

The Global Pine Chemicals Compass

China, APAC and the Forces Redrawing
Rosin, Terpenes and Market Access



AMERICAS



EUROPE



PORTUGAL



INDIA



CHINA



SOUTHEAST ASIA



PINE
ORIGIN



ROSIN
VALUE



TURPENTINE
SOLUTIONS



CHEMISTRY
INNOVATION



TRADE
ACCESS



WHY THE COMPASS HAS MOVED

“THE MARKET IS NO LONGER DEFINED BY ONE PRODUCT, ONE REGION OR ONE PRICE CYCLE.”

KEY POINTS



Rosin remains the visible market reference.



Terpenes are becoming the strategic scarcity story.



China remains central, but its role is changing.



India and Southeast Asia are gaining weight.



Market access depends on documentation, reliability and trust.



ONE TREE, TWO DIFFERENT VALUE CHAINS

“ROSIN AND TURPENTINE START TOGETHER – BUT BEHAVE DIFFERENTLY IN THE MARKET.”

KEY POINTS



Two value chains originate from the **same oleoresin**.



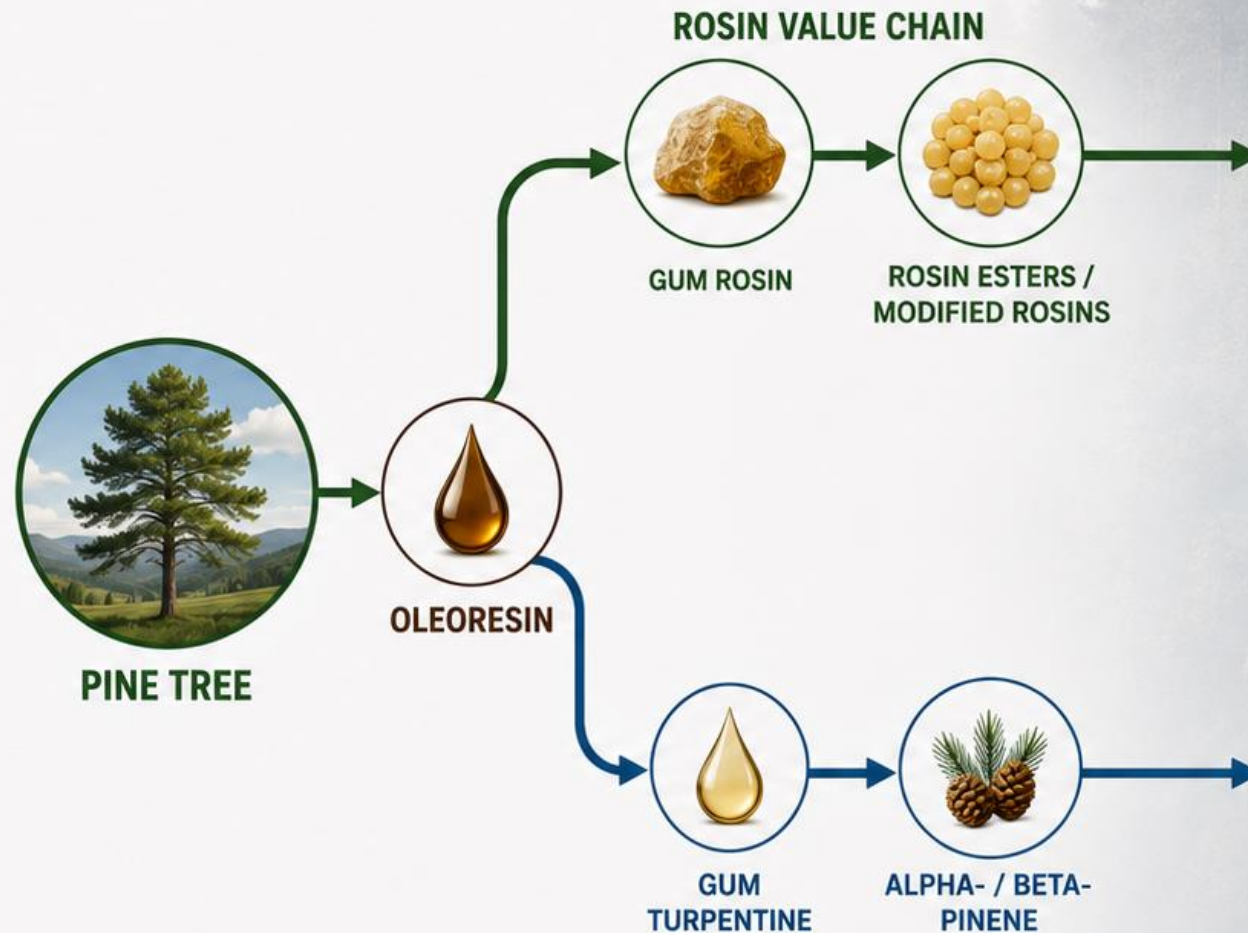
Rosin side focuses on volume, tackification, modification and faces **substitution pressure**.



Terpene side is driven by **scarcity**, **pinene chemistry** and **higher-value derivatives**.



Both are influenced by **forest access**, **labour**, **climate** and **tapping economics**.



COMMON FOUNDATIONS



Forest Access



Labour & Tappers



Weather & Climate



Tapping Economics

END USES



Adhesives & Hot Melts



Inks & Coatings



Rubber & Tyres



Paper Sizing



Road Marking



Electronics & Specialty Apps



Food, Chewing Gum & Other Uses

END USES



Terpeneol



Camphor



Pine Oil



Aroma Chemicals



Fragrance & Personal Care



Pharmaceuticals & Specialty Uses

China: Still Central, But No Longer Simple

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Directional Feedback from the Market

“BUYERS, CONVERTERS AND END-USE INDUSTRIES ARE SENDING CLEAR SIGNALS. OUR INDUSTRY MUST LISTEN AND ADAPT.”

KEY POINTS



Buyers prioritize consistency, reliability and documentation.



Converters demand higher performance and processability.



End-use industries push for sustainability and safety.



Traceability and transparency are becoming table stakes.



Innovation and collaboration create preferred supplier status.



Two Value Chains, Different Market Temperatures

Rosin remains active and competitive.
Terpenes are where scarcity is
heating up.

KEY POINTS



Rosin value chain is broad, industrial
and steadily global.



Turpentine value chain is narrower,
regional and more volatile.



Different specifications, different
end-uses, different pricing logic.



Market dynamics, inventory cycles
and risk profiles are not the same.



Understanding both is key to
strategic decisions in 2026.

ROSIN VALUE CHAIN

Higher Volume – Broader Applications



GUM ROSIN



PROCESSING

Distillation &
Quality Control



DERIVATIVES

Rosin Esters, Disproportionated
Rosin, Hydrogenated Rosin



APPLICATIONS

Adhesives, Coatings & Inks,
Rubber, Paper, Bio-based
Materials, Others



MARKET CHARACTERISTICS

Global, diversified, more stable
demand and pricing

HIGHER
TEMPERATURE



MORE
STABLE

TURPENTINE VALUE CHAIN

Lower Volume – Higher Volatility



GUM TURPENTINE



PROCESSING

Distillation & Rectification



DERIVATIVES

Alpha-Pinene, Beta-Pinene,
Delta-3-Carene, Others



APPLICATIONS

Fragrances & Flavors, Pharma,
Sols/Detergents, Agriculture,
Specialty Chemicals



MARKET CHARACTERISTICS

Regional, concentrated,
more volatile pricing

LOWER
TEMPERATURE



MORE
VOLATILE



Same origin. Different paths.
Different temperatures. Different strategies.



The Bottleneck Is Moving Upstream

“The constraint is no longer only capacity. It is resin, labour, weather and access.”

KEY POINTS



Feedstock access is the new critical constraint.



Labour availability and tapping economics matter more.



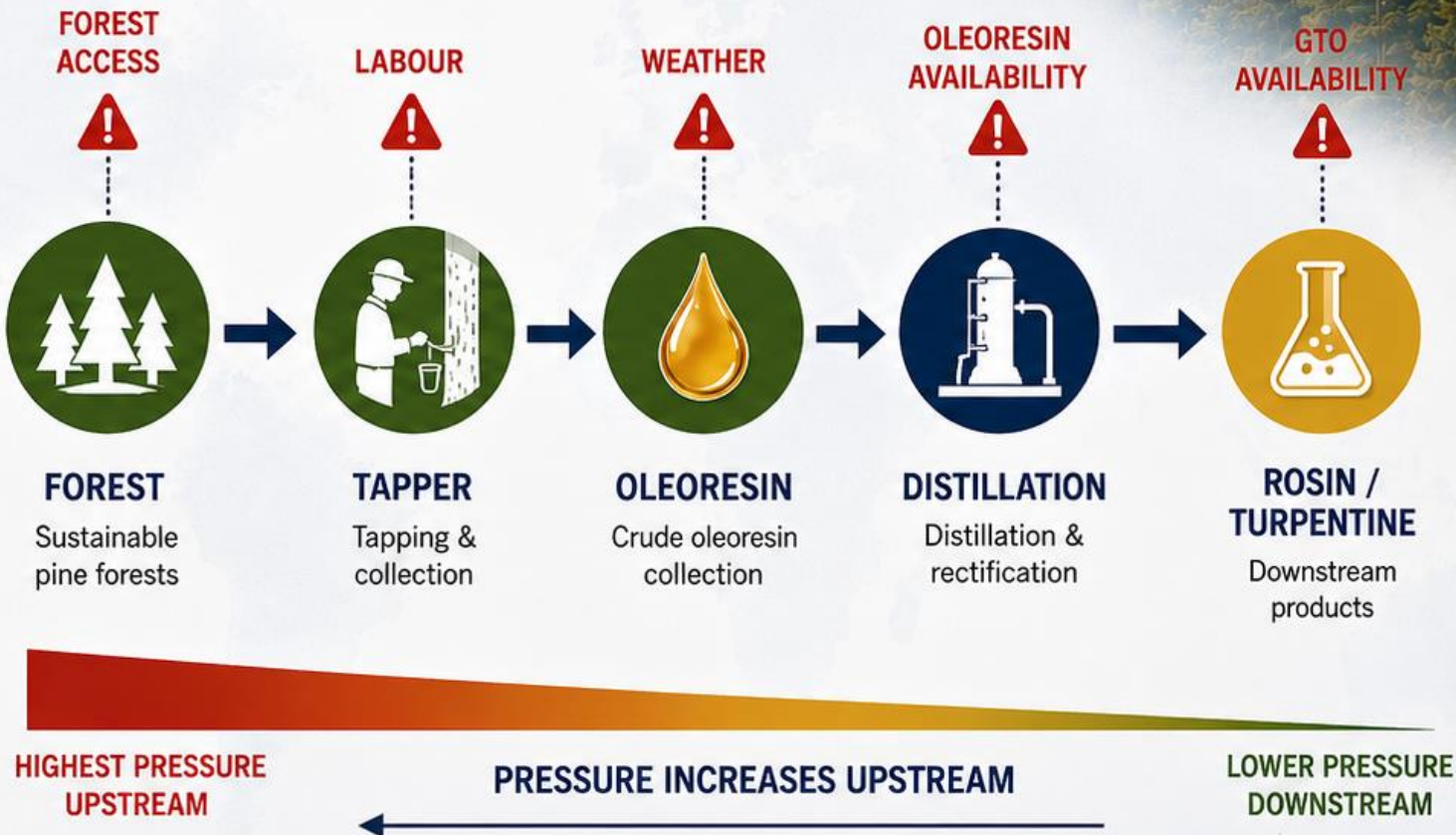
Weather and climate conditions are increasingly visible.



Oleoresin and **GTO availability** are tighter than capacity.



The bottleneck is **moving upstream**.



Turpentine: From Co-Product to Strategic Feedstock

“Turpentine is no longer just a co-product. It is becoming one of the clearest scarcity signals in pine chemicals.”

KEY POINTS



India shows the clearest pressure point.



GTO prices have risen sharply.



Feedstock is tighter than derivative ambition.



Weather, freight, hoarding and demand all matter.



Turpentine increasingly shapes downstream strategy.

GTO into India: Price Pressure Timeline



* directional respondent input



India: The Terpene Demand Anchor

“India is not only a price-sensitive buyer. It is a growing processing and consumption base constrained by feedstock.”

KEY POINTS



Strong exposure to GTO and terpene derivatives.



Domestic tapping cannot match demand growth.



Imports remain essential.



Processing capacity is real and growing.



Binding constraint: **feedstock**.



BINDING CONSTRAINT: FEEDSTOCK.

Asia's Pine Chemicals System Is Interconnected

“THREE REGIONS. DIFFERENT STRENGTHS.
ONE INTERCONNECTED VALUE SYSTEM.”

KEY POINTS



China leads in processing and derivative innovation.



ASEAN provides feedstock, capacity and manufacturing strength.



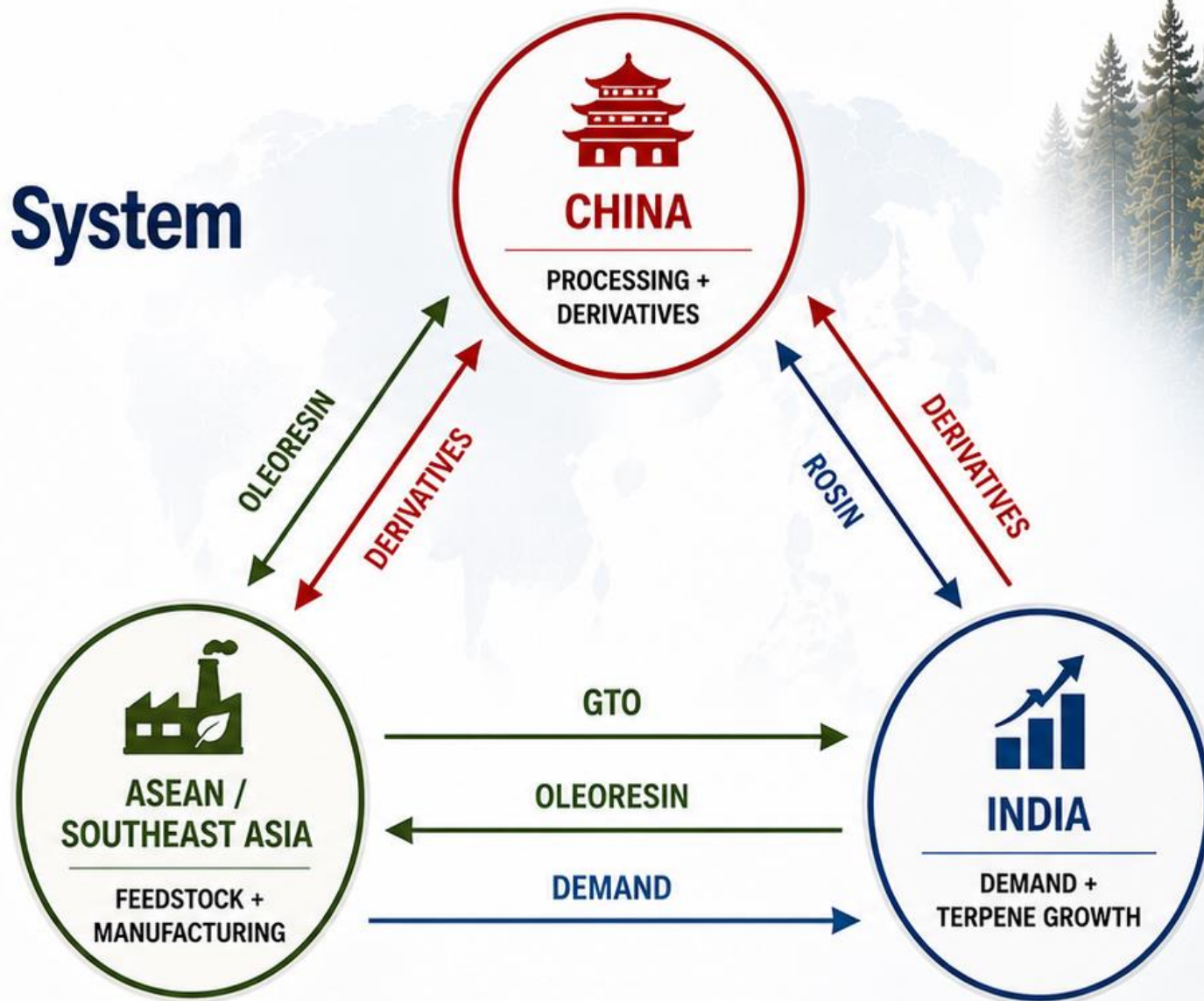
India is the fastest-growing demand center for terpenes and derivatives.



Material and products flow across borders, creating mutual dependence.



Collaboration, reliability and scale will define the winners in 2026 and beyond.



**CONNECTED MARKETS. COMPLEMENTARY ROLES.
SHARED GROWTH.**



Market Access: Evolving Realities

“Price, reliability and relationships still win orders. Documentation increasingly protects access.”

KEY POINTS



Price and availability often still matter first.



Relationships help — but they do not replace qualification, proof and vigilance.



Traceability and compliance increasingly reduce risk.



ESG and documentation are becoming market-access filters.



Well-prepared suppliers are easier to approve — and harder to replace.



Five Signals to Navigate Ahead

“The companies and partners who read these signals early will shape the market – not just respond to it.”

KEY POINTS



Five shifts will define competitiveness across the pine chemicals chain.



Monitor the signals. **Act early.** Build advantage.



Collaboration across regions will multiply opportunities.



Resilience comes from diversified supply and agile markets.



Sustainability and access go hand in hand.



READ THE SIGNALS. ALIGN YOUR STRATEGY. LEAD THE CHANGE.
Clarity today. Stronger position tomorrow.

The Future Has Roots

“Pine chemicals have changed geography before. They are changing again – and the future belongs to those who connect roots, value and trust.”

KEY POINTS



Portugal reminds us that leadership can move.



China remains central, but its role is evolving.



Southeast Asia and India are gaining strategic weight.



The future depends on resilience, innovation and trust.



The industry keeps changing — but it keeps finding new value.



NORTH AMERICA / USA



PCR_2015-0506_USA PCR_2017-0910_USA PCR_2017-1112_USA PCR_2021-1112_USA



PCR_2018-0506_USA PCR_2018-1112_USA PCR_2019-0102_USA PCR_2019-0304_USA



PCR_2020-0506_USA PCR_2020-0708_USA PCR_2021-0102_USA PCR_2021-0304_USA



PCR_2021-0506_USA

CENTRAL AMERICA / MEXICO



PCR_2018-0708_Honduras PCR_2020-0102_Mexico

EUROPE (UK, SPAIN & PORTUGAL)



PCR_2016-1112_Spain PCR_2022-0102_Spain PCR_2020-0910_Portugal PCR_2019-1112_UK



PCR_2017-0708_Europe PCR_2021-1112_Europe

ASIA / CHINA



PCR_2017-0102_China PCR_2018-0304_China



PCR_2019-0506_China PCR_2021-0708_China

INDIA



PCR_2019-0910_India

FIJI / PACIFIC



PCR_2015-0304_Fiji

WORLD / GLOBAL



PCR_2015-0708_World PCR_2017-0304_World PCR_2017-0506_World PCR_2020-0304_World

AFRICA



PCR_2018-0910_Africa PCR_2021-0910_Africa

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