

China's Forest Bioeconomy : Policy and Market

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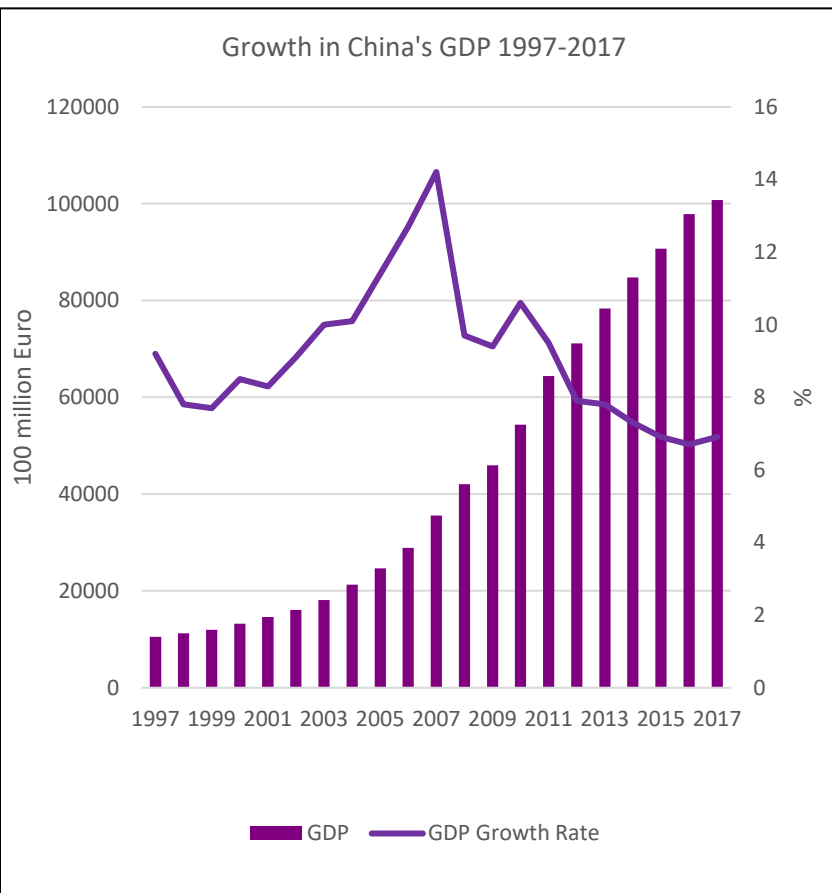
All IUFOR Meeting 2022.9.22

Presentation outline

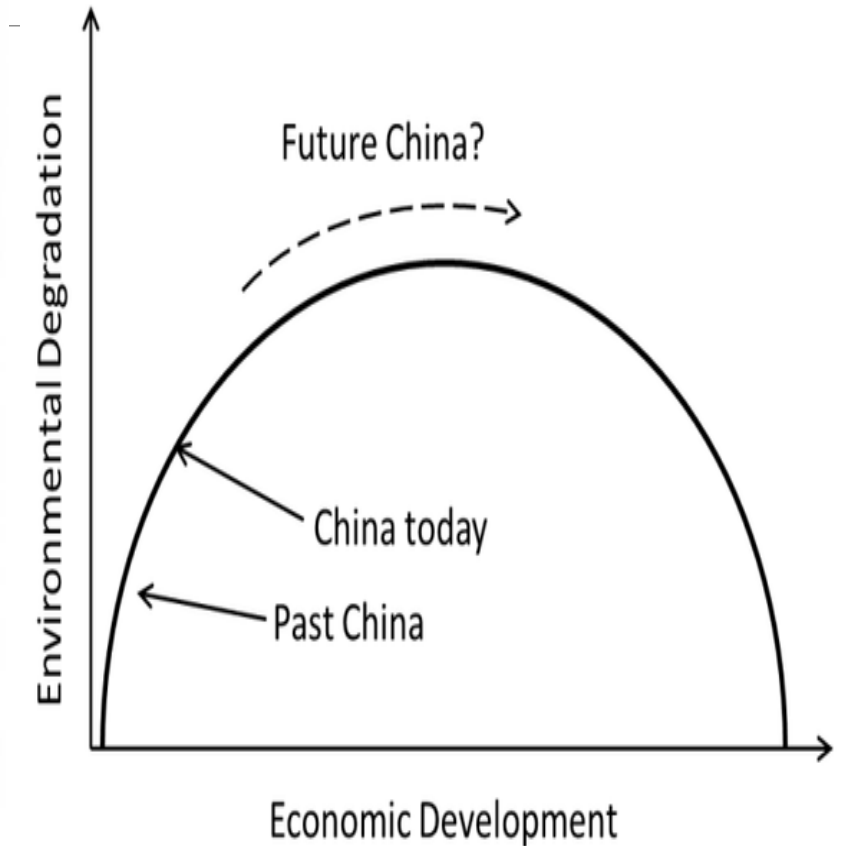
1. Why Bioeconomy in China
2. Forest Bioeconomy Policy and Market Development in China
3. SWOT analysis
4. Suggestions

1. Why Bioeconomy in China

Linear economy development caused environment degradation and Pollution



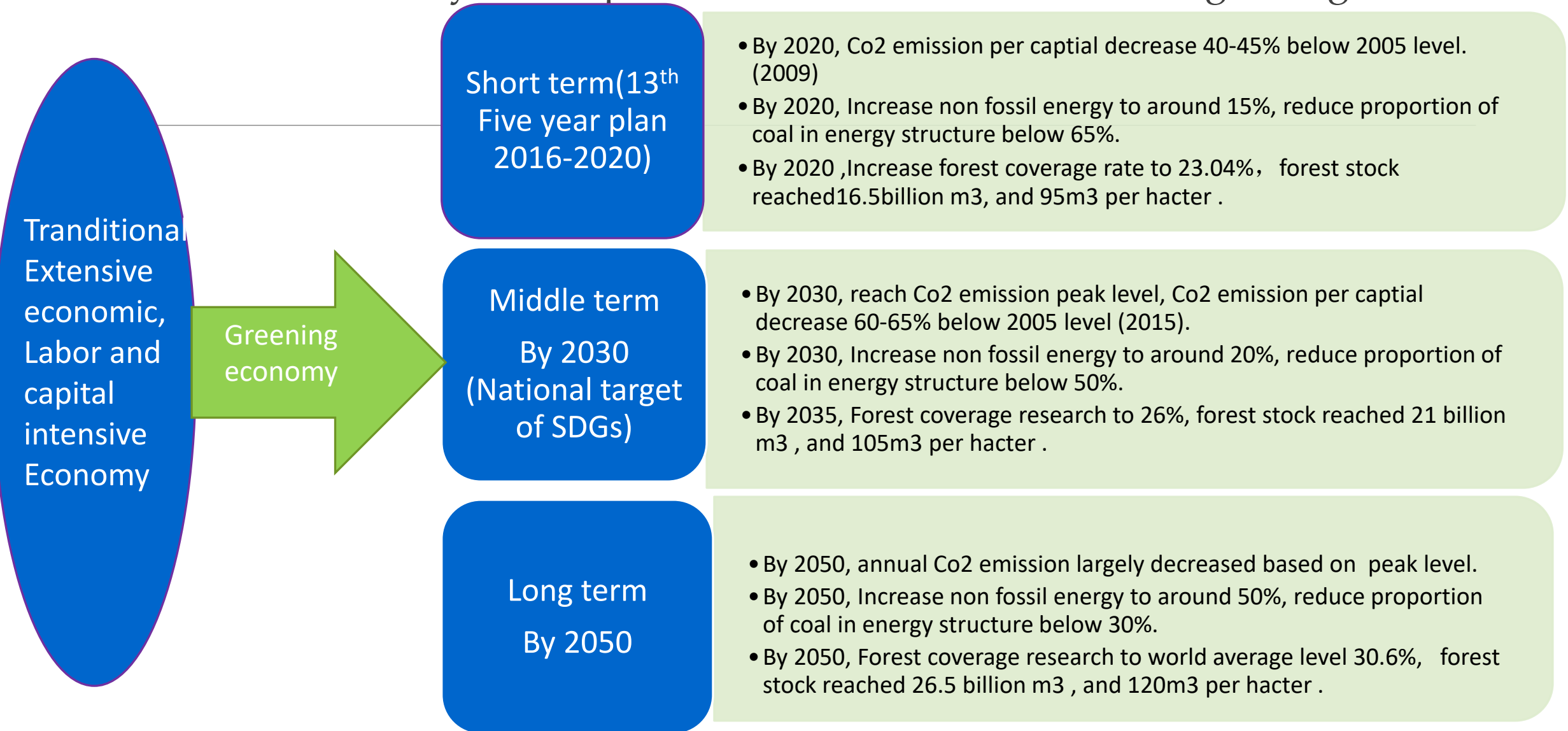
Source: China economic annual report 2018



Source: China dialogue 2015

1. Why Bioeconomy in China

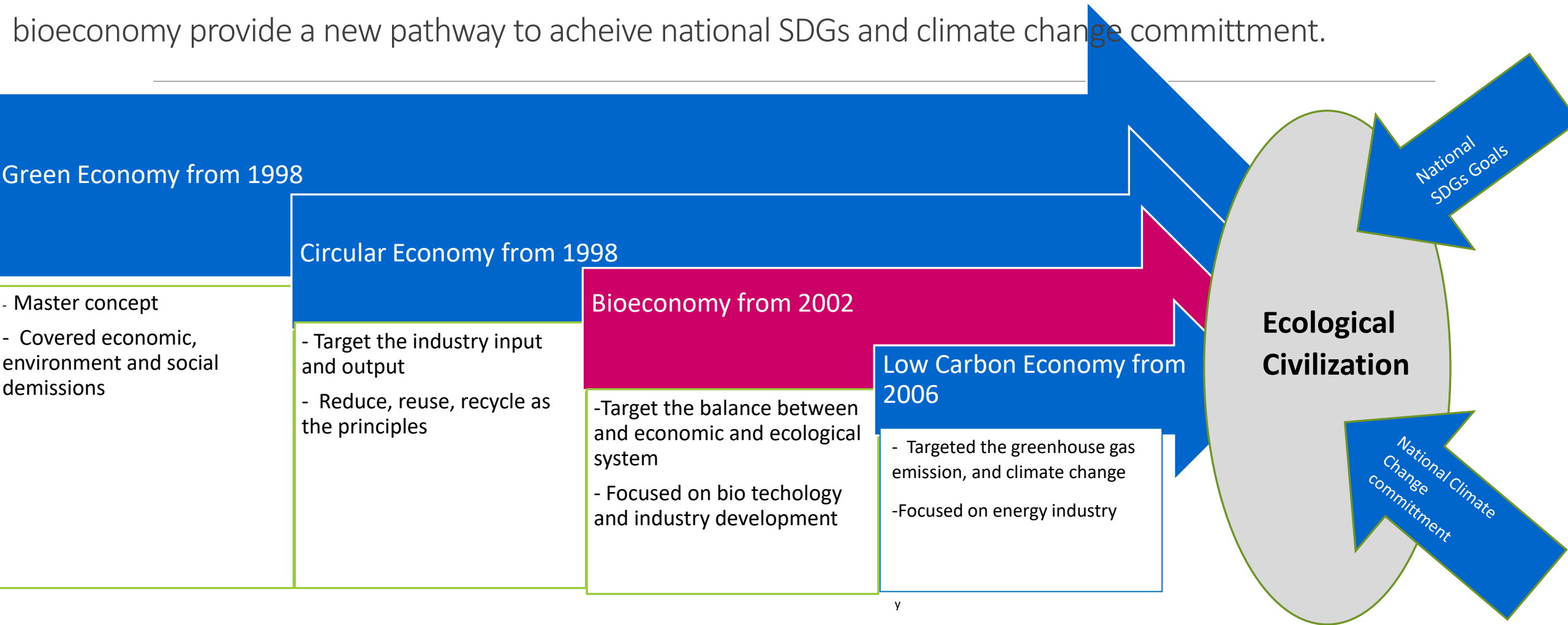
China's National Economy Development Priorities: short, middle, long term goals



2. Forest Bioeconomy Policy and Market Development in China

2.1 Concept Evolution

bioeconomy provide a new pathway to acheive national SDGs and climate change committment.



2. Forest Bioeconomy Policy and Market Development in China

2.1 Concept Evolution

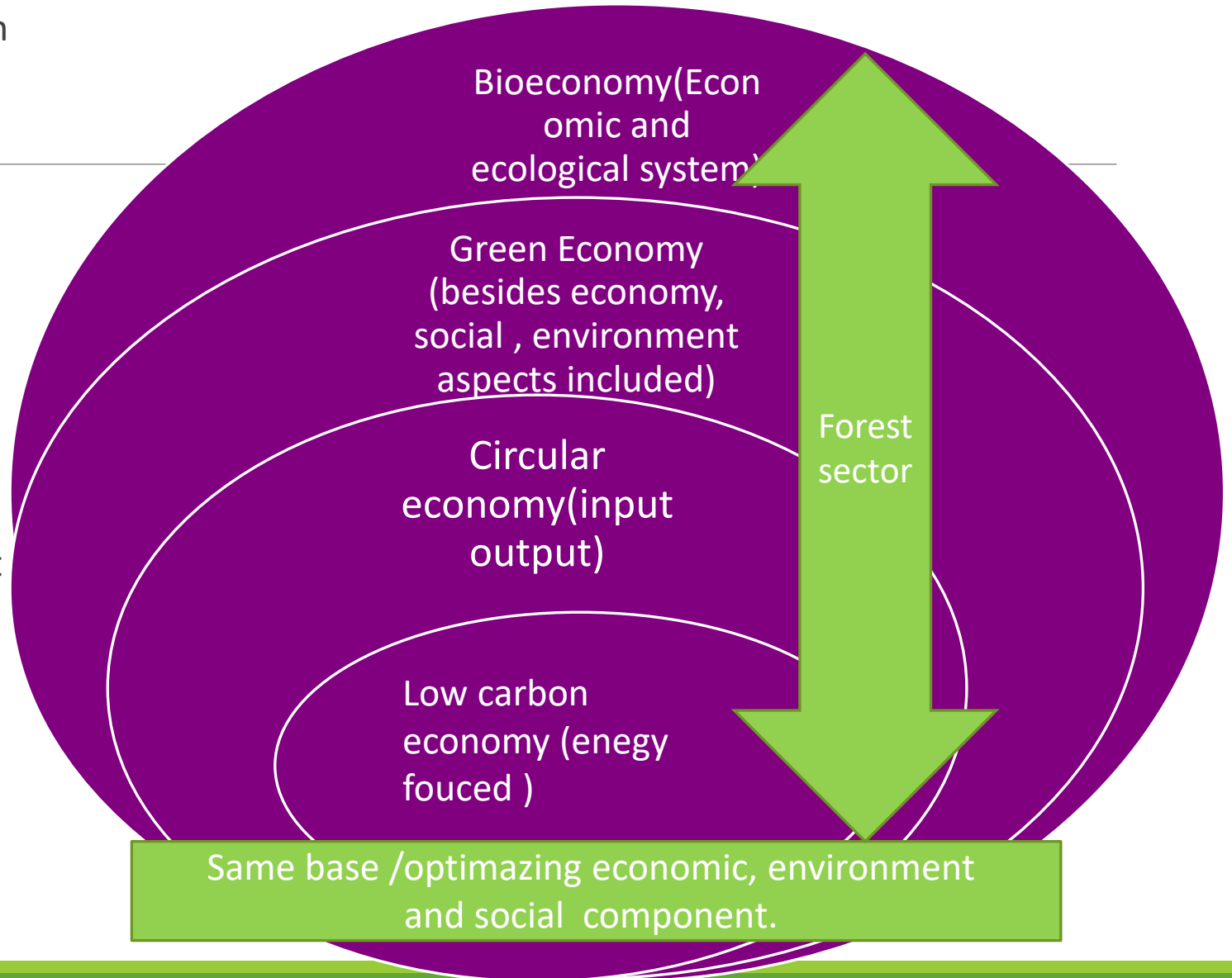
Circular economy is more mature concepts with necessary law, regulation and institutional support. Paralleling concepts include green economy, Low carbon economy

Currently Bioeconomy concept is new and undeveloped in China with narrow focus on biotechnology and biomedical.

Main philosophy is same but with different coverage and emphases.

Bioeconomy is the new economic development model build upon the circular economy with aim to replace fossil fuel based products and materials with renewable products and materials.

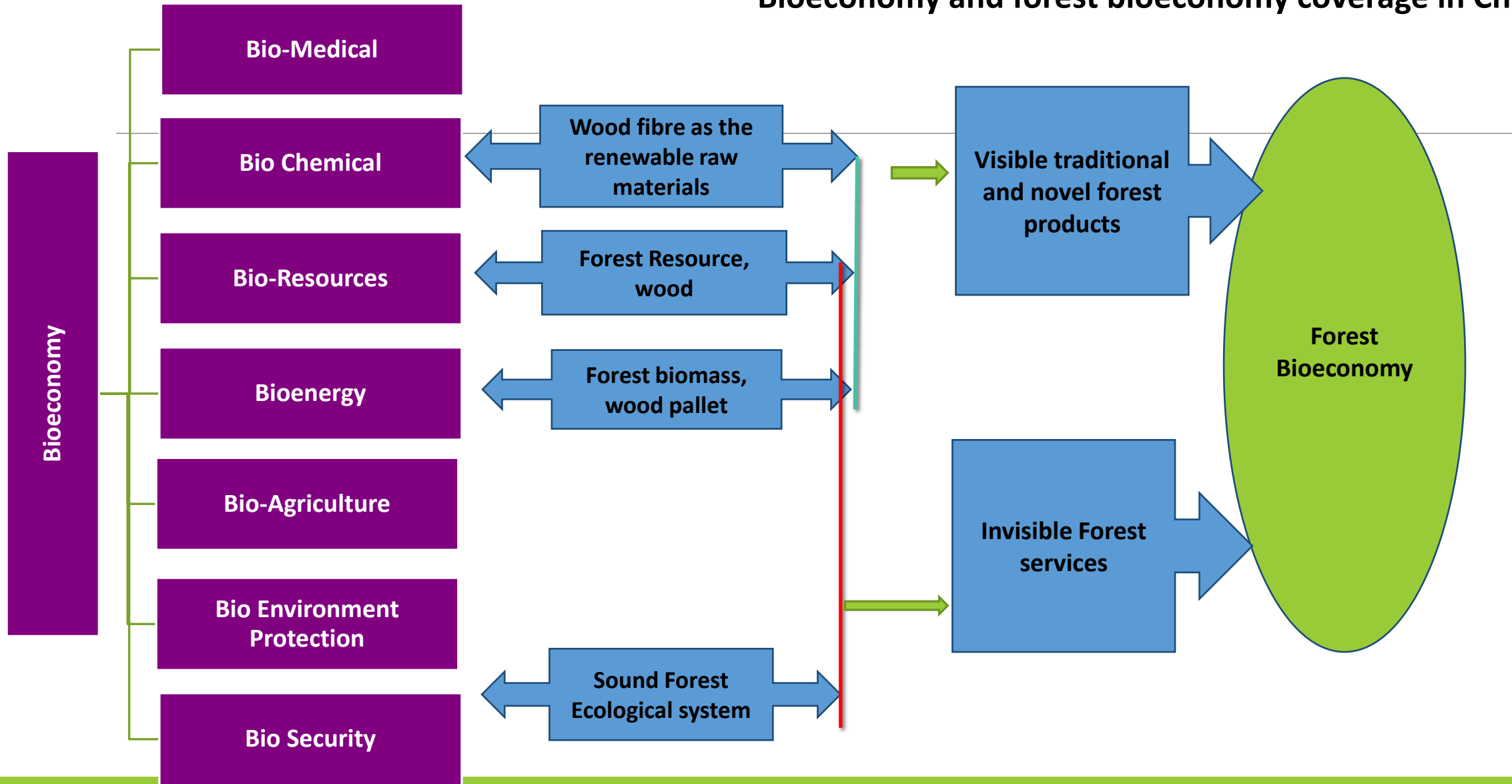
China's unique position in global commodity chain leave as important manufacture hub and consuming market leave huge potential for China to move global bioeconomy development with other partners.



2. 2. Forest Bioeconomy Policy and Market Development in China

2.1 Concept Evolution

Bioeconomy and forest bioeconomy coverage in China

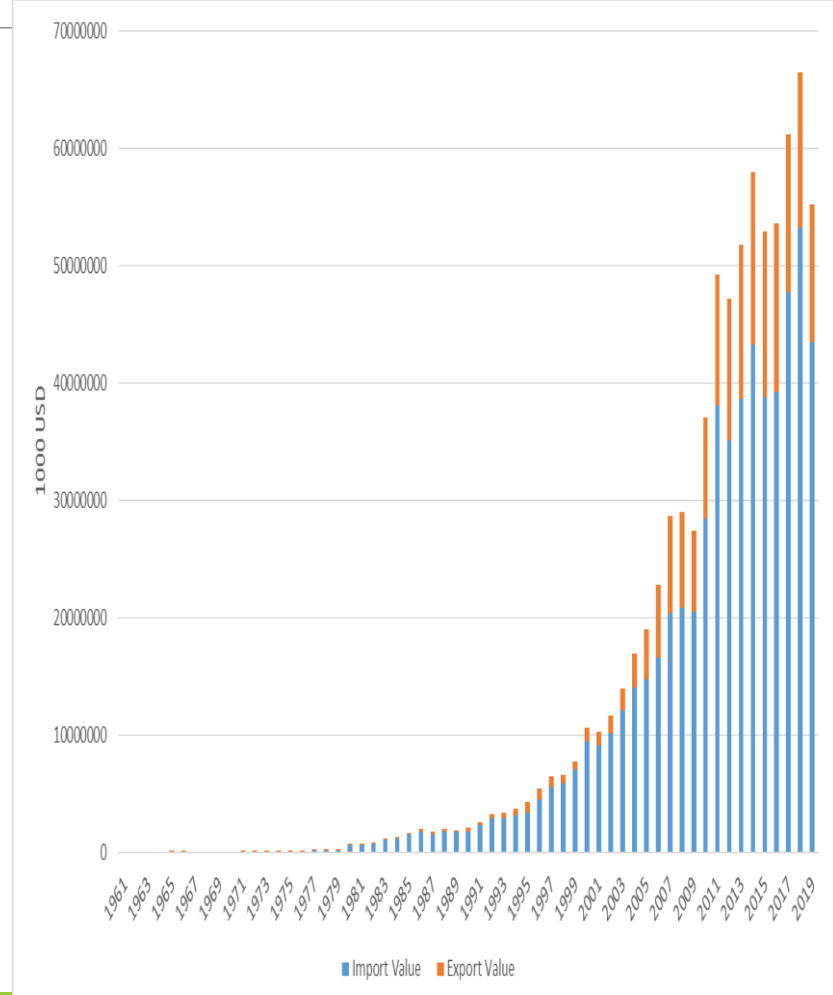
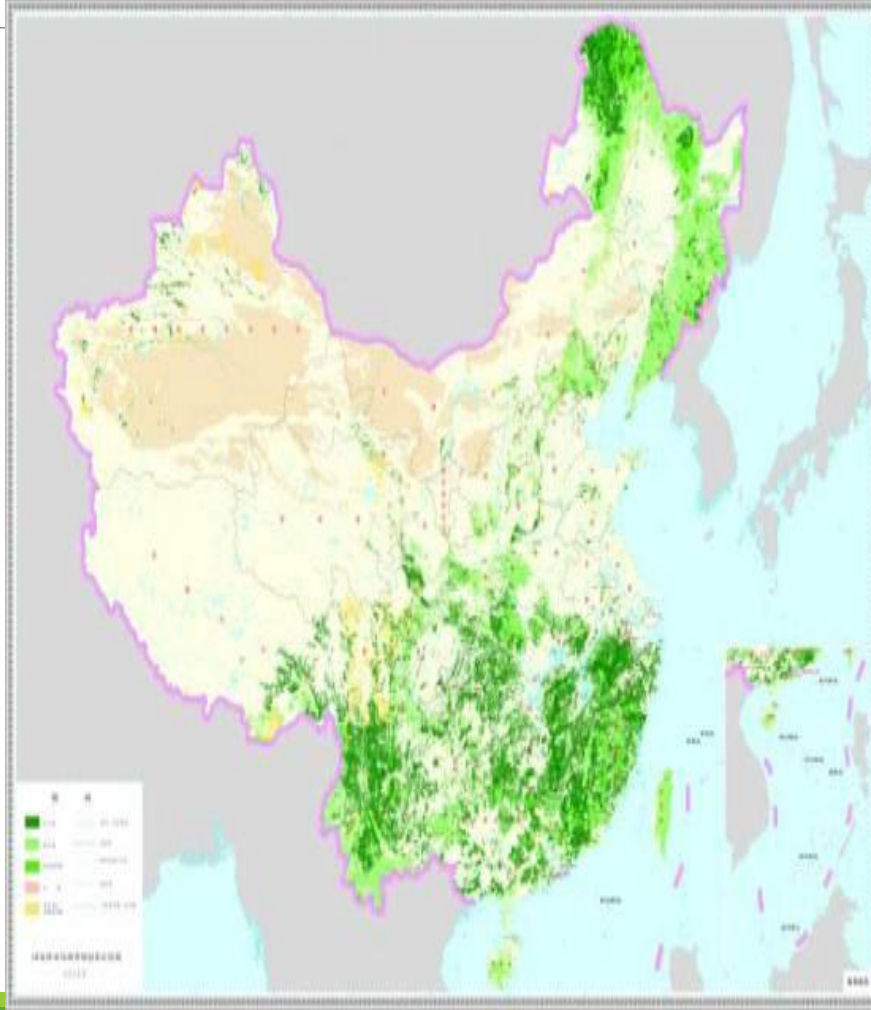
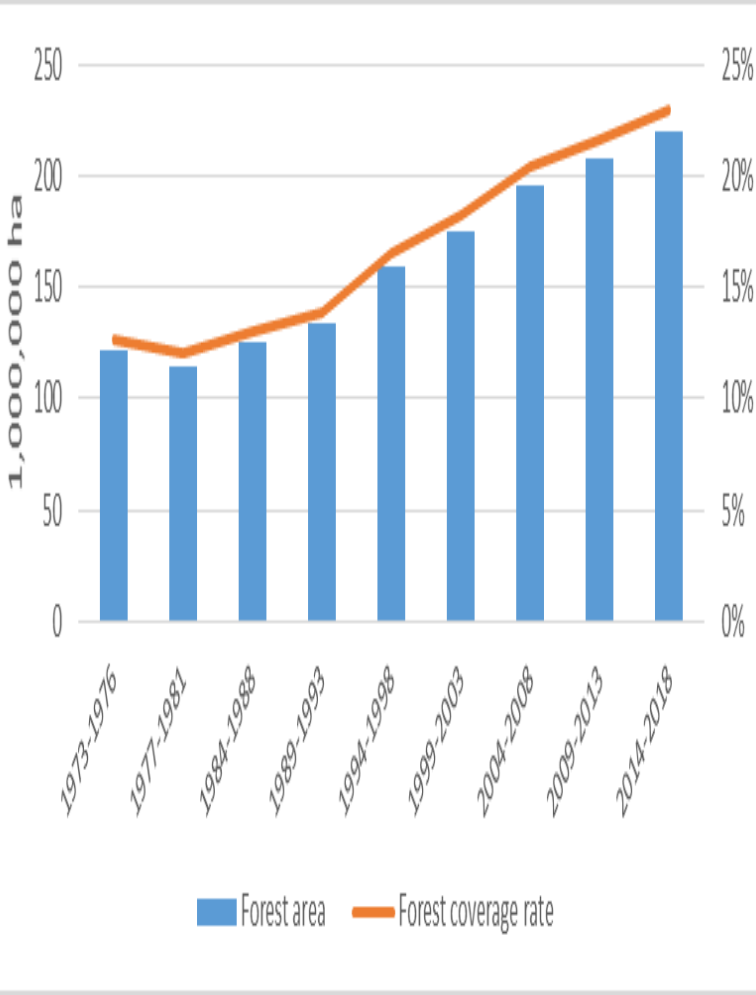


2. Forest Bioeconomy Policy and Market Development in China

2.2 Forest Bioeconomy Related Policy in China

Forest and Forest sector in China

the forest area in China has reached 220 million hectares amounting to 23% of the land area and with a growing stock of 17.6 billion cubic meters



2. Forest Bioeconomy Policy and Market Development in China



2.2 Forest Bioeconomy Related Policy in China

Enabling policy environment is shaping :

National legislations

- 2008 Circular Economy Promotion Law .
- 2002 Clean Production Promotion Law , amended in 2012.
- 2006 Renewable Energy Law of the People's Republic of China 2006
- 1985/on going amending Forest Law
- 1985/2014 amended Environment protection law

National strategy policy

- 14th Five year plan(2021-2025) Bioeconomy Development outline 
- "Made in China 2025"
- Green Industry Development Plan (2016 - 2020)
- National Climate Change Plan (2014- 2020) low carbon industry
- 13th Five year plan (2016-2020) which highlighted the green development.
- Green Public procurement advise list 

Sector level policy

- 2022 National Forestry and Grass Industry development outline(2021-2025)
- 2016 National Forest management outline (2016-2050).
- 2017 Forestry sector's action plan to support China's National Plan on Implementation of the 2030 Agenda for Sustainable Development .
- 2013 green building action plan.
- 2014 National new urbanization outline (2014-2020) set green building development goal, to 2020, green building account for 50% .
- 2012 National forest bioenergy development outline (2011-2020).

Redhead document/Tongzhi, yijian, fangan

- 2015, in green construction production and utilization outline, promote using wood building was highlighted.
- 2016 state council issue yijian to promote new urbanization and support wood building.
- 2016 NDRC issue improving city's climate adaptation ability, promote wood building is part of it.
- 2016 ministry of construction issue yijian to promote green building materials produce and using, wood construction is part of it, and also 2016 state council issued yijian to promote Prefabricated Concrete Structure in building and support wood building.

2. Forest Bioeconomy Policy and Market Development in China .

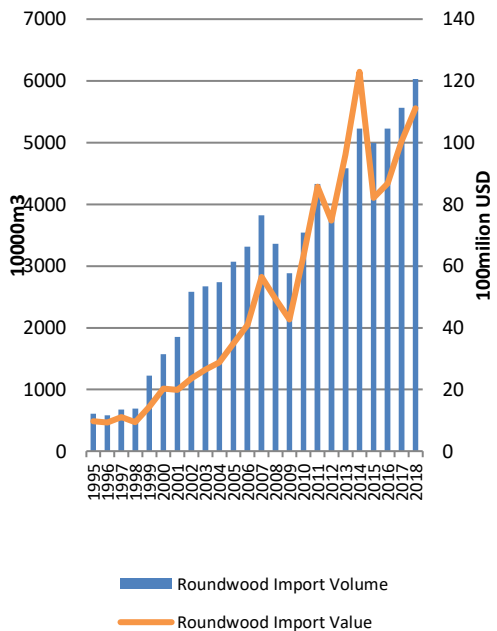
2.3 Forest Bioeconomy Related Market Development in China

2.3.1 Traditional Forest Bioeconomy products

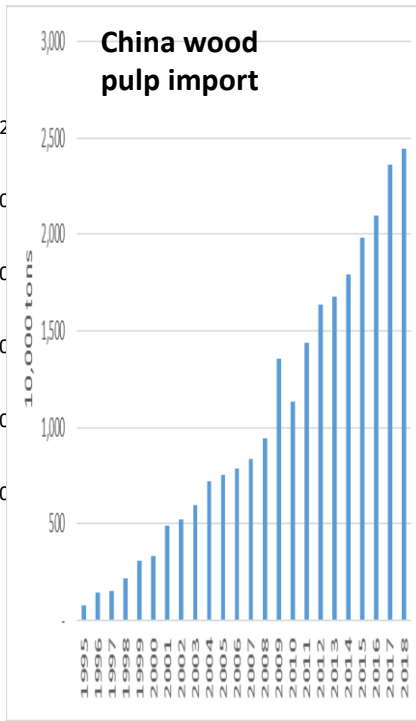
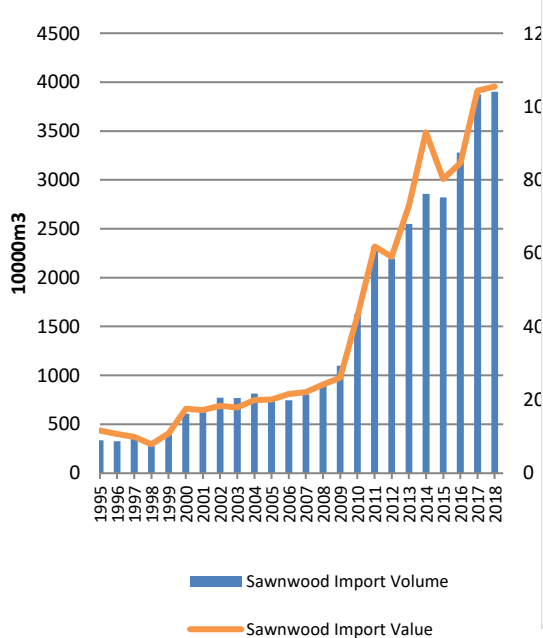
2.3.1.1 wood processing

- Log, sawn timber, paper, pulp : World largest importer and important consuming market. Import kept rocket in past 20 years.
- Wood based panel, wood furniture : World largest exporter and important consuming market. Export increased in past 20 years
- World largest plantation country: 69.33million ha.

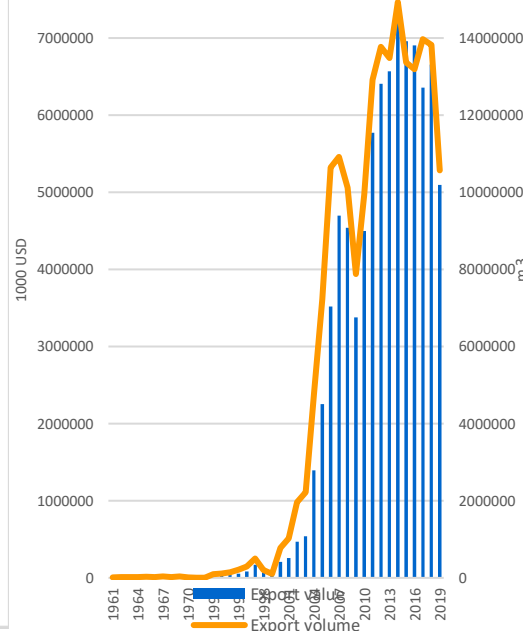
China Roundwood import



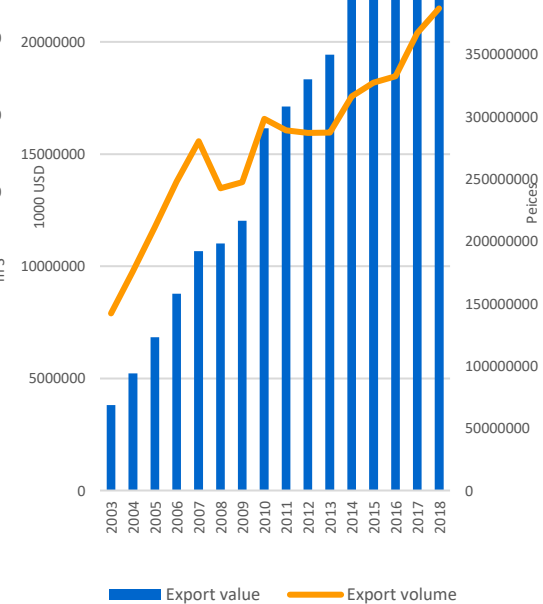
China Sawn timber import



China Wood based panel export



China wood furniture export



2. Forest Bioeconomy Policy and Market Development in China

2.3 Forest Bioeconomy Related Market Development in China

2.3.1 Traditional Forest Bioeconomy products

Wood construction

- China annual new building construction is around 1.7 billion m².
- Less than 0.2% of China new residential building are wood construction. However, in 2016 to in line with national objective on reduce CO₂ emission and environment protection, 4 national policies issued to support wood construction development.
- Huge market demand potential on green wood building technical and materials.



Largest woodbuilding in China: 2400 m²



Shinyleaf Yellowhorn for biofuel

2.3.2 Forest biofuel

- 2013 issued national forest bioenergy development outline (2011-2020). By 2020 build up 16.78 million ha forest bioenergy forest, forest bioenergy (Biodiesel, biomass) account for 2% of country's renewable energy.
- In development stage with big market potential.

2. Forest Bioeconomy Policy and Market Development in China .

2.3 Forest Bioeconomy Related Market Development in China

2.3.3 New forest Bioeconomy products

Wood-based textiles

China is largest cloth producing, processing and consuming country globally.

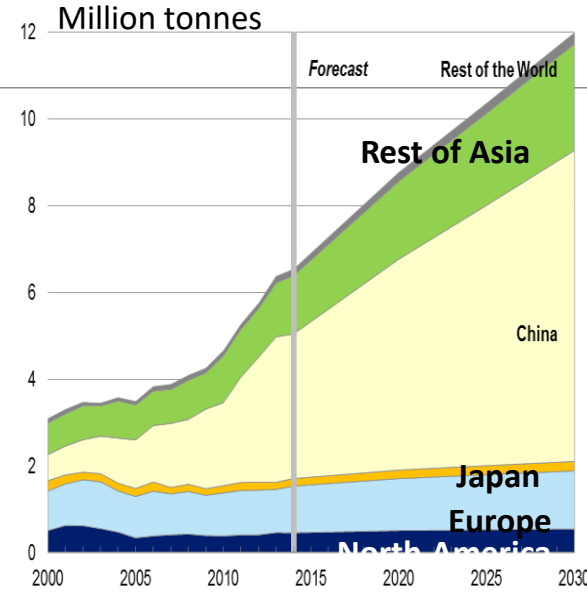
China both is one of big pulp producing countries, and is also biggest pulp importing country in the world.

Dissolving pulp demand increase quickly and mainly depend on import.

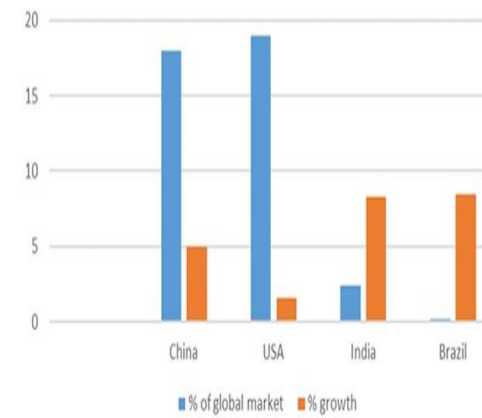
World demand to grow by 3.9%/year, driven mainly by China

Big market potential on technology and materials.

Dissolving pulp consumption outlook to 2030



Global Plastic Products Market Split By Country, 2016



Source: The Business Research Company

Bioplastics

China is largest plastic produce and consume country globally .

Plastic product recyling rate only 25%.

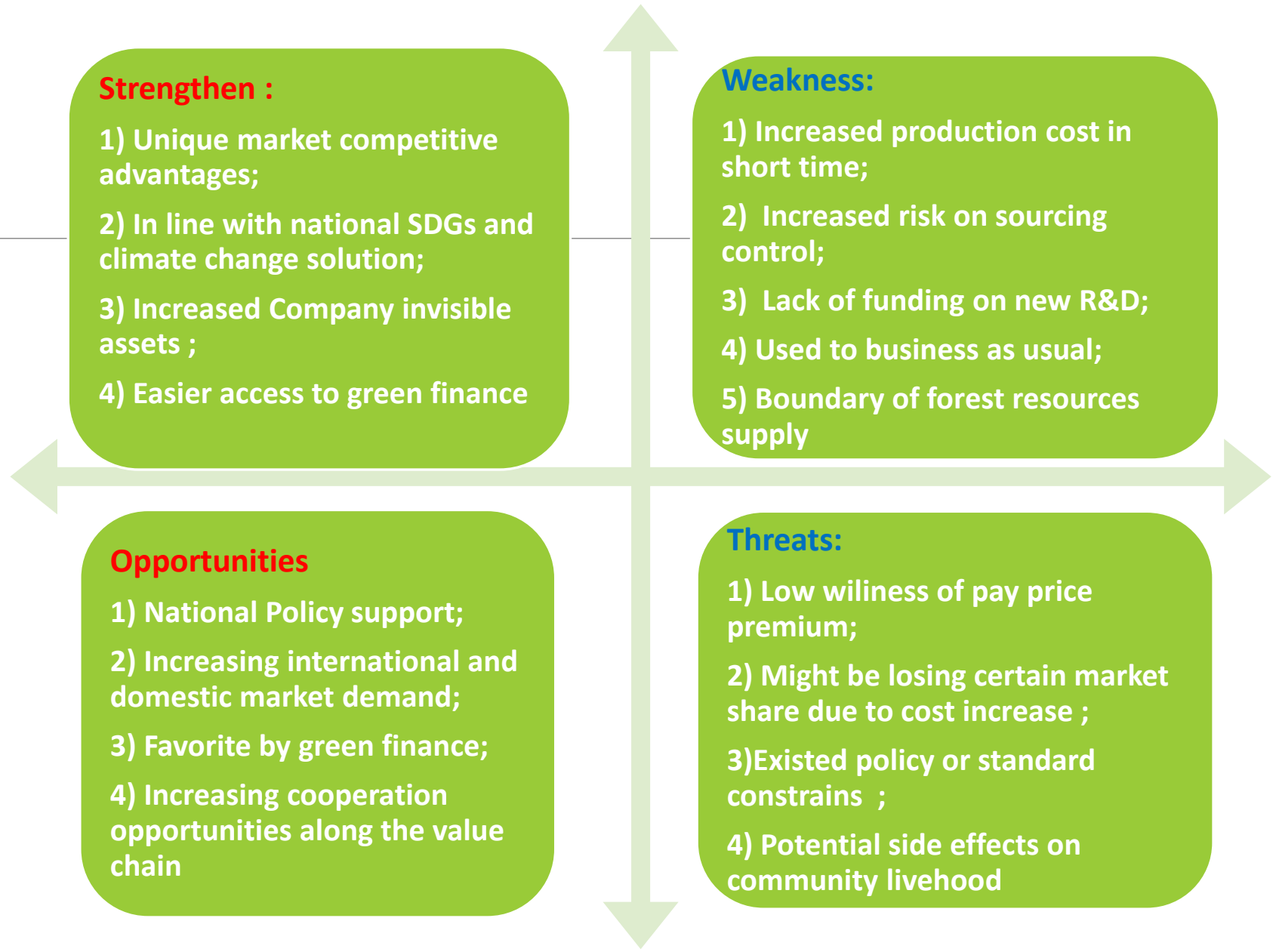
Annual Waste plastics volume is 15million tons .

Big market potential on technology.



3. SWOT Analysis

Forest Bioeconomy development in China had Strengthen and Opportunities , but also facing Weakness and Threats.



5. Suggestions

Better leverage Forest Bioeconomy development in China requires :

- Improve Policy supporting

Top policy design needed to support forest bioeconomy to better motivate the forest bioeconomy development.

- Increase investment

Provide forest bioeconomy business more funding opportunity both through policy financing and through financial market .

- Enlarge the market needs

Encourage forest bioeconomy products consumption, especially new products like wood fibre based textile and plastic products.

- Encourage New Technologies research and cross sector cooperation

- Increase International cooperation and optimize the forest bioeconomy value chain



Thanks!

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