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Title	Circular Economy in China : Current Situations and Suggestions
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Relation	Sustainability Weeks 2009 Opening Symposium "International Symposium on Sustainable Development -Recommendations for Tackling the 5 Challenges of Global Sustainability-". Session 4, Toward a Establishment of a Recycle-oriented Society. 2 November 2009. Sapporo, Japan.
Issue Date	2009-11-02
Doc URL	https://hdl.handle.net/2115/40104
Type	conference presentation
File Information	4-2Li.pdf

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Circular Economy in China: Current situations and suggestions

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Main Contents

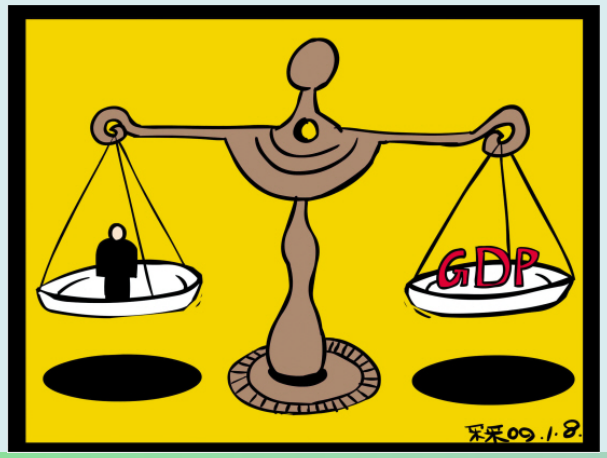
1. Current situations of circular economy in China
2. problems and challenges existed in circular economy development
3. Strengthening Sino-Japanese cooperation to promote the development of circular economy

Problems for the future development of China despite the current economic development

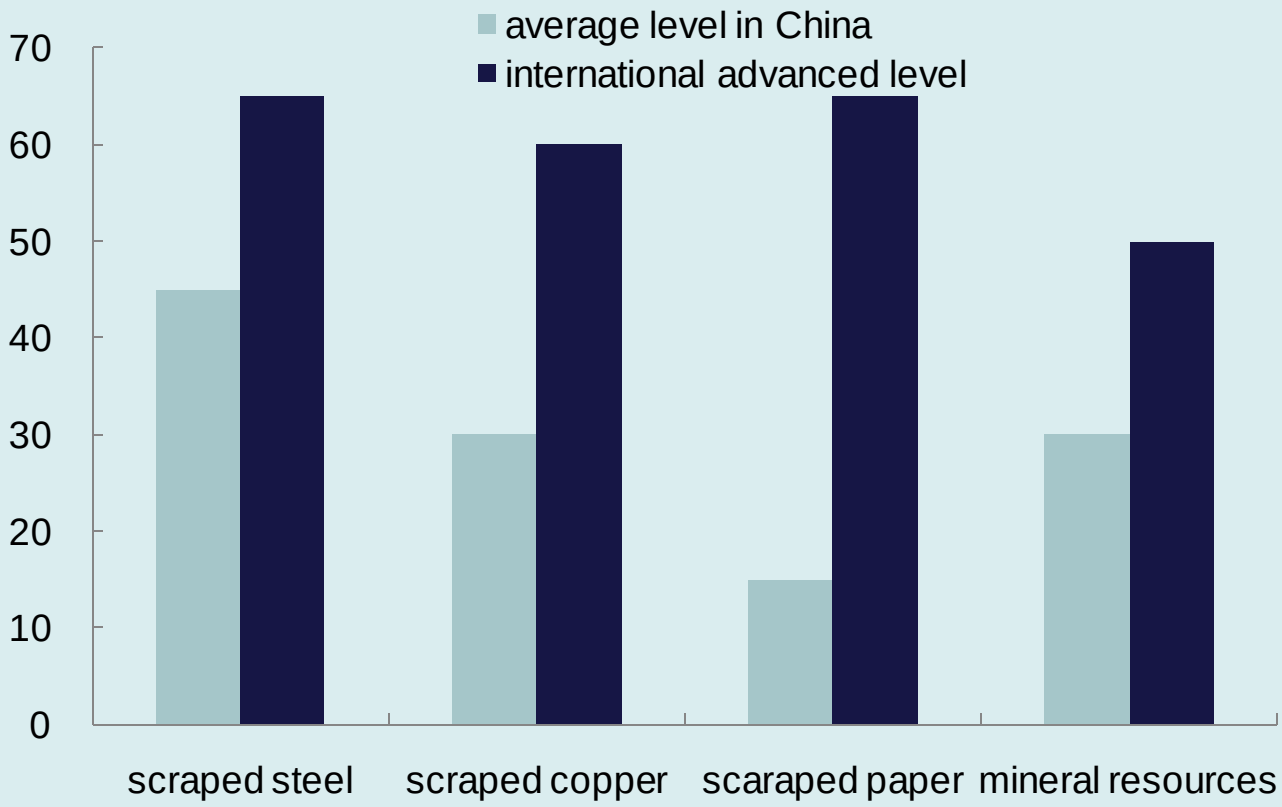
China's national economy has achieved remarkable achievements

However, extensive economic growth mode still existed in some places

the rapid development of heavy and chemical industries



The utilization of renewable resources: still at low level



Comparison of utilization of renewable resources between China and international advanced level (2007)

As was shown in the left figure, the utilization ratio of renewable resources was much lower than that of international advanced level, which supplied challenges as well as chances for the future development of China

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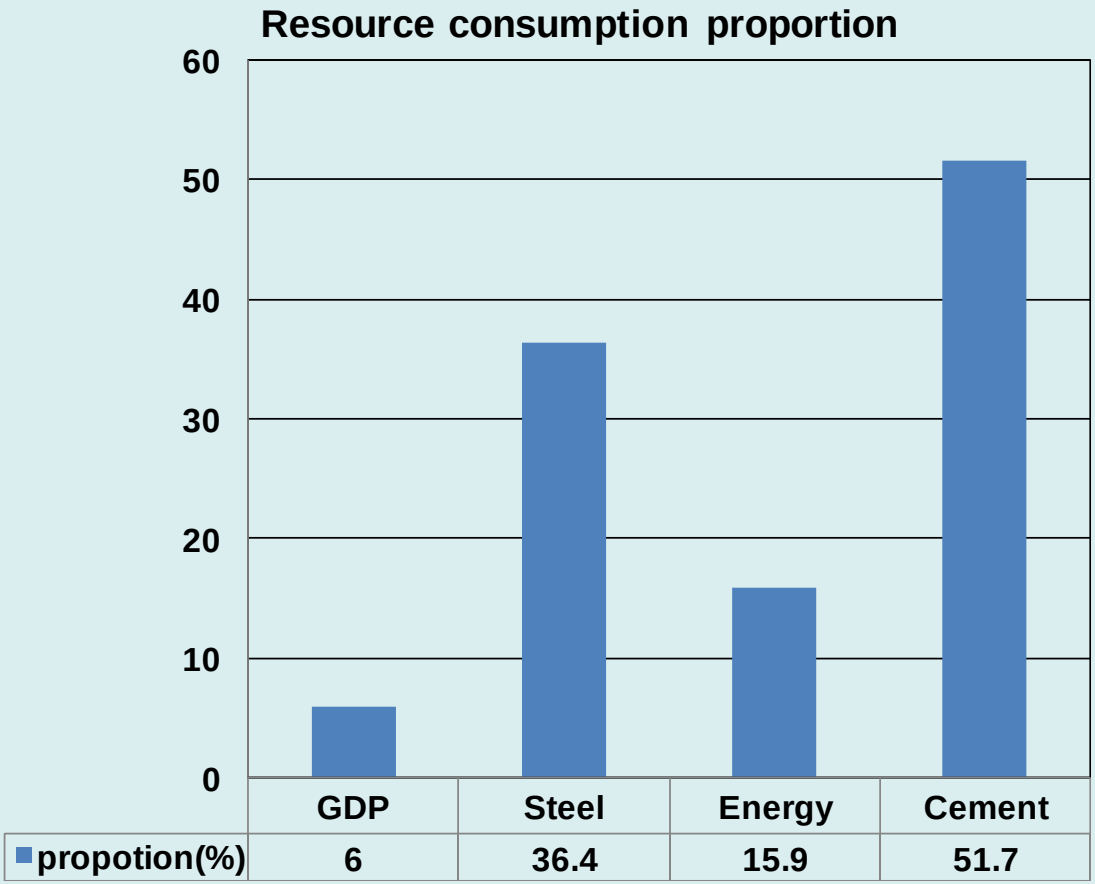
The rapid economic development still relying on the fast consumption of natural resources



The fast development of heavy industries including chemical, oil refining, steel consumed large quantity of both energy and natural resources.

The resource utilization efficiency need improvement

Resource consumption proportion in the world(2007)

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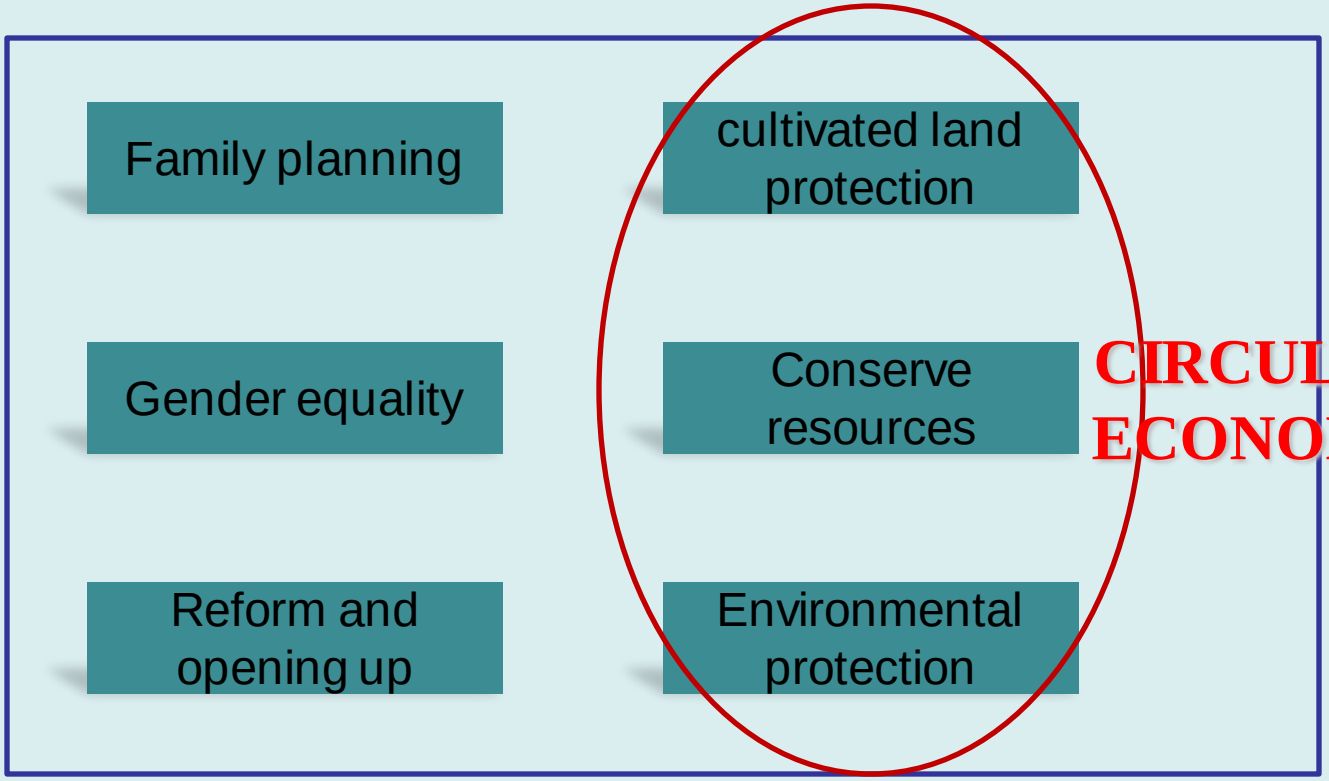
China have been paying great attention to circular economy



- The circular economy has close relationship with three basic state policies of China.
- It has been suggested that the circular economy be another basic state policy in the near future.

Current basic state policies of China

The legal system is improving constantly in recent years

2002," Law of the People's Republic of China on Promoting Clean Production"

2004," Government Work Report"

the first time to make a special discussion of circular economy at the government level in China

2005," Some Suggestions on Promoting Circular Economy"

the guiding ideology, basic principles, the main objectives, priorities and policy measures of the development of circular economy were developed

2007," Energy Conservation Law of the People's Republic of China"

become one of the important driving force of the promotion of circular economy.

2008," Circular Economy Promotion Law of the People's Republic of China"

. This law had been coming into effect on 1st January, 2009. this is the specialized law on promoting circular economy in China

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The six institutional arrangements for the development of circular economy in China

Circular Economy Promotion Law of the People's Republic of China

name	●Main purposes
Circular economy planning system	● The objectives, key tasks and guarantee measures of the circular economy development will be arranged according to the plan ● Relevant to the Government's evaluation, assessment, implementation of incentive measures as well as restrictions or prohibitions
Inhibiting the waste of resources and pollutant emission total control system	● Promote locality and businesses to be in accordance with the general requirements around the country ● Arrange the industrial structure and economy of scale, taking all kinds of circular economic measures actively according to local resources and environment carrying capacity
Evaluation and assessment system	● Facilitate the resolution simply to GDP indicators to measure the level of economic development across the state.
The producer-based extended responsibility system	● Modern producer responsibility has gradually extended from a simple production stage, product use phase to the waste recovery, recycling and disposal stages. ● the design of the product was also required higher requirements.
strict supervising system	● Focus on the high energy and water consumption enterprises
Economic measures	● It is not enough to promote the development of circular economy relying on compulsory administrative measures only. ● Incentive mechanism should be established to encourage the development of circular economy.

Typical economic tools

Value added tax(VAT)

Value added tax(VAT)

Enterprise income tax

Consumption tax

The current policies to promote the utilization of waste

Operation method	Specific industry
Exemption	Specific building material products, the raw materials for production of which shall contain blended waste residues of not less than 30%.
	Gold or silver production using waste liquids or residues
	Discarded or used sold by permitted collection enterprises
Refund immediately after payment of the VAT	Shale oil made from the abandoned oil shale associated with the exploitation of coal as the raw material;
	Recycled asphalt concrete made from waste and used asphalt concrete as the raw material.
	Electric power or heat generated from garbage
	Cement (including cement clinker) produced by the spinning kiln techniques, and the blended waste residues shall account for not less than 30% of the raw materials for production.
Half tax	The electric power and heat generated from coal slack, slime, stone-like coal and oil shale as the fuel
	Some new types of wall material products.

Typical economic tools

Enterprise income tax and Consumption tax

Value added tax(VAT)

Enterprise income tax

- The products, which were produced by the material included in the “Resource comprehensive utilization catalogue”, generated in the normal process

Free of enterprise income tax for five years

- Construction materials, produced by enterprises using coal slack, residues and other materials generated in other enterprises
- New enterprises designed for using the material included in the “Resource comprehensive utilization catalogue”, generated by other enterprises

Free of enterprise income tax for one year

Consumption tax → Renovated tire: free of consumption tax since 2000

Activities and development of circular economy in China

Fast development of circular economy industry

circular economy industry

- **Clean production**
  - ■more than 20 provinces (autonomous regions and municipalities), more than 20 industries, more than 400 enterprises carried out cleaner production audit
  - ■20 local cleaner production centers set up
- **Ecological industry**
  - Different types of eco-industrial demonstration parks have been approved to set up in recent years.
- **Ecological agriculture**
  - the Ministry of Agriculture approved the two groups(51,each) of ecological agriculture demonstration counties across the country

Activities and development of circular economy in China

Implement of the pilot projects

Two groups of pilot projects have been implemented since 2005

- The first group has achieved initial success, forming a number of typical enterprises;
- The renewable resources recycling system improved gradually
- The second group is implementing nowadays

- The local governments are carrying out pilot projects in different levels

Activities and development of circular economy in China

The strengthening of research and awareness raising

Basic theoretical research of circular economy has made positive progress

•Through the forum, training, technical exchanges, exhibitions and other forms of activities, awareness raising work on circular economy made great improvement

Circular economy is not only theories but also activities in China nowadays

- ✓Energy output ratio reached ￥8621/ton (standard coal)， increased 3.7% than 2006
- ✓The comprehensive utilization ratio of industrial solid waste was 62.8%， increased 2.6%
- ✓Water consumption(industrial value added ￥10,000) was142m^3， decreased 6.6%
- ✓Nearly a quarter of total steel production originated from discarded steel， 20% of original materials came from solid waste

Current situations and development(2007)

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Main Contents

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The enact of laws and regulations need to be more systematic and scientific

- Relevant laws have been launched without enough coordination among the relevant supporting measures,
- The lack of the necessary technical regulations such as mandatory standards.

- Legislation often lags behind the circular economy practices

- Lack of participation mechanisms for stakeholders

- Relevant existing environmental laws in some systems focused on the end treatment, which can not adapt to the new situation of pollution control and development of circular economy

The lack of key technologies to support further development of circular economy

•Generally speaking, circular economy research and the application of science and technology has lagged far behind.
•Most enterprises are not capable of developing substantial increase on key technologies

•Lack of the relevant technical information channels

Urgent technical difficulties

•First, the lack of **effective assessment** in critical technology assessment

•Second, special studies on the **spread and application of key technologies** have not been carried out to promote circular economy model.

•Third, **waste home appliances**

The social support mechanisms is needed

•National authorities' responsibilities and functions, devision are not clear

•Some executive subjects in the implementation of the laws and regulations has disappeared

•There are still some practical difficulties and obstacles in promoting the development of circular economy

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The Sino-Japanese cooperation on circular economy

- Japan is the one of the earliest countries who proposed and implemented circular economy, and Japan has precious experiences in the legislation, technology as well as the social support

- There are good working relationship between Japan and China
- Japan has done a lot of work to help China on this issue

It is suggested that the two countries should carry out cooperation in **enacting the laws and regulations**, **the key technology development, and social aspects of building a comprehensive support system .**

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Enacting laws and regulations

•Continue bilateral cooperation in circular economy legislation, start detailed and in-depth research.

•For China, it is suggested to adopt Japanese experience in this field to speed up relevant supporting standards, policies and establish clear and specific circular economy laws and regulations in the framework of **Circular Economy Promotion Law of the People's Republic of China**

The social support mechanisms is needed

1. Waste electrical and electronic equipments including waste home appliances have been one of the most important and hot environmental issue in the world nowadays.
2. China and Japan are also facing with this problem.
3. The lack of key technologies in disposing WEEE
4. It is also hot topic in the circular economy area

It is proposed to carry out bilateral cooperation in:

1. assessing and evaluating the technologies,
2. the dismantling product recycling, the destruction and removal techniques of toxic substances,
3. the collection system

The social support mechanisms is needed

•It is proposed that the two countries to cooperate and jointly explore opportunities for promoting circular economy development in the construction of a social support system

•Research on the role of all stakeholders including government agencies, enterprises, social organizations and residents

•Research on the effectiveness of economic tools in the awareness raising work

•Research on how to implement the public education

THE END

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