GREEN RIVER HOLDING CO. LTD.

Stock Code: 8444.TT

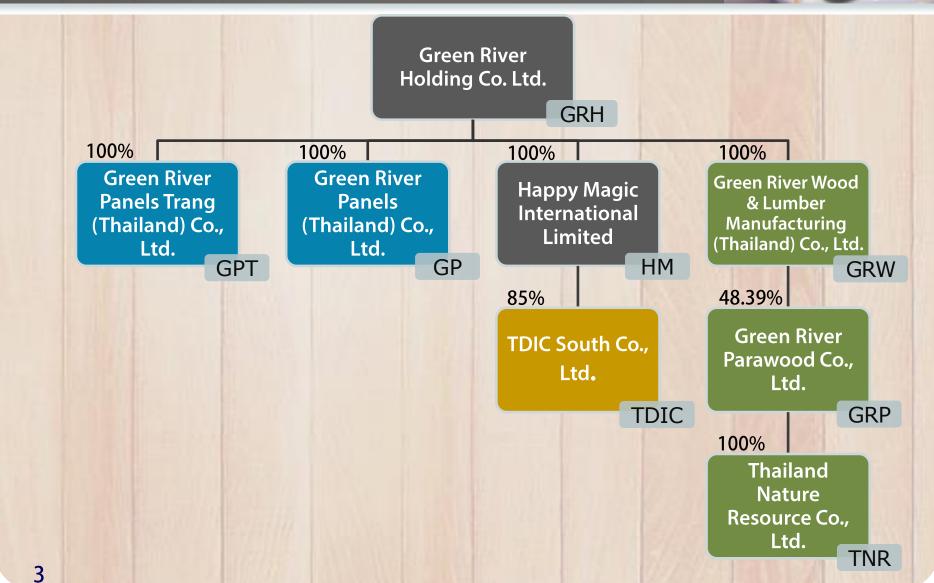






1.1 Company Profile





1.2 Main Products



Particle Board & Melamine faced Chipboard (MFC)

Kitchen Cabinets Office furniture Drawer Units Flooring Pallets Speaker Boxes Green Buildings Eco-Friendly Engineered Building Products

Green

Sustainability

Technological

Cost Effective

Fashionable

















1.3 Particle Board Overview



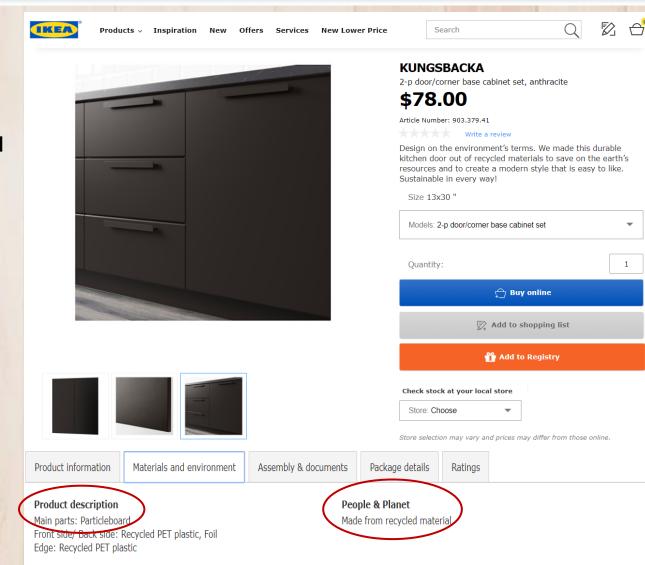
	Particle Board, PB	Medium Density Fiberboard, MDF	Plywood	Wood
Raw Material	Branches /Slabs/Barks/ Saw dusts	Logs/Slabs	Logs	Logs
Environment Protection	***	**	**	*
Stabilization	***	***	*	*
Automation	***	***	**	*
Technology Intensive	***	***	**	**
Investment	***	***	**	*
Price	Lowest	Low	High	Highest

1.3 Particle Board Overview (Cont.)



1. Environment Protection

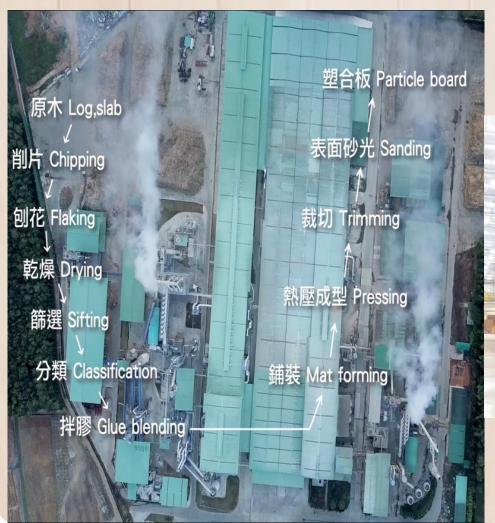
- Discarded PB furniture can be reused as material for PB's production.
- IKEA's new production Line- KUNGSBACKA in 2018,is made from 100% recycled material.
- "Using material like PB which can almost utilize every part of a tree is in line with IKEA's long-standing commitment to CSR"- IKEA's Home Living Blog, Taiwan, 2009



1.3 Particle Board Overview (Cont.)



2. Automation/Technology Intensive





1.4 Standards/Grades for PB



EU EN120	Japan JIS A5908	Taiwan CNS2215	Formaldehyde emission (mg/L)
Super E0	F☆☆☆☆(4 Star)	F1	≦0.3
EO	F☆☆☆(3 Star)	F2	≦0.5
E1(<18mg/100g)	F☆☆(2 Star)	F3	≦1.5 (<0.1ppm)
E2(<30mg/100g)	F☆(1 Star)	F4	≦5.0

USA CARB P2 JPN JIS F☆☆☆ CN super E0 USA CARB P1/JPN JIS F☆☆☆/EU/CNE0 JPN JIS F☆☆ EU/CN1 EU E2 (gradually banned from Asia countries)

What is CARB?

- 1. California Air Resources Board(CARB) is one of the strictest regulation in formaldehyde emissions from certain wood products.
- 2. The product must not only follow the regulation of formaldehyde emission but also the production process to obtain a Phase 2 certificate of CARB
- 3. Since 2009/1/1, any wooden material without CARB certificate can not be imported in the USA.



2.1 Development of PB Industry



Europe

Germany was the first in the world to start automatic production of PB.

Production: 2.58 Million M³
Population: 604 Million
Consumption: 0.004 M³/capita

Production:43.36 Million M3 Population:729 Million

Consumption: 0.06M3/capita PB: 70% of Wood Panels

Production: 45.04Million M³ Population: 743 Million

Consumption: 0.06M³/capita PB: 62% of Wood Panels

1949 1961 2004 2006 2016 2018 Future

Asia



Production: 15.15 Million M³ Population: 3.92 Billion

Consumption: 0.004M³/capita

PB: 19% of Wood Panels

China production vol.: 6.47

MillionM³

Proportion of Asia Production

Vol.:43%

First CPS in Asia The first year of Chinese customized furniture

Production: Production:

Production: 38.18 Million M³
Population: 45.04 Billion
Consumption: 0.06M³/capita
PB: 16% of Wood Panels

China production vol.: 27.51

Million M³

Proportion of Asia Production Vol.:72%

Source: 1. FAOSTAT Forestry; 2.UN World Population Clock

2.1 Development of PB Industry (Cont.)

Development Path of European PB Industry

1939

World War II Starts

Budding PB Industry

When post war reconstruction began, Germany used young timber to produce panels as a supplement for their depleted natural resources. (Note1)

1949

Germany was the first in the world to start automatic production of PB. (Note 2)

2018

With 45.04 Million M³ Production and Population in 743 Million, the Consumption of PB is 0.06M³ /capita(Note 3,4)

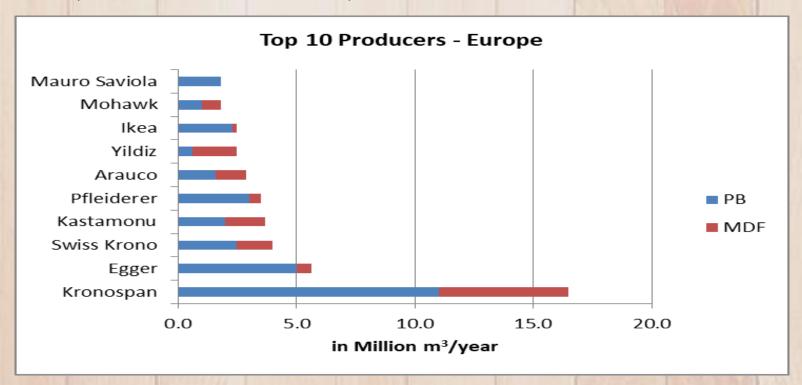
Note: 1. 2007 "Particle Board, Their Manufacture and Uses: Standard Steel Buildings; Adhesives in Building

- 2. "Wood Production, Wood Technology, and Biotechnological Impacts"
- 3. FAOSTAT Forestry
- 4. UN World Population Clock

2.1 Development of PB Industry (Cont.)

Current status in European PB Industry

Bigger is Stronger. Particleboard manufacturing is a volume business. Kronospan (Note1) is the largest European PB producer. It has more than 40 production sites and 11 million M³ per year of PB production capacity.



Note1:http://www.kronospan-worldwide.com/

Source: Poyry (2015 Q4); Green River summarized.

2.2 Development of PB Industry-China

China Forest Status—logging restrictions in ancient forest

- With 22.96% of forest coverage rate, China is still below the global average of 31% (Note1).
 - 1.To raise its forest coverage rate, China published the "Natural Forest Protection Program "in 1999. Implementing logging restrictions in ancient forest has resulted in declining availability of wood.
 - 2.To protect forest resources, China has "completely stopped commercial logging in natural forests to enlarge its forest area and forest stock volume" in its 13th five year plan. This should increase forest coverage to 23.04% by 2020.

Policy which restrains logging in natural forests reduces available forest resources. Particle board production is increasing since it uses residues from other wood industries.

China Forest Status—Reduce the tariff of PB from 4% to 2%

序号	EX [注1]	税则号列	商品名称	2020年最惠国税率 (%) ^[注2]	2020年暫定税率 (%)
402		44101100	木制碎料板,不论是否用树脂或其他有机粘合剂粘 合	4	2

Note1::9th National Forest Inventories (2018)

Results: China dominates the Forest Greening of Earth, Nasa study shows.



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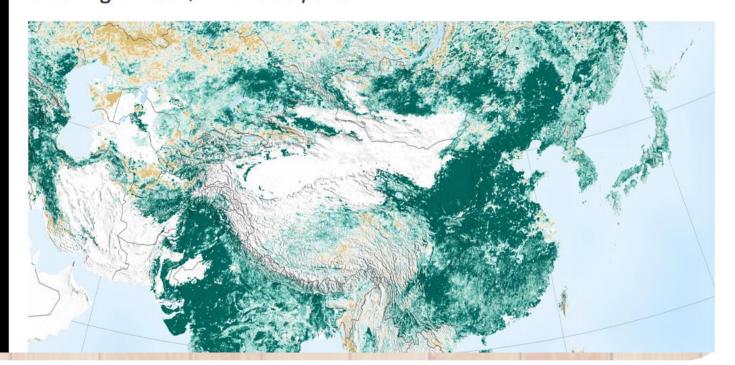
a year ago

NASA Ames

Feb. 11, 2019

Human Activity in China and India Dominates the Greening of Earth, NASA Study Shows





Multi daylight Press-Environmental protection, quality and production efficiency fall behind

Comparison	Multi-daylight press	Continuous Press	
		Sicreckanp Couried*	
Capital Investment	Low	Hing	
Capacity	Average 100,000 M ³	GPT 528,000 M ³	
Energy Saving	Not environmentally friendly and high energy consumption	Low energy consumption	
Products	Thick board ONLY	Diverse products	
Stabilization	Low	High	

^{*} There is no multi-daylight press for PB in Europe and USA

The urge to upgrade industries

Elimination of low-end production capacity

- China published "Environment Protection Comprehensive List" & "Most restrictive environmental Law":
 - Plywood, PB and fiber boards are included in the list of highly polluting and environmentally risky products. Engineered wood complying with environmental standards could be excluded from the list (amended in 2015).
 - Small factories have been shutdown due to the huge cost of pollution prevention.
- China published the "Guidance Catalogue for Industrial Structure Adjustment":

Production will be restrained for lines with yearly capacity under:

- 50,000 M³ for PB and fiberboard;
- 10,000 m³ for plywood and block board.

"Eliminating small capacity is the only way. For the continuous development of the wood panel industry, it must upgrade and transform, as well as practice green manufacturing." (Note 1)

Cancel E2 Grade

China has implemented the "limit of formaldehyde release in interior decoration materials based on engineered board and its products" since May 1, 2018. The new standard has cancelled the E2 grade and accelerated the elimination of low-end production capacity of PB.

- Customized Furniture market has expanded in China which improves the demand for particle board in wooden furniture.
 - 2016 was named the first year of Chinese customized furniture:

Ready-made furniture using engineered wood panels was mainly made from MDF in China until recently. With the rise of customized furniture manufacturing for local consumption in residential and commercial properties, greater use is made of particle board.

- Customized Furniture market has expanded in China which improves the demand for particle board in wooden furniture.
 - Customized Furniture is the Future:
 - 1.China published the "Regulation of house decoration and repairing-in detail practice":

The trend is moving away from traditional "bricks & mortar" housing construction with a long term goal of furnishing houses with customized built-in kitchen cabinets, closets, bathroom wash basins and bedroom cupboards. The scale of the customized furniture market in China will reach 449.3 million yuan by 2020. Its CAGR will be 21.73% between 2017~2020, which is larger than ready-made furniture (3.53% CAGR).

2.Higher penetration and expanded categories of customized furniture will enlarge the scale of the customized furniture market in China.

Customized furniture in China is mostly kitchen cabinets and closets, with 60% and 30% penetration respectively. With the growing penetration and categories, China continues to expand its customized furniture market.

3. Trend of Full Furnished House

The "Thirteenth Five-Year Plan" for the development of the construction industry enhances the area of newly completed fully furnished residential buildings. The "Shanghai Prefabricated Building 2016-2020 Development Plan" issued in October 2016 requires that 100% of newly-built commercial housing, public rental housing and low-rent housing projects using prefabricated buildings within the Shanghai outskirt Link should be fully renovated.

Customized furniture penetrates cities below the third tier to accelerate the elimination of multi-daylight press

Large-scale custom-made furniture factories use continuous presses. At present, they only penetrate into China's 1st and 2nd tier cities, and there are still plate type furniture factories in the areas below 3rd tiers using old presses.

As market leaders have successively entered 3 ~ 6 tier cities, the old manufacturers are forced to switch to continuous press of PB to enhance their competitiveness.

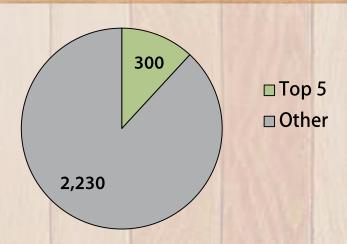
Chinese furniture manufacturing companies' revenues reach 700 billion in 2018

2018 Customized Furniture Market Size 253 Billion



Customized homes only account for 20% of the overall furniture market.

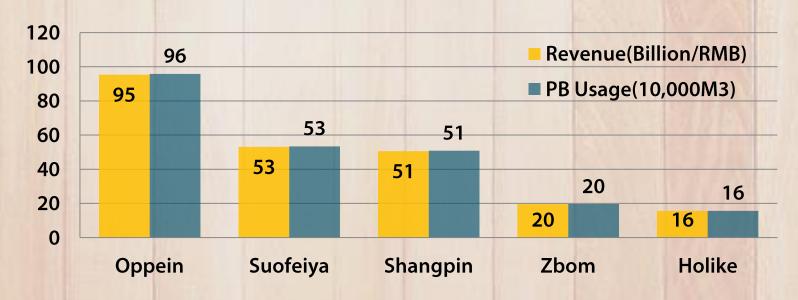
19



The top five customized homes only account for 12% of the market.

Demand in China

Suofeiya's 2018 revenue was RMB 7.311 billion, the PB usage is nearly 73.5 million M³. Based on the revenue estimates of the top five customized furniture companies in China in Q3 2019, the total usage of PB in 2019 should exceed 26 million M³ (China's continuous press output in 2018 was only 11.89 million M³)



Sources: Each company 2019Q3 financial reports, Green River summarized.

2.3 Entry barrier for PB industry



Material

Strict forest policies are in place in Asia and around the world, such as: banning natural forests and halting commercial logging in natural forests. Stable supply of raw materials is the most critical.

Investment

Multi-daylight presses have gradually disappeared in the future, and continuous presses with high output and stable quality are only competitive (GPT produces 528,000 M3 per year, and the capital investment is about NT \$ 3.3 billion)

Technique

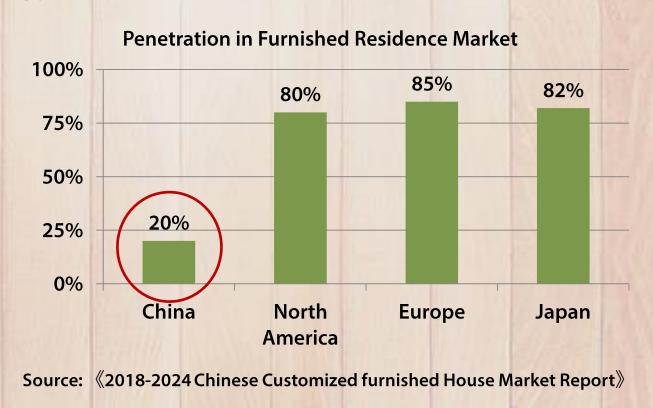
Countries in Asia gradually limit formaldehyde emission standards for PB

- 1) China has implemented the "Limits of Formaldehyde Release in Interior Decoration Materials Man-made Panels and Their Products" from 2018/5/1. The new standard cancelled the E2 grade and accelerated the elimination of low-end PB production capacity.
- 2) South Korea cancelled the E2 standard for wood-based panel specifications, announced on 6/19/2015. This means that low-grade PB can no longer be imported into South Korea.

In order to comply with the specifications of PB in various countries, the factory must have a laboratory (CARB P2) that has obtained international standard certification, and it will take more than one year.

2.4 Fine Furnished Policy Implementation

* "The 13th five-year plan of Construction Industry "which published in 2017 has mentioned that the percentage of fully furnished residence area in the new constructed household should achieve 30% in 2020.

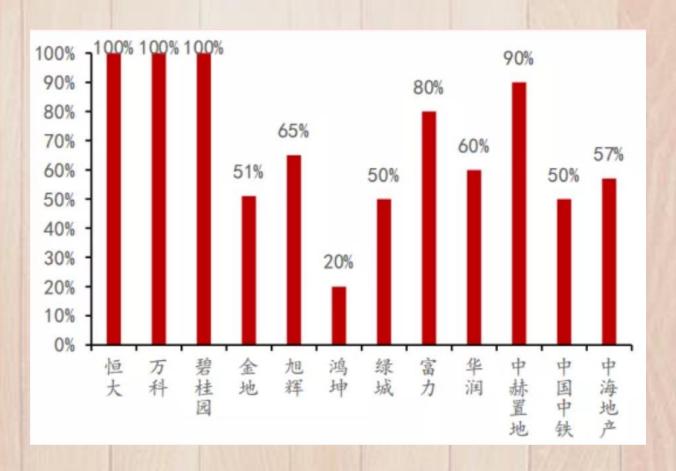


2.4 Fine Furnished Policy Implementation (Cont.)

地区	时间	政策內容和目标	
北京	2015	北京市公租房、经适房、限价房、棚户区改造安置房及自住房全面实施全装修成品交房。	
上海	2016	自2017年1月1日起,外环线以内城区新建商品住宅实施全装修比例达到100%,除奉贤区、金山区、崇明区之外, 其他地区应达到50%。奉贤区、金山区、崇明区实施全装修的比例为30%,至2020年应达到50%。本市保障性住房中,公共租赁住房的全装修比例为100%	
天津	2017	2018年1月1日起,实施装配式建筑的保障性住房和商品住房全装修比例达到100%。	
浙江	2015	到 2020 年底, 浙江新建多层和高层住宅将基本实现全装修。	
江苏	2017	到 2020年,全省新建成品住房比例达到 40%以上,其中设区市新建成品住房比例达到 50%以上。	
ee2 111	2016	2020 年新建住宅全装修率 50%; 2025 年新建住宅全装修率 70%。	
四川	2017	到 2022 年底,成都市新开工商品住宅和保障性住房成品住宅面积比例达到 100%。	
辽宁	2015	2020年底,全省新建住宅中全装修面积比例不低于50%。	

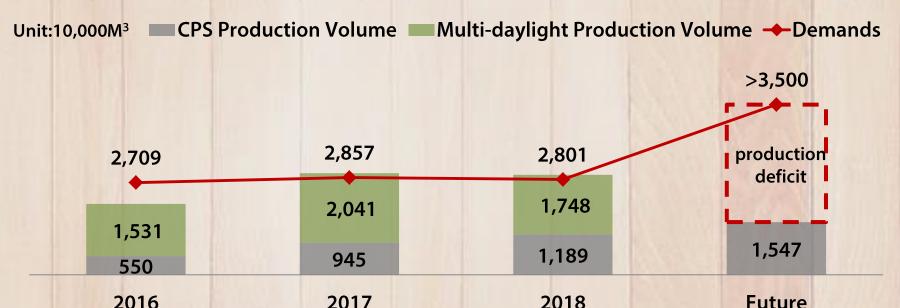
2.4 Real Estate Developers Step in the Market (Cont.)

The fine furnished ratio of the top three Chinese real estate developers has reached 100%



2.6 China PB Production Volume and Demand

China PB Production Volume and Demand



Most of the increased production capacity of CPS in 2018 were converted from traditional multi-daylight presses that were eliminated.

After 2019, it is not easy to obtain forest materials in China, and the rate of capacity increase will gradually decrease.

→ It is estimated that the gap of at least 20 million M3 of PB in China needs to be filled by continuous presses in the future.

Source: 2019 Report on China wood-based panels industry; WBPI Magazine, Green River summarized



3. Competitive and Strength



Enlarging capacity

Enlarging capacity by horizontal expansion

Abundant material resources

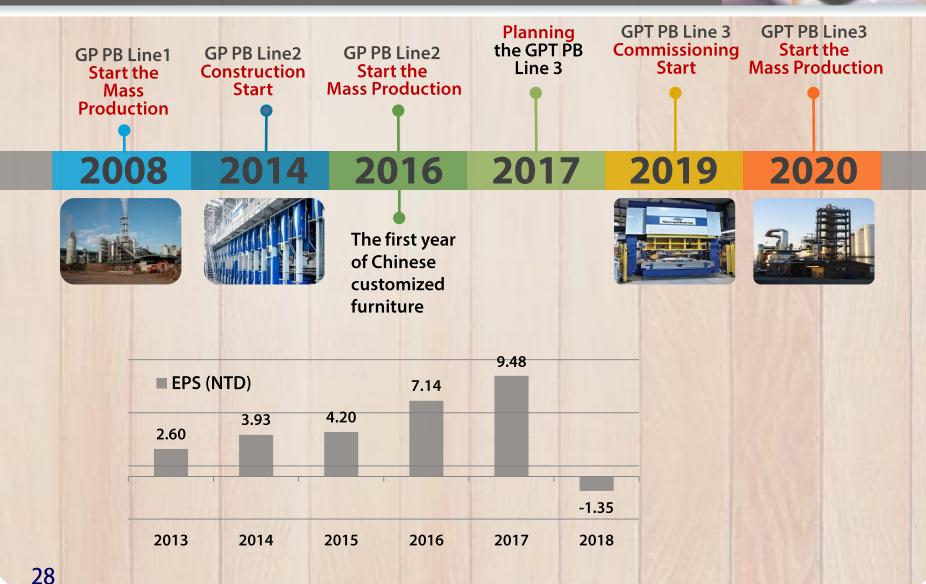
Seize the rubber wood resource in Southern Thailand.

Logistical Advantages

Situated at the transportation hub
Obtained Certificates in Every regulation

3.1 Enlarging capacity

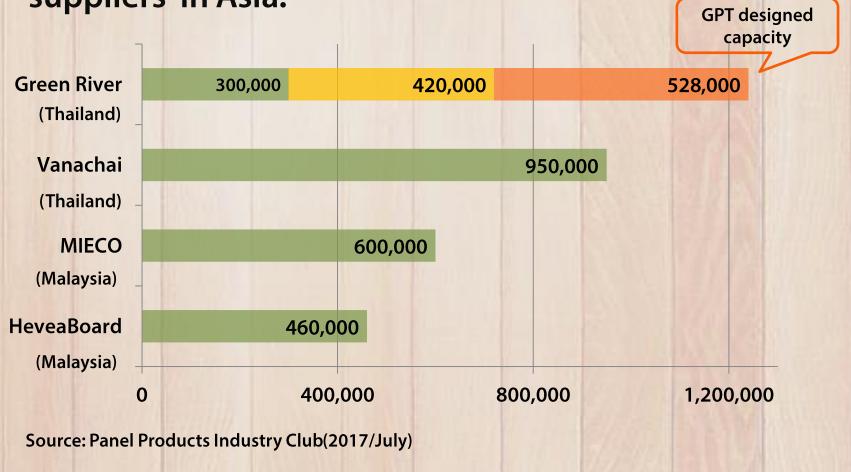




3.1 Enlarging capacity (Cont.)



With our latest PB Line (GPT), 500,000 M³ as yearly capacity, Green River is becoming the largest PB suppliers in Asia.



3.1 Enlarging capacity (Cont.)



GPT-The Largest PB production line in Asia



PANEL MANUFACTURING

which is Green River's third, will see reduction powerhouses in Southeast issa. It will be delivered by Siempelkamp.

build Southeast Asia's biggest this project," Mr Philipps said. Addressing the Green River team, he added, "Your

team were single minded about Green River's commitment to producing green products. (Green River is named for the company's environmental

furniture often end up in the backyard of a particleboard line, which makes

banks on the belief that Asia is overflowing

Jurgen Philipps, speaker of the The first board is expec Siempelkamp Management Board, in the last quarter of 2019. added, "We are happy and honoured to be selected for this project. This is our second success in three months in Southeast Asia. It is a good sign as

uous press to Asia. It will

BIG, BIGGER, BIGGEST The upcoming line is based in Trang, Thailand, over 200km away from Green

with European suppliers often see him working late into the small hours. But being busy is a good thing, he jests,

The green field investment was conceived over two years ago, even before the second line was fully operational. Mr Huang says the planning



featuring SE Asia's longest CONTINUOUS PRESS | By Lee Zhuomin.

an oversupply situation, followed by a lack of raw materials. But this does not bother Mr Husng, After all, these trends are cyclical, almost normal. Instead, he is looking forward to Asia's

Instead, he is looking forward to Asia's bullish furniture market buoyed by a slow but sure rising middle income class among the region's four billion people. As standards of living improve, so will robust buying, especially that of green' products—the very thing Green River offers. Rather than wait, he is keen to capture this potential before others do.



PANELS & FURNITURE ASIA - bone 1 - January / Februar

Note1:http://www.panelsfurnitureasia.com/ebook/PFA_JanFeb2018/22/index.html

3.2 Abundant material resources

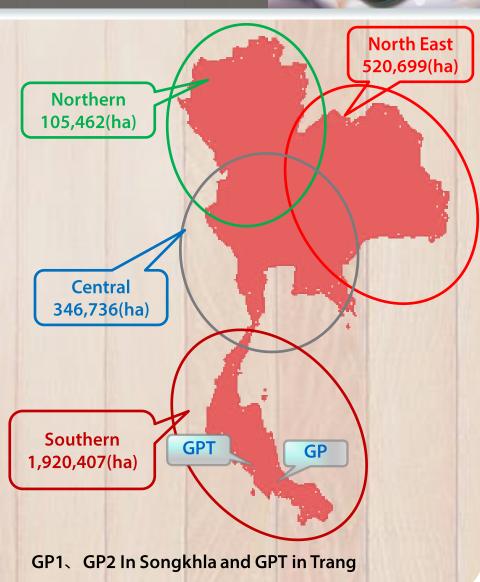


The main rubber wood plantation region

- Thailand is the largest player of rubber industry.
- Southern Thailand is the biggest plantation region in Thailand.

Region	Plantation%
Northern	3.65%
Northern East	17.99%
Central	11.98%
Southern	66.38%
Total	2,893,304 Ha

The Thai Rubber Association (2015)



3.3 Logistical Advantages





