

# Make Fashion Circular

# Outlook of a New Textile Economy in China

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ITMF Annual Conference 2020

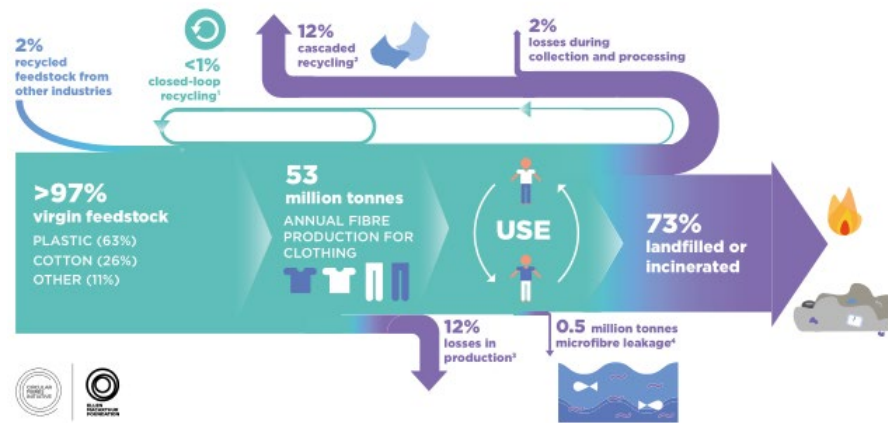
# 1. Challenges: Resource and Environmental Risk facing by Fashion Industry

**1** *Current Linear Model: Huge Resource Consumption and irreversible environmental pollution*



**2** *Negative impacts by 2050: With the increasing consumption demand, catastrophic impacts from the industry If continues to develop as usual.*

## Global Material Flows for Clothing in 2015



- 1 Recycling of clothing into the same or similar quality applications
- 2 Recycling of clothing into other, lower-value applications such as insulation material, wiping cloths, or mattress stuffing
- 3 Includes factory offcuts and overstock liquidation
- 4 Plastic microfibres shed through the washing of all textiles released into the ocean

Source: EMF, A New Textiles Economy: Redesigning Fashion's Future

## 2. Policy Guiding: European Union



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### EU Circular Economy Action Plan (2020)

- ◆ proposes 35 legislative initiatives by the end of 2023 to comprehensively promote circular economy.
- ◆ Emphasizes circular principles throughout the entire life cycle of products and creating a sustainable product policy framework covering design, consumption, manufacturing.
- ◆ Textiles is one of the seven key product value chains addressed priority.



### Innovation Theme III

## Circular Economy and Resource Efficiency

2017

Towards a 4<sup>th</sup> Industrial Revolution of Textiles and Clothing  
A Strategic Innovation and Research Agenda for the European Textile and Clothing Industry

European Environment Agency

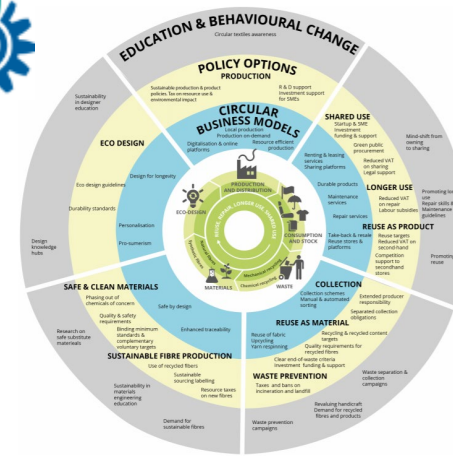


Resource efficiency and waste

2019

Resource efficiency

Textiles in Europe's circular economy



### 3. Policy Guiding: China

*Vigorously promoting circular economy as National Policy since 2005.*



*Accelerating the transformation as new economic Driving Force since 2015.*

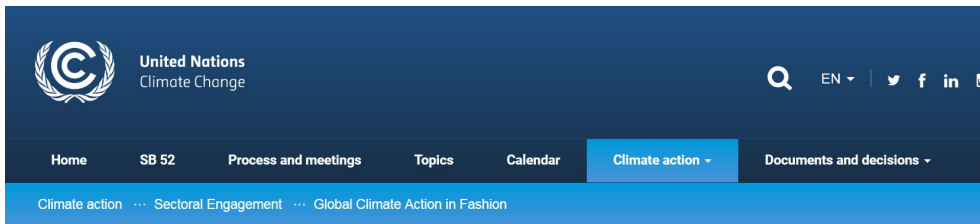


*Publishing more systematic and transformative policy in 2020.*

#### Circular economy development strategy and leading action Plan

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |         |                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------------------------------|
| Several Opinions of the State Council on the Development of the Circular Economy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | In 2005 | Normative Documents of the State Council        |
| Outline of China's "11 <sup>th</sup> Five-Year Plan" for National Economic and Social Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | In 2005 | Working paper of the National People's Congress |
| Outline of the 12 <sup>th</sup> Five-Year Plan for National Economic and Social Development of the People's Republic of China                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | In 2011 | Working paper of the National People's Congress |
| Notice of the State Council on Issuing the Circular Economy Development Strategy and Near-Term Action Plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | In 2013 | Normative documents of the State Council        |
| Opinions of the Central Committee of the Communist Party of China and the State Council on Accelerating the Construction of Ecological Civilization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | In 2015 | Normative Documents of the State Council        |
| Outline of the "13 <sup>th</sup> Five-Year Plan" for National Economic and Social Development of the People's Republic of China                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | In 2016 | Working paper of the National People's Congress |
| State Council Circular on the Issuance of the Comprehensive Work Program for Energy Conservation and Emission Reduction during the "13 <sup>th</sup> Five-Year Plan" Period                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | In 2016 | Normative Documents of the State Council        |
| Notice of the National Development and Reform Commission, Ministry of Science and Technology, Ministry of Industry and Information Technology, Ministry of Finance, Ministry of Land and Resources, Ministry of Environmental Protection, Ministry of Housing and Urban-Rural Development, Ministry of Water Resources, Ministry of Agriculture, Ministry of Commerce, State-owned Assets Supervision and Administration Commission of the State Council, State Notice of the State Administration of Taxation, the National Bureau of Statistics, and the State Forestry Administration on Issuing of the Leading Action Plan on Circular Development | In 2017 | Departmental Regulatory Document                |
| Notice of the General Office of the State Council on Issuing the Implementation Plan for Prohibiting the Entry of Foreign Garbage and Advancing the Reform of the Solid Waste Import Administration System                                                                                                                                                                                                                                                                                                                                                                                                                                             | In 2017 | Normative document of the State Council         |
| Notice of the General Office of the State Council on Issuing the Work Plan for the Pilot Construction of "Waste-free City"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | In 2019 | Normative document of the State Council         |
| The Guiding Opinions on Building a Modern Environmental Governance System issued by The General Office of the CPC Central Committee and the General Office of the State Council                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | In 2020 | Guiding Opinions of the State Council           |

## 4. Active Stakeholder Coordination : Joint Action by Industry Leading Role



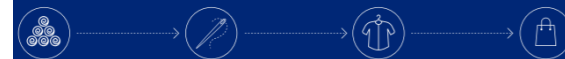
### About the Fashion Industry Charter for Climate Action

“Support the movement towards **circular business models** and acknowledge the positive impact this will have towards reducing GHG emissions within the fashion sector. “

# FASHION PACT



### Collaboration Across the Entire Value Chain



|    |                |    |                             |    |                        |   |                       |
|----|----------------|----|-----------------------------|----|------------------------|---|-----------------------|
| 15 | Luxury Apparel | 13 | Marketplace/<br>Distributor | 12 | High-street<br>Apparel | 8 | Premium<br>Apparel    |
| 6  | Sportswear     | 4  | Manufacturer                | 3  | Pure Footwear          | 2 | Mannequin<br>Supplier |

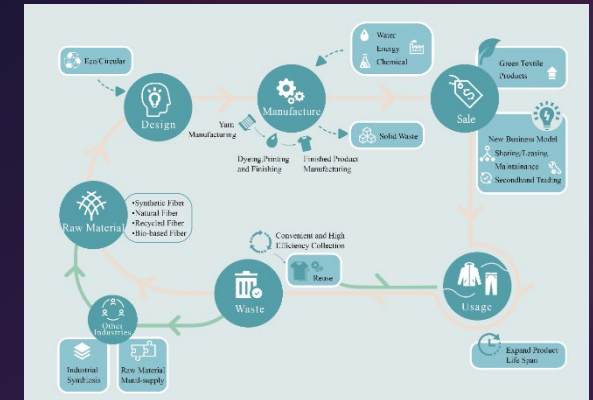
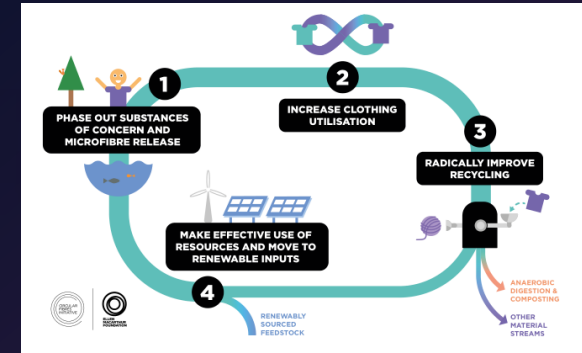
“Support the adoption of **‘circularity’** principles across fashion brands such as the sourcing of regenerative raw materials, material efficiency and recycling/upcycling. This includes both **‘design for circularity’** and addressing **‘the end of life of materials and products’**.”

## 5. Circular Fashion: Being Consensus as A Systematic Solution



### Circular Fashion

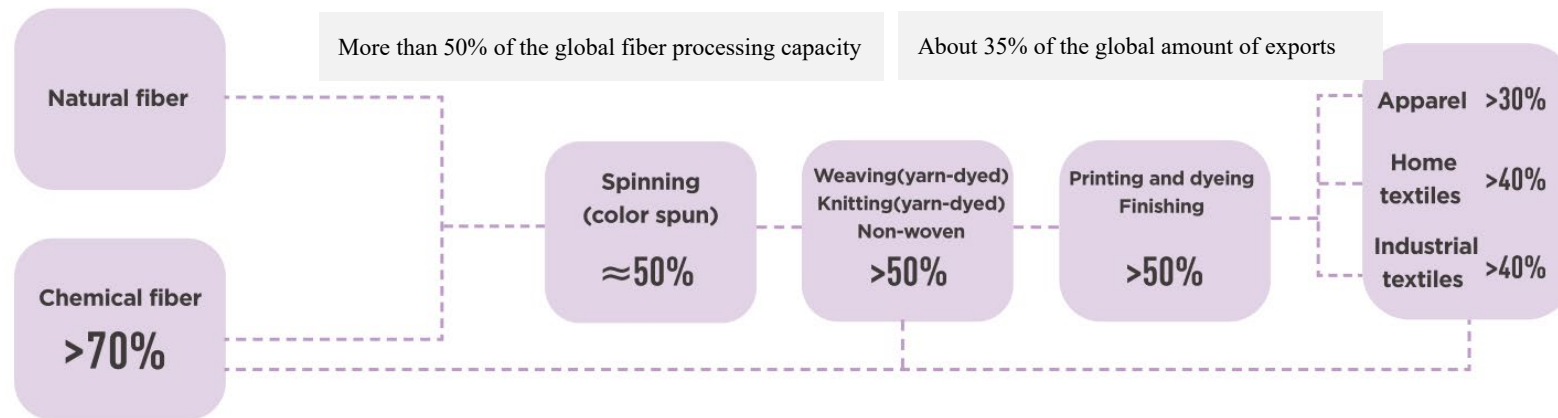
- In line with the principles of circular economy
- Focus on the lifecycle of industrial chain
- Maximize the value of fiber, textile and apparel in use and recycling
- Reduce the consumption of natural resources and the generation of waste
- Reshape the textile industry towards a more resilient and responsible future



Source: EMF, and CNTAC

## 6. The Significance of Circular Development for China Textile & Apparel Industry

### (1) The complete industry chain of China's textile industry (Proportion of China's processing capacity in the world)



### (2) One of the largest consuming markets for textile and apparel products

One of the top three markets for many well-known fashion brands and enterprises

38%  
China's market share in global fashion industry growth in the past decade

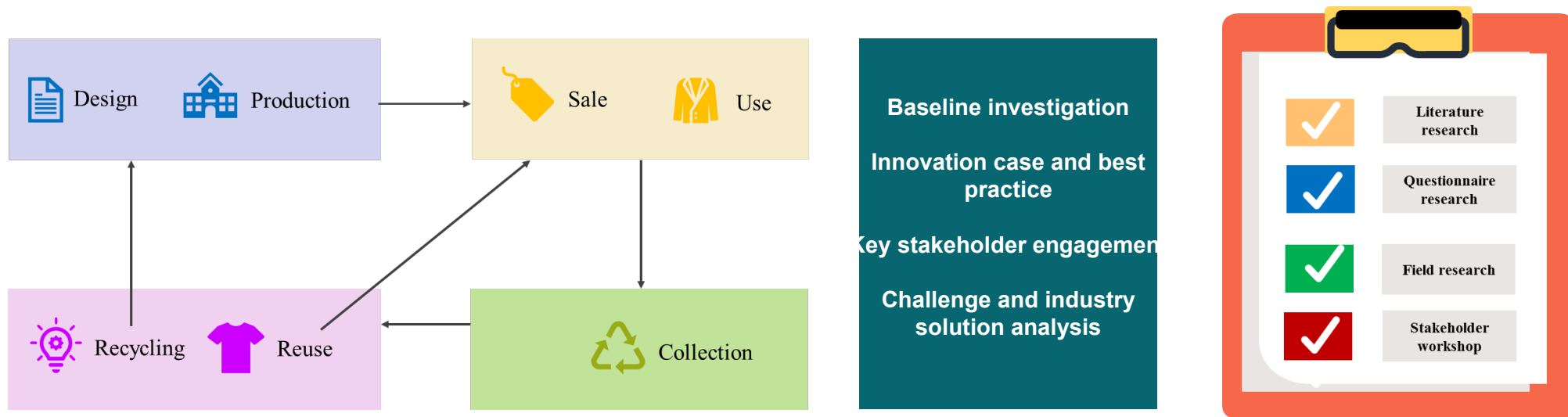
70%  
China's market growth of global luxury industry growth since 2012.

\$190 per person in 2018  
Big potential market compared with the consumption level of developed countries

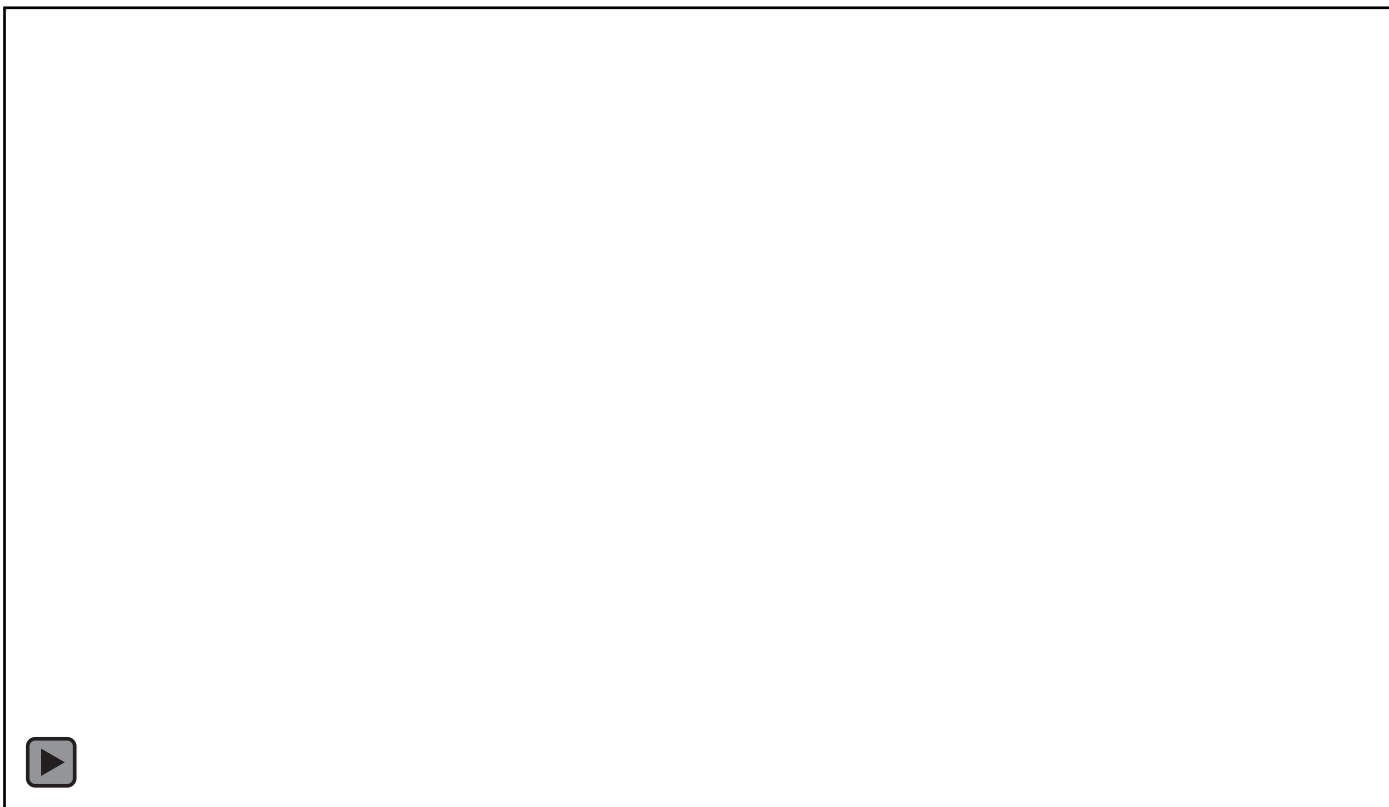
Source: CNTAC, BOF, National Bureau of Statistics of China, US Department of Labor

# 7. Research on Make Fashion Circular: Outlook for a New Textile Economy in China

Explore the circular economy path and opportunity of China Textile & Apparel Industry, and to accelerate the transition of global fashion industry.

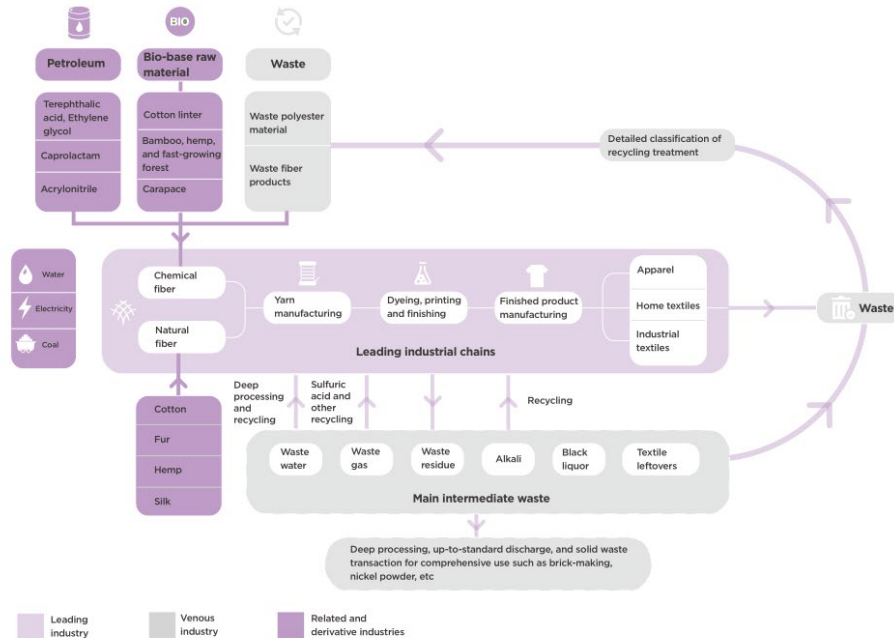






# 8. Key findings : Basic Models, Key topics of Circular Textile Development in China

## ◆ Basic Development Model



Source: Circular Economy Development Strategy and Near-term Action Plan <sup>28</sup>

## ◆ Key topic and practice field

### 1) Raw materials substitution

Accelerate the development of biomass textile fiber materials to replace petroleum, encourage the use of waste resources to produce high-value-added regenerated fibers, and reduce the consumption of primary resources.

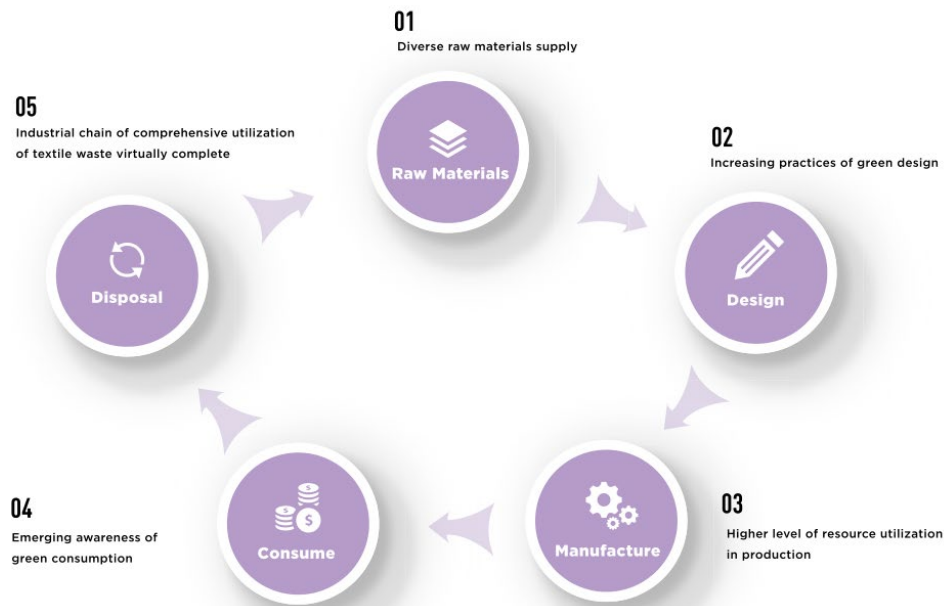
### 2) Energy saving, resource consumption reduction in production

Reduce the use of resources, as well as recycle the water, heat, chemicals, solid waste, etc through the transformation and innovation of technology, process, equipment.

### 3) Recycling of waste textiles

Take the recycling of waste professional apparel as a breakthrough to improve the recycling system of waste textiles. Select the economic and technical feasible technology to build typical circular industry chain.

# 9. Key findings : Main Progress of Circular Textile Development in China



## Main Progress

### 1) Raw materials

The proportion of recycled fiber processing in China increased from 9.6% in 2010 to 11.3% in 2015, and exceeded 7 million tons in 2018.

Several bio-based chemical fibers have achieved industrial development, with a range of applications in apparel, home textiles, health and medical products.

### 2) Manufacturing

Levels of energy and material consumption, and resource recycling in production has been significantly improved.

A large number of new technologies have been pioneered and subsequently widely adopted.

### 3) Textile Waste Recycling

A complete industrial chain of comprehensive utilization of textile waste has been established.

China's utilization proportion of textile waste recycled as materials reached 17% in 2018.

# 10. Key findings : Emerging Trends of Circular Textile Development in China

## Emerging trend In the field of Design and Consumption

### 1) Design

The practice of green design is gradually increasing;

### 2) Consumption

Consumers' awareness of sustainable consumption has improved, and some of them have begun to turn to green textile and clothing consumption; Some brands, companies, and retailers are exploring green sustainable products. New business models such as clothes rental, sharing and resale are emerging.

#### WENSIL's green design practices

##### Product design and development

Built a life cycle database for each product in the upstream supply chain, and then, based on the database, initially established the first green design management system in the silk industry.

##### Raw material selection and use

Selected high-quality suppliers of green dye auxiliaries based on the requirements of safety and environmental protection (e.g. excluding banned chemicals).

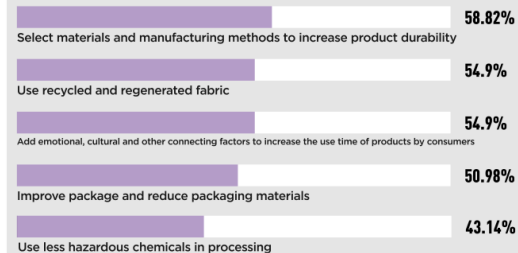
##### Manufacturing

Used independently-developed green digital printing design and manufacturing technology to effectively address the problems of traditional silk printing and dyeing, including high resources consumption, high manpower levels, high costs, etc.

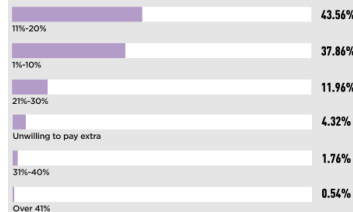
##### Product recycling

Conducted high-quality silk recycling activities

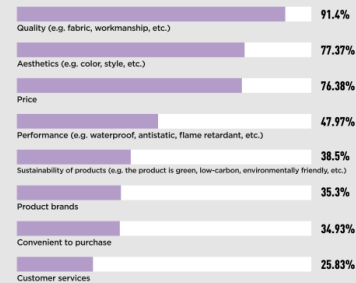
#### Top five sustainable / green factors designers will consider when designing



#### Premium consumers are willing to pay for sustainable clothes



#### Factors consumers will focus on when buying clothes



## 11. Key findings : Challenges facing by Accelerating the Transition in China



*Insufficient innovation in technology, techniques, and equipment*



*Insufficient market driving force from green consumption*



*Incomplete systematic and more industry-specific policies, systems and standards*



*Lack of a unified vision and industrial synergy to drive systematic transformation*



*Circular design as a solution still at the stage of concept advocacy*



*Lack of know-how platform and professionals to promote circular fashion*

## 12. Circular Economy Transition: Unifying the Vision and Goals



### **Vision**

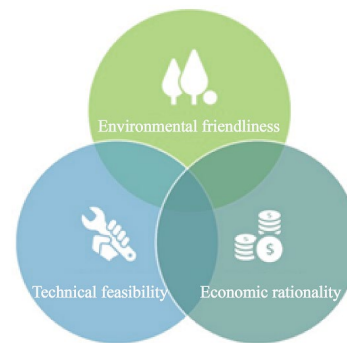
*To build a green, circular, and low-carbon textile and apparel industry, so as to improve the resource efficiency of the industry and reduce the resource consumption and the negative impact on the environment.*



### **Five Goals Recommendation**

- 1. Optimize the raw material structure to reduce the consumption of non-renewable resources.*
- 2. Turn to textile design based on the principle of a circular economy*
- 3. Further improve resource efficiency in production*
- 4. Innovate business model and expand green consumption.*
- 5. Upgrade the quality and efficiency of textile waste recycling.*

### **Basic Principles**



## 13. Circular Economy Transition: Stakeholder Engagement



*Government: improving top-level design and supporting policies, and strengthening supervision*



*Designers: leading green design and circular fashion*



*Companies: carrying out circular practices and model innovation*



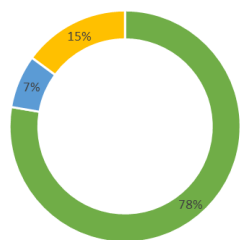
*Associations and research institutions: empowering the industry development*



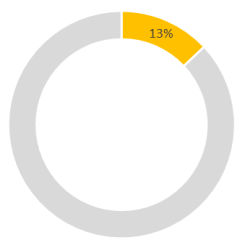
*Consumers: practicing sustainable consumption*

# 14. Circular Economy Transition: Mapping Opportunities

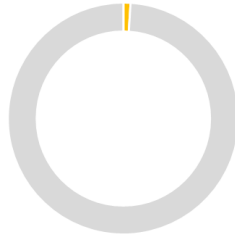
## 1) Circular Supply of Fiber



■ Synthetic Fiber  
■ Cellulosic Fiber  
■ Natural Fiber (Cotton/Wool/Silk/Hemp)



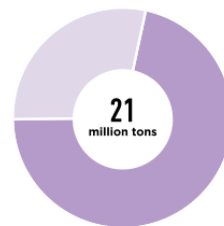
■ Recycled Fiber



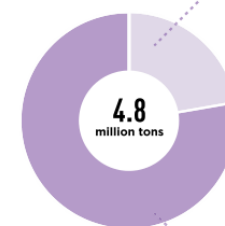
■ Bio based Chemical Fiber

*Fiber Market in China in 2018, and roughly estimated amount of recycled and bio-based fiber.*

## 2) Waste Textiles Reuse and Recycling Market



China's textile waste production in 2018



The comprehensively utilized volume of China's textile waste in 2018



Export plus donation 5%  
(of the total volume of textile waste)



Recycled as resources materials 17%  
(of the total volume of textile waste)

*Textile Waste Utilization in China in 2018*



# 15. Circular Economy Transition: Mapping Opportunities

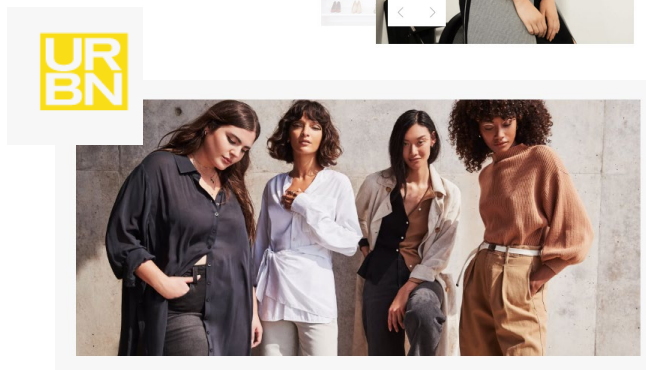
## 3) New Business Model



Sharing Platform



Brand leasing service

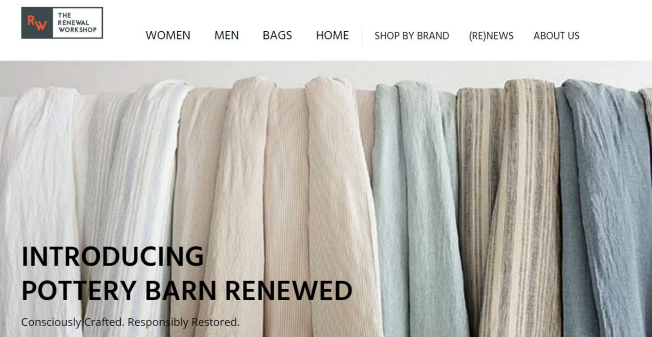


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THRIFT & SHOUT

The thrill of finding an unexpected gem at an unbelievable price—you can have that now at select Macy's, where we've partnered with thredUP to create a secondhand experience you'll want to see firsthand. You never know what you'll find!



Second-hand trading/resale



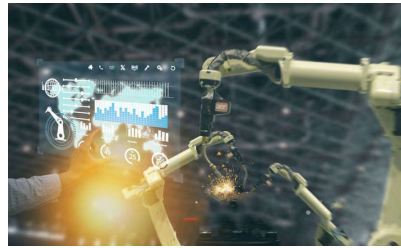
Apparel repair/ Altering/redesign services

# 16. Circular Economy Transition : Mapping Opportunities

## 4) Technology Innovation



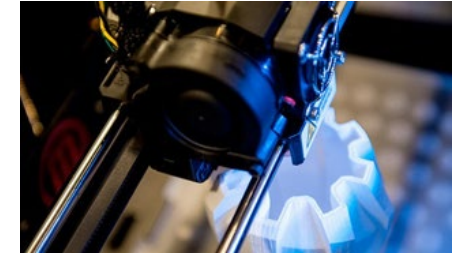
*Green/Clean/Circular  
Production Technology*



*Intelligent Manufacturing  
/Digital Technology*



*Data Sourcing Technology*



*Other Technology:  
3D printing*



## *Circular Fashion Post Pandemic*

- *Reconsidering the relationship between human activities and the Nature*
- *Reshaping a dynamic, responsible and resilient industry by Circular engine*
- *Calling for globally coordination, innovation and cooperation*



**Thank you!**