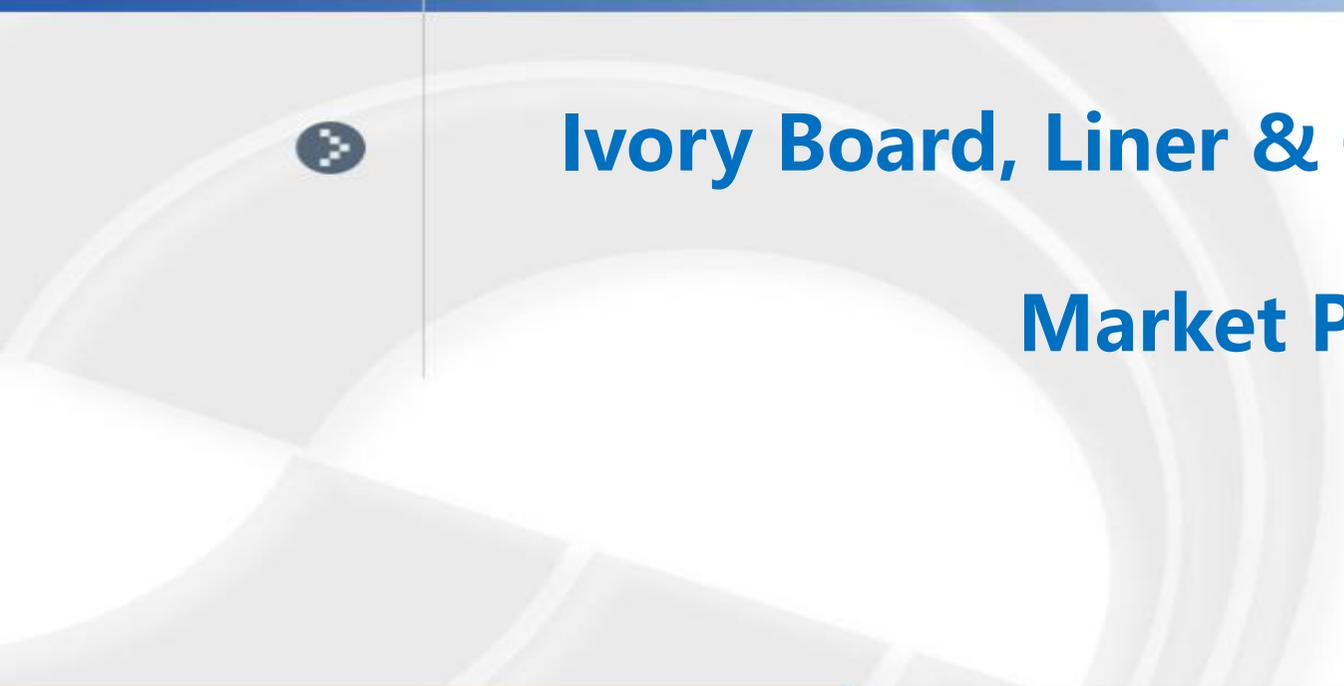




SINAR MAS GROUP  
APP CHINA ENTERPRISE



➤ **Ivory Board, Liner & Corrugated Board**

**Market Profile**

**APP Global Technical Sales Head**  
**Davis Qiu 11-Nov.-2025**



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# APP INTRODUCTION



## ASIA PULP AND PAPER

SINAR MAS GROUP



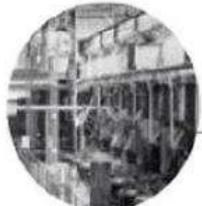
ASIA PULP AND PAPER  
SINAR MAS GROUP

SAPLINGS AT APP GUANGXI PLANTATION SITE

## MILESTONES OF SINAR MAS



1938  
Established



1968  
1<sup>st</sup> Palm oil plant



1972  
1<sup>st</sup> Paper mill



1972  
Real Estate



1982  
Finance



1986  
Plantation



1992  
Entered China



1996  
Energy Power plant



2005  
Sinar Mas Bank



2006  
Telecommunication



2017  
Global #1  
Paper  
Industry



2025  
87th  
Anniversary

## SINAR MAS GROUP BUSINESS PILLARS



**Pulp & Paper**

**Forest and Pulp**



**Agribusiness & Food**

**Paper and Packaging**



**Real Estate & Development**

**Tissue**



**Financial Service**



**Communication & Technology**



**Energy & Infrastructure**



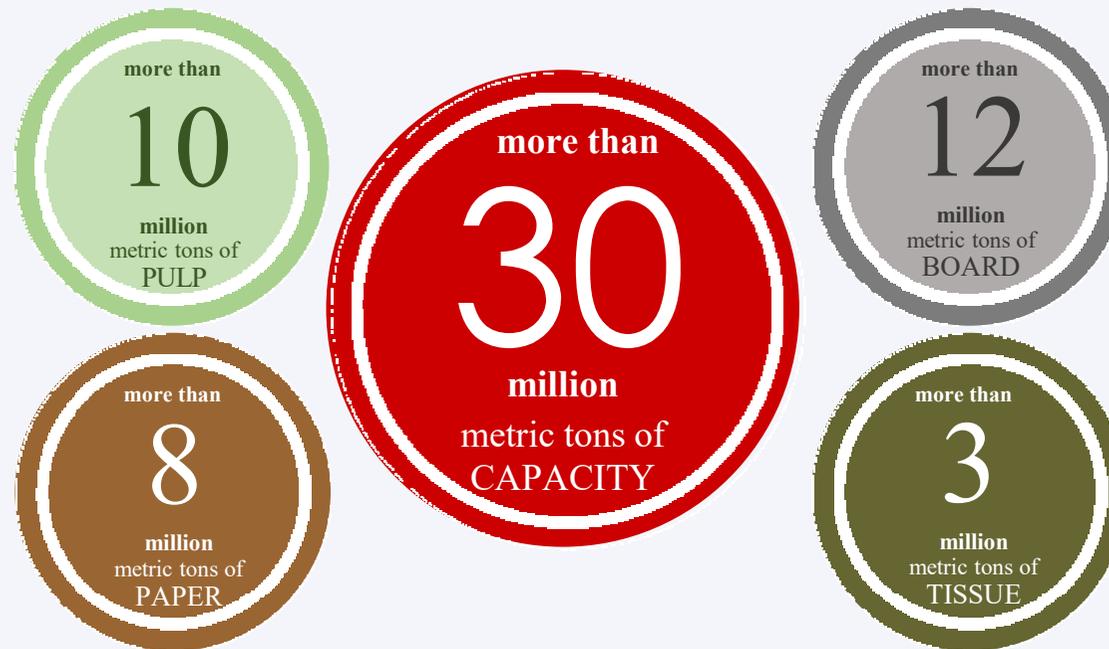
**Healthcare**



**Education**

## ASIA PULP AND PAPER - APP

Asia Pulp and Paper Group (APP) is one of **the world's largest, fully integrated pulp and paper manufacturers** whose products are utilized by millions of people every day. APP invests in largest, most innovative paper and board machines to manufacture an entire suite of high quality products. APP combines technology and environmental innovation to deliver the scale and quality customers would expect.



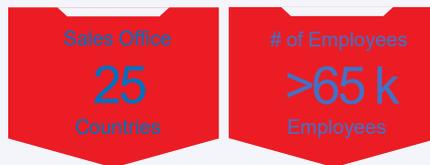
Over 5 million metric tons of additional pulp, paper and paperboard capacity planned to be ready in 2026

## GLOBAL PRESENCE

### SALES IN...

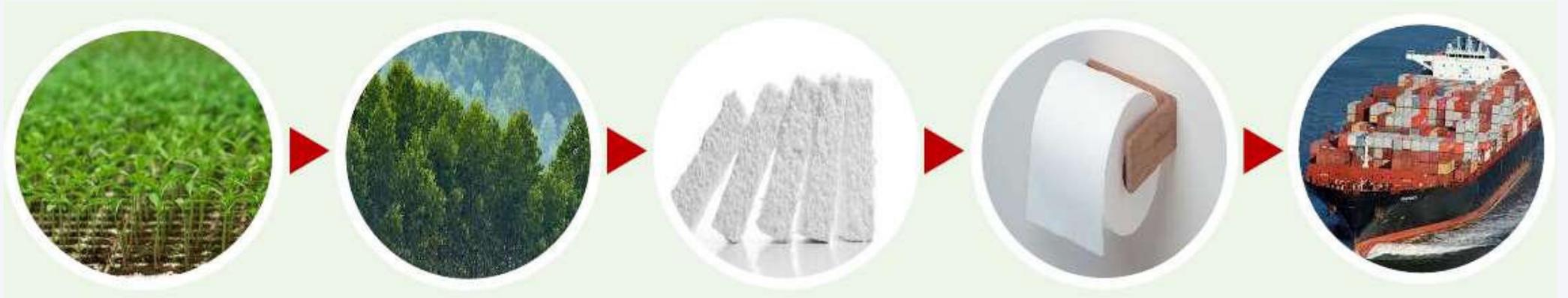


### DISTRIBUTED FROM...



FULLY INTEGRATED UPSTREAM TO DOWNSTREAM PRODUCTION FACILITY ● SELF SUFFICIENT AND SUSTAINABLE RAW MATERIAL WOOD PLANTATION ● WORLDWIDE DISTRIBUTION

## INTEGRATED POWERHOUSE - PLANTATION, PULP, PAPER AND DOWNSTREAM FACILITIES



### Tree Nursery

Leading in environmental protection.

Runs the biggest nursery R&D facility in Indonesia.

Delivering Acacia and Eucalyptus trees, promoting APP's continuous planting cycle program

### Plantation

We assured and self sufficient wood supply, fully planted sustainable fiber plantation in Indonesia and China

### Pulp Mills

Cutting-edge technology, operates three pulps in Indonesia and China

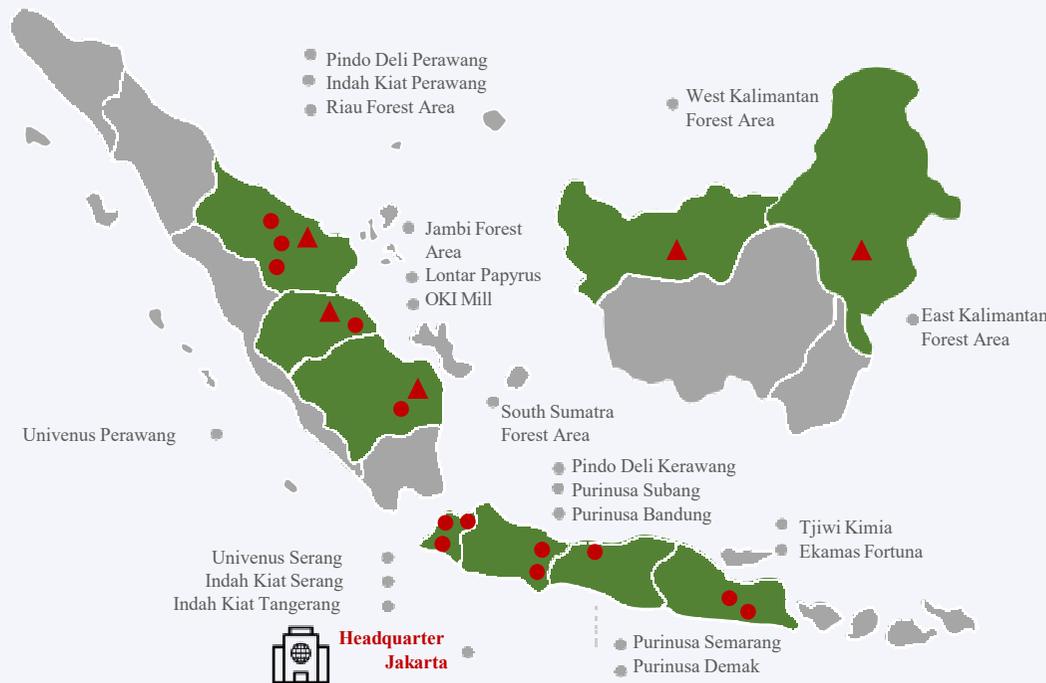
### Paper, Packaging and Tissue Mills

Operates more than 60 downstream products production facilities in Indonesia, China and rest of the world

### Global Distribution & Diversified Market Segment

Penetrates to paper manufacturer, paper converter, industrial/consumer products manufacturer, traditional market retailer, modern market retailer, e-commerce

## MAP OF OPERATION - INDONESIA



20 Sites of forest, pulp, paper, tissue, and downstream facilities



SINAR MAS PLAZA, JAKARTA  
APP INDONESIA HEADQUARTER Located  
in most prominent area of Jakarta

## MAP OF OPERATION - CHINA



SINAR MAS PLAZA, SHANGHAI  
 APP CHINA HEADQUARTER  
 The tallest building in Puxi Area

22 Sites of forest, pulp, paper, tissue, and downstream facilities

## MILL INTRODUCTION

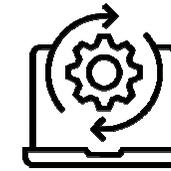
CoC	Mill	Board Machine	Capacity (T/Y)	Deckle Size (m)	Supplier	Key Products
PEFC	Ningbo	BM1	1,100,000	8.1	Valmet	C1S Ivory Board C2S Art Board Cigarette Board
PEFC	Ningbo	BM2	1,100,000	6.6	Voith	C1S Ivory Board Food Board
PEFC	Guangxi	BM1	1,200,000	8.1	Voith	C1S Ivory Board Food Board
PEFC	Guangxi	BM2	1,000,000	8.1	Valmet	C1S Ivory Board Food Board
FSC	Shandong	BM1	300,000	5.6	Voith	Cigarette Board Food Board
FSC	Shandong	BM2	400,000	5.6	Valmet	C1S Ivory Board C2S Art Board
FSC	Jiangsu	BM1	900,000	8.1	Voith	C1S Ivory Board
FSC	Jiangsu	BM2	1,000,000	9.6	Voith	C1S Ivory Board

**APP China, for ivory board, total 8 Board Machines – 8.1 million tons**

## CONVERTING MILL INTRODUCTION

Location	Number of Machine	Capacity (T)
Ningbo	8	140,000
Guangxi	4	80,000
Kunshan	1	21,600
Shandong	4	102,000

Total annual downstream capacity is more than 360,000 ton



DOWNSTREAM  
CAPABILITY



Total 17 machines of PE



4 Production Bases in China



Annual Capacity 360,000 ton

**APP China, for PE Coated Ivory Board, we are the largest supplier.**

## VARIETY OF PRODUCT RANGE

We believe in **delivering innovation, sustainably and responsibly**, working together to secure a **better future** of our customers, communities, employees, shareholders and you.

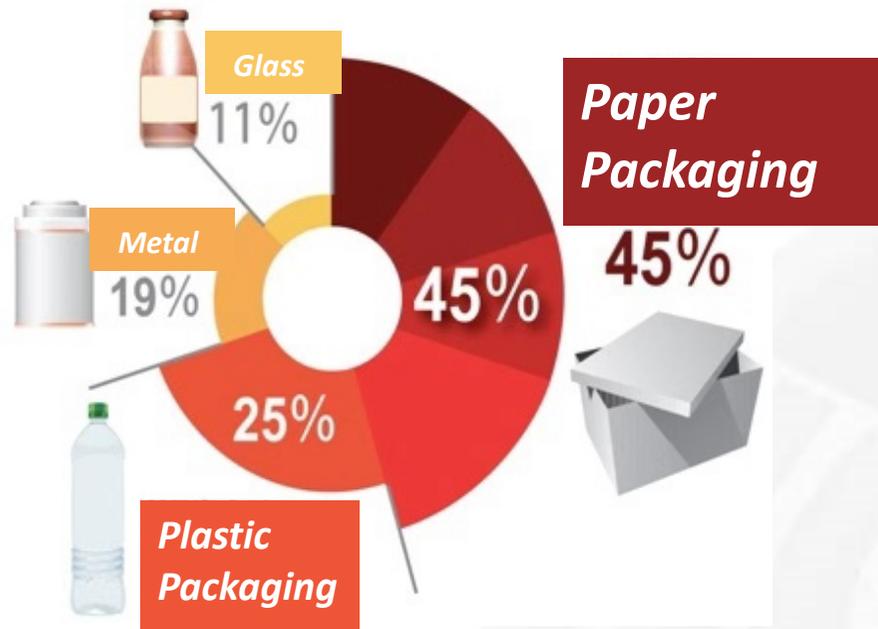


- MANUFACTURED FROM RESPONSIBLE AND TRACEABLE SOURCE WOOD



# **GLOBAL PAPER PACKAGING CURRENT SITUATION**

# Current Situation of Green Packaging Material



## Why the paper packaging material is mainly used

- **Environment Friendly**: paper can be recyclable and reusable; the integration of forest/pulp/paper business is sustainable.
- **Cheaper and lighter**: paper packaging materials with higher strength and lower weight is the trend, improving packaging quality, saving paper, and reducing costs, achieving multiple benefits at once



FDA



CE



RoHS



Formaldehyde



OBA



BPA

# Main Paper Packaging Material

Liner Board+  
Corrugated Board



➤ Total Global Volume:  
Year 2024, consumed **194.426 million tons**



Consumed volume: 6:1?



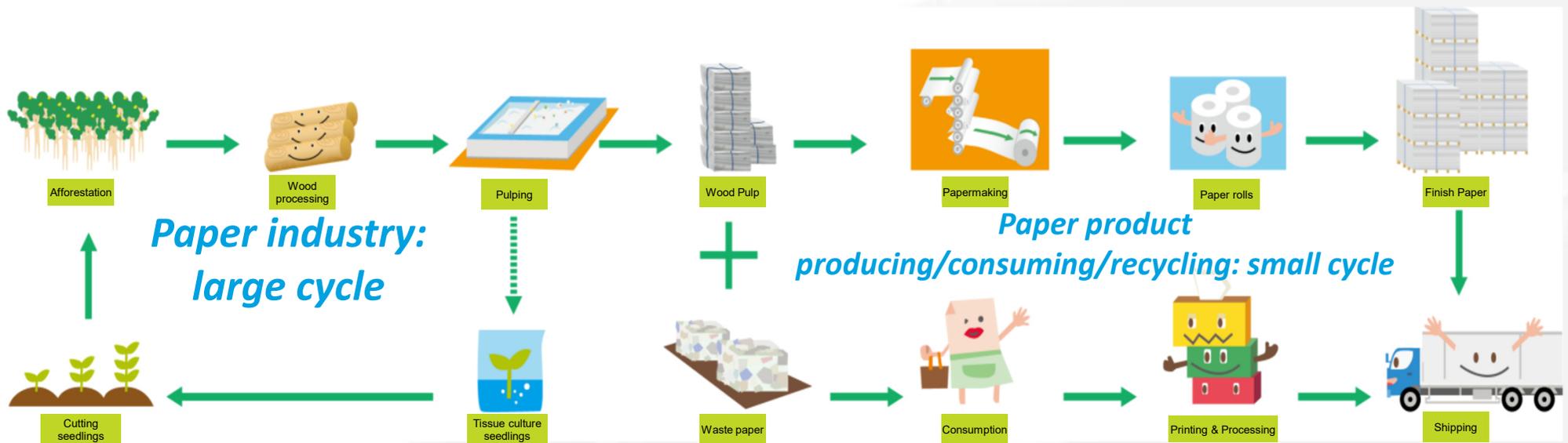
Ivory Board



- 2025 total **Global Virgin Cartonboard Demand Estimated: 48.55 million tons**
- ✓ Asia: China 13 million tons, other 5 million tons;
- ✓ Latin American: 18.2 million tons
- ✓ Europe: 5.1 million tons
- ✓ North American: 7.25 million tons

# Green packaging is a new opportunity for paper industry

- The pulp and paper industry is a truly **sustainable green circular industry**: sunshine, rainwater, land, then the business is continuous.
- There are **two cycles** in the pulp and paper industry: **large cycle and small cycle**

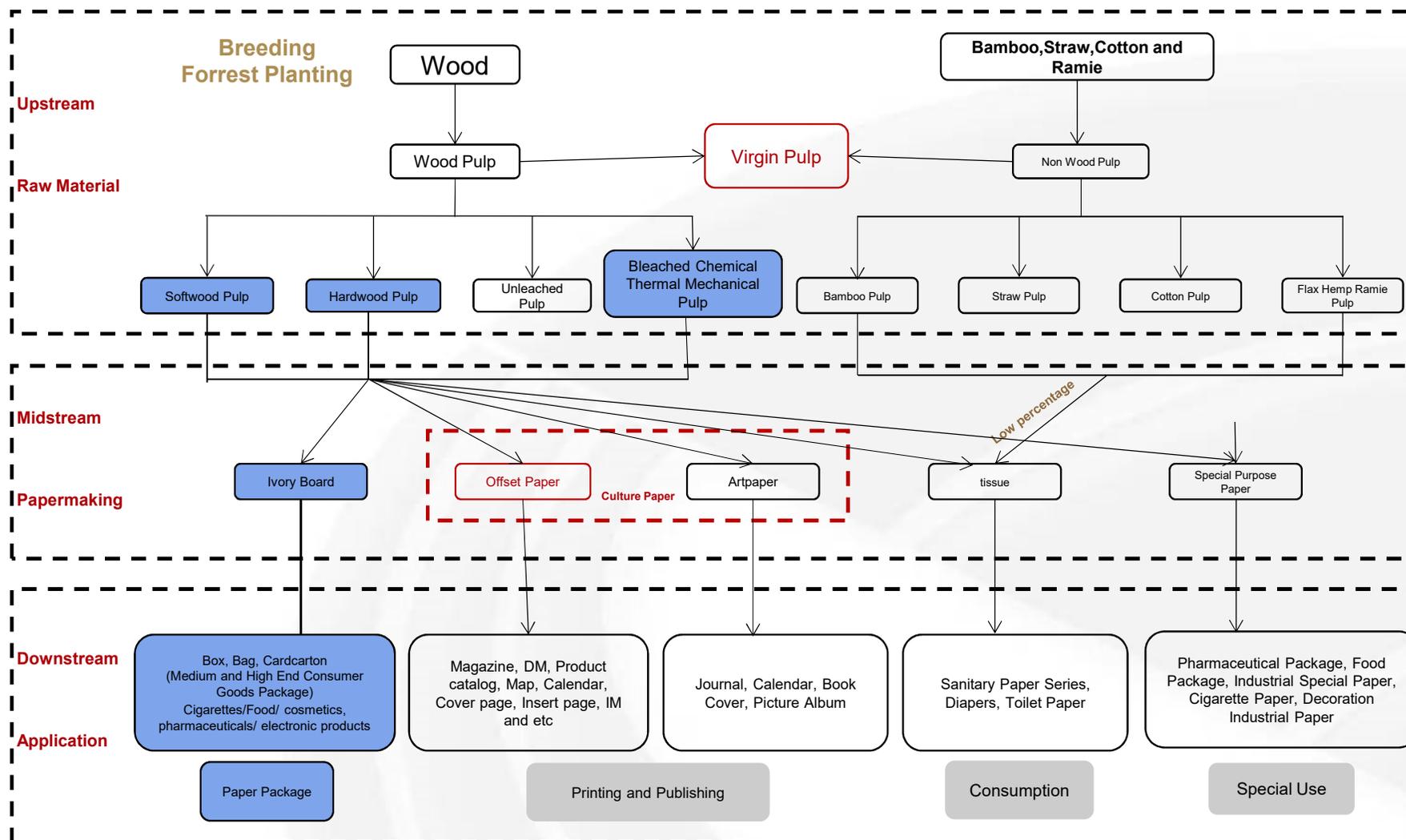


- ✓ APP has **own forest/pulp/paper, the whole chain**
- ✓ APP has become a model for **green papermaking** in the world, truly practicing sustainable development

# **IVORY BOARD MARKETING AND DEMAND**

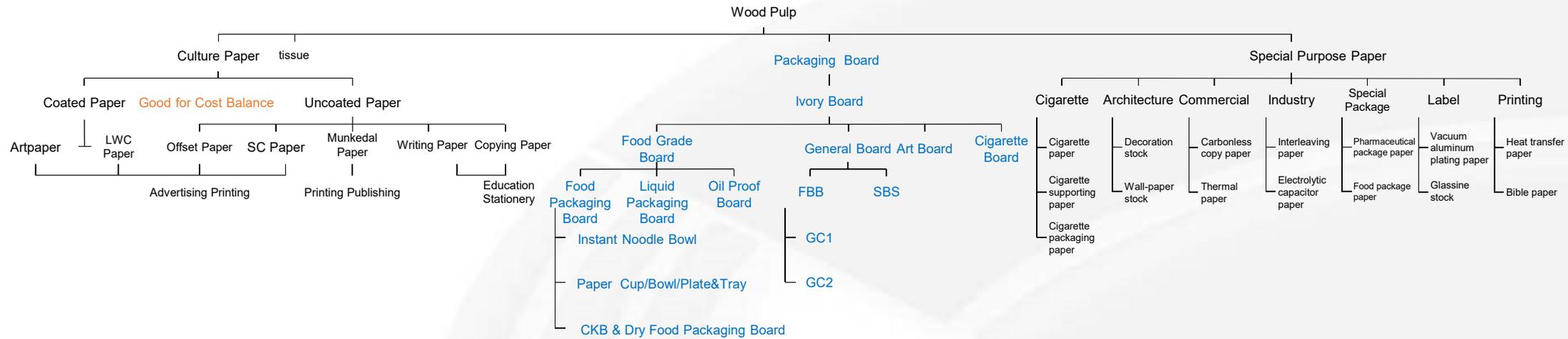


# Virgin Pulp Industry Chain



# Virgin Pulp Downstream Products Overview

## Classification by Applications



# Demand Side: 2024 China Paper Consumption 136 Million Tons, Remain Steadily Development

## Classified by raw material, papermaking can be divided as pulp series and waste paper series:

**Pulp series:** Using LBKP, NBKP, CMP and other virgin wood pulp as fiber raw material, include uncoated culture paper, coated culture paper, ivory board, tissue, specialty paper and etc;

**Waste paper series:** Include liner board, corrugated board, newspaper, coated duplex board and etc.

## Classified by downstream Application, papermaking can be divided culture paper, packaging board, tissue and specialty paper:

**Culture paper** mainly apply in printing industry, include uncoated culture paper, coated culture paper, coated culture paper, newspaper;

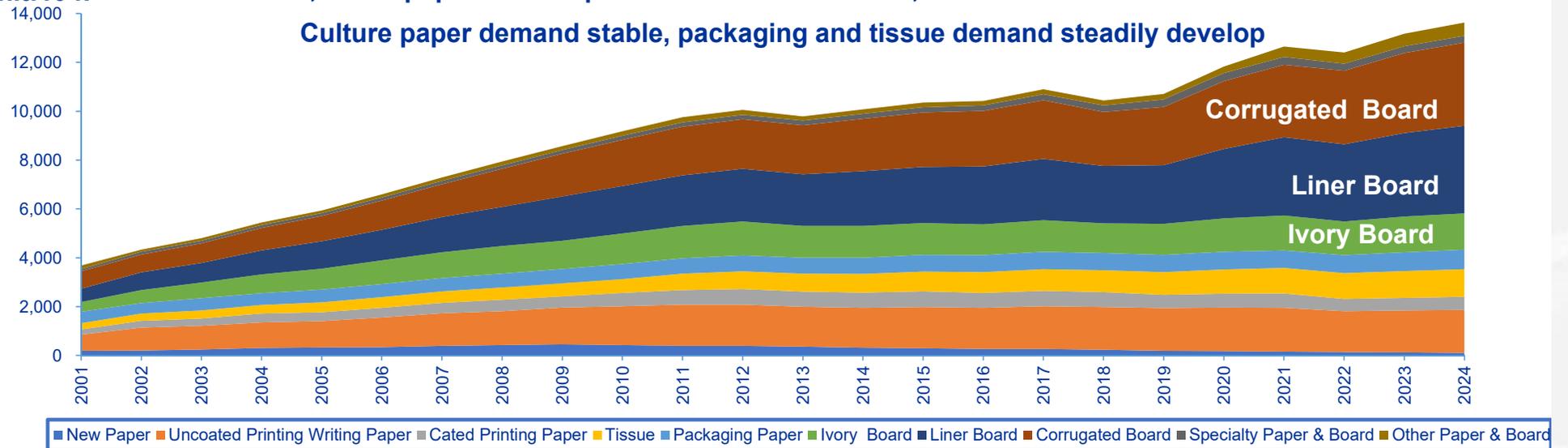
**Packaging paper** mainly apply paper packaging industry, include ivory board, liner board, corrugated board, coated duplex board;

**Tissue** mainly apply in daily consumption; specialty paper apply in particular segmented scenarios.

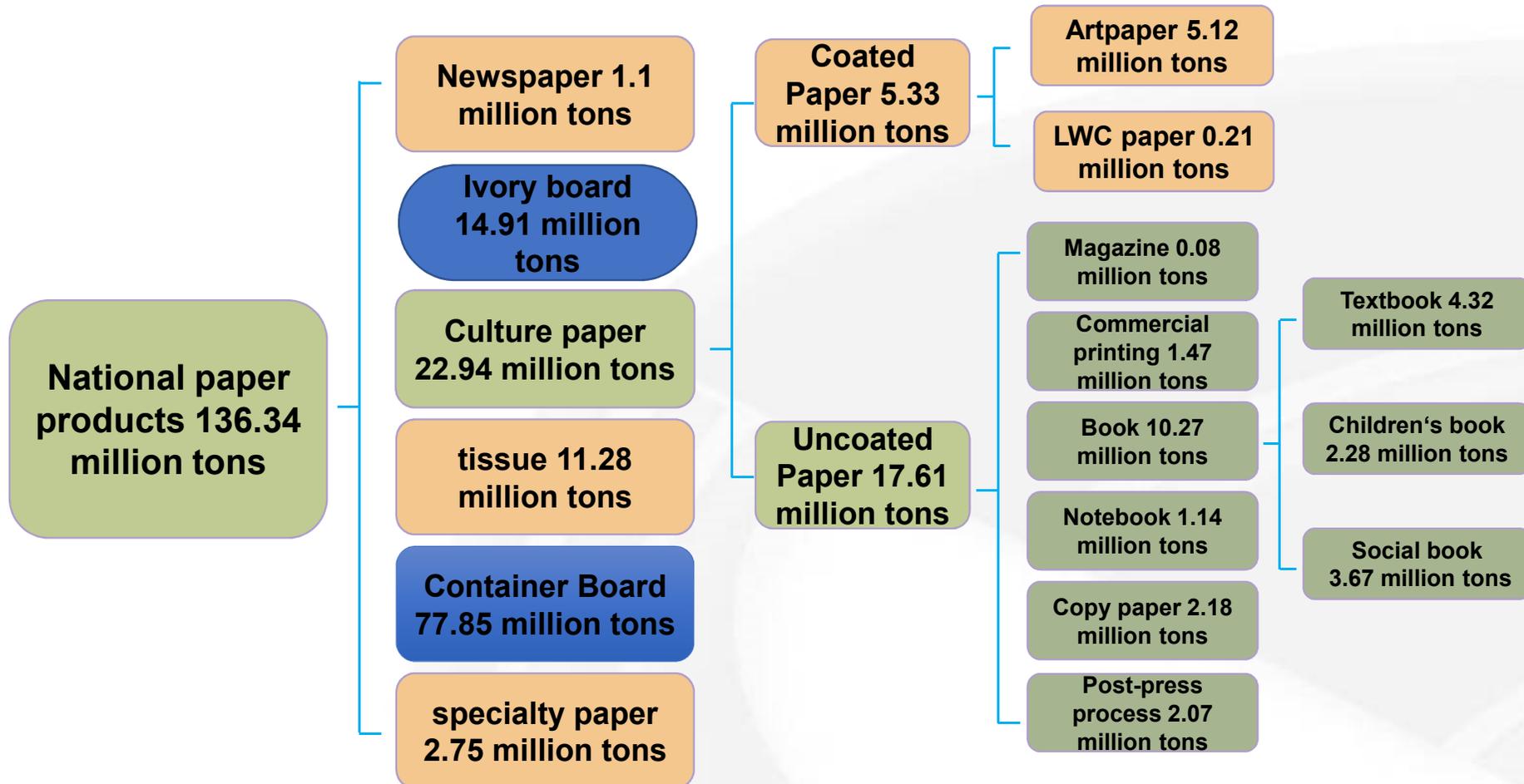
Unit: 10 k

In 2024, China paper consumption was 136 million tons, CAGR from 2015 to 2024 is 2.79%

Culture paper demand stable, packaging and tissue demand steadily develop



# Volume of Each Paper Series In Segmented Market (China )



# Scale of Increasing Production Capacity of China In 2024-2025

Unit:10 k tons

Domestic	New Capacity in 2023	New Capacity in 2024	New Capacity in 2025	Sum	Oversea (Indonesia)
Ivory Board	282	150	850	1282	420
Duplex board	65	60	125	250	
Woodfree paper	173	107	201	481	
Liner board	327	415	258	1000	90
Corrugated Board	183	220	87	490	
Domestic production capacity	2022	2023	2024	2025	2025 (Consider slowing down of go into production progress)
Ivory Board	1825	2107	2257	3107	2540
Duplex Board	1153	1218	1278	1403	1341
Woodfree paper	1670	1843	1950	2151	2051
Art paper	553	553	553	553	553
Liner board	4010	4337	4752	5010	4881
Corrugated Board	4135	4318	4538	4625	4582

# Ivory Board Market

## ➤ Ivory Board Basic Overview

**Applications** :Mainly apply in electronic products, cosmetics, pharmaceuticals, food and etc packaging industry

**Advantage**: Fulfill precise printing requirements, eco-friendly, degradable, support high-speed automatic packaging machine

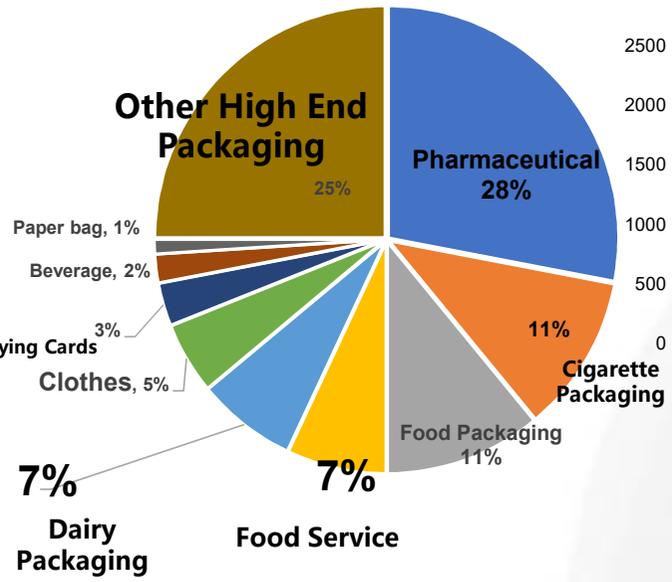
## ➤ Ivory Board Classification

- ✓ Classified by product process: Ivory board and art board
  - ✓ Classified by using pulp process: usually divide as FBB(Fold Box Board), SBS(Solid Bleached Sulphate), UKB(Unbleached Coated Board)
  - ✓ Classified by end users: general ivory board, cigarette board, food grade packaging paper, art board
- Remarks:
- ✓ Food grade board segmented market: liquid packaging board, coated food grade board, oil proof board, paper cupstock, paper bowl stock, paper lunch box .

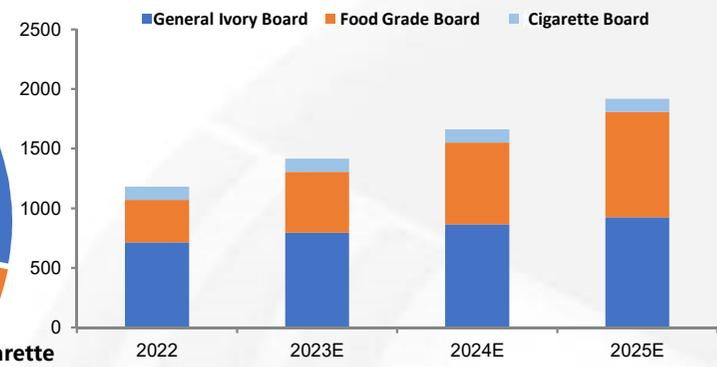


# Part of Ivory Board Increased Demand Comes From Replacing Coated Duplex Board (China)

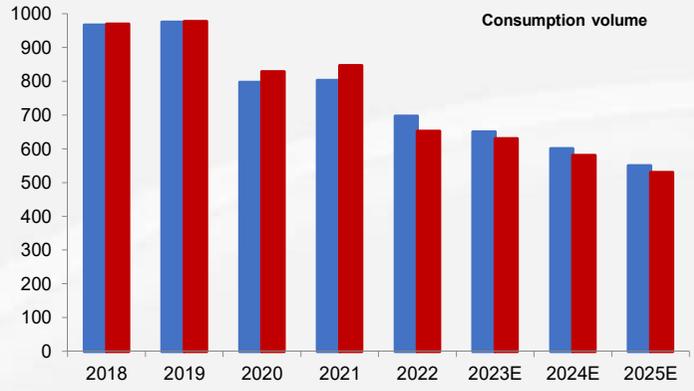
The whole marketing demand distribution



Food Grade Board Push up Ivory Board Demand (ten thousand tons)

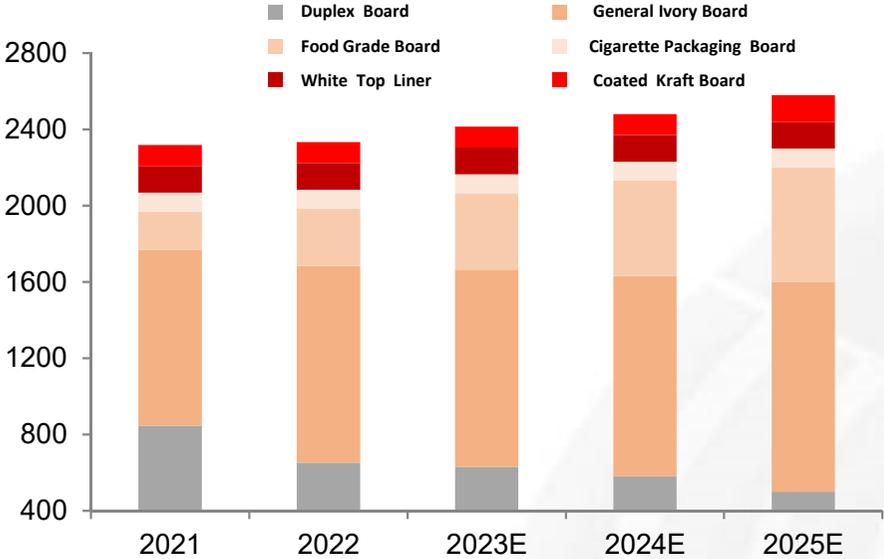


Duplex Coated Board Supply and Demand Decreasing (ten thousand tons)

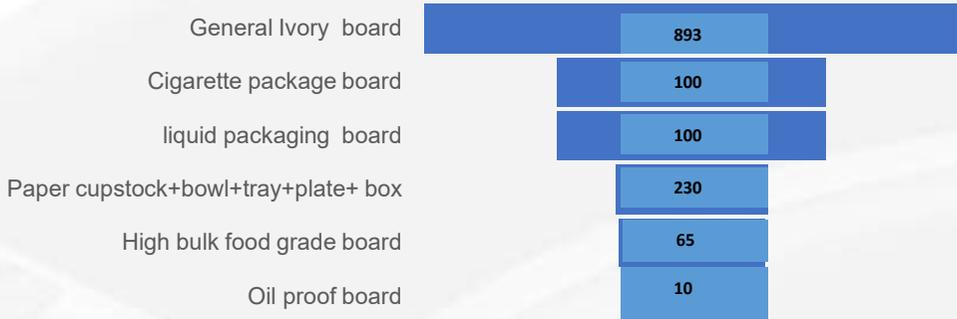


# Ivory Board Market Volume (China )

Coated Package Board Volume



2024 Ivory Board Segmented Market Volume (Unit: 10k tons)



2024 China market volume for Ivory Board, about 13.98 million tons

# Food Grade Packaging Special Purpose Paper

National Food Grade Market Demand 4 million tons



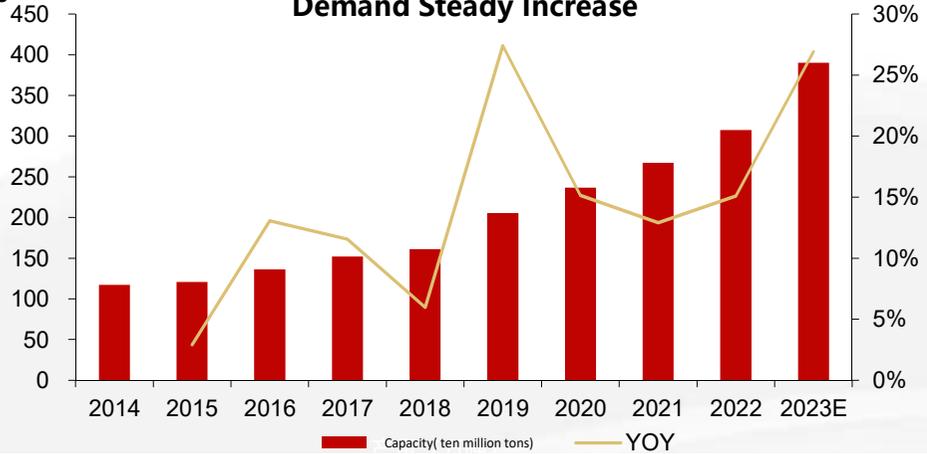
**01 Food Grade Packaging Ivory Board 2.9 million tons**

- Instant noodles bowl 0.3 million tons
- Paper cup/bowl/box 2.0 million tons
- Direct or indirect contact type 0.6 million tons

**02 Liquid packaging board 1.0 million tons**

**03 Oil proof board 0.1 million tons**

**Food Grade Packaging Board Demand Steady Increase**

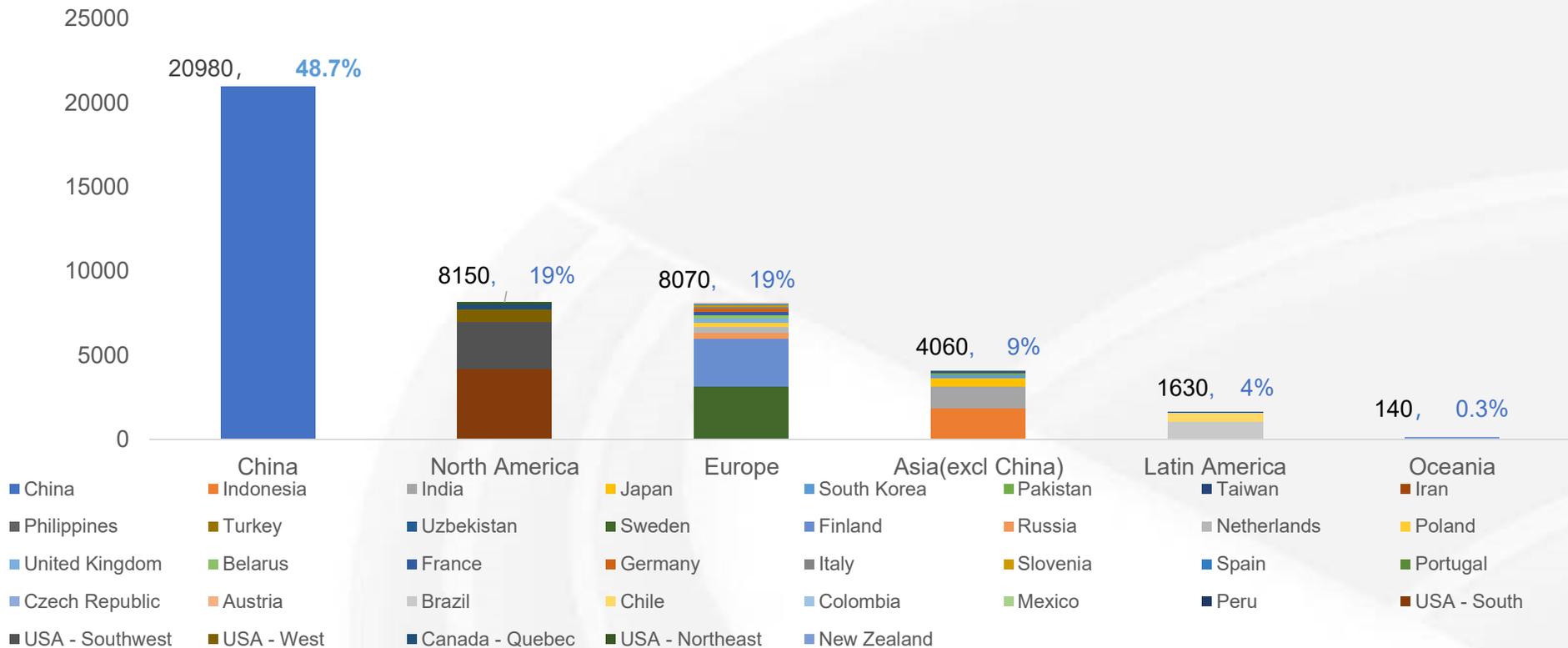


#	Factory	Capacity (ten million tons)	Product	Brand
1	Shandong Bohui Paper Industry Co., Ltd	30	Cigarette board, paper cup stock, high grammage general ivory board	Bohui, Bohuiwang
2	Internatinal Paper and Sun Cartonboard Co., Ltd	20	Cigarette board, food grade package stock	Starpack, Golden Sun, Huaxia Sun
3	Guangxi Jingui Pulp and Paper Co., Ltd	120	Ivory board, food grade	IVJ, IVO, IVH, IVP
4	Jiangxi Chenming Paper	35	Poker-card paper, art board, coated paper cup, food grade, low grammage general board	Chenming EUCA, Chenming Snow Lotus
5	Asia Symbol Rizhao	35	Paper cup stock, cigarette board, liquid packaging stock	
6	Guangxi Jingui Pulp and Paper Co., Ltd	23	Cigarette board, general ivory board, liquid package, food grade, security	
7	Xinya Paper Group Co., Ltd	6	150-250 standard grammage paper cup stock	New Huihuang
8	Yibin Paper Industry Co., Ltd	30	150/160 standard, 150-320g medium bulk, 170-230g high bulk paper cup stock	Jinzhun standard/medium bulk/high bulk
9	Fivestar (Zhejiang) Paper Industry Co., Ltd	15	Paper cup stock, food grade board, paper bowl	150-380g
10	Fivestar (Jiangxi) Paper Industry Co., Ltd	35	Food grade	2021.06.14 Andritz deliver 4 Prime Coat jet to Jiangxi fivstar and start production in 2021; ivory board paper machine purchase triple fourdrinier from FC JPM
11	JIANGHE PAPER (Shandong)	11	135-320 standard, 150-230g high bulk paper cup stock	Kuihua, Hongming, Lucai
12	Shandong Sun Paper Industry Co., Ltd	11	Paper cup stock	Huaxia Sun
		18	Paper cup stock	Huaxia Sun
13	Anhui Huatai	15	Sept 2022, Planed to change into production for paper cup stock	offset paper, electrostatic paper
14	Shandong Zhongmao Shengyuan Paper Industry Co., Ltd	25	Nov 2021, Start product, main paper cup stock	
15	Xianhe Co., Ltd	50	Include liquid packaaina stock. paper cup stock. food packaaina paper	

# 2024 Global Ivory Board Capacity Comparison

## Virgin Ivory Board Grade

2024, Unit: 000 tons



Global Ivory Board Capacity , two words to describe: China, others!!!

## How to do, how to survive? what do Ivory Board manufactures focus?

- Product mix optimization: develop HVP (High Valued Product )
  - ✓ Like high end cupstock (FK1,FK2,FKC,FKO,FNO,PCM,PCK,PCH,PCB,PCKB), APP CHINA can provide all the grades cupstock and also PE coated cupstock;
  - ✓ EPP (Plastic free cupstock);
  - ✓ High end art board(two 6-coaters machine, high quality art board): PC;
  - ✓ High bulk Ivory board: IVH 1.8; Anti-fake Ivory board;
  - ✓ High end food packaging board: GCU/LPB/OPB
- Marketing side, increasing export volume, expanding overseas market

# Global Marketing Demand Review (Virgin Cartonboard Grade)

Asia Virgin Cartonboard Grade	2023	2024	2025	2026	2027
	16138	17009	17852	18836	19806
China	11,539	12,211	12,861	13,640	14,426
Hong Kong SAR	7	8	9	10	10
India	990	1,056	1,117	1,207	1,283
Japan	888	915	940	959	969
South Korea	345	352	359	362	375
Taiwan	154	158	162	164	167
Indonesia	693	724	757	775	793
Malaysia	96	102	108	115	122
Philippines	175	186	194	202	211
Singapore	74	79	82	91	93
Thailand	209	215	222	231	238
Vietnam	467	489	516	538	562
Pakistan	176	177	177	179	183
Other Asia	324	337	348	361	373
SA	1,166	1,233	1,294	1,387	1,467
FEA	1,387	1,425	1,461	1,485	1,510
SEA	1,721	1,803	1,888	1,962	2,030
Asia virgin boxboard grade(excl China)	4,599	4,798	4,991	5,196	5,379

Europe Cartonboard	2023	2024	2025	2026	2027
<b>West Europe/SBS+FBB+LPB, CBU</b>	3,254	3,314	3,410	3,470	3,527
SBS	299	308	316	321	325
FBB(GC1and GC2)	1,247	1,260	1,314	1,346	1,375
LPB, UCB, Others	1,708	1,746	1,781	1,803	1,827
<b>Central Europe /SBS+FBB+LPB, CBU</b>	411	427	447	465	479
SBS	16	16	17	17	17
FBB(GC1and GC2)	346	358	375	390	401
LPB, UCB, Others	50	53	56	58	60
<b>East Europe /SBS+FBB+LPB, CBU</b>	646	660	685	702	716
SBS	39	41	42	45	46
FBB(GC1and GC2)	343	351	367	377	388
LPB, UCB, Others	264	268	276	279	282
<b>South East Europe /SBS+FBB+LPB, CBU</b>	516	532	552	575	600
SBS	68	69	71	73	76
FBB(GC1and GC2)	364	375	389	406	423
LPB, CBU	84	88	92	96	101
<b>EU SBS Total</b>	422	434	446	457	465
<b>EU FBB (GC1, GC2)Total</b>	2,299	2,344	2,445	2,518	2,587
<b>EU LPB, CBU Total</b>	2,106	2,155	2,204	2,236	2,270
<b>EU, SBS+FBB+LPB, CBU Total</b>	4,827	4,933	5,094	5,211	5,322

L. American	2023	2024	2025	2026	2027
Argentina	36	30	33	34	34
Brazil	772	731	745	764	778
Chile	126	139	141	143	146
Mexico	514	563	575	594	614
Colombia	107	93	96	100	104
Venezuela	1	1	1	1	1
Peru	49	50	52	54	55
Ecuador	28	31	32	32	33
Bolivia	5	4	4	4	4
Other	131	137	143	147	153
<b>LA, SBS+CBV+CBU+CBP</b>	1,768	1,779	1,821	1,871	1,923

N. American	2023	2024	2025	2026	2027
US	6,051	6,124	6,397	6,532	6,631
Canada	853	849	856	871	883
<b>NA, SBS+FBB+CBU+LPB</b>	6,905	6,972	7,253	7,403	7,515

- In Asia, CAGR for Cartonboard demand approximately 5.2%.
- In China, CAGR for Cartonboard demand is around 5.7%.
- Both regions exhibit a steady growth trend.

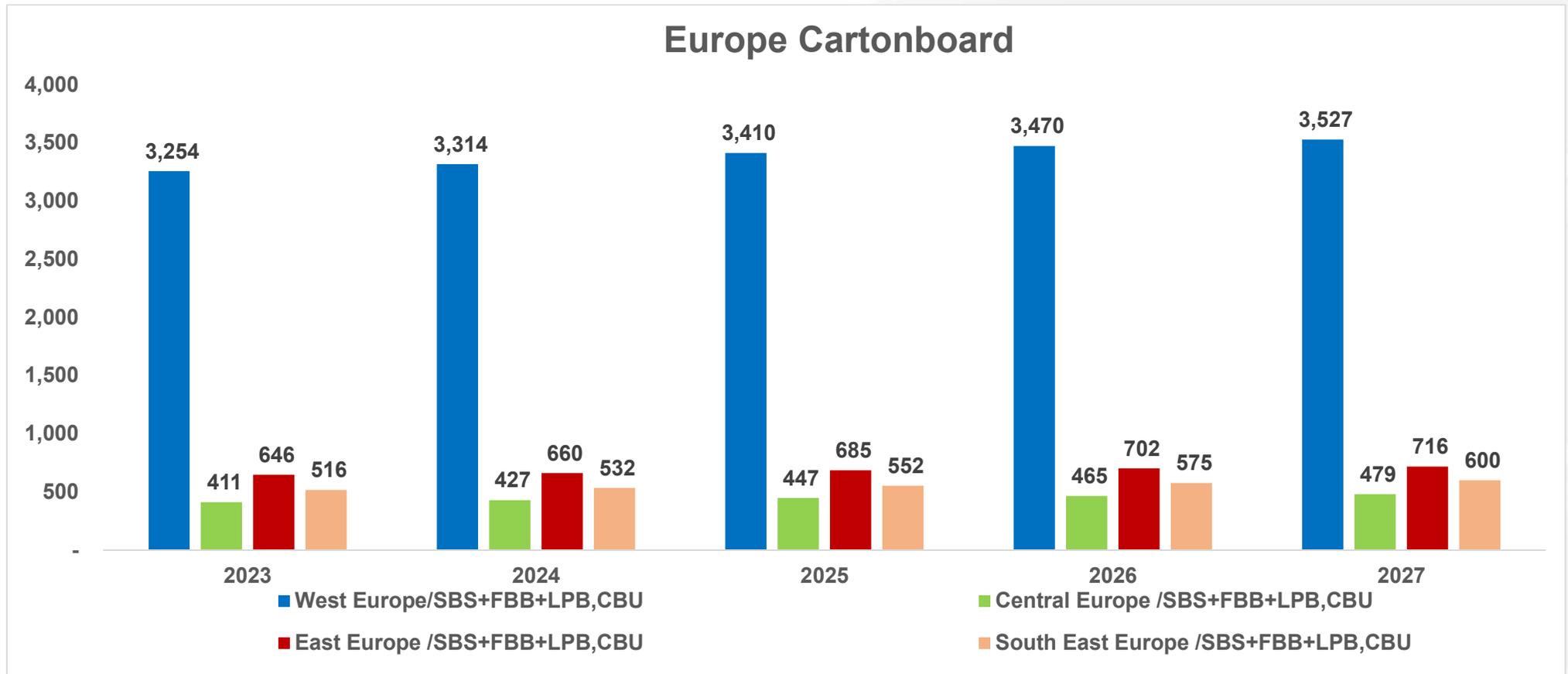


# Europe

Europe	2023	2024	2025	2026	2027
EU SBS Total	422	434	446	457	465
EU FBB (GC1, GC2) Total	2,299	2,344	2,445	2,518	2,587
EU LPB, CBU Total	2,106	2,155	2,204	2,236	2,270
<b>EU, SBS+FBB+LPB, CBU Total</b>	<b>4,827</b>	<b>4,933</b>	<b>5,094</b>	<b>5,211</b>	<b>5,322</b>

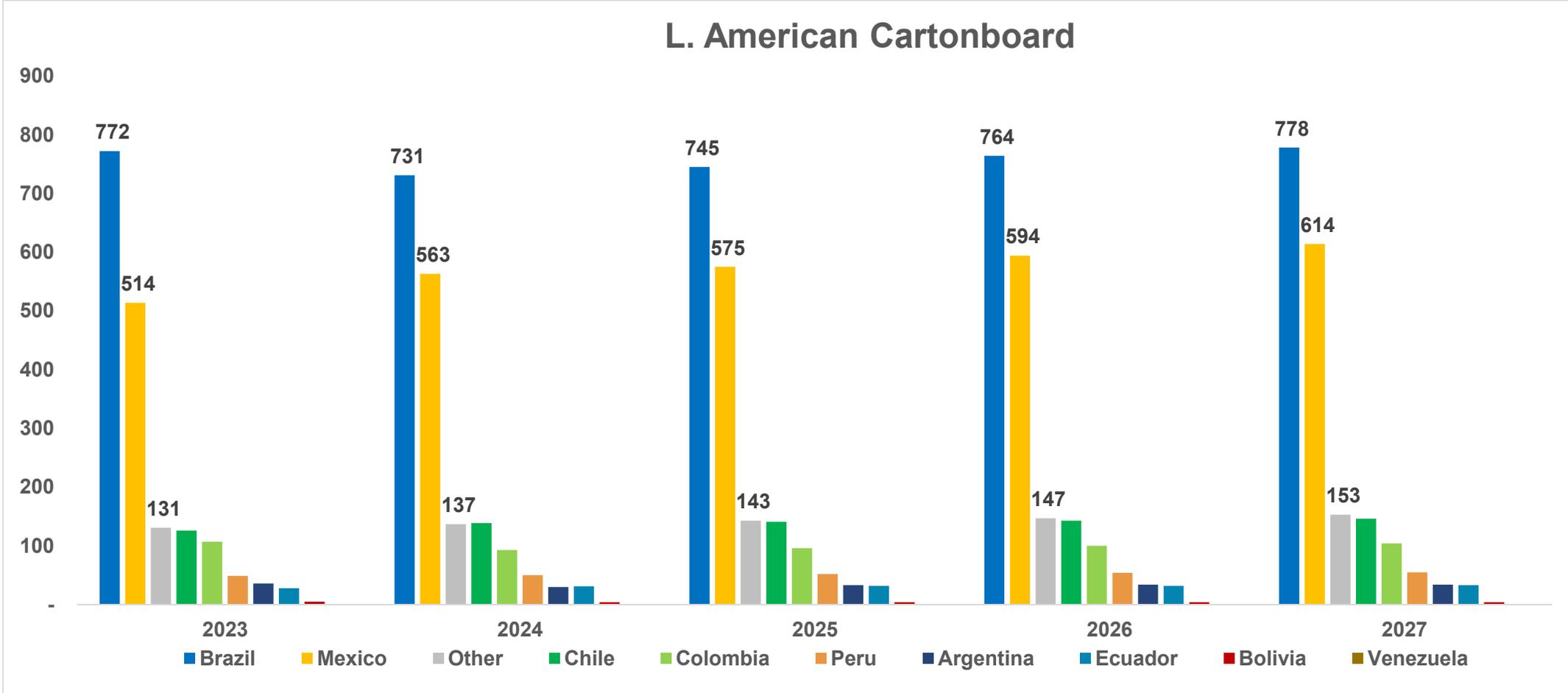
UNIT Kt

## Europe Cartonboard



# L.American

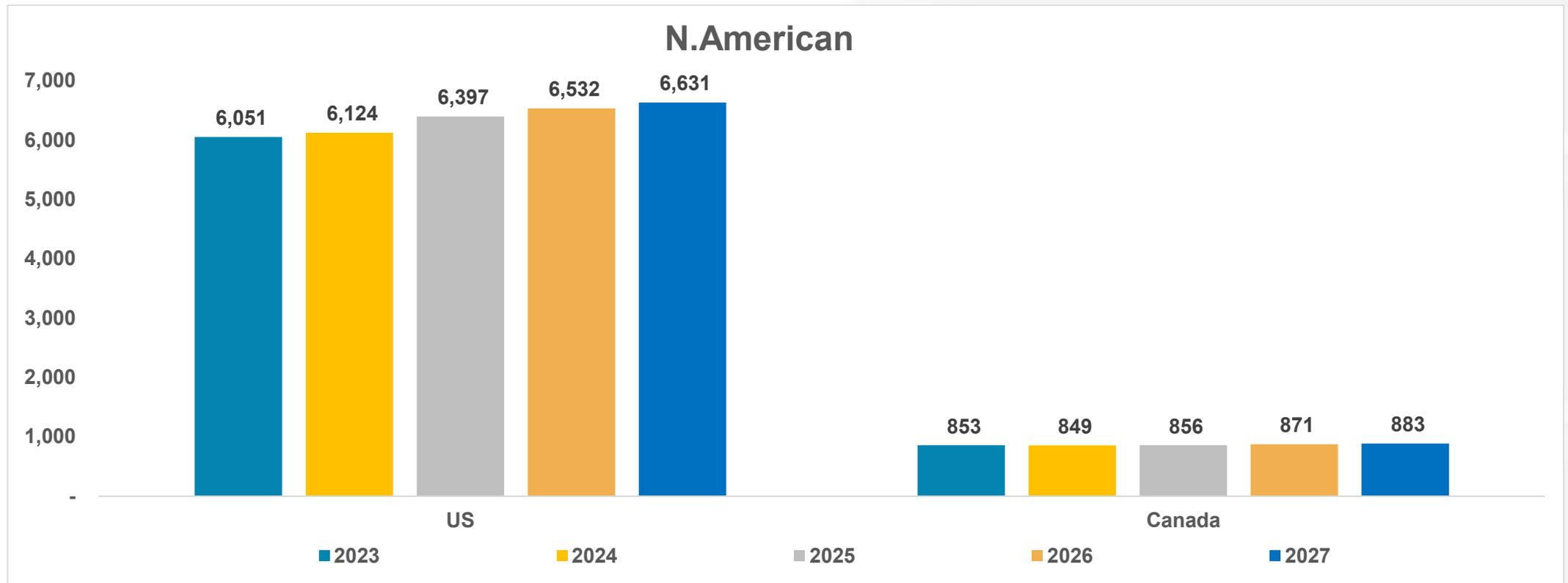
L.American	2023	2024	2025	2026	2027	UNIT Kt
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UNIT Kt

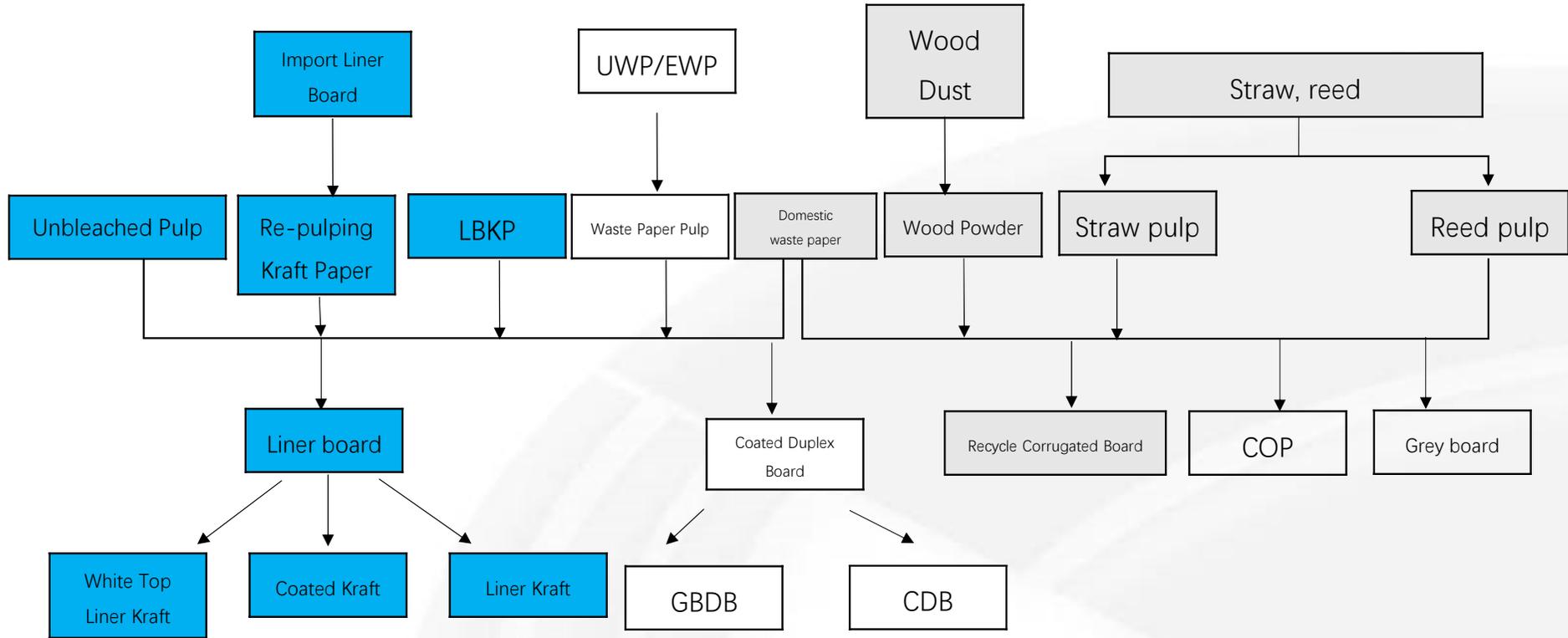


# **Liner Board Market Overview**





# Waste Pulp Paper Production Process



# Liner Board Classification

## Liner Board:

1. **Kraft board(US Kraft, Russia Kraft).** Feature: long fiber, heavy sizing, high physical strength, rough surface; pure wood pulp and less OCC. refer to as: import kraft board.
2. **Imitation kraft board.** Feature: apply 15-25% wood pulp on top, rest are OCC; fiber is shorter than kraft paper, strength is lower than kraft paper. smooth surface various sizing level (COBB is different from 30-55g/m<sup>2</sup>), dyeing treatment on surface. refer to as: domestic kraft board.
3. **White top liner board/White top liner board:** top surface apply bleached pulp, other layer apply unbleached or dying pulp; Coated Duplex Board (apply bleached pulp on top, other layer deink or non-deink waste paper pulp); coated duplex board(GBDB, CBD).
4. **Recycle liner board:** made by pure OCC, but different with corrugated board, surface is over than 11# and apply dyeing treatment. refer to as: C level liner board, parts are called "T paper".

## Common three type: Kraft board, Liner board, Grayish liner board

**Color:** Kraft board color is natural, liner board is yellowish, grayish liner board has grayish appearance and surface is rough.

**Strength:** Kraft has high content of fiber, resilience, hardness and stiffness is best. liner board apply part old kraft board pulp, fiber is less than kraft board, strength is lower than kraft board, jacquard board used as corrugated flute layer, very soft.

**Grammage:** by the reason of different raw material using, the weight per square meter of kraft board is much heavier than jacquard board. According to comparison, example as No.12 postal box, kraft board is over 45gsm, jacquard board is less than 35gsm.

**Price:** Due to the using and selecting of material, jacquard board have most advantage on price.

## Classification by grammage (refer to Easter city classification method)

**K Grade:** standard grammage 200g;

**A Grade:** standard grammage 160g;

**B Grade:** standard grammage 120g;

**W Grade:** (white color), standard grammage 125g.

# Classification of Corrugated Board

## Corrugated Board (corrugating medium/flute)

**Application:** Use raw material as wave shape of inner layer in corrugated board, can be separately use as packaging paper to protect fragile items.

**Essential Performance:** high bulk, high stiffness, RCT and water absorption, super performance plying-up, which provide capability of shock and pressure resistance. moisture usually control about 10%.

**Specs:** grammage: normal flute grammage is 112 to 200g/m<sup>2</sup>, lower flute grammage is 45 to 80g/m<sup>2</sup>.

**Packing:** Roll and sheet.

**Transport radius:** As the density of corrugating flute paper is low, the volume base on unit weight is large, the transport cost is high, the industry have strong regional characteristics. sale radius normal is with 300km, packaging factory need set production site all national wide to fulfill custom's demand in different regional.

**Common Cost Formula:** 1t Corrugated board=1.05t waste brown paper + processing fee 800~1000 CNY. Raw stock cost is over 70% to total variable cost, raw stock price is main factor effected industry average profit.

## Corrugated Board Papermaking Enterprise: Pulp Making Process

Pure US Waste; US waste+Domestic waste; US Waste+Straw pulp, Domestic waste+Straw pulp; US waste+Domestic waste+Straw pulp; Pure Straw pulp.

1. **Produce high strength Corrugated Board:** using #11 US waste, typical enterprises are Nine Dragons Taicang (Leading enterprise), Lee&Man Paper Manufacturing Limited, their products mainly used high speed corrugated board and box production lines in Jiangsu and Zhejiang province.
2. **Produce high strength Corrugated Board:** using high-quality wheat straw and #11 US waste as raw material, apply non-pollution pulp making process, typical enterprise is Shandong Yongfa Prints Co., Ltd. it's customs are high-end corrugated board and box production lines distributed in North China, East China and other regions, and some single facer machine users with high strength demands.
3. **Produce high strength Corrugated Board:** using US waste (Russia, Japan, EU waste) and domestic waste, typical enterprises are Wuxi Longheng Greentech Co.,Ltd, Shandong Shanying, Linqing Milky Way paper group, Shandong Guihe Paper Industry Group Co., Ltd and etc, thier customs are general quality demand corrugated board and box production lines distributed in North China, East China and other regions, and some single facer machine users with general strength demands.
4. Papermaking enterprise using domestic waste, as raw material recycled multiple times, quality decrease, so Corrugated Board using domestic waste is scaled lower quality level.

### Corrugated Board Classification:

Corrugating flutes divided into four types: A flute, C flute, B flute and E flute.

**A:** Corrugated board made as A flute has better cushion property, with elasticity performance.

**C:** Cushion property of corrugated board made as C flute is not good as A flute, but the property of stiffness and impact absorption is better than A flute.

**B:** flute distribute high serried waves, corrugated board made as B flute has smooth surface, can bear higher pressure, suit for printing.

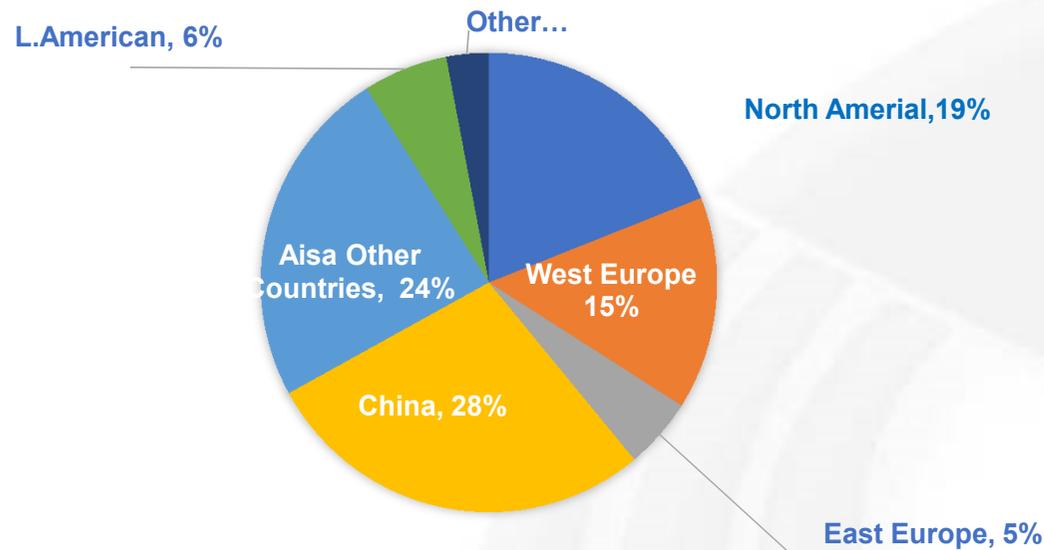
**E:** flute is thin and serried, present as stiffness property.

# **Global Corrugated Board Industrial Distribution and Development Trends**

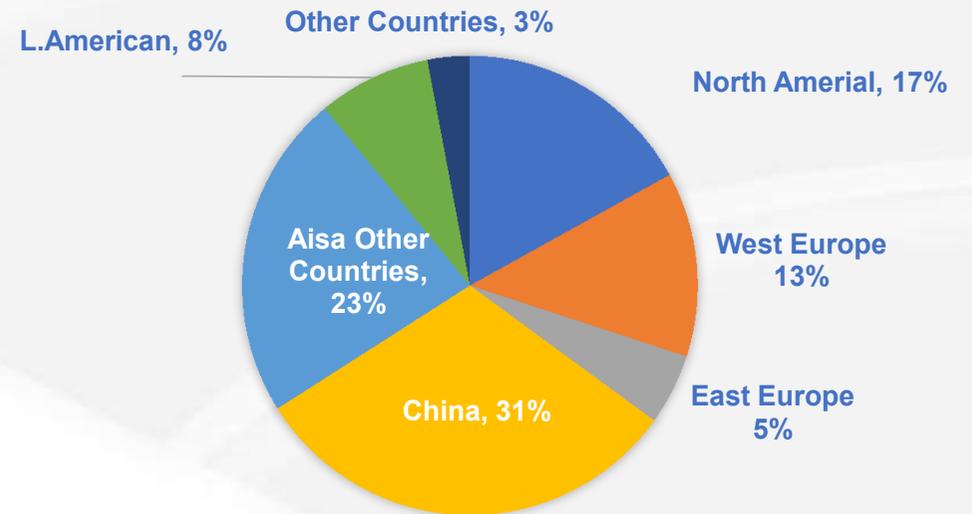


# Kraft Board or Special Grade Corrugated Transport to Further distance, Recycle Corrugated Board Mainly Be Produced and Sold in Local Region

2024 GLOBAL LINER&CORRUGATED BOARD  
PRODUCTION SHARE



2024 GLOBAL LINER&CORRUGATED BOARD  
CONSUMPTION SHARE

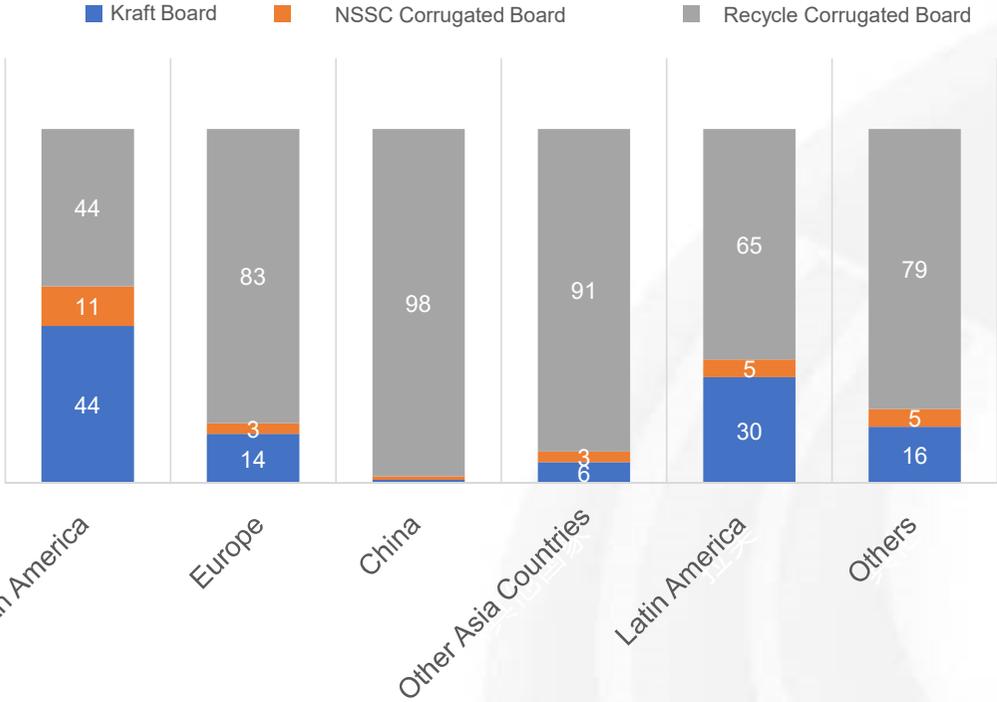


GLOBAL Liner & Corrugated Volume: 194.426 million tons ( Year 2024)

# Recycle Corrugated Board Occupied Main Proportion; Basic End-user Application Include: Food, FMCG, Industrial transportation and storage

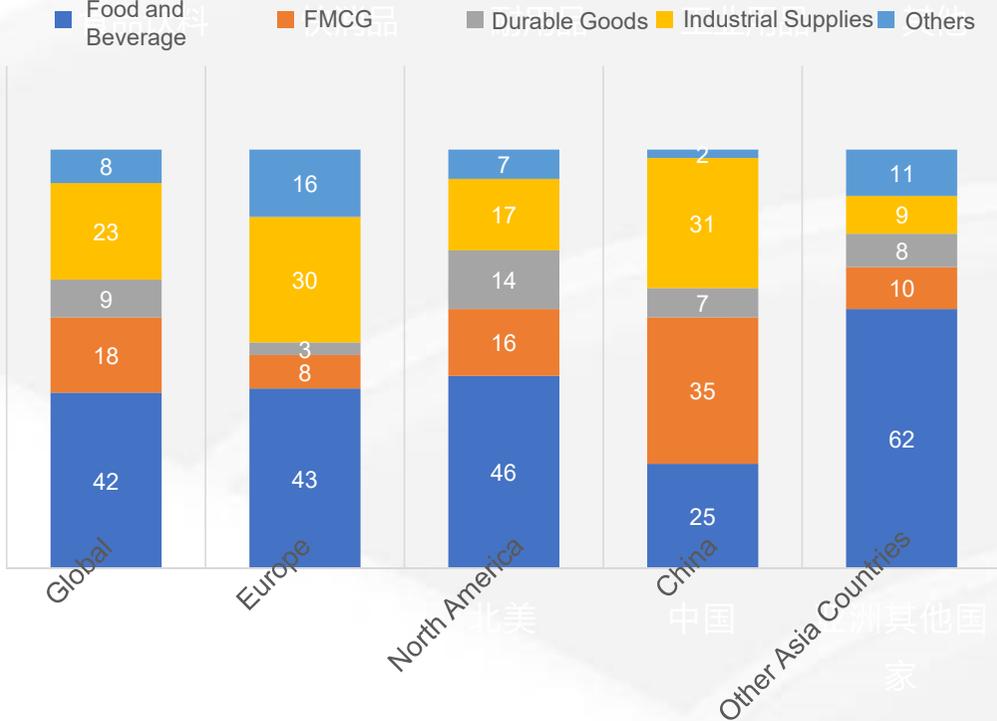
2024 Global Liner & Corrugated Board Demand Share (by grade)

Unit: %



2024 Global Liner & Corrugated Board Demand Share (by end-user demand)

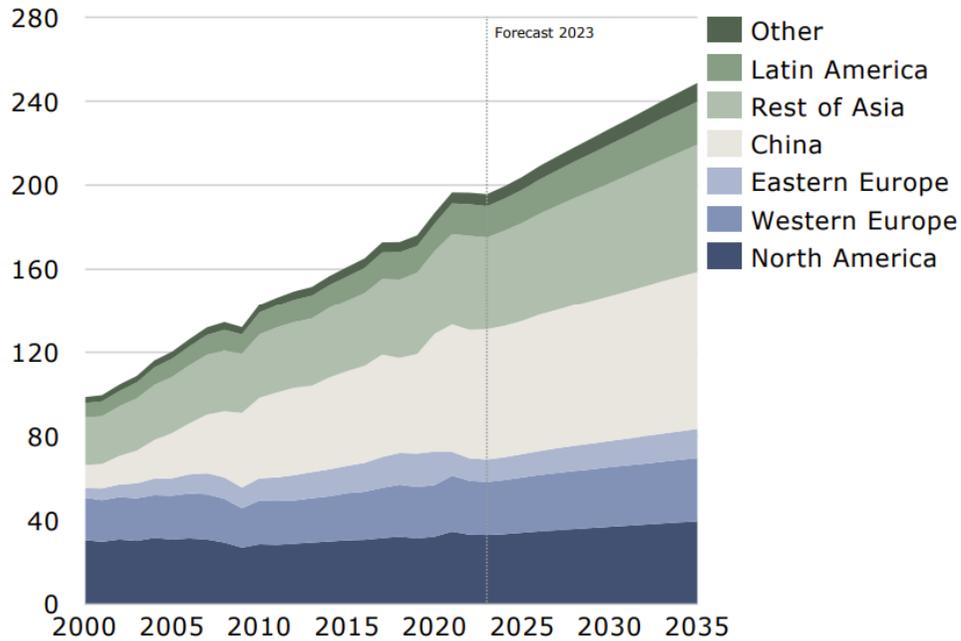
Unit: %



# Global Liner&Corrugated Board Increase in China and Other Asia Countries

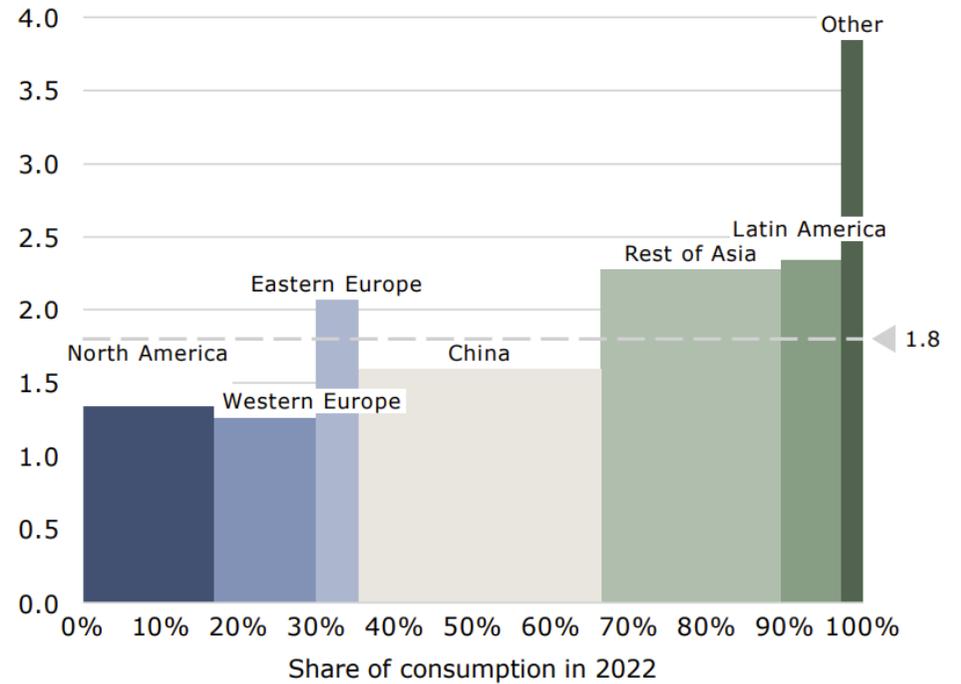
**DEMAND BY REGION 2000-2035**

Million t/a



**LONG-TERM DEMAND GROWTH 2022-2035**

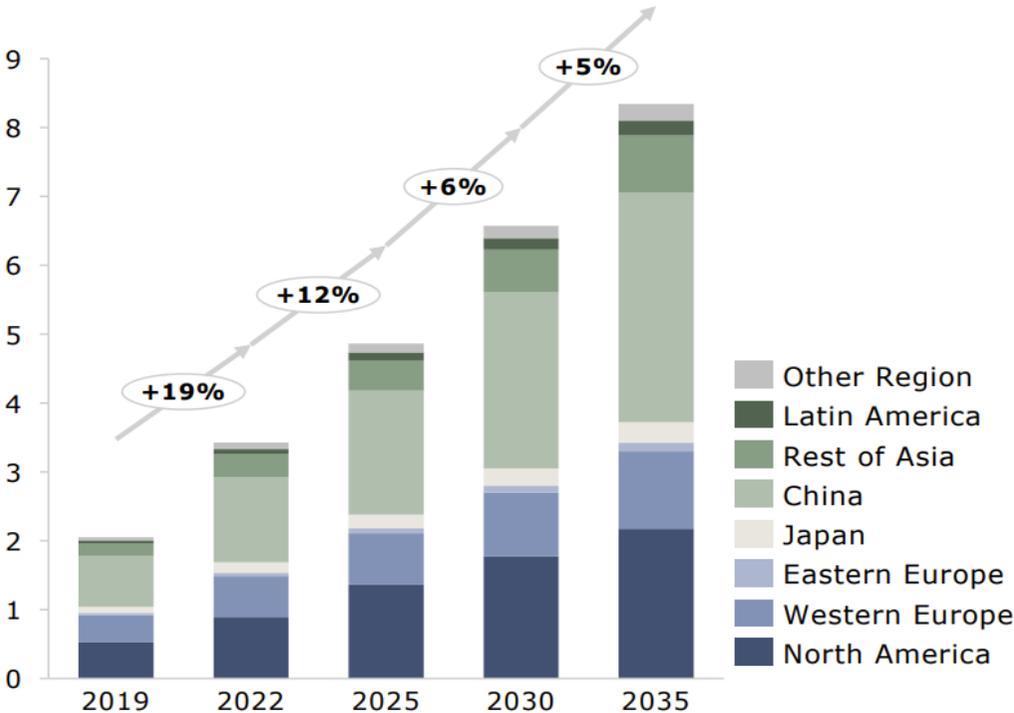
Demand growth, %/a



# E-commerce Expect Strong Globally Growing, Driving the Demand for Recycled Liner&Corrugated Board Increase

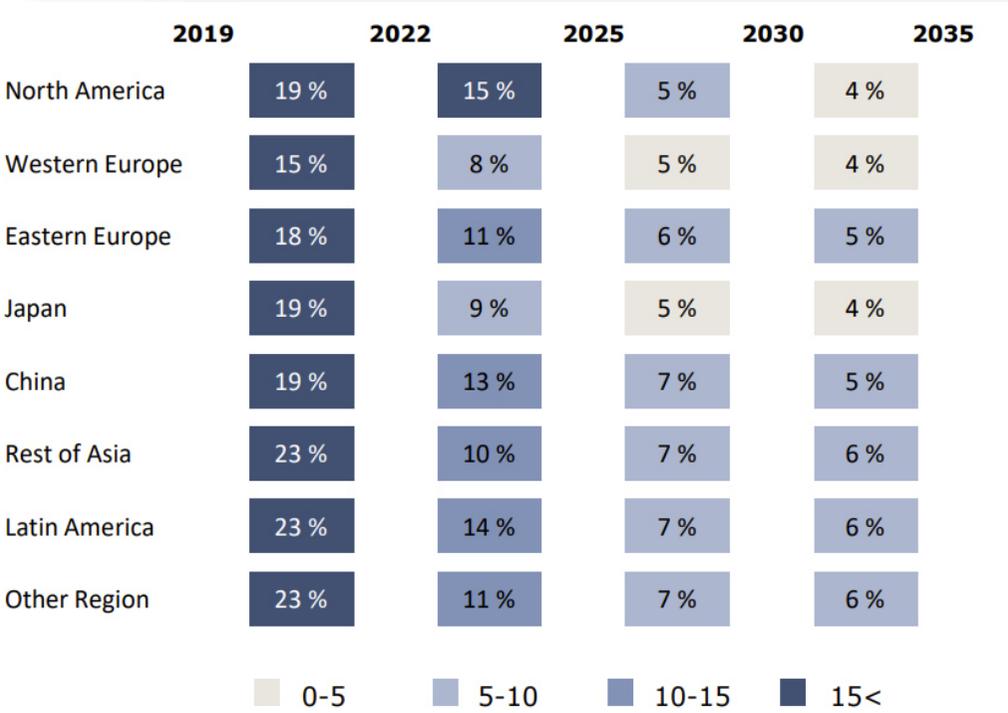
Globally E-commerce Sales Growing Forecast

Unit: Trillion US dollars



Globally E-commerce Sales Growing Forecast

Unit: %

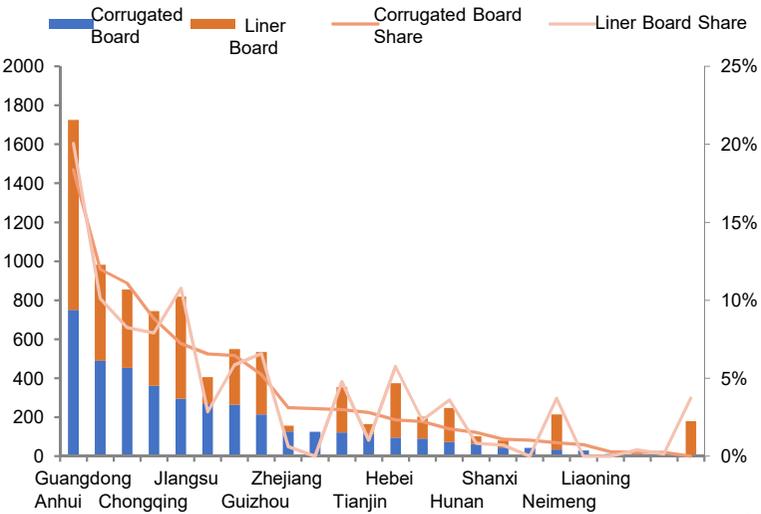


The background of the slide features a large, light gray, semi-transparent image of a roll of corrugated metal sheet. The roll is positioned diagonally, with the top edge towards the upper right and the bottom edge towards the lower left. The corrugations are clearly visible, creating a series of repeating wave-like patterns. The overall aesthetic is clean and industrial.

# **China Corrugated Board Industrial Distribution**

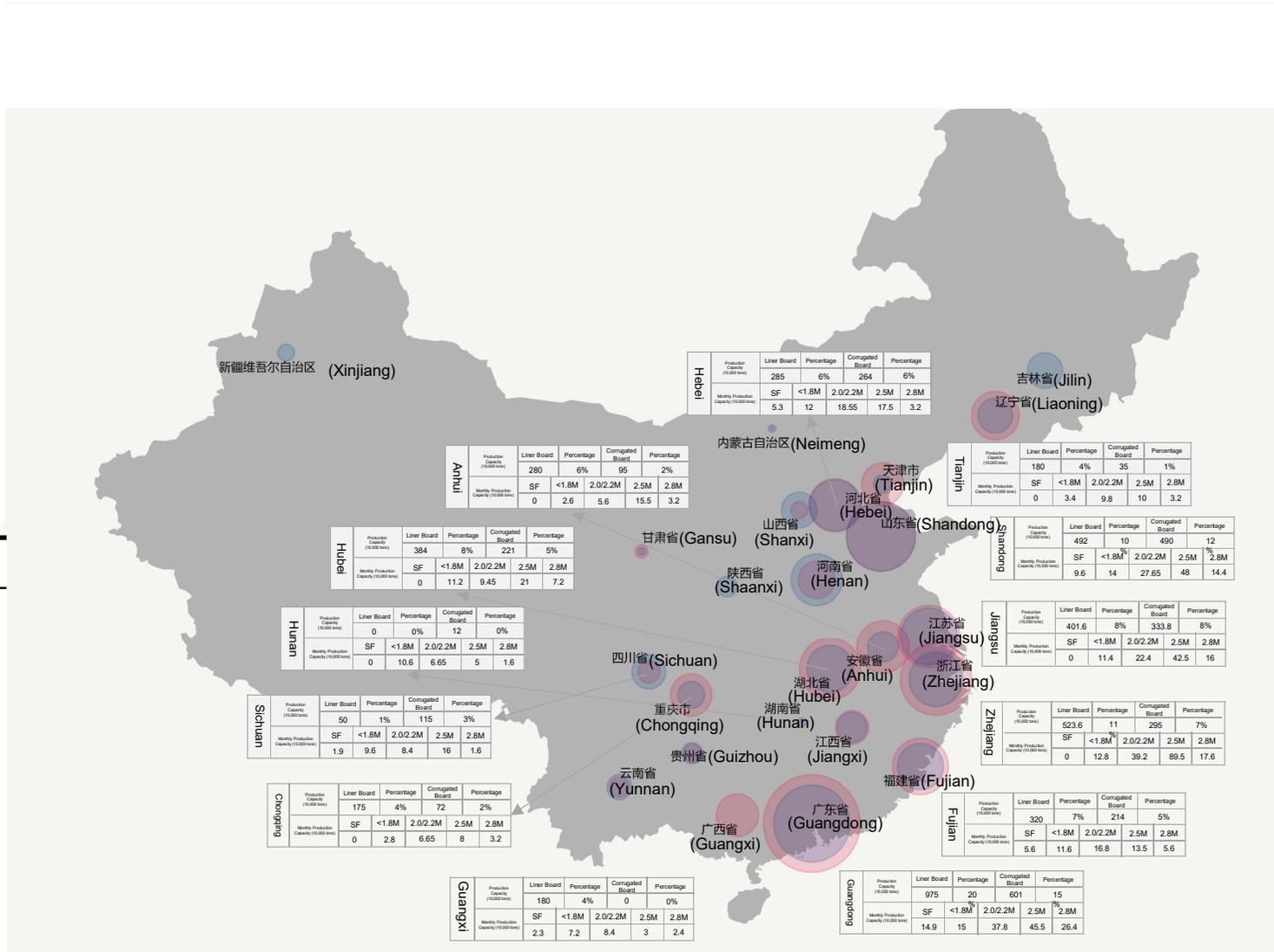
# Corrugated Board, Board Factory Mainly Distributed in Jiangsu and Zhejiang Regions

China Liner & Corrugated Board Production Capacity Distribution (10,000 tons)



National Corrugated Board Monthly Converting Production Capacity (10,000 tons)

Region	Single Flute	<1.8M	2.0/2.2M	2.5M	2.8M	SUM
Zhejiang	0	13	39	90	18	159
Guangdong	15	15	38	46	26	140
Shandong	10	14	28	48	14	114
Jiangsu	0	11	22	43	16	92
Hebei	5	12	19	18	3	57
Fujian	6	12	17	14	6	53
Hubei	0	11	9	21	7	49
Sichuan	2	10	8	16	2	38
Anhui	0	3	6	16	3	27
Tianjin	0	3	10	10	3	26
Hunan	0	11	7	5	2	24
Guangxi	2	7	8	3	2	23
Chongqing	0	3	7	8	3	21
<b>Total</b>	<b>40</b>	<b>124</b>	<b>217</b>	<b>335</b>	<b>106</b>	<b>822</b>

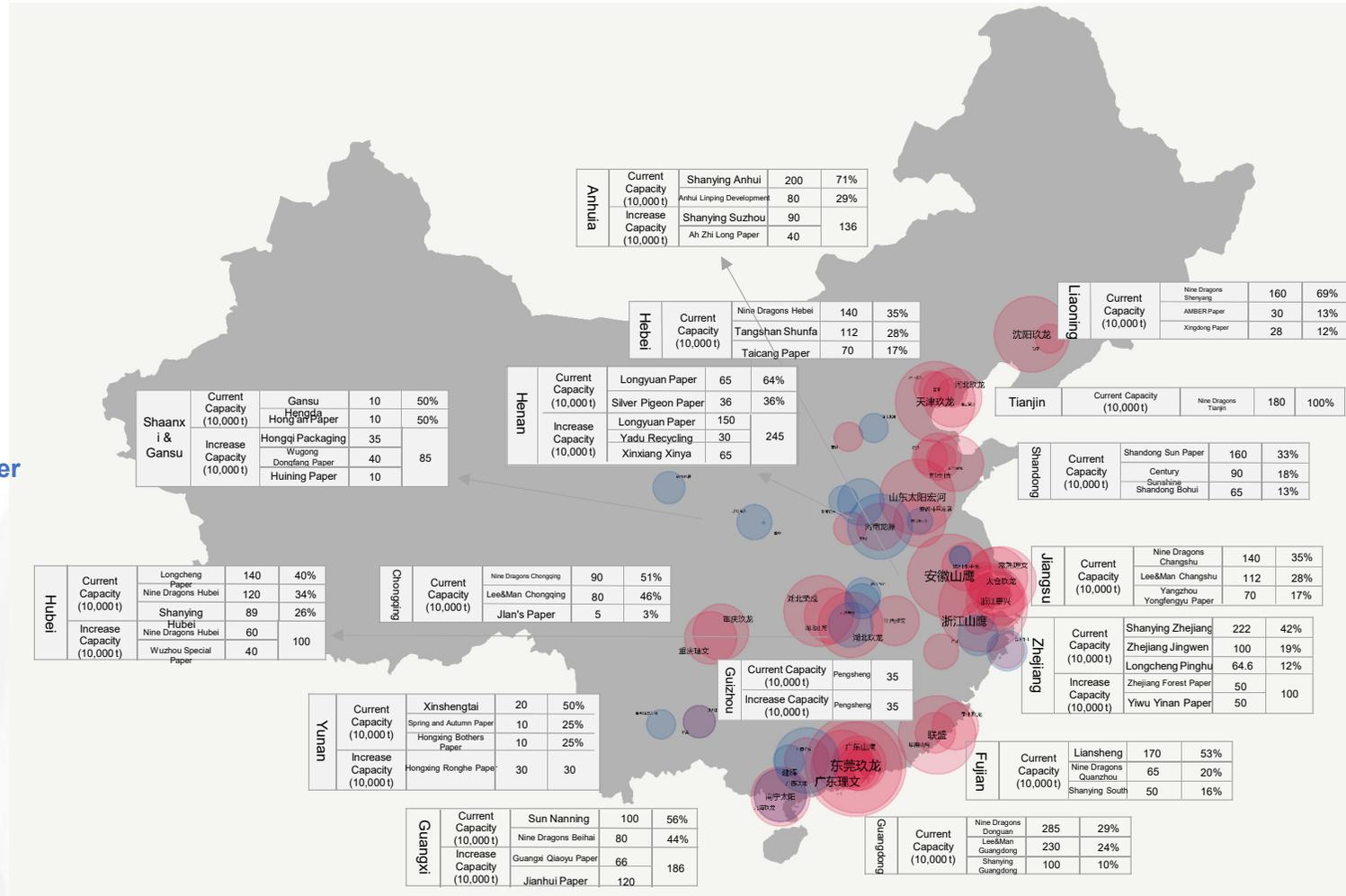
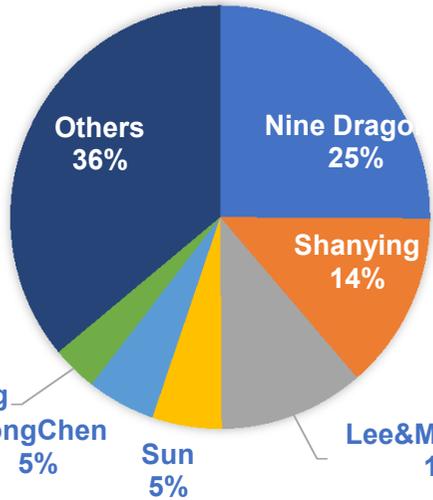


Remark: Monthly Application (t): Single Flute Machine 1000, 1.8M 2000, 2.2M3500, 2.5M5000, 2.8M8000



The Concentration for Liner & Corrugated Board Production Capacity is High, the First 6 Lead Enterprises accounts 64% of total. Nine Dragons and Shanying Plan to Increase 1.5 million tons Production Capacity in 2024 - 2028.

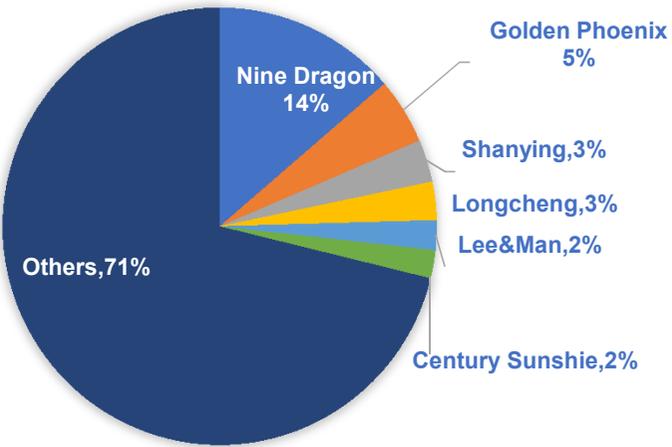
### Liner Board Factories Production Capacity Share



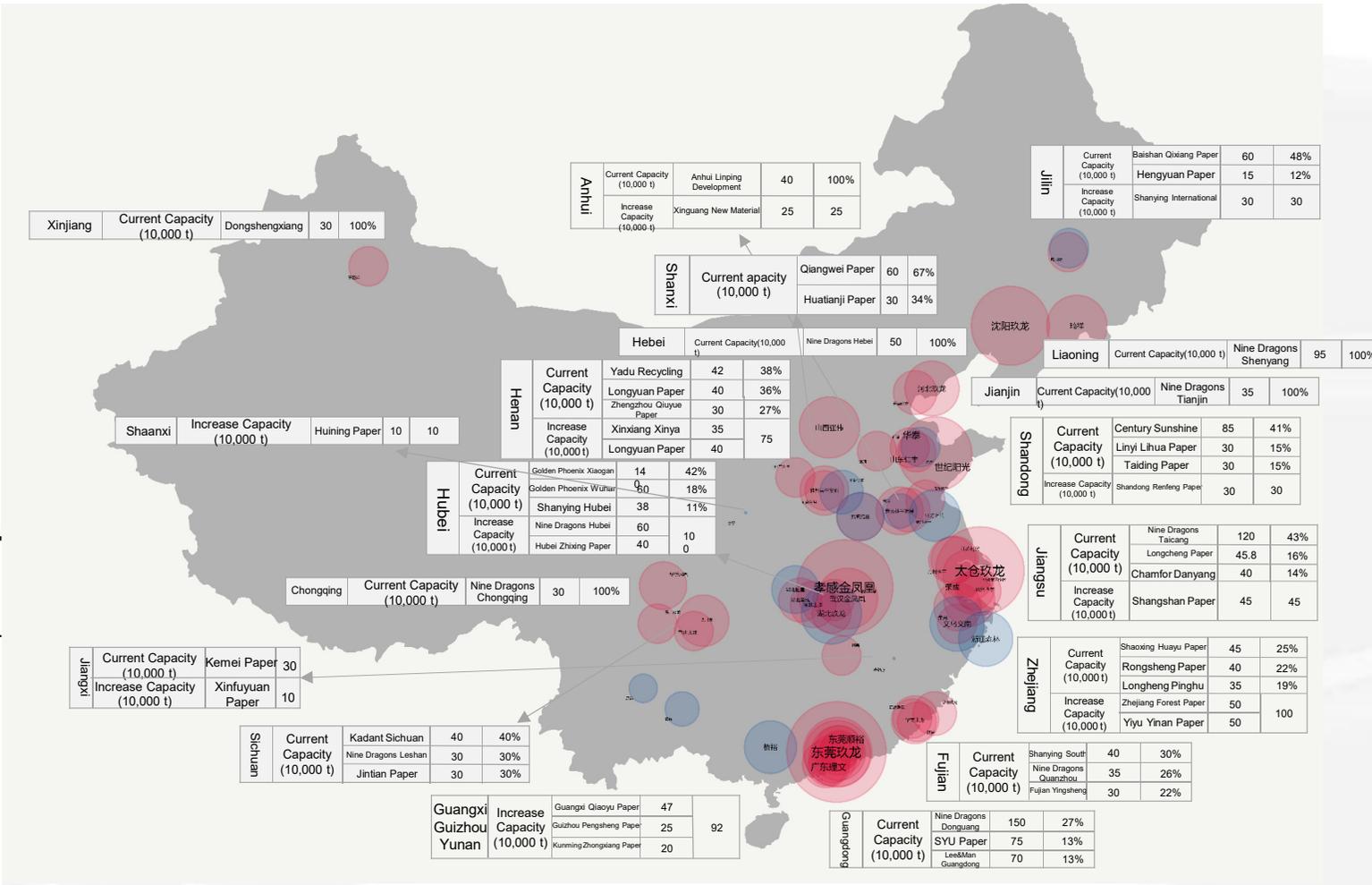
Factory	Capacity (10,000 tons)	Percentage	2024-2028 Capacity Increase
Nine Dragons	1220	25%	60
Shanying	661	14%	90
Lee&Man Paper	544	11%	
Sun	260	5%	
Longcheng	256	5%	
Liansheng	170	3%	
Others	1750	36%	751
<b>SUM</b>	<b>4861</b>	<b>100%</b>	<b>901</b>

The Concentration for Corrugated Board Production Capacity is low, Nine Dragons, Shanying, Golden Phoenix the First 6 Lead Enterprises accounts 29% of total. Shanying, Nine Dragons Plan to Increase 1.8 million tons Production Capacity in 2024 - 2028.

### Corrugated Board Capacity Share



Factory	Capacity (10,000 tons)	Percentage	2024-2028 Capacity Increasement
Nine Dragons	560	14%	60
Golden Phoenix	200	5%	
Shanying	128	3%	120
Longcheng	116	3%	
Lee&Man	90	2%	
Century Sunshie	85	2%	
Others	2911	71%	402
SUM	4090	100%	582





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THANK YOU