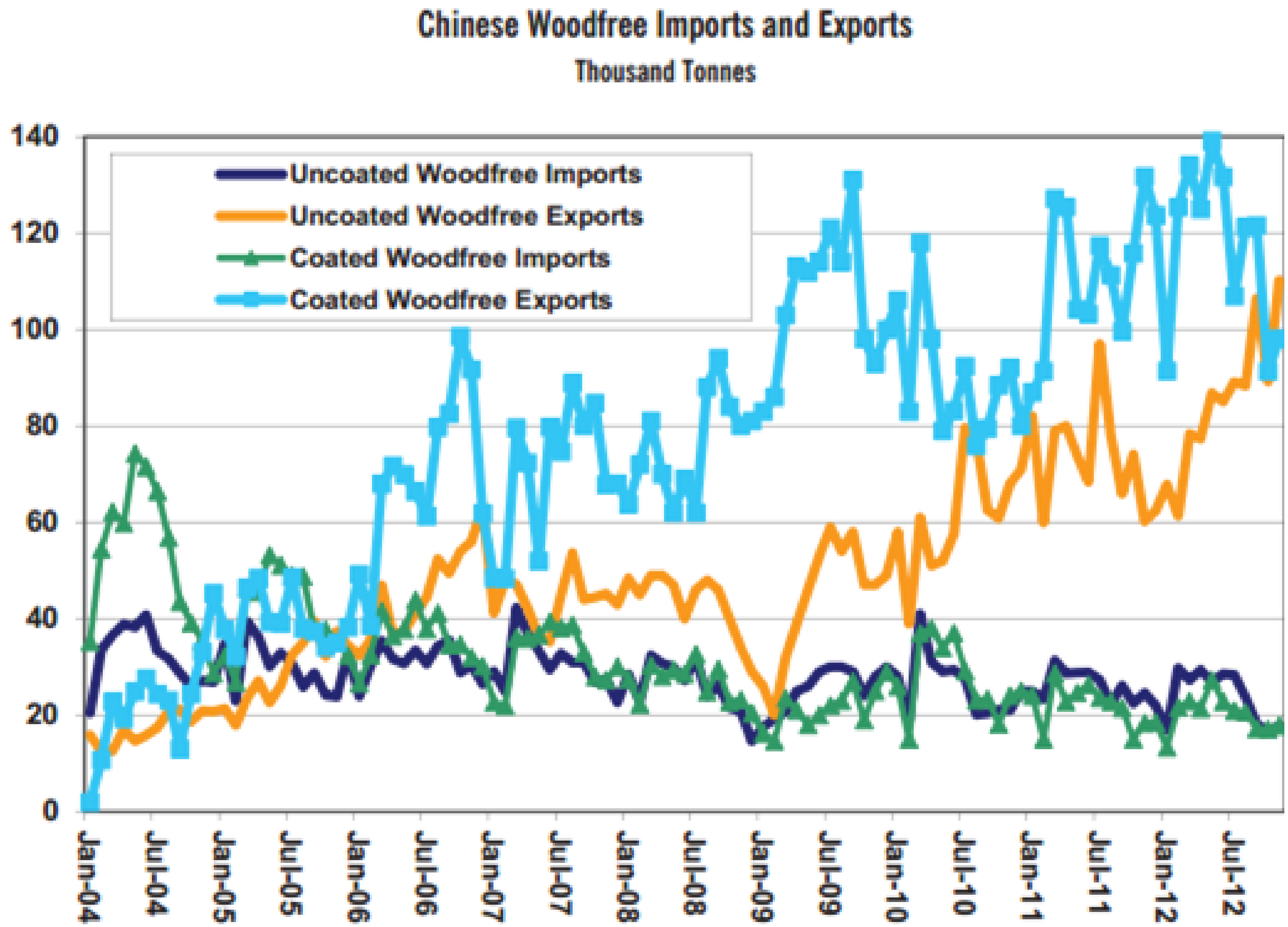


Source: JP, PPPC, RISI, BCG, UPM

Graphic paper production capacities and total deliveries in Asia



Source: Euro-Graph, PPPC, PPI, RISI



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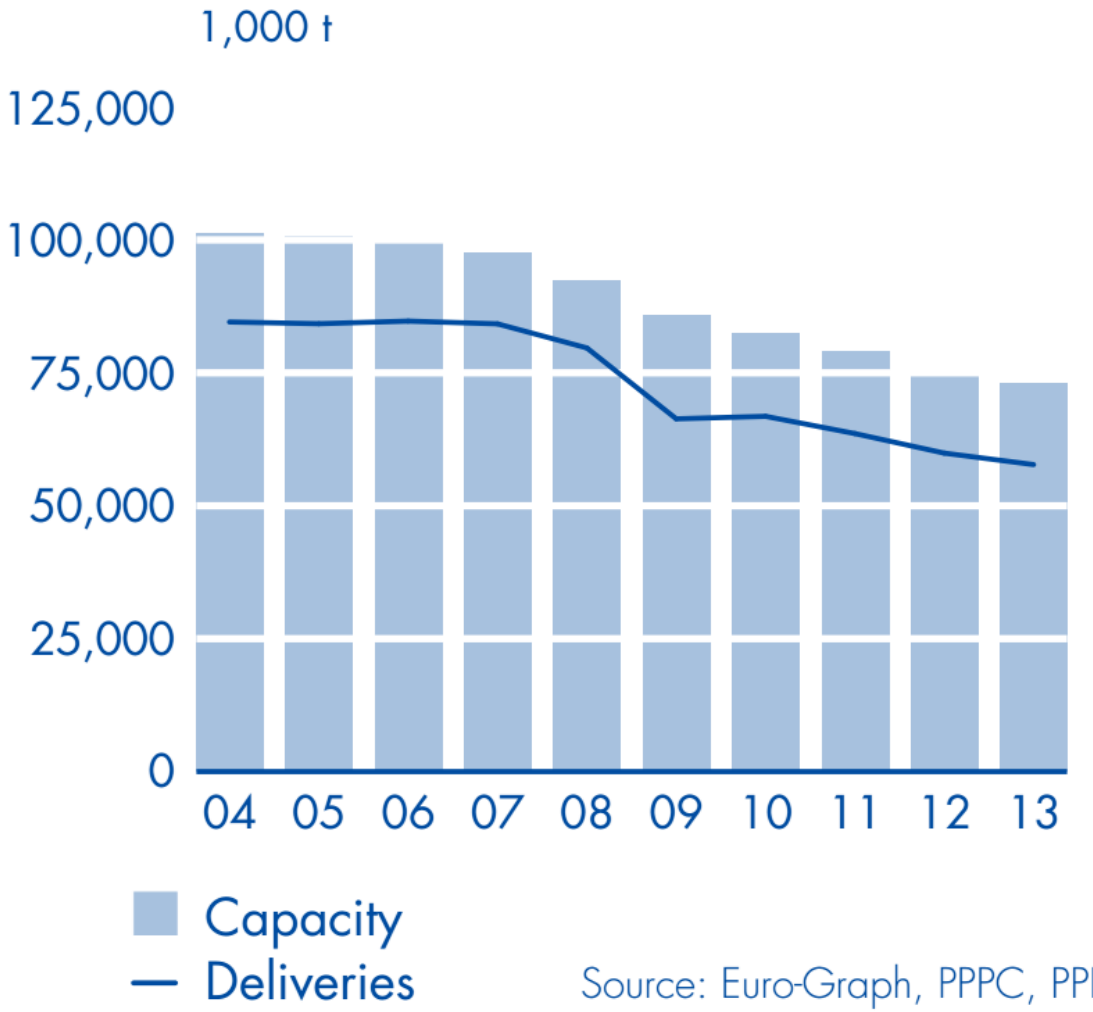
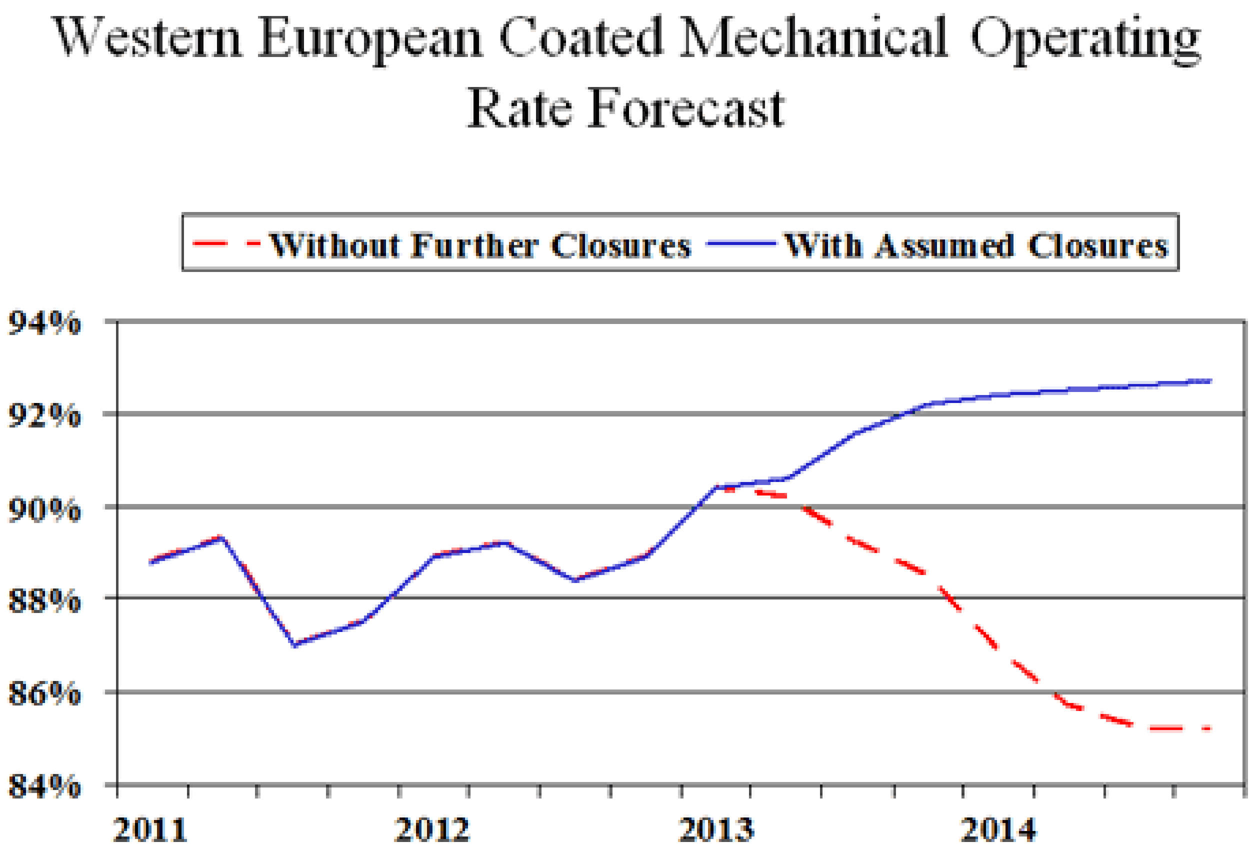
Graphic paper production capacities and deliveries in Europe and North America



Source: Euro-Graph, PPPC, PPI, RISI


Western European Coated Mechanical Operating Rate Forecast
Without Further Closures
With Assumed Closures
94%
92%
90%
88%
86%
84%
2011
2012
2013
2014

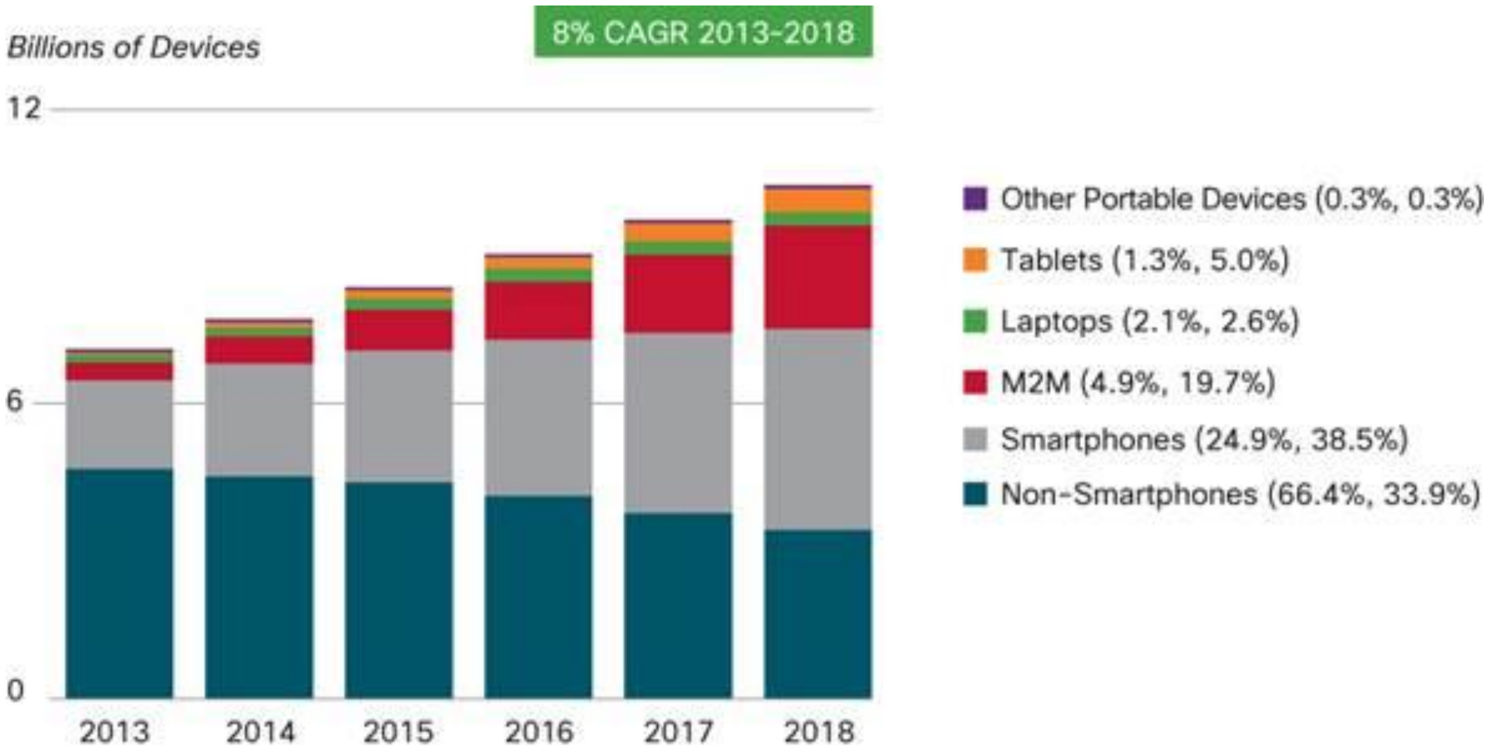
2013 European Mill Closures

- UPM PM3 at Rauma, Finland Mill SC 245,000 tpy
- UPM PM4 at Ettringen, Germany Mill SC 175,000 tpy
- UPM Docelles Mill UWF 160,000 tpy
- UPM Stracel Mill CWF 270,000 tpy
- Holmen PM3 Hallsta Mill SC 140,000 tpy
- Holmen PM51 Braviken Mill NP 200,000 tpy
- Stora Enso PM 2 Hylte Mill NP 205,000 tpy
- Stora Enso PM 11 Kvarnsveden Mill NP 270,000 tpy

2013/14 NA Coated Shutdowns

- International Paper – Courtland, AL
  100,000, Nov 2013, CFS
- New page – No. 12 (Rumford, ME)
  100,000, Feb 2014, CFS

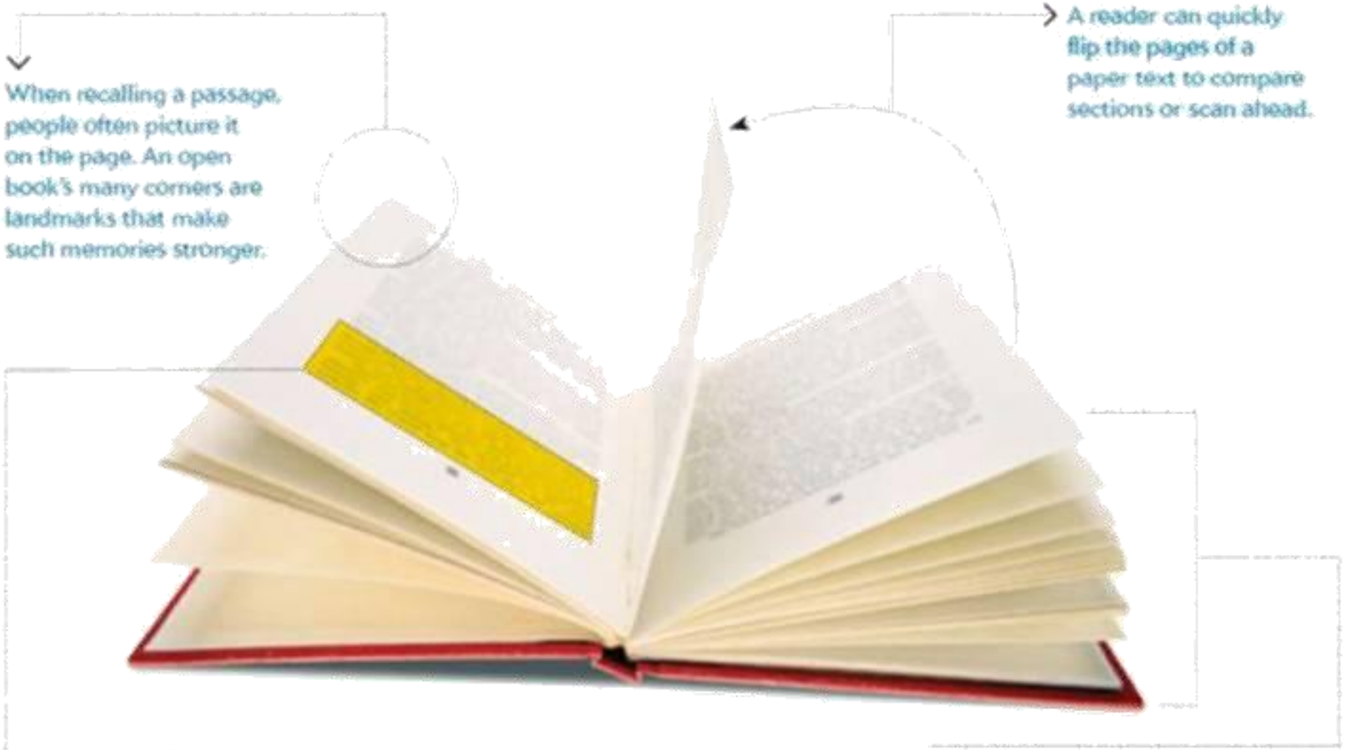
Disruptive Technologies

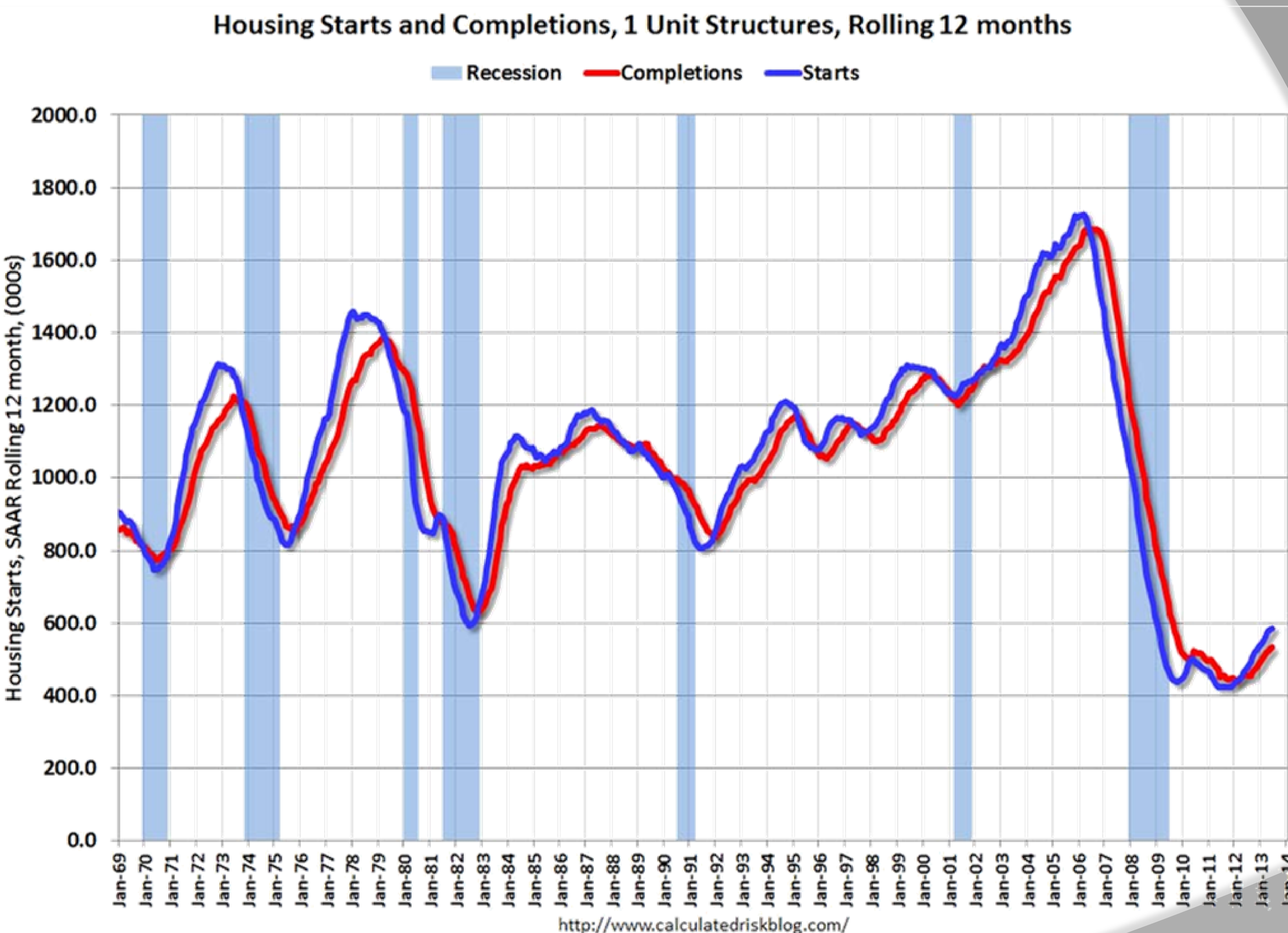


Figures in parentheses refer to device or connections share in 2013, 2018.
Source: Cisco VNI Mobile, 2014

Weighing Paper against Pixel

In many studies people understand and remember what they read on paper better than what they read on screens. Researchers think the physicality of paper explains this discrepancy.





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2014 Market Outlook

Segment	Comments
Building Products	Housing leads construction industry to moderate growth in 2014. Single family units will grow 24% & commercial buildings expected to increase 17%. Building products will see increased growth in 2014
Catalysts	Continued strong demand, expect improved sales in 2014.
Coated Bleached Board	Demand expected to increase, heavily in China, but so will capacity. This will have a significant impact on the market. Europe and North America will show improvements in demand, but only slightly.
Coated Recycled Board	Capacity closures in late 2013 and into 2014 and growing demand should create a more stable market through 2014.
Coated Papers	Global excess capacity remains while demand continues to shrink. Volumes in CGWD in NA should be stable while volumes in Europe continue to decline. Expect that Chinese production will improve over 2013 levels.

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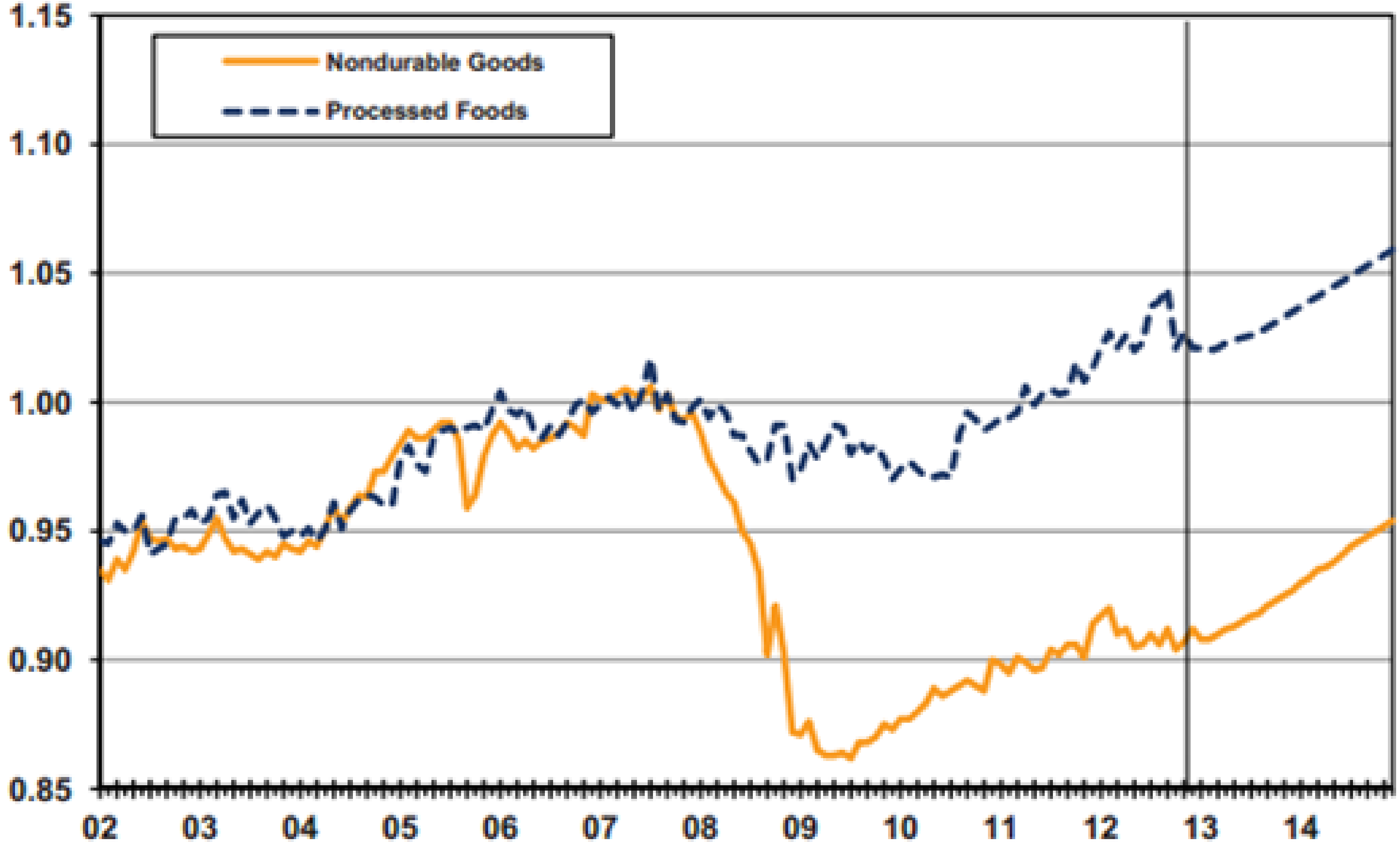
US Industrial Production Index (2007 = 1.00)



Historical Data Source: US Federal Reserve

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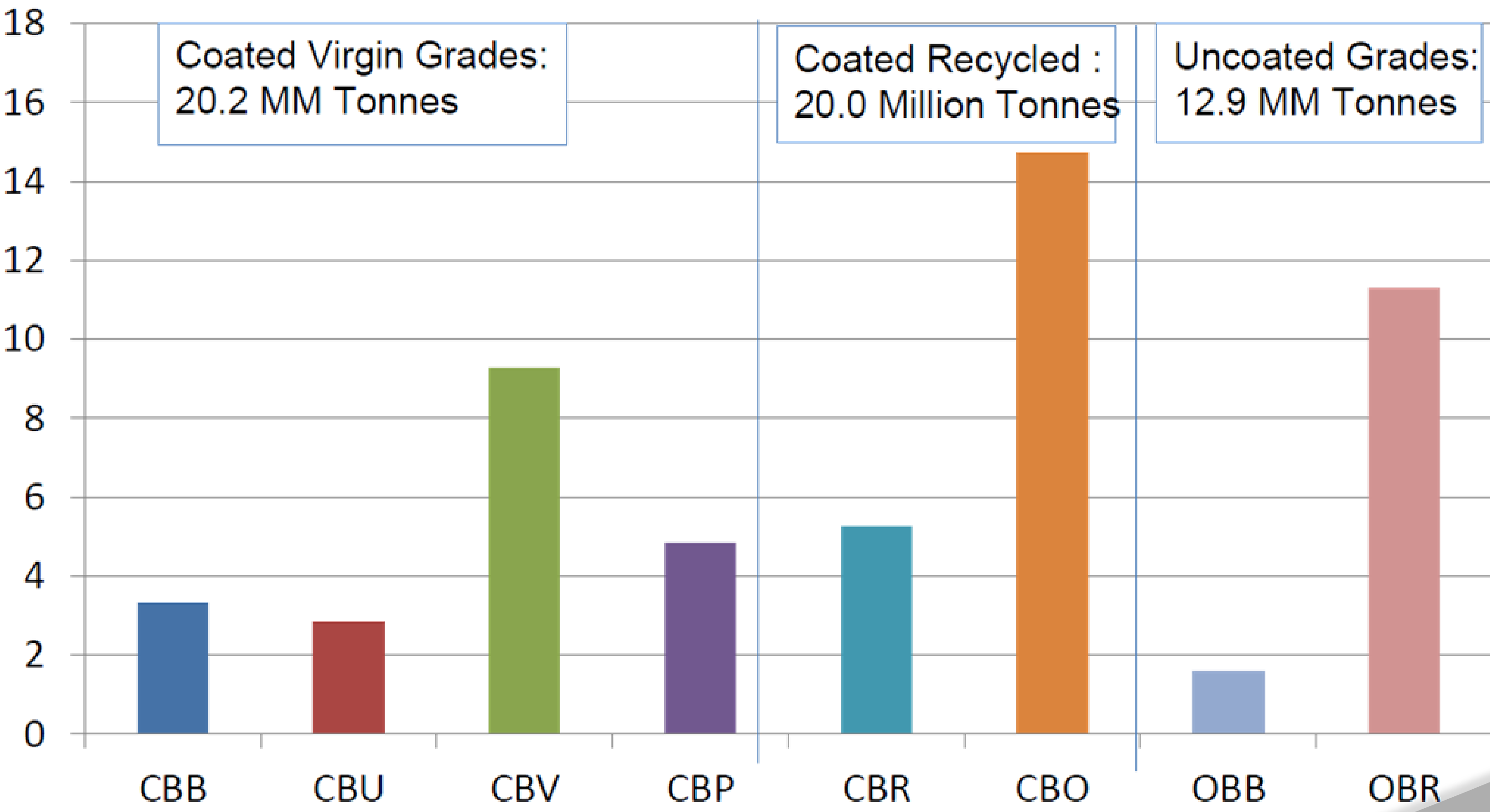
World Boxboard Demand Reached 53 Million Tonnes in 2012



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Boxboard Grade Classification

CBB – Clay coated bleached -- subset of SBS, almost exclusively produced at N. American integrated mills.

CBU – Clay coated unbleached -- commonly called coated unbleached kraft (CUK).

CBR – Clay coated recycled board is produced on cylinder machines and is typically made from 100% recycled fibers; predominant recycled grade in N. America.

CBP – Poly coated bleached board -- made from 100% BKP (may rarely include some other mix); LPB liquid packaging, aseptic, cupstock.

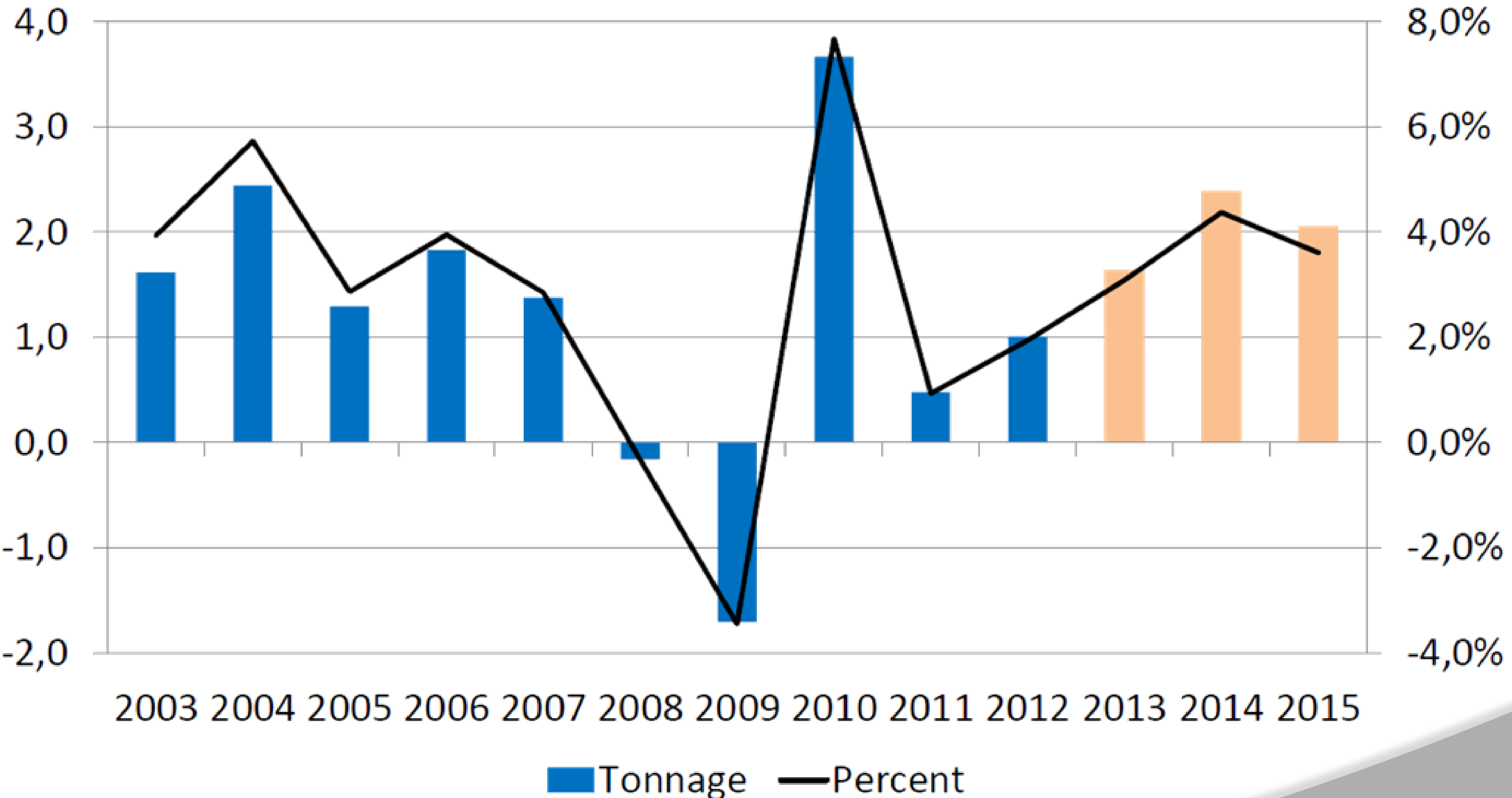
OBB – SBS and board made from virgin pulp; may be coated at off-site converting plants.

CBV – Clay coated virgin multi-ply is manufactured with bleached chemical pulp on the inner and outer plies and mechanical pulp in the middle. European FBB falls into this category. In China, it is known as ivoryboard and may include a small amount of recovered paper in the furnish.

CBO – Clay coated recycled multi-ply that includes at least one layer of recovered fiber in the furnish mix. Common names include WLC, duplex board, triplex and greyback.

OBR – Uncoated recycled and other board is commonly referred to as URB. Also includes miscellaneous grades that do not fit properly in another category.

Boxboard is One of the Strongest Growth Segments of the Paper & Board Market
(Annual Growth, Million Tonnes and Percent)



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China: Announced Cartonboard Capacity Expansion in 2013-2014

Thousand Tonnes

Company	Location	Capacity	Date	Grade
Fujian Liansheng Paper	Zhangzhou, Fujian	300	2013: Q1	Other Recycled Board
Guangxi Jingui Pulp & Paper	Qinzhou, Guangxi	1,200	2013: Q1	Ivoryboard
Bohui Paper	Dafeng, Jiangsu	1,000	2013: Q2	Ivoryboard
Jiangsu Longheng Paper	Xiangshui, Jiangsu	300	2013: Q2	Coated Duplex
Jiangsu Fuxing Paper	Xiangshui, Jiangsu	300	2013: Q2	Coated Duplex
Jiangsu Jinhuang Paper	Jiangsu	140	2013: Q2	Coreboard
Hebei Changtai Paper	Tangshan, Hebei	200	2013: Q2	Gypsum Wallboard Facings
Hangzhou Dongda Paper	Fuyang City, Zhejiang	250	2013: Q3	Coated Duplex
Henan Xinxiang Xinya Paper	Xinxiang, Henan	400	2013: Q3	Ivoryboard
Fujian Liansheng Paper	Fujian	300	2013: Q4	Coated Duplex
Jiangmen Xinghui Paper	Jiangmen, Guangdong	300	2013: Q4	Coated Duplex
Shandong Asia Pacific SSYMB	Rizhao, Shandong	300	2014	Liquid Packaging Board
Shandong Asia Pacific SSYMB	Rizhao, Shandong	500	2014: Q	Cartonboard
Sichuan Yibin Paper Industry	Sichuan	350	2014: Q1	Ivoryboard
Ningbo APP	Zhejiang	1,000	2014: Q4	Ivoryboard
Guangxi Stora Enso Forest	Guangxi	450	2014: Q4	Liquid Packaging Board
Subtotal 2013		**4,690**		
China Total (2013-2014)		**7,290**		

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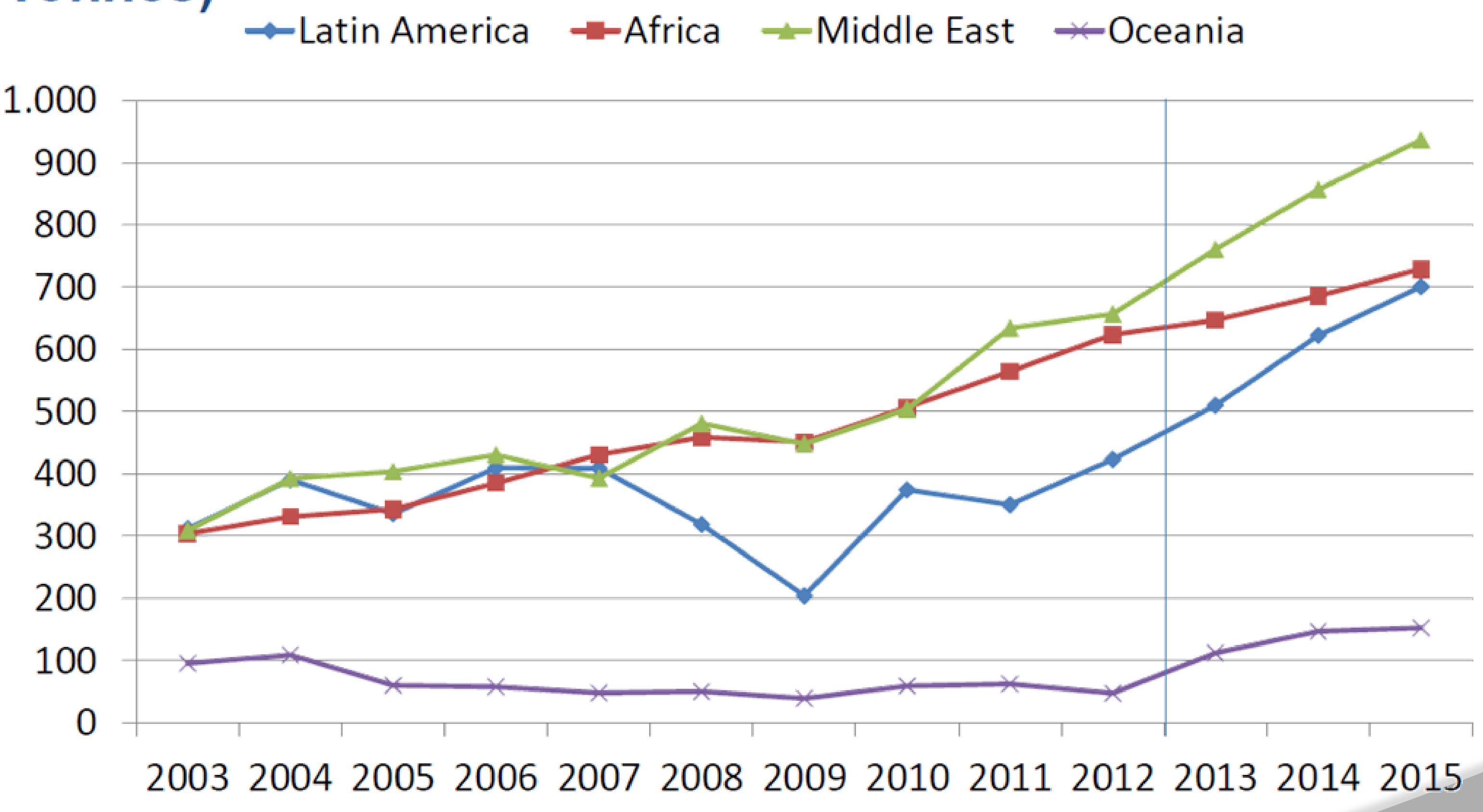
Latin America, Africa and the Middle East Will Be the Battle Grounds for Virgin Boxboard Exports (Net Imports, Thousand Tonnes)



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And finally,

http://vimeo.com/61275290

We’ll have a paperless office/home when we have a paperless bathroom!

Thank you for your attention!

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