The future development of the European and Global Tissue Industry and its fibre furnish

€uropulp – UTIPULP Seminar

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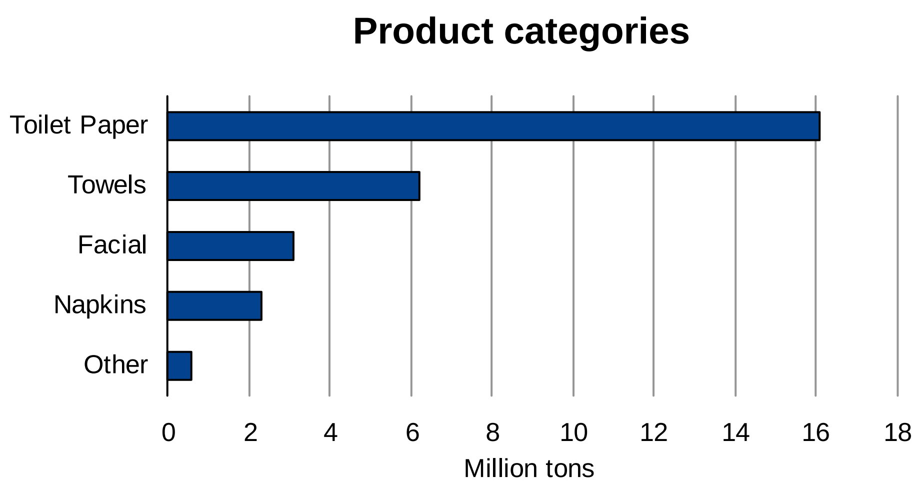
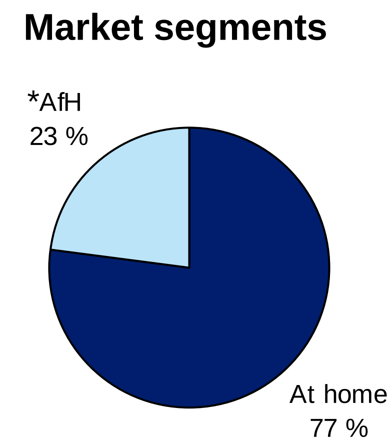
THE FUTURE DEVELOPMENT OF THE EUROPEAN AND GLOBAL TISSUE INDUSTRY AND ITS FIBER FURNISH

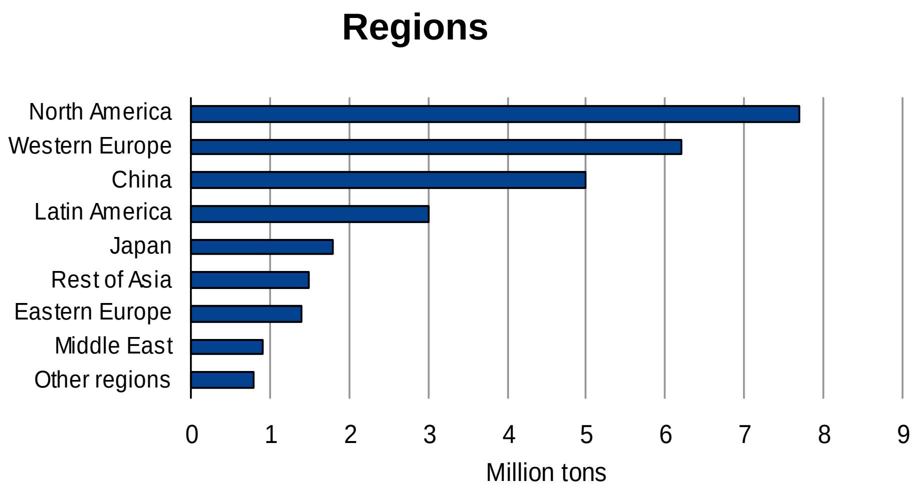
- Global View
  - Tissue Markets - Most of the demand growth takes place in emerging economies
  - Fiber Furnishes – We expect declining RCF share
  - Tissue Trade Flows – Most trade flows regional, Chinese and Indonesian exports most significant

- European Tissue
  - Environment and Forest Certification – FSC clearly more emphasized in tissue than PEFC. Pulp availability issues (NBSKP).
  - ECF and TCF – Still more negative than positive drivers for TCF market pulp demand
  - Technical Aspects in Tissue Fiber Selection – BHKP for softness and BSKP for absorbency
  - Break Even Between Recycled Fiber and Pulp - Uncertain economic benefits of recovered fiber usage in tissue especially over the pulp price cycle.

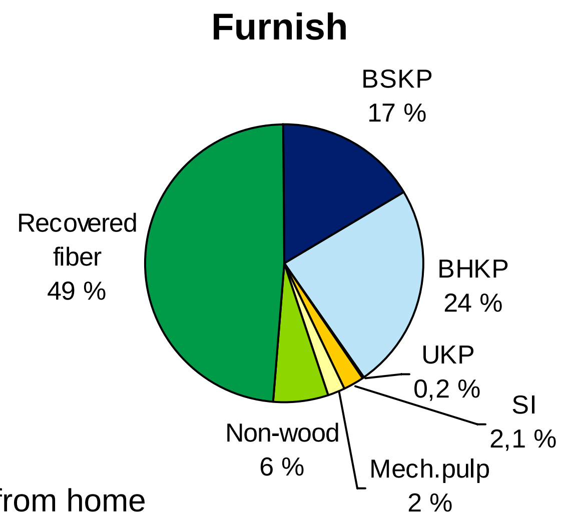
WORLD ANNUAL TISSUE CONSUMPTION TOTALS ABOUT 28 MILLION TONS





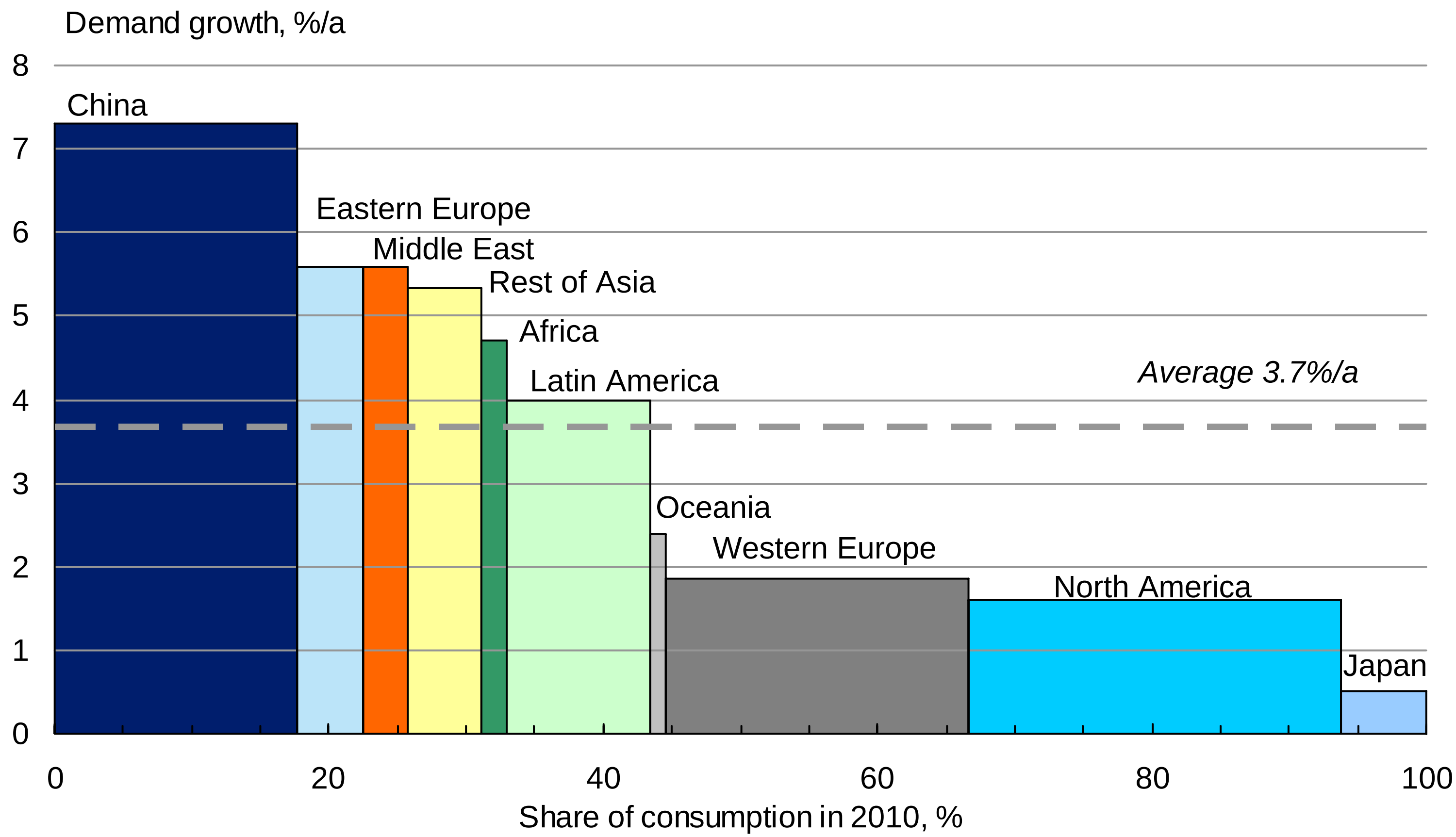


*AfH = away from home



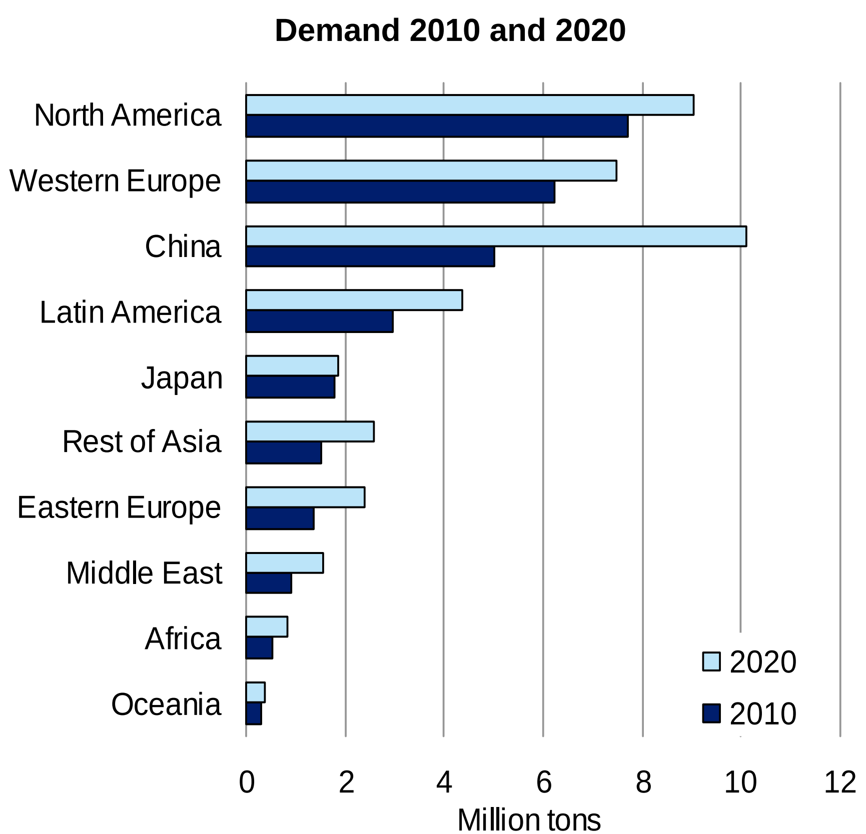
DEMAND GROWTH AVERAGES 3,7% PER ANNUM THROUGH 2020

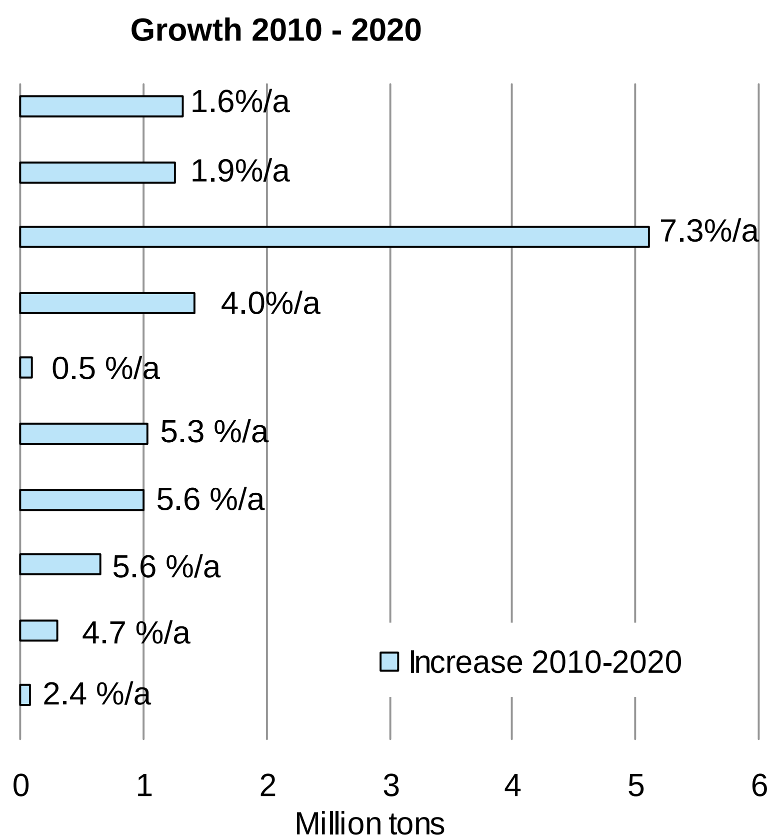
Emerging markets in Asia and Eastern Europe show the strongest growth. Gradually maturing markets in the West will grow at a much slower pace.



MOST OF TISSUE PAPER DEMAND GROWTH TAKES PLACE IN EMERGING ECONOMIES

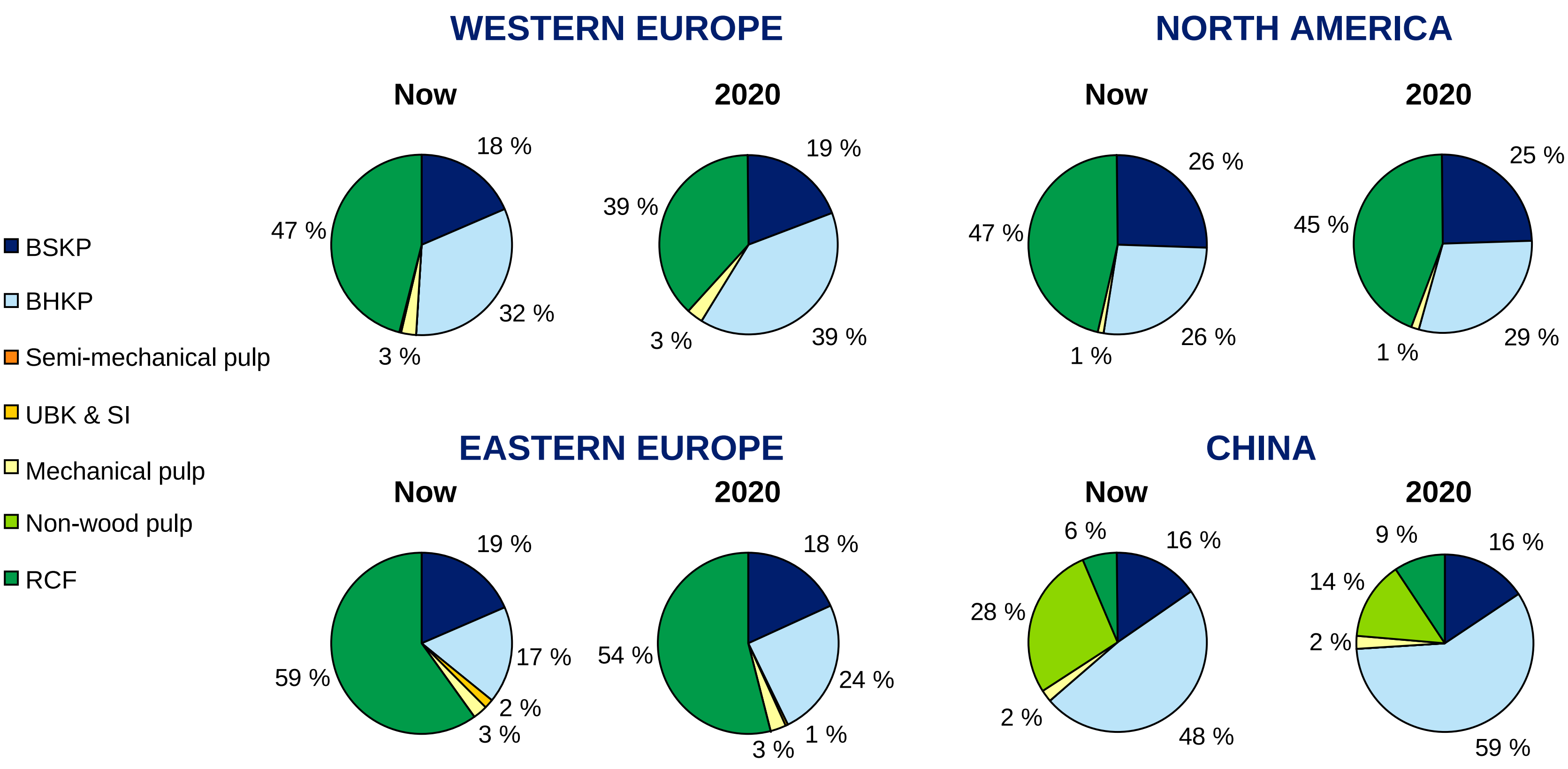
Some 40% from total additional demand volume, 12.3 annual tons 2010-2020, is estimated to take place in China and 50 % in Asia in total



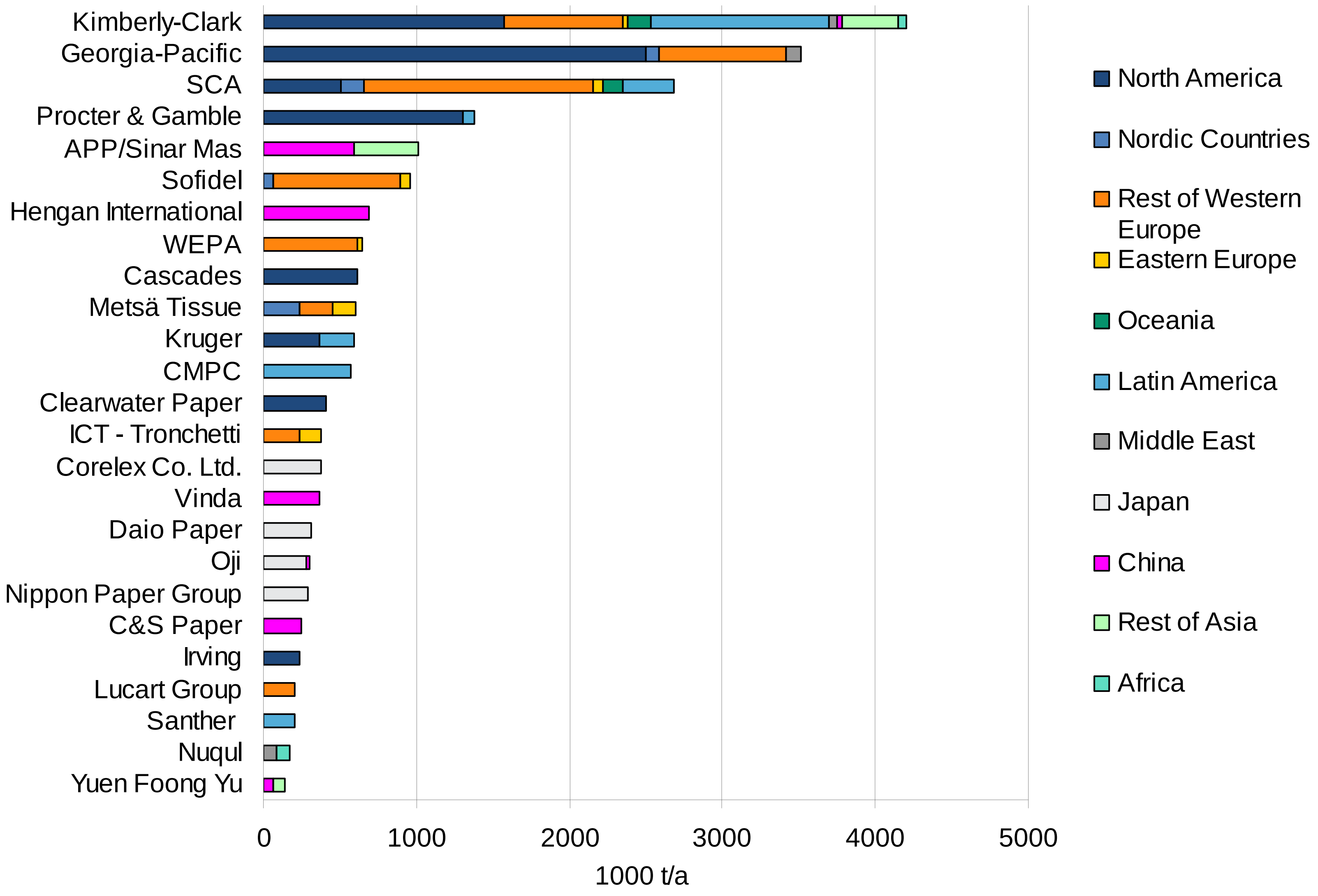


SHARE OF RECOVERED FIBER IS DECLINING IN TISSUE FURNISH

We expect slower growth for the RCF based tissue and increasing share of virgin fiber, especially BHKP.

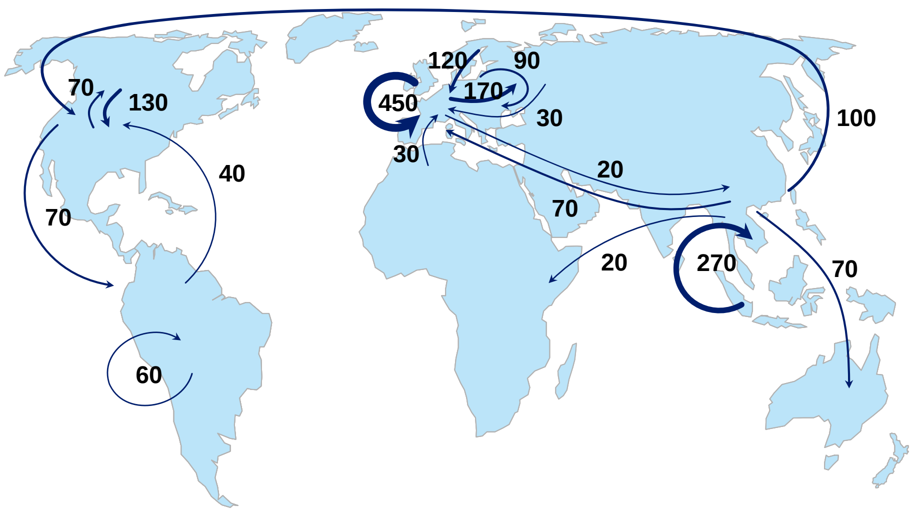


TOP 25 TISSUE PRODUCERS BY CAPACITY 2011



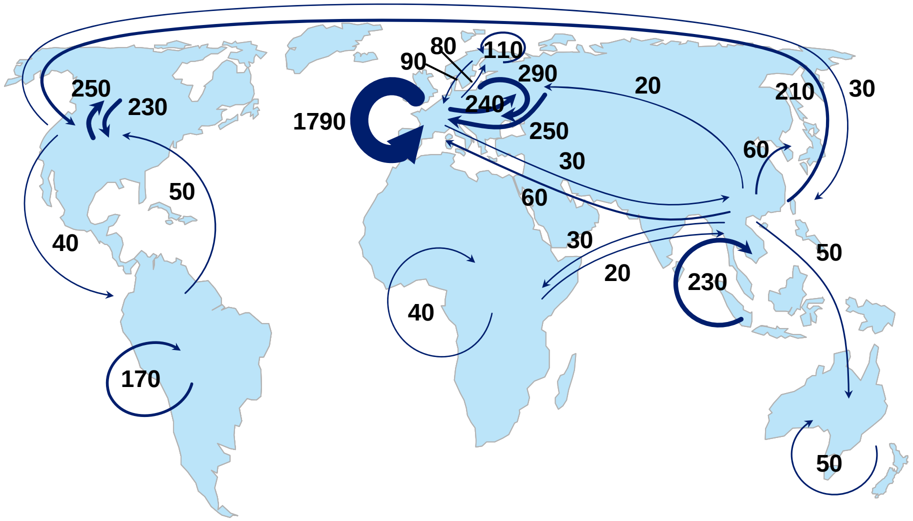
TISSUE TRADE FLOWS ARE TYPICALLY MOSTLY WITHIN REGIONS

Tissue Base Paper



Total 2 million tons

Tissue Final Products



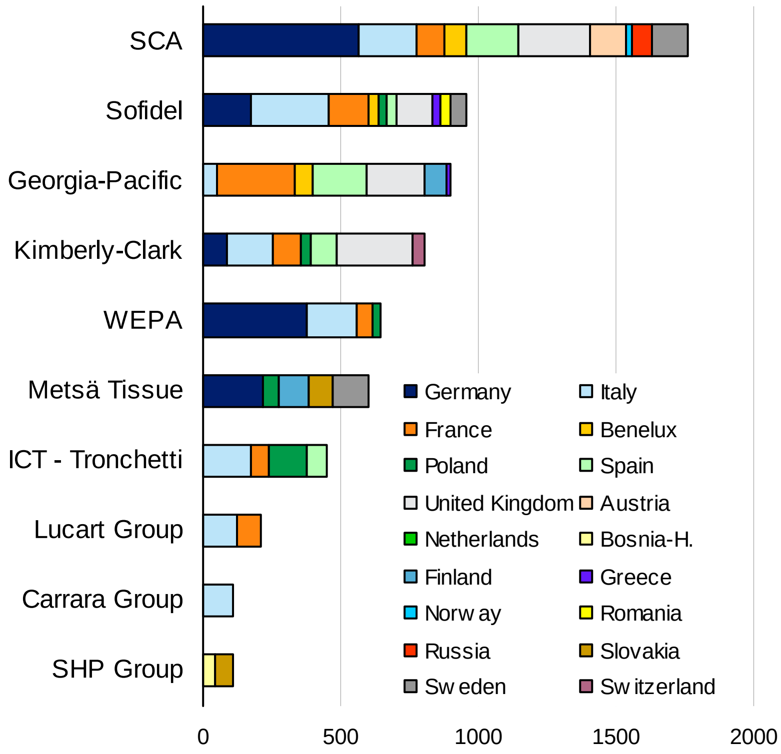
Total 5 million tons

Major trade flows 2010, 1000 tons

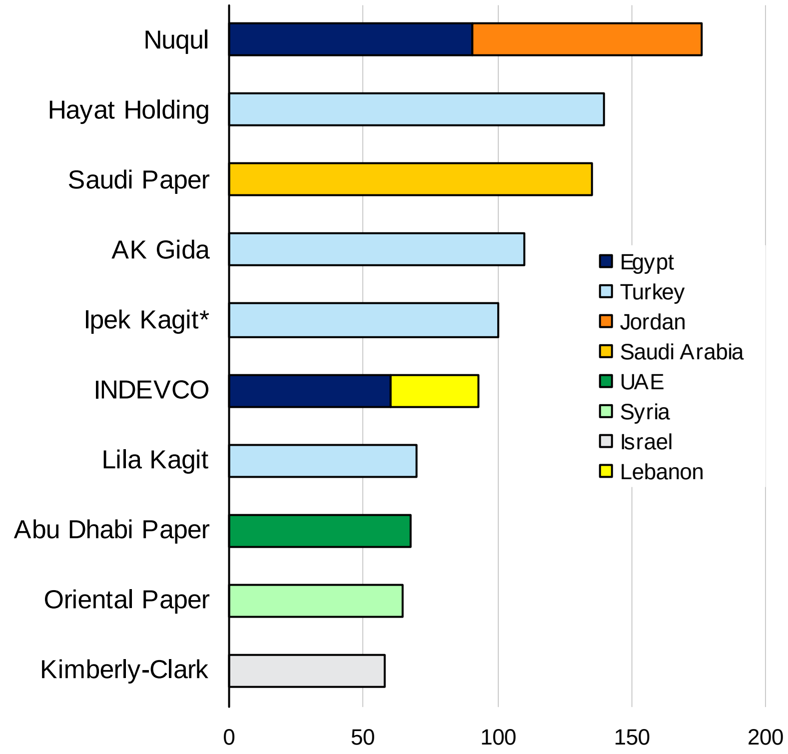
TOP 10 TISSUE PRODUCERS BY CAPACITY– EUROPE AND MENA

Tissue production is fragmented in Europe and even more so in Middle East and North Africa

Top producers in Europe



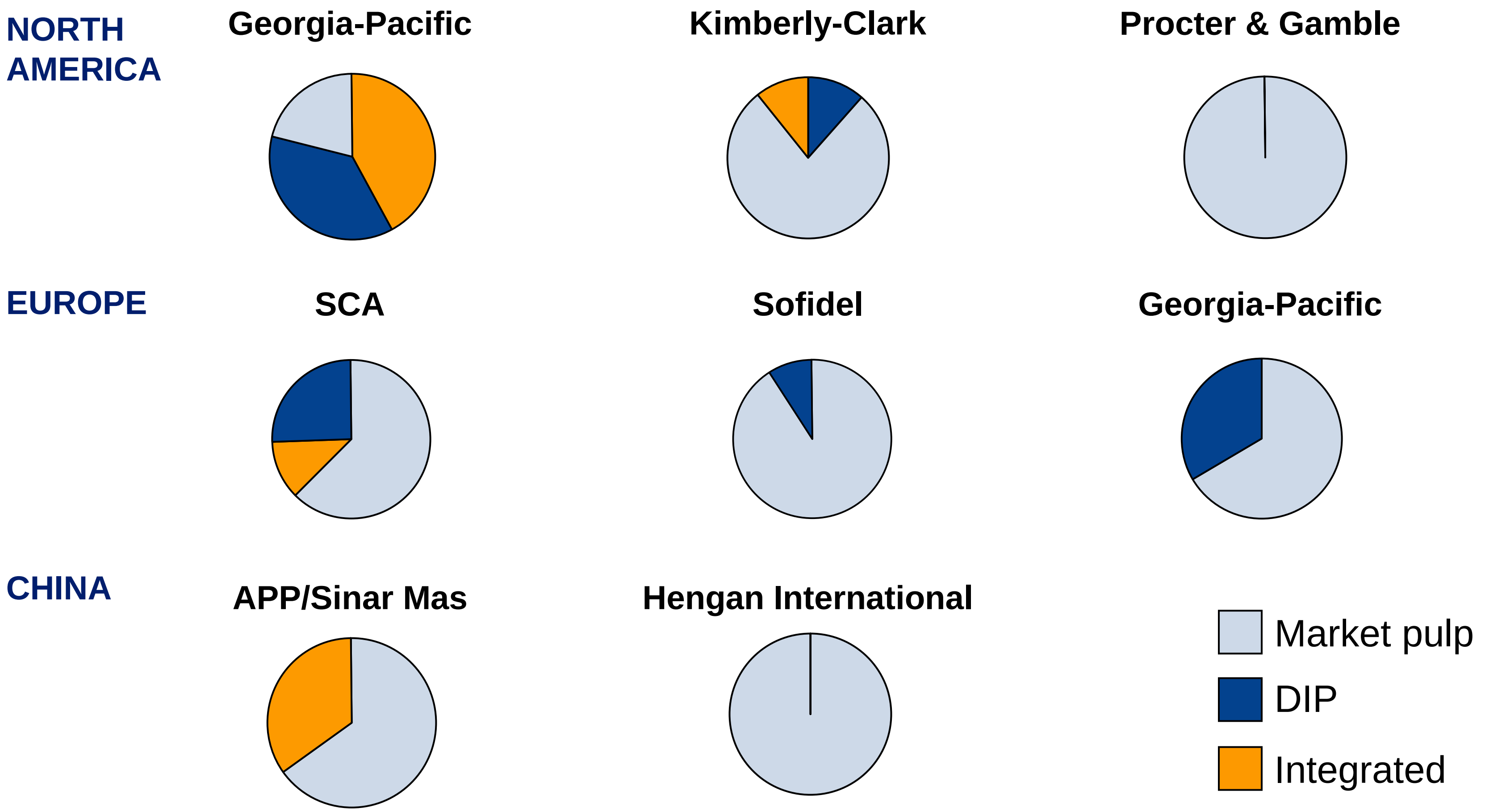
Top producers in MENA



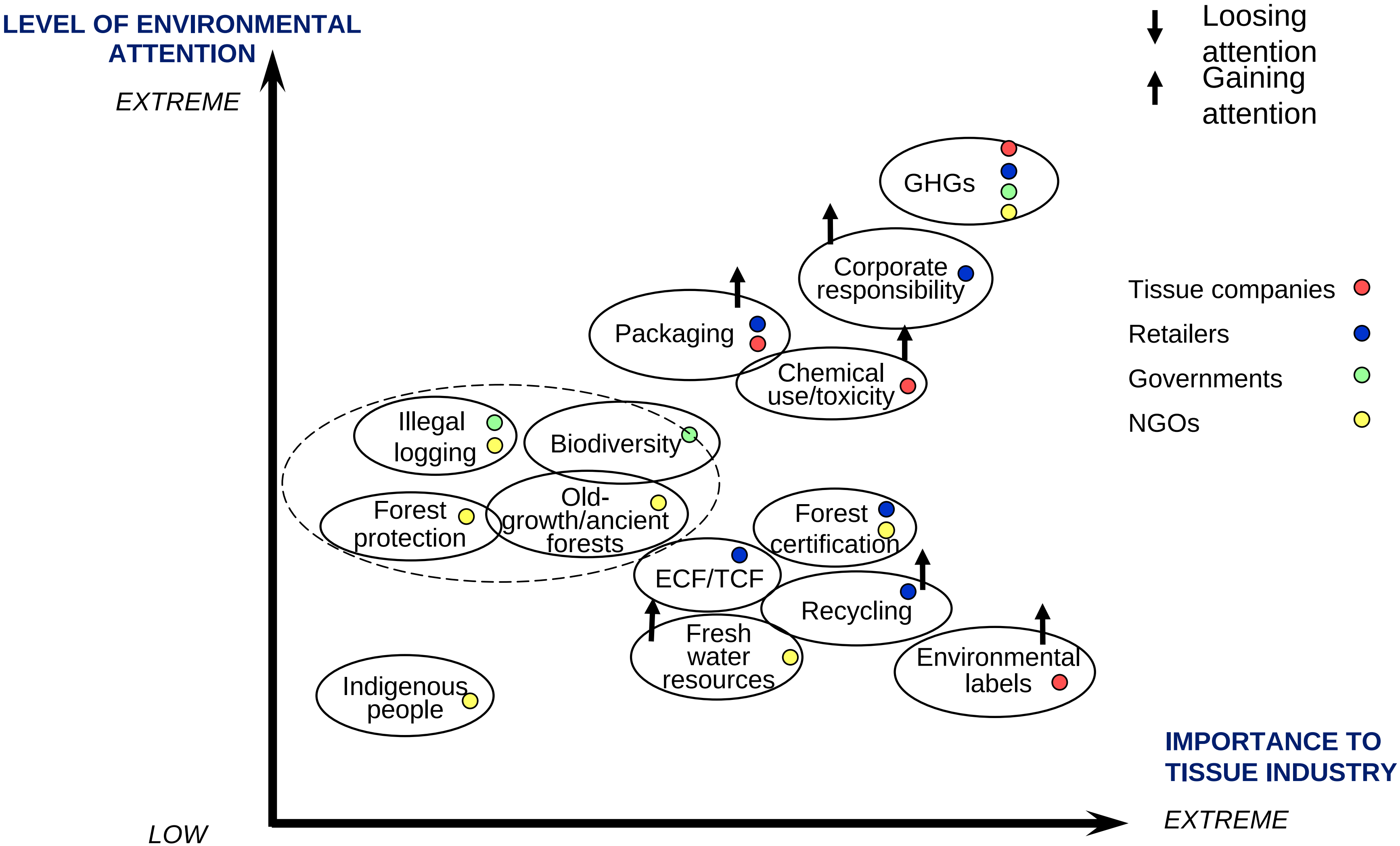
*) Joint venture of Georgia-Pacific and Eczacibasi.

MARKET PULP DOMINATES IN TISSUE MANUFACTURE

Increasing interest in pulp integration, share of recovered fiber declining



RETAILERS ARE STAKEHOLDERS THAT SHAPE THE TISSUE INDUSTRY PERHAPS THE MOST



TWO IMPORTANT INTERNATIONAL CERTIFICATION SCHEMES

FSC = Forest Stewardship Council

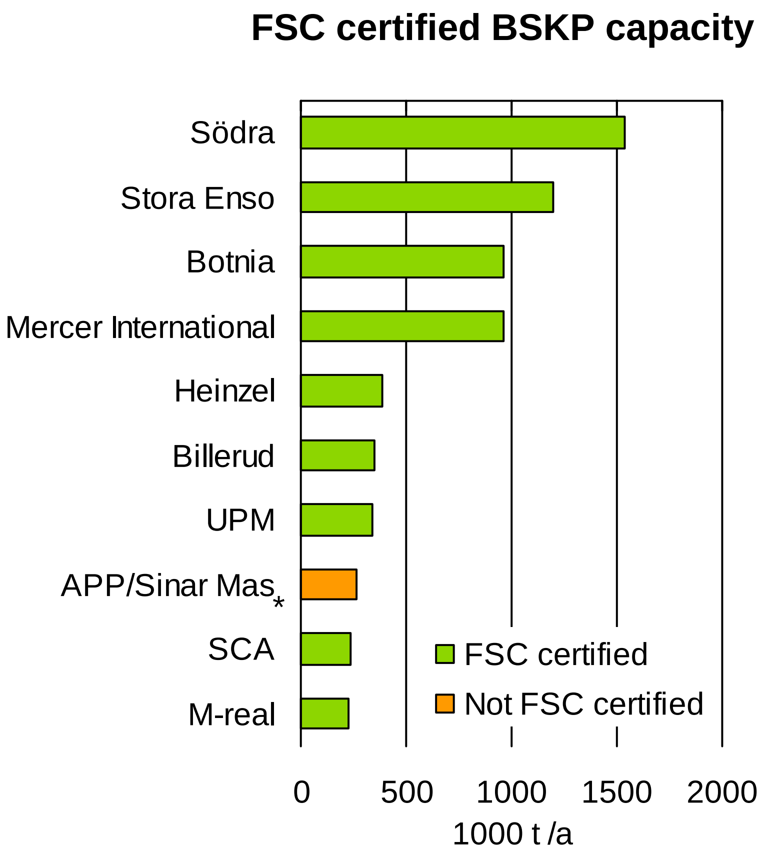
- FSC pure label requires even 100 % FSC certified raw material
- FSC certified forest area is smaller
- Latin American plantations are predominantly FSC certified
- FSC certified NBSKP volumes are limited
- FSC is preferred by retailers and is clearly more emphasized in tissue

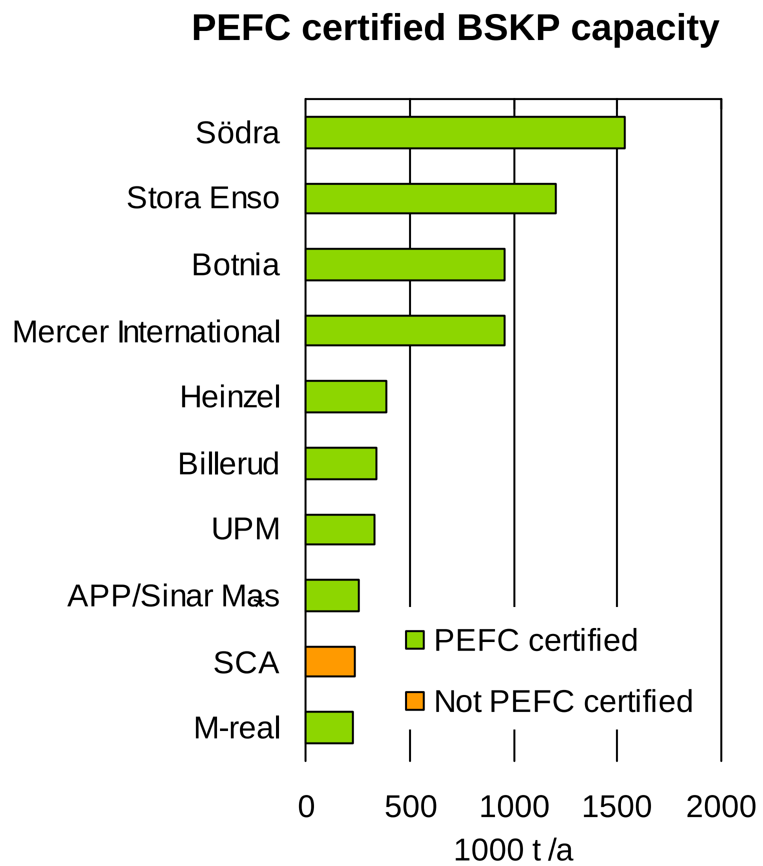
PEFC = Programme for the Enforcement of Forest Certification

- PEFC has lower minimum thresholds for labeling and less rules for material from controlled sources
- Global availability of PEFC certified market pulp is higher due to larger certified forest area
- PEFC is supported by small forest owners' associations, by some industries and by many national governments.
- PEFC is clearly less emphasized in tissue.

CERTIFIED BSKP MARKET PULP CAPACITY – EUROPE

Most mills have even double certification under both schemes, but actual availability of certified pulp depends on fibre availability.

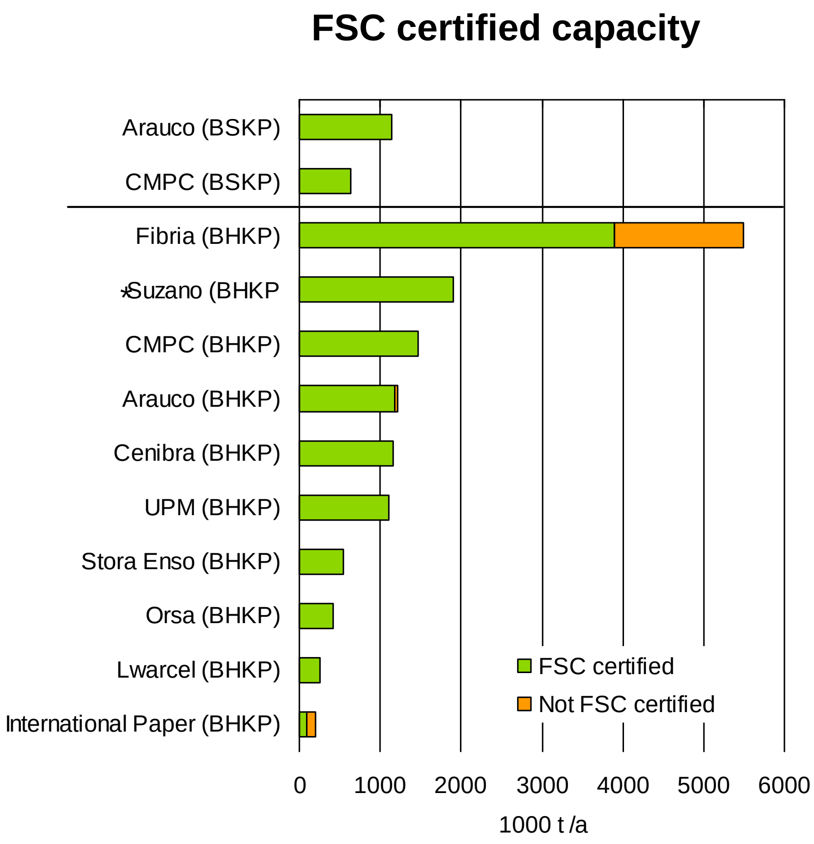


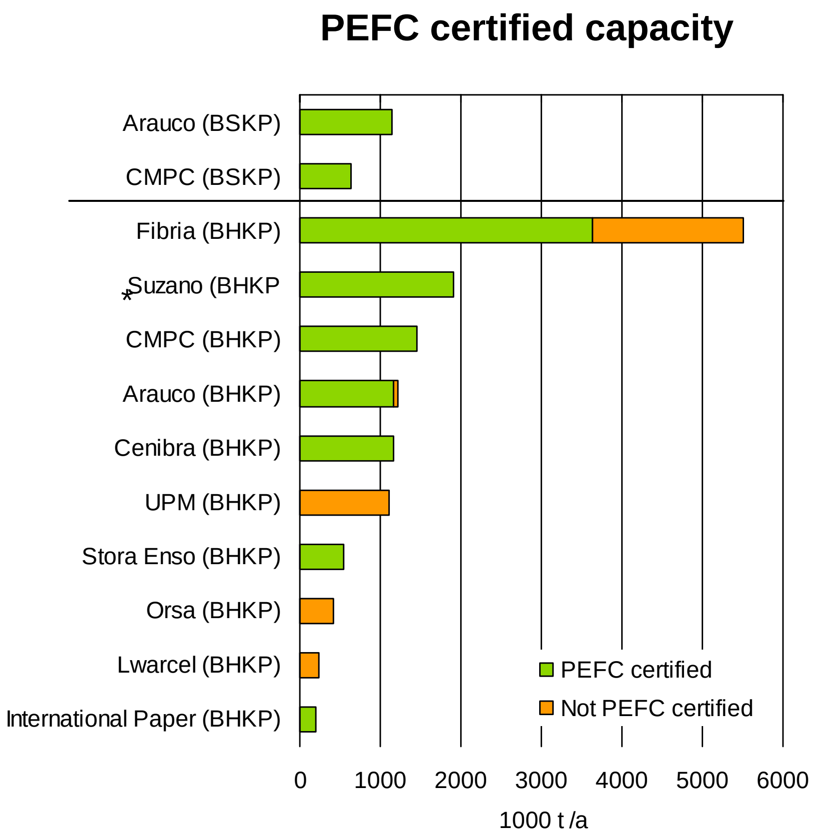


*APP/Sinar Mas mills are Paper Excellence mills in France (Saint-Gaudens and Tarascon). They both possessed FSC chain of custody certificates and Tarascon also a PEFC certificate when owned by Tembec.

CERTIFIED MARKET PULP CAPACITY – LATIN AMERICA

Latin American plantations are predominantly FSC certified.

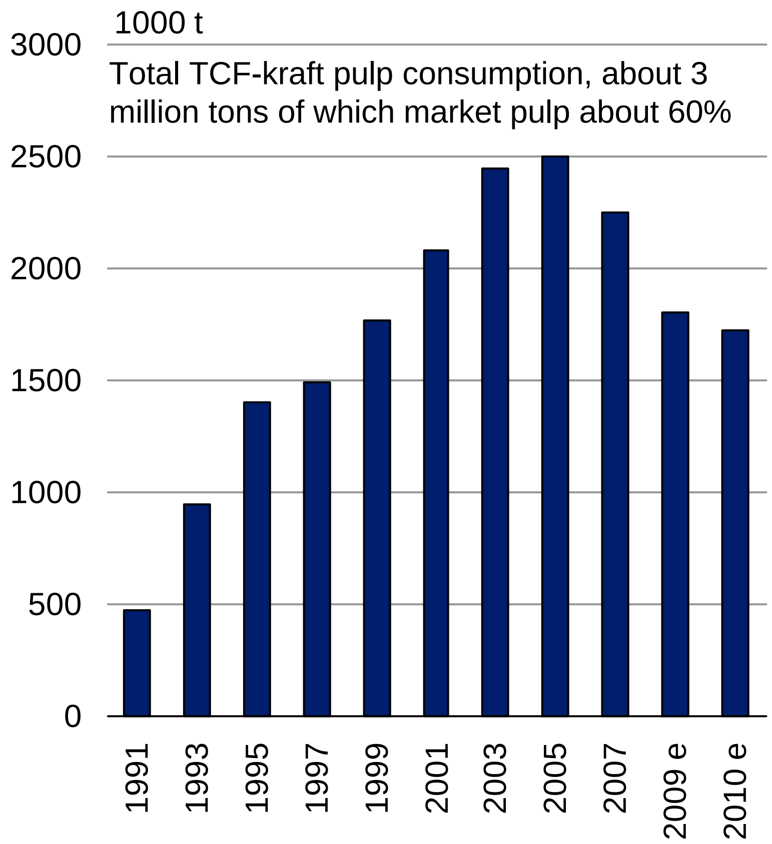




*All Fibria mills are certified under either FSC or PEFC.

TREND CHANGE IN TCF PULP DEMAND?

Demand trend for TCF market pulp has been declining since mid 2000's.



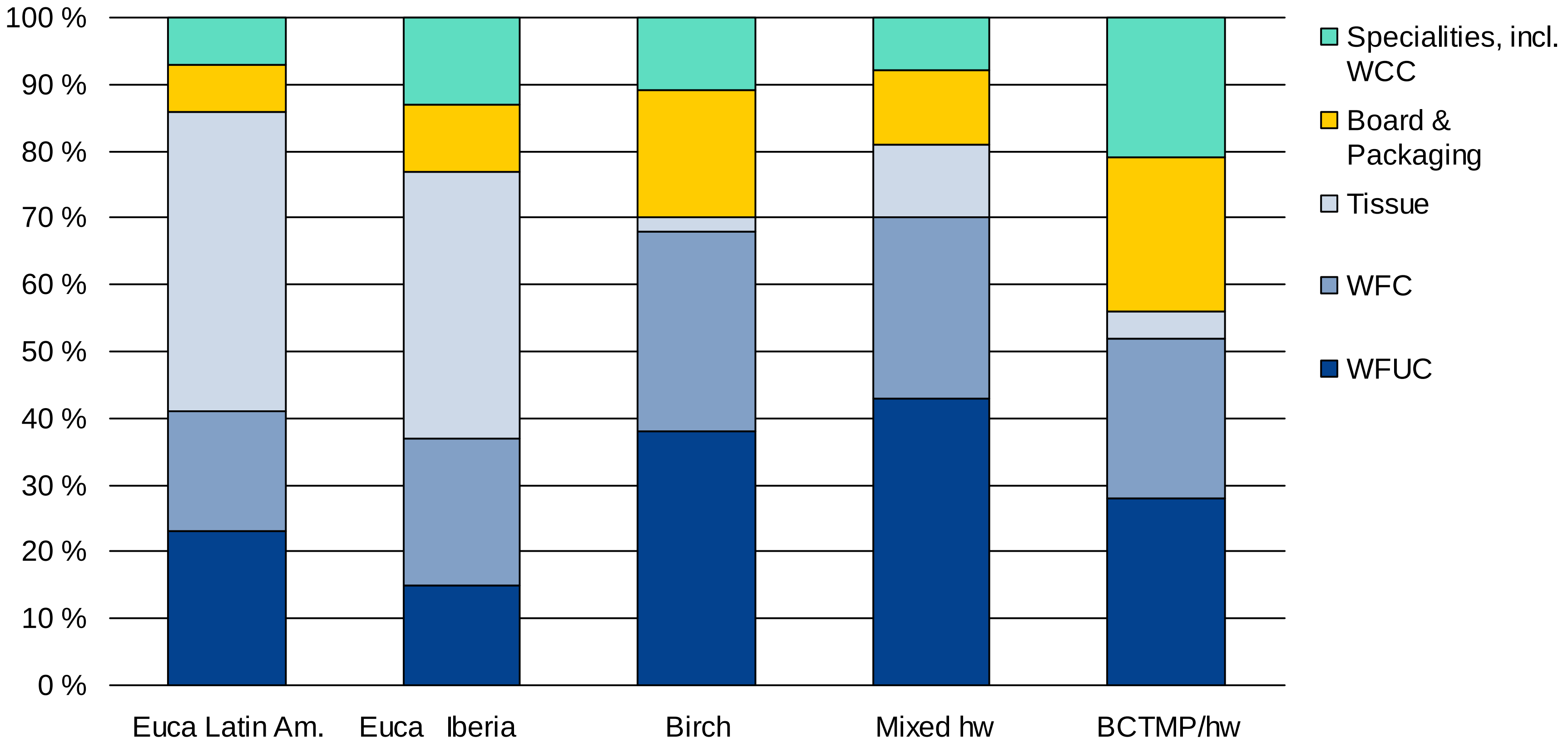
- There are still more negative than positive drivers related to TCF market pulp.
  - TCF-topic became "hot" in late 1980's. Up to 1994 demand exceeded supply
  - From 1996/1997 onwards, demand has been created mainly through supply-push and there is no new TCF market pulp capacity planned
  - TCF quality typically has lower strength or brightness than comparable ECF pulp. In addition, TCF pulps are not necessarily environmentally friendlier than ECF-pulps from modern kraft pulp mills.
  - Demand for TCF pulp is mainly coming from final consumers requiring TCF free retail products (magazines, catalogues, tissue products, diapers, etc.)
- Total TCF-kraft pulp consumption, including integrated use, amounts to about 3 million tons. Slightly more than half of this is market pulp.

SOFTNESS IS IMPORTANT FOR FACIAL TISSUE, TOILET PAPER AND HANDKERCHIEFS, WHEREAS ABSORBENCY AND STRENGTH ARE IMPORTANT FOR TOWELING

Product categories	Fibre furnish	Main quality issues
Toilet paper 1-7 plies 15-32 g/m^2 Typically 16.5 g/m^2 	• Recycled fiber • BHKP 70%, BSKP 30%. BHKP content can be as high as 80-90%.	**Softness**, absorbency, brightness, appearance/cleanness, strength & bulkiness
Towels (kitchen/hand towels, wipes) 1-3 plies 19-70 g/m^2 Typically 18.5 g/m^2 	• Recycled fiber • BHKP 30-50%, BSKP 50-70%	**Absorbency, strength and wet strength**, appearance/cleanness, bulk, stiffness
Facial / handkerchief 1-4 plies 4-18 g/m^2 Typically 7-11 g/m^2 	• BHKP 80%, BSKP 20%. Even 100% BHKP can used.	**Softness**, absorbency, brightness, cleanness, strength & bulkiness
Napkins / serviettes 1-3 plies 7-18 g/m^2 	• BHKP 60%, BSKP 40%. • For colored products higher shares of BSKP	Absorbency, wet strength, appearance/cleanness, strength, certain stiffness, brightness
Others (e.g. medical)	• BHKP 50%, BSKP 50%. In some cases even 65/35. • Some recycled fibre products	Depending on use (typically softness, absorbency, bulk, strength, cleanness)

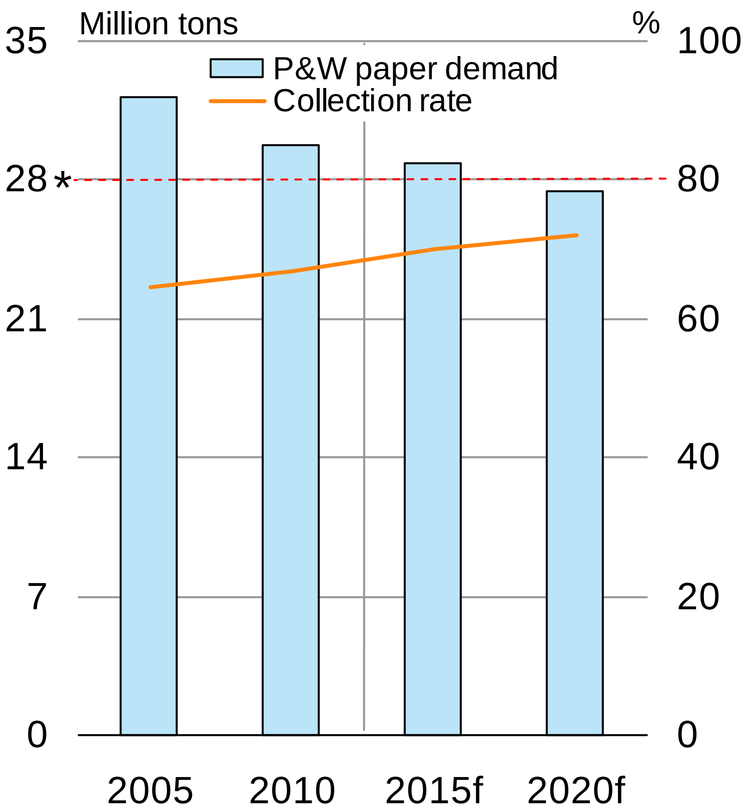
EUCA PULP QUALITY IS SUITABLE FOR TISSUE

End uses vary between different hardwood market pulps. BEKP is mainly used for tissue manufacture.



RCF COLLECTION AND FUTURE POTENTIAL TIGHTENS IN EUROPE

Demand for printing and writing papers has been decreasing at the same time as RCF collection rate has increased. This is expected to lead to very tight RCF supply in the future.



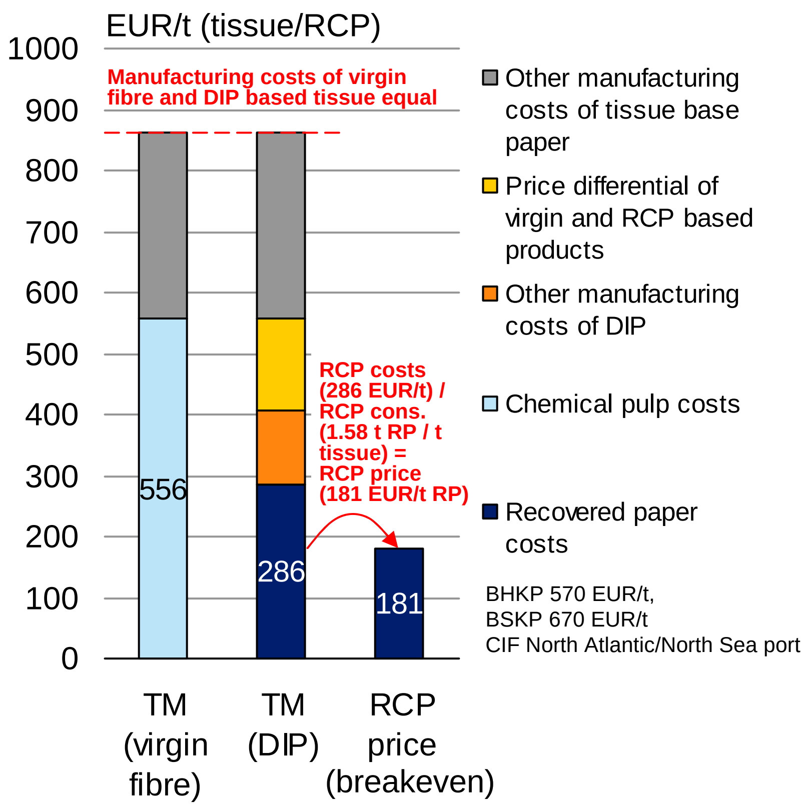
* Theoretical maximum collection rate 80-81%

- Potentially printing and writing paper demand might decrease even more than in our forecast.
- Due to the fibre flow from printing and writing papers to tissue and packaging grades, the demand for ONP/OMG and HG RCF would, however, continue to increase.
- This scenario would lead to deficit in global RCF supply, especially in ONP/OMG and HG grades.
- Products/producers with best paying capability will not see that big changes in furnishes but products with lower paying capability are expected to see furnish changes, from RCF to virgin based.
- In tissue furnish, RCF is increasingly foreseen to be replaced by virgin pulp.

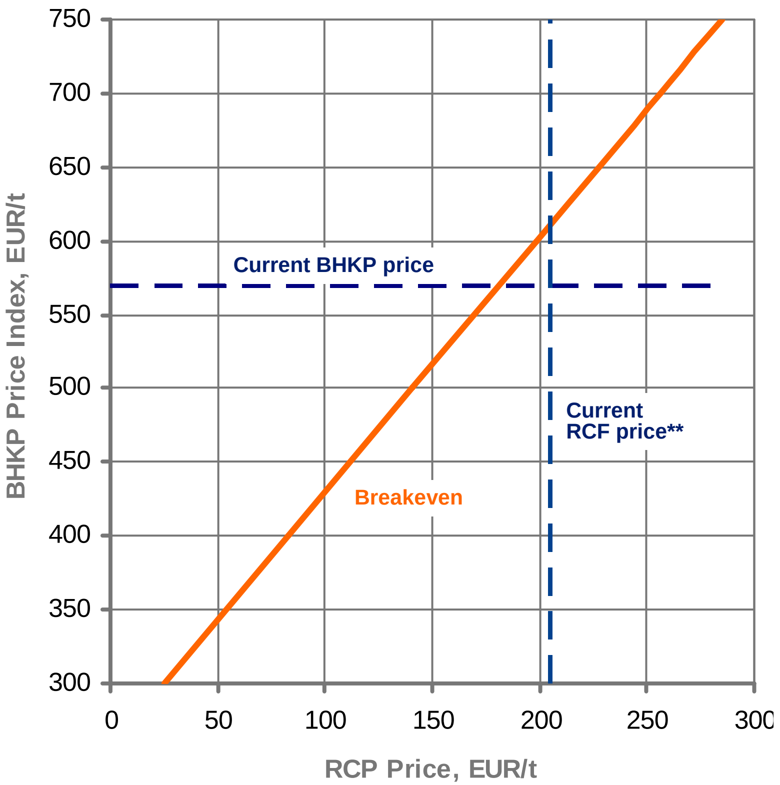
TISSUE PRODUCERS' RCF PAYING CAPABILITY IS LOWER THAN THAT OF MANY OTHER GRADES

Recovered paper prices have been above the estimated breakeven point

RCF Price – Breakeven with Virgin Fibre Costs*



Current Prices and Breakeven

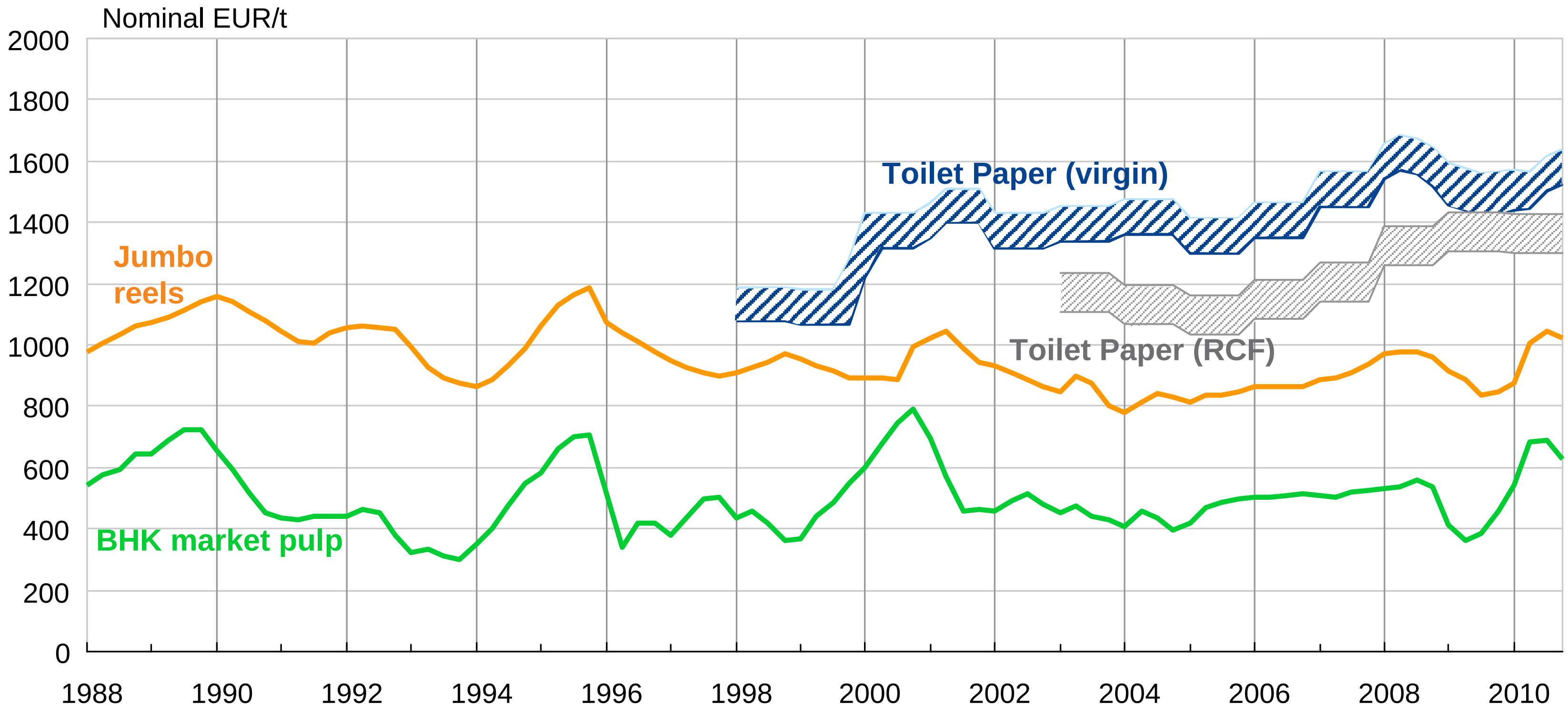


*) The analysis is based on average manufacturing costs in Europe.

**) Central European price for 2.05 Sorted office paper grade or similar.

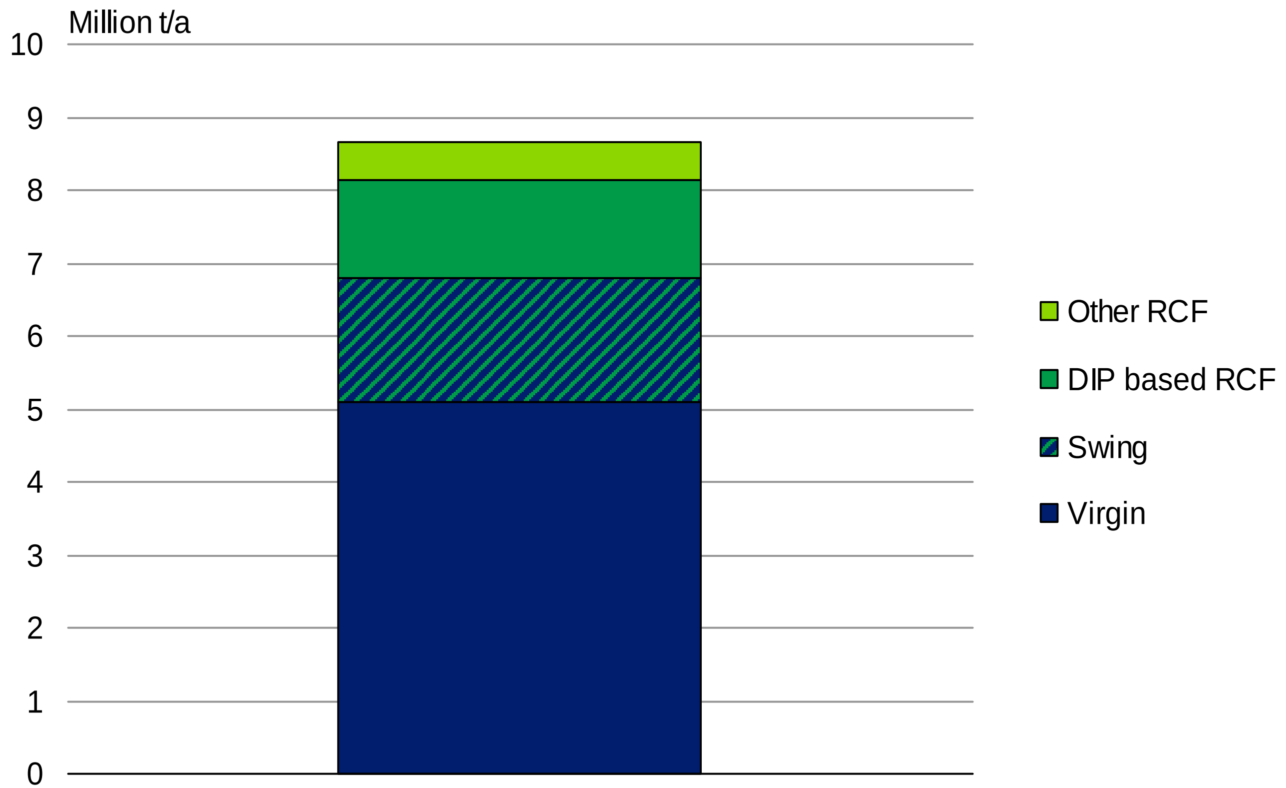
MARKET PULP PRICE AND TISSUE PAPER PRICE.
IS THERE A CORRELATION ?

RCF based products have clearly lower price level; therefore raw material prices must allow for lower manufacturing costs.



TISSUE PRODUCERS HAVE FLEXIBILITY REGARDING THE FIBER FURNISH

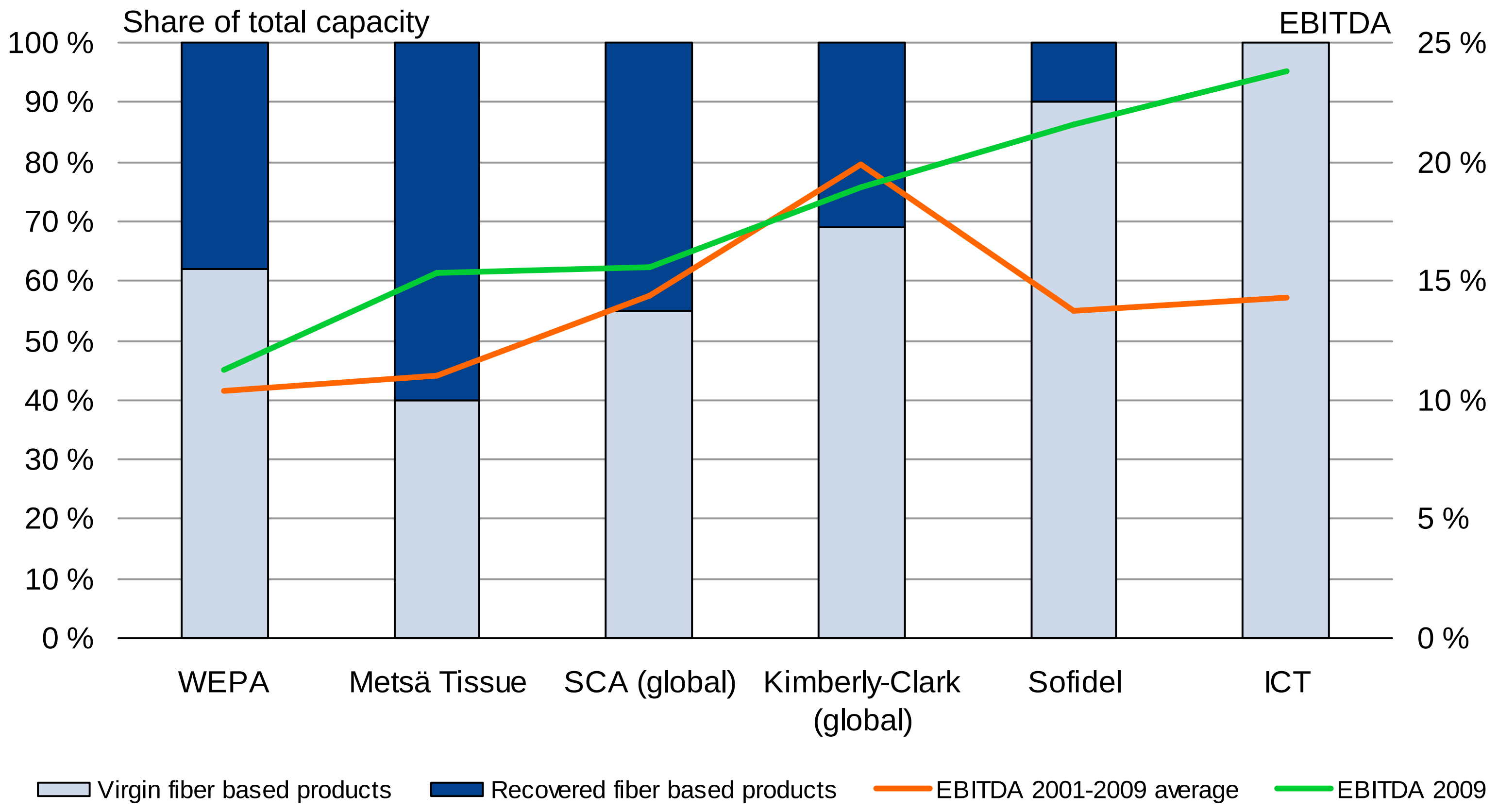
Half of the European recovered fibre based tissue capacity is estimated to be in a swing position (i.e. half of those using recovered fibre).



The analysis includes all relevant European tissue base paper producers.

DOES FIBER BASE IMPACT TISSUE PRODUCERS' PROFITABILITY?

With the increasing RCF prices virgin fibre share seems to be a driver for higher profitability



THANK YOU!

Engineering balanced sustainability™

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