Global and European Tissue Outlook: Will Europe Again See Too Many Investments and Overcapacity Threatening?

Esko Uutela, Principal, Tissue

March 11, 2015
Agenda

- Worldwide Outlook
- Asian Outlook
- North American Outlook
- Latin American Outlook
- European Outlook
- Concluding Remarks
WORLDWIDE OUTLOOK
World Tissue Consumption by Region, 2013

China most likely passed Western Europe in market size in 2014

Million Tonnes, Share (%) of the Global Total

Global Consumption: 32.4 Million Tonnes (2013)
Annual Growth in the Global Tissue Market

Relatively stable growth with the exception of the Great Recession in 2009, volume growth not accelerating anymore.
Regional Volume Growth of Tissue Consumption, 2000-2013

Total Global Growth: 11.5 Million Tonnes (881,000 Tonnes/Year)

Latin America shows the second largest volume growth

One-third of global growth in China!
Per Capita Consumption of Tissue by World Region in 2013

- Kg/Capita -

Huge potential!

N. America, W. Europe, Japan, Oceania, L. America, E. Europe, China, N&M East, Asia Far East, Africa
Growth Rates of Global GDP and Tissue Consumption, 2000-2016

Clear correlation but tissue consumption shows less variation than real GDP
Expected Growth in the Global Tissue Market

Tissue consumption is expected to benefit from the improving global economic growth.
Expected Tissue Demand Growth, 2013-2016
China dominating with a 38% share of global volume growth

1,000 Tonnes, Average Growth Rate (%)

Global Consumption: 32.4 Million Tonnes (2013)
Expected Regional Volume Growth of Tissue Consumption, 2013-2016
China dominating with a 38% share of global volume growth

© Copyright 2015 RISI, Inc. All rights reserved.
World Tissue Capacity Change*, 2000-2018

Too much capacity coming on stream in 2014-2017!!! The outlook is not encouraging for new investments.

* Based on committed projects only
Net Capacity Change* and Average Capacity Utilization in the Global Tissue Industry

Major capacity closures could improve outlook, but only marginally

* Based on committed projects only
ASIAN OUTLOOK
Asia Offers Major Potential for Tissue

Asia accounts for 60% of world population, 42% of global GDP but only for 34% of tissue consumption
Main Asian Tissue Markets, 2013
China dominating, Asia Far East soon larger than Japan

Total Market Size: 11.0 Million Tonnes
Asian Volume Growth of Tissue Consumption, 2000-2013

Total Asian Growth: 5.7 Million Tonnes (436,000 Tonnes per Year)
Recent Growth Rates of Chinese Tissue Consumption

The Chinese tissue market has been in a very strong growth phase, but 2013 market growth was disappointing.

Recently, growth has been slowing, with an average growth rate of 8.0% per year.
Estimated Regional Division of Tissue Consumption in China, 2013
(Thousand Tonnes)

Northeastern Economic Zone: 347
Bohai Bay Rim Economic Zone: 1,252
Western Economic Zone: 181
North Central Region: 917
North Central Region: 798
Cheng Yu Economic Zone: 502
South Central Region: 1,019
Yangtze River Delta Economic Zone: 1,094
Pearl River Delta Economic Zone: 1,019
Estimated Regional Per Capita Tissue Consumption in China, 2013 (kg/capita)

- **Northeastern Economic Zone**: 3.8 kg/capita
- **Western Economic Zone**: 2.8 kg/capita
- **Bohai Bay Economic Rim**: 5.0 kg/capita
- **Northern Central Region**: 3.5 kg/capita
- **Cheng Yu Economic Region**: 4.5 kg/capita
- **Yangtze River Delta Economic Zone**: 6.9 kg/capita
- **Southern Central Region**: 3.3 kg/capita
- **Pearl River Delta Economic Zone**: 6.4 kg/capita
- **Beijing**: 9.5 kg/capita
- **Shanghai**: 11.6 kg/capita
Chinese Tissue Exports Growth, 2008-2014

Chinese tissue exports are exploding and go to practically every corner of the world, Asia Far East, North America and Japan being the largest buyers, followed by Oceania.

Average growth rate 2011-2014 +20%/a

Tissue Exports, 1,000 Tonnes

- Asia Far East
- North America
- Japan
- Oceania
- Middle East
- Western Europe
- Africa
- Latin America
- Eastern Europe

© Copyright 2015 RISI, Inc. | Proprietary Information
Comparison of GDP and Tissue Consumption Growth in China 2008-2016

Tissue consumption growth will closely follow economic growth
Expected Growth Rates of Asian Tissue Consumption, 2013-2016

Strong growth in major markets with Japan, South Korea and Taiwan being exceptions, India to gradually take off, China slowing.
Chinese Investments Exploding, but Also Closures and Project Delays Expected

There is a real investment peak, too much capacity being built

**Effective Capacity Change***

- New Projects
- Closures
- Net Capacity Change

* PM start-up/learning curves considered

© Copyright 2015 RISI, Inc. | Proprietary Information
Net Capacity Change* and Average Capacity Utilization in the Asian Tissue Industry

Overcapacity is obvious, although project delays may help

*Based on committed projects only, learning curves considered
NORTH AMERICAN OUTLOOK
North American Tissue Market Growth Has Slowed Down in the Past Five to Six Years

Focus on product value, lightweighting cutting volume growth
US Tissue Imports Growth, 2008-2014

Canada continues to be the main US import source for tissue, but China has taken the second position before Mexico and Indonesia.

Average growth rate 2008-2014 +2.5%/a

Tissue Imports, 1,000 Tonnes

<table>
<thead>
<tr>
<th>Year</th>
<th>Canada</th>
<th>China</th>
<th>Mexico</th>
<th>Indonesia</th>
<th>Germany</th>
<th>Italy</th>
<th>All Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
North American Tissue Market Growth Will Be to Two-Thirds Supported by Population Growth but Remain Modest

There is no way back to 2-3%/a growth rates, even a 1.5% growth is an exception, but this only in terms of volume (weight), value grows more
Net Capacity Change* and Average Tissue Capacity Utilization in North America

Any new expansion adding to the committed capacity would change the currently outlook to be even more negative.

*Based on committed projects only
LATIN AMERICAN OUTLOOK
Main Latin American Tissue Markets, 2013
Brazil passed Mexico as the largest market in 2011

Total Market Size: 3.7 Million Tonnes

Brazil clearly heading the Latin American market expansion
Net Capacity Change* and Average Tissue Capacity Operating Rate in Latin America

Project delays and strong demand helping a lot, but emerging new projects could change the outlook rather drastically in the medium term.

* Based on committed projects only
EUROPEAN OUTLOOK
Main European Tissue Markets, 2014(e)
The four largest markets account for exactly half of European tissue consumption

- Germany: 17%
- UK: 13%
- France: 10%
- Italy: 10%
- All Others: 15%
- Russia: 7%
- Iberian P.: 10%
- Benelux: 5%
- Poland: 5%
- Nordic c.: 6%
- Greece: 2%

Total Market Size: 8.2 Million Tonnes
Eastern European Importance Increasing Rapidly in the European Tissue Business

2000

- WE: 88%
- Russia: 3%
- Other EE: 9%

2014e

- WE: 78%
- Russia: 7%
- Other EE: 15%
Growth Rates of Real GDP and Tissue Consumption in Europe, 2000-2016

Growth rates have a clear long-term correlation, albeit not very closely with some variation from year to year (in EE in particular)
Western European Tissue Market Suffered Badly from Recession but Outlook Better
Southern European and euro problems stopped growth, recovery was delayed but there is hope for some improvement in 2015-2016

Growth Rate, %/a

Very long-lasting recovery!
Eastern European Markets Have Recovered Well but Political Tension Threatens Growth

The conflict between Russia and the Ukraine also shadowing tissue market expansion.
Forecast European Volume Growth of Tissue Consumption by Main Country, 2013-2016

Russian growth is shadowed by the poor economic outlook

Total Expected Growth: 520,000 Tonnes
Major Capacity Changes (>8,000 t/a) in the European Tissue Industry, 2013

- Turinsky Pulp & Paper, Turinsk, Russia 15,000 t/a
- Cartiera di Ferrania, Cairo Montenotte, Italy 27,000 t/a
- SCA, Kostheim, Germany (new PM & closure) 46,000 t/a
- Higi Pappersoft, Szolnok, Hungary (restart) 30,000 t/a
- Cartiera Partenope, Arzano, Italy 25,000 t/a
- K-C, Delyn, Flint, Wales, UK -30,000 t/a
- MC Tissue, Porcari, Italy 35,000 t/a
- Metsä Tissue, Krapkowice, Poland 35,000 t/a
- Metallicplas (MG Tec Group), Cluj Napoca, Romania 28,000 t/a
- Paperka, Munix, Smolevichi, Minsk, Belarus 17,000 t/a
- Kondrovo, Kondrovo, Kaluga, Russia -18,000 t/a 210,000 t/a
Major Capacity Changes (>8,000 t/a) in the European Tissue Industry, 2014

- Hanke Tissue, Kostrzyn, Poland 15,000 t/a
- Petrocart, Piatra Neamț, Romania -10,000 t/a
- Petrocart, Piatra Neamț, Romania 25,000 t/a
- Cartiera Eurotec, Fabbriche di Vallico, Lucca, Italy (restart) 18,000 t/a
- Nueva Socarpi (Eurovast), Lanciole-Piteglio, Pistoia, Italy (restart) 13,000 t/a
- SCA, Sovetsk, Tula, Russia 60,000 t/a
- Syktyvkar Tissue Group, Semibratovo, Russia 30,000 t/a
- LC Paper, Besalu, Spain 40,000 t/a
- FRIPA, Miltenberg, Germany 36,000 t/a
- Fabryka Papieru Kaczory, Margonin, Poland 21,000 t/a
- Virtisu (CEL Group), Bilbao, Spain (restart) 26,000 t/a
- Hayat Kimya Group, Alabuga, Tatarstan, Russia 70,000 t/a 344,000 t/a
Major Capacity Changes (>8,000 t/a) in the European Tissue Industry, 2015

- Celulosas de Hernani (Cominter), Guipuzgoa, Spain (restart) 22,000 t/a
- Cartiera della Basilica, Bagni di Lucca, Italy (PM replacement) 16,000 t/a
- AB Grigiskes, Traku, Vilnius, Lithuania 30,000 t/a
- AB Grigiskes, Traku, Vilnius, Lithuania -9,000 t/a
- Fabryka Papieru i Textury Beskidy, Wadovice, Poland 17,000 t/a
- Suavecel, Viano de Castelo, Portugal 30,000 t/a
- Claire's, Nikopol, Bulgaria 16,000 t/a
- WEPA, Bousbecque, Lille, France 32,000 t/a
- LLC Pulp Invest, Kazan, Tatarstan, Russia 27,000 t/a
- AMS BR Star Paper (Portucel), Vila Velho de Rodao, Portugal 32,000 t/a
- Wolma/Paper Recycling, Russia 21,000 t/a
- WEPA, Giershagen-Marsberg, Germany 32,000 t/a
- ICT Poland, Kostrzyn, Poland 70,000 t/a
- Arkhbum Tissue Group (APPM), Vorsino, Russia 32,000 t/a 367,000 t/a
Major Capacity Changes (>8,000 t/a) in the European Tissue Industry, 2016-2017

2016:
• Syassky, Syasstroy, Russia -20,000 t/a
• Syassky, Syasstroy, Russia 38,000 t/a

Potential Projects:
• Goma-Camps, Ejeo de Caballeros, Spain, Italy 60,000 t/a
• Accrol Paper, Blackburn, Lancashire, UK 60,000 t/a
• Confidential, Central Europe 60,000 t/a
• Confidential, Central Europe 65,000 t/a
• Confidential, Southern Europe 65,000 t/a
• ICT Iberica, El Burdo de Ebro, Spain 70,000 t/a
• Delipapier, Ingrandes, France 60,000 t/a

440,000 t/a
Net Capacity Change* and Average Capacity Operating Rate in Europe

European investments will push capacity utilization down in 2014-2016 and several planned projects indicate this trend could continue.

* Based on committed projects only
Concluding Remarks

- China's growth is slowing and also cutting average global growth to 3.6%/a, which is still good growth albeit down from 4.0% earlier.

- China will continue to be the main driving force of global tissue industry expansion, followed by Latin America and the Middle East. Project delays will be common.

- Globally, the tissue business is threatened by overcapacity in several regions, not only China and Asia, but also Latin America, the Near and Middle East and Europe.

- North American developments are characterized by slow but steady growth, quality upgrading (now in the AfH sector as well), and continuing fights between brands and private labels plus threat of overcapacity in 2016-2017 if no major closures take place.

- Europe seems not to have learned anything from the past, again too many expansion plans have emerged, in Eastern Europe in particular but also in Western Europe. Europe's outlook is shadowed by the ongoing political tension as well. There are many additional investment plans, so there is no hope for improving demand/supply balance in the next couple of years.
Thank you for your attention!

For more information:

Outlook for World Tissue Business
www.risi.com/owtb

World Tissue Business Monitor
www.risi.com/wtbm

US Tissue Monthly Data
www.risi.com/ustm

Exploding Chinese Tissue Business – Opportunities and Challenges
www.risi.com/chinatissue

Available later this year

Future Fiber Needs of the Expanding Global Tissue Industry