

Tissue markets overview and trends that will shape the next 5 years

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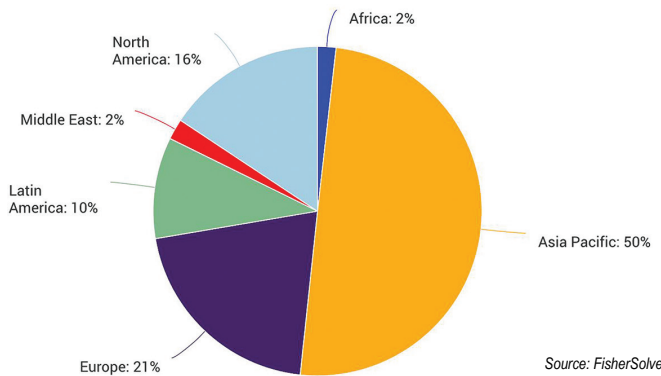
INTRODUCTION:

To say that global geopolitical, trade flows and economic structures are stressed would be an understatement. Over the course of the last two years, a heightened sense of uncertainty has permeated our lives and the markets we depend on, though there are shimmers of light and reasons to be hopeful about the future.

One segment of the pulp & paper industry that continues to rapidly evolve is tissue and towel. There has been some reshuffling and settling since the onset of the pandemic in 2020, and society seems determined to return to normalcy – whatever that may look like. The global tissue sector also looks drastically different than it did in 2019. Before looking at the trajectory of the tissue and towel sector and various factors that could impact it going forward, here are eight interesting facts about the state of the global tissue and towel sector as of 2022.

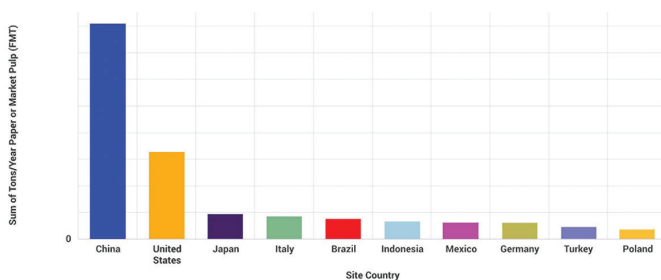
1: Global tissue is a roughly 60MM st market, which is about 10-15% of the global pulp and paper market. As illustrated in the image below, Asia now accounts for almost half of the world’s tissue machine capacity.

Global tissue production by region



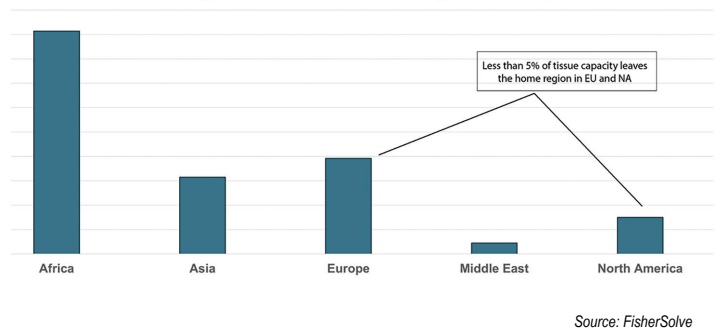
2. Population and urbanization drive tissue production. The graph below illustrates the top tissue producing countries. China’s capacity is much larger than the next several countries combined; the United States is also a very important tissue producer, with about half of China’s capacity.

Top tissue producing countries

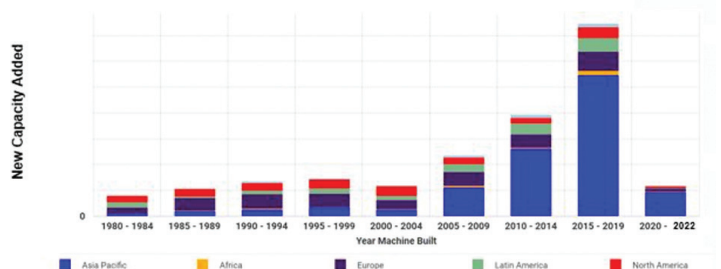


3. Tissue is a “local” business. This means that most regional tissue production stays close to home (versus other grades such as market pulp and containerboard, which are routinely shipped to far away markets). Over 95% of North American and European tissue production stays in their own markets.

Inter Regional Trade as a Percent of Regional Capacity

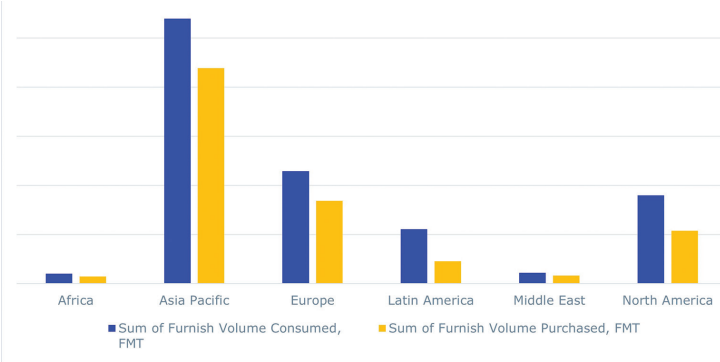


4. New investment in tissue has been driven by Asia, which accounts for 70% of total global new machine capacity since 2010. The chart below illustrates new capacity by machine build year and provides an indication of where capital has been flowing. Asian investments have been mostly in China, which has now resulted in a significant overhang.



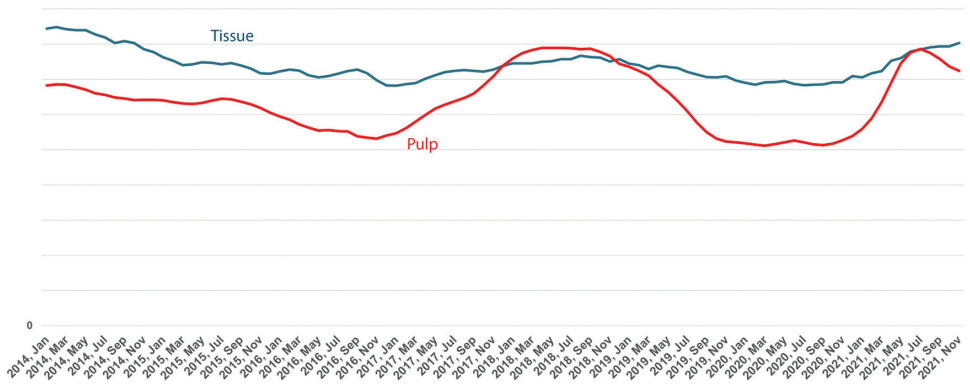
5. The US is unique regarding the high share of advanced technology machines in tissue production – comprising 90% of the world’s market for TAD, NTT, etc. This is because US consumers prefer and demand higher-end tissue products that are soft and absorbent.

Tissue furnish consumption purchased vs, total



Source: FisherSolve

US, Chinese and German tissue and pulp prices USD / ST, Trade-Derived R² = 0.6



Source: FisherSolve

8. We expect global tissue demand to grow 1-5% in the coming decade – with the most growth occurring in Asia.

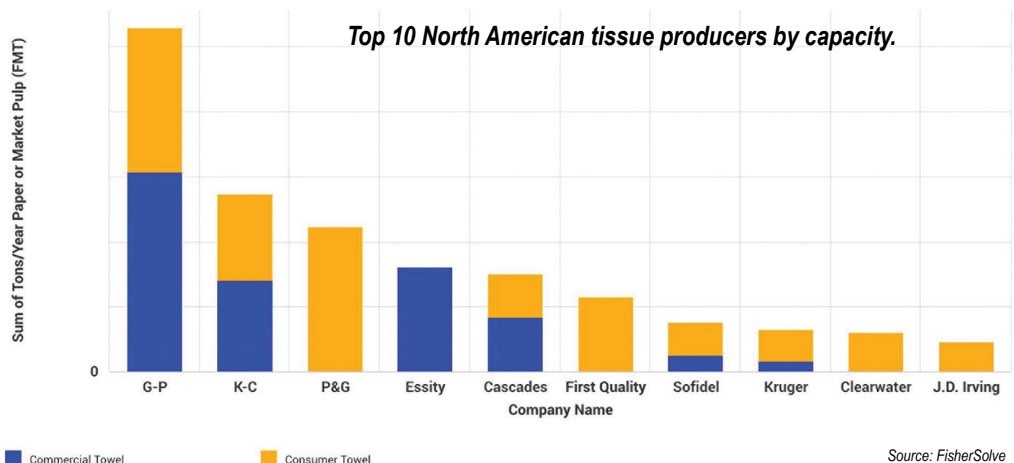
Now, let’s narrow it down a bit and look specifically at the North American tissue market and some of the trends that will shape this market in the future.

NA Overview

The current North American tissue market is at about a 10 million short ton value with net imports (excluding the US and Canada) at about 480,000 short tons (st). When looking towards the future, we expect the market to grow by roughly 1% over the next year.

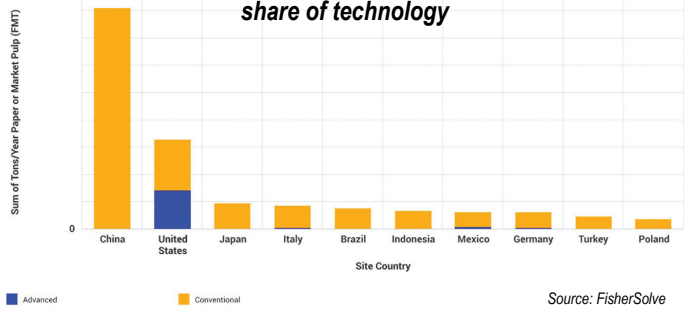
Within the North American tissue segment, roughly one-third of the market is made up of private label share. The image right illustrates the top 10 North American producers by capacity, and it’s interesting to note that the top three companies account for about 50% of total capacity.

Sum of Tons/Year Paper or Market Pulp (FMT)



Source: FisherSolve

Global top 10 country tissue making capacity by share of technology



Source: FisherSolve

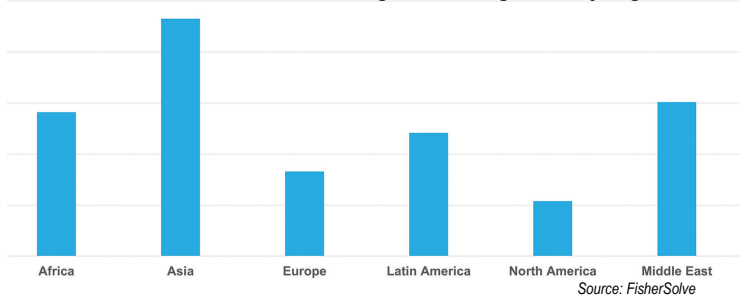
6. Tissue mills buy market pulp for most of their fiber furnish

As illustrated left, about 80% of global tissue is made using purchased pulp. Considering that pulp makes up 60% of parent roll costs for the average global tissue mill, it should be no surprise that it is also the largest single driver of cost on average.

7. Globally, tissue prices and pulp prices share turning points.

This then leads to another attribute of these types of markets, which is the price correlation. Using FisherSolve’s Market Module, we can analyze the calculated trade derived weighted tissue prices for selected regions and acknowledge the correlation coefficient between pulp and tissue prices which is quite high (about 0.6 R²).

2022 - 2030 Tissue annual average demand growth by region.



Source: FisherSolve

Trends to Watch

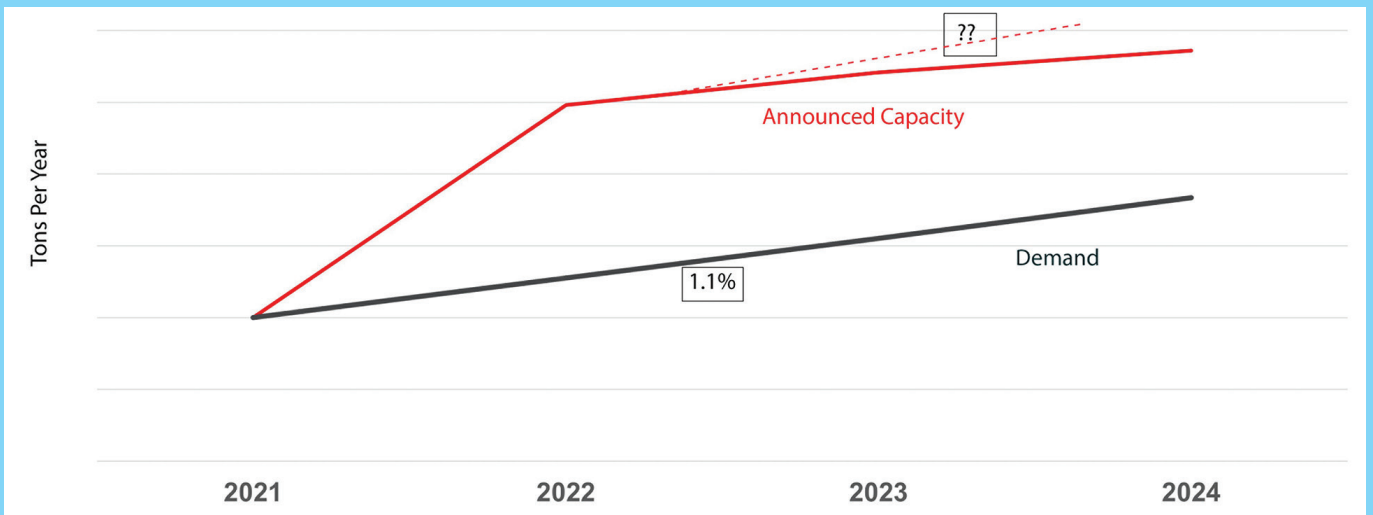
Trend prediction is risky business today, as uncertainty may be more pronounced now than it has been in several decades. Between the unexpected global pandemic we experienced over the last two years and the first “major” European land war in 70 years, trend predicting isn’t as reliable as it once was. However, the antidote to uncertainty is scenario planning – identifying risks, addressing them and finding the underlying truths that are likely in most scenarios.

In order to scenario plan, we must identify the risks by asking critical questions such as:

- Will capacity (especially in private label) create a bubble?

The chart below illustrates North American announced Tissue and Towel capacity and the expected demand. Assuming North America as a whole grows at about 1%, we can compare the expected demand with the announced capacity, and what we see is the likelihood of an expanding gap between capacity and demand as announced capacity is exceeding gross demand. Of course, as the chart below reflects announced capacity, it is altogether possible that we will see additional announcements 2-3 years from now.

North American announced T&T capacity and expected demand.

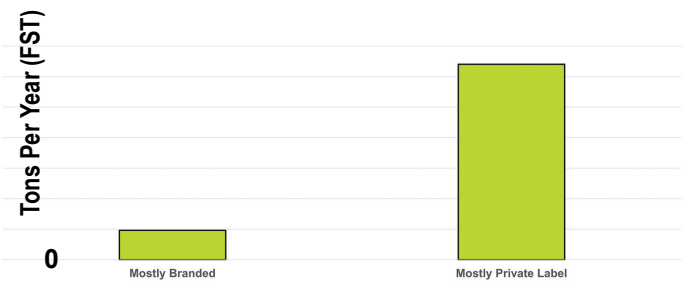


Source: FisherSolve

When we dive deeper and look a bit closer at the details, we can see that a significant amount of new capacity over the 5-year period will come from companies that focus largely on the private label market.

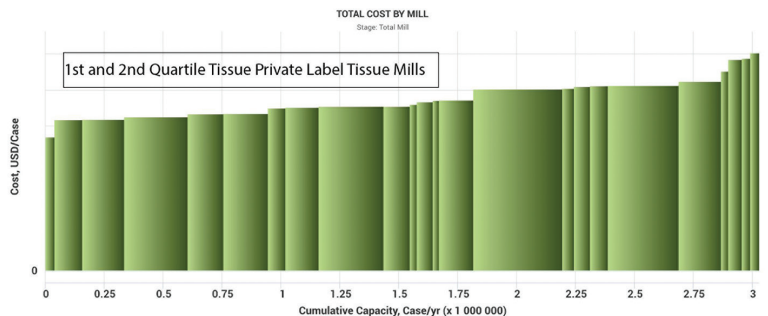
- Will private label market demand grow enough to absorb all of the new capacity? Let’s examine three factors that will impact the direction of this growth:

North American tissue capacity change 2021-2025



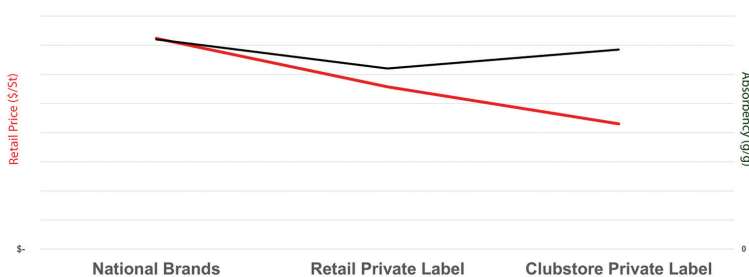
Source: FisherSolve

1. Costs: The chart right illustrates a cost curve (supply curve) at the case level. Using data from FisherSolve, we can adjust for differences in advanced and conventional pressing. When applied, we can see that private labels can be low cost and cost competitive as half of 1st and 2nd quartile consumer advanced non-integrated mills are private label.



Source: FisherSolve

Consumer paper towel shelf price and absorbency (NCSU)



2. Quality: When looking at the results from the North Carolina State University (NCSU) published tissue study comparing the shelf price and absorbency of towel, private labels can compete on the shelf in terms of quality compared to national brands. However, the question remains: will towel consumers pay 60-80% more for 10-20% more absorbency?

Source: FisherSolve

3. Inflation: Inflation is eroding consumer spending power, which has historically been a tailwind for private label brands. As we can see in the image right, US real wages for all wage earners dropped 12% in 3Q2021 compared to 2Q2020.

However, this is all just a small part of the story. Private label capacity is growing fast and fragmenting – another trend to keep an eye on.

Another important dynamic that is just as critical, and something that is oftentimes overlooked, is the share of private and public ownership. Looking at the decline in public company ownership and what that tells us about capital return expectations has extremely important strategic implications. When investing, public companies tend to want a shorter ROI, whereas private companies don't mind a longer ROI. This is a major factor into why recent, new tissue growth is occurring within private companies.

What Role Does Carbon Play in All of This?

Whether voluntary or mandatory, carbon will increasingly be a cost for producers. We've already seen big brands set net-zero goals which are being backed with big investments and demands that their suppliers help them meet reduction targets. We've also seen carbon legislation in various forms that has been introduced in several regions – creating new opportunities for the industry to take advantage of the significant shift in views on the environment.

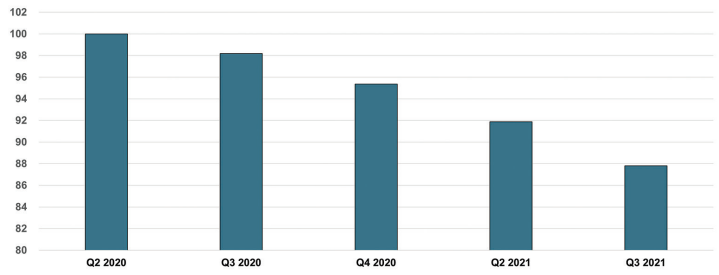
The image below illustrates North American tissue greenhouse gas (GHG) emissions by mill, and as we can see, there are significant differences in the amount of carbon emitted between various US tissue producers. Those mills that are emitting the least amount of GHG are advantaged within the industry, whereas those towards the right side of the curve face a serious risk.

So why is this important?

With the rise of carbon pricing mechanisms, the cost of doing business will ultimately increase for manufacturers located within these high emitting regions. In addition to higher prices, these manufacturers could also potentially lose the business of retailers and companies who are focusing on their own individual carbon footprints, which forces them to evaluate the carbon claims of their own suppliers, transport systems, etc., in order to achieve sustainability goals.

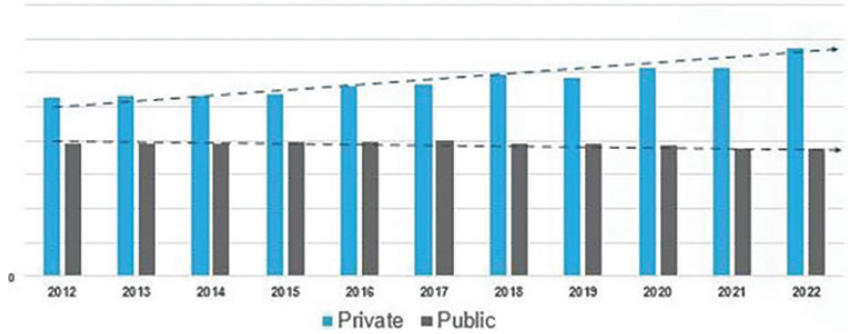
With procurement-level decisions now being made with regard to the sustainability of suppliers, which is critical for the energy-intensive Pulp & Paper industry, carbon impacts of individual mills are being compared to their peers, and information about the upstream carbon footprint is being requested.

US Real wages for all wage earners.



Source: FisherSolve

NA. Tissue capacity by company ownership type.

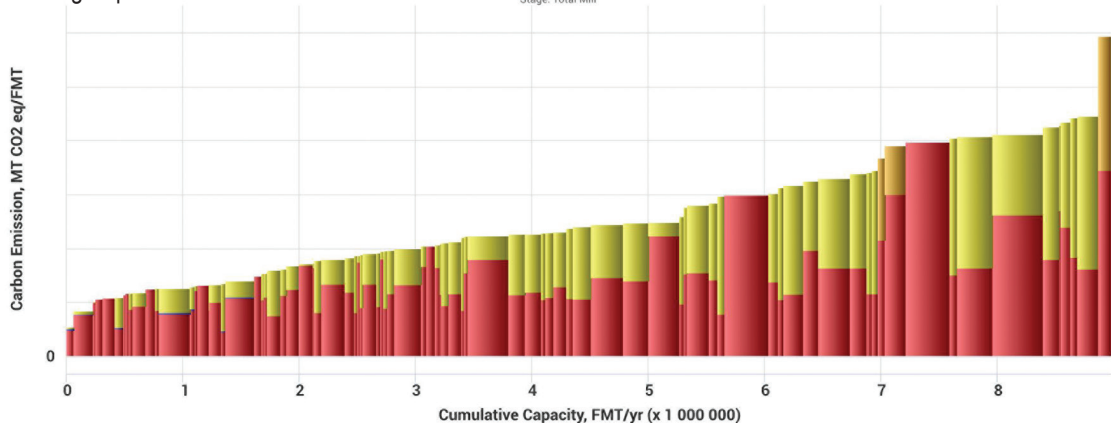


Source: FisherSolve

Overall, the North American tissue market is very likely to see a cycle of surplus capacity in the coming years, however, pressure will vary by tissue segment and channel. Even though exogenous factors such as Covid-19, the Russia-Ukraine war, and inflation are creating more uncertainty, there are some things we are fairly certain about: low-cost producers in private labels who can compete will gain share; the prospect of reduced consumer spending power will be a tailwind; and carbon costs will become more widespread in the next 5 years, creating a major opportunity for owners who can proactively articulate their story.



SCOPE 1+2 GHG BY MILL
Stage: Total Mill



CARBON CLASSES

- GHG-Fossil Fuel Combustion Carbon Emission
- GHG-Biomass Fuel Combustion Carbon Emission
- GHG-Purchased Electricity Carbon Emission
- Energy Sales GHG-Fossil Fuel Combustion Carbon Emission

Source: FisherSolve