



Green Transition Development and Integrated Waste Management in China's Industry

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Progress of Green Transition Development in China's Industry

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Mode and Practice of Integrated Waste Management in China



Progress of Green Transition Development in China's Industry

Since the entry of mankind into the era of industrial civilization, traditional industry has developed rapidly. While creating enormous material wealth, it has also accelerated the extraction of natural resources, breaking the original cycle and balance of the earth's ecosystem, and causing tension between human and nature.

- Since 1930s, a number of environmental pollution incidents have occurred in some countries. These world-shocking incidents have caused huge loss and it has a profound impact on the development model of the world.
- In fact, China has also encountered some problems in its development in the past few years.

Los Angeles
Photochemical
Smog Episode



Minamata
Disease
in Japan



London Smog
Disasters



Beijing Smog
Problem



Taihu Lake
Cyanobacteria
Incident





Progress of Green Transition Development in China's Industry

The history of industrialization tells us that, we must

- resolutely abandon the old road of "pollution first, then treatment";
- take a new road of green, low-carbon and circular development.

In recent years, the Chinese government has placed great importance to green development and placed the **eco-civilization construction** in a prominent and important position:

- Putting forward new developing concepts of **Innovation, Coordination, Green, Openness and Sharing**;
- It requires that the ecological environment should be protected like eyes and treated like life, by deeply practicing the concept of **Lucid waters and lush mountains are invaluable assets**;
- By 2035, China's ecological environment will be fundamentally improved and the goal of a **beautiful China** will be basically realized. This fully reflects China's determination and confidence in green transition development.





Progress of Green Transition Development in China's Industry

At the same time, a series of policy documents have been intensively formulated and a series of targeted measures have been issued to step up guidance and supervision efforts to accelerate the green transition process, e.g.



Issued by the State Council

- Opinions on Strengthening Ecological and Environmental Protection and Fighting a Good Battle against Pollution
- Three-Year Plan to Fight Air Pollution



Issued by MIIT

- Green Industrial Development Plan (2016-2020)
- Implementation Guideline on Green Manufacturing Engineering (2016-2020)



Remarkable accomplishments have been achieved in the past few years.



Progress of Green Transition Development in China's Industry

Firstly, China's industrial mix has been optimized.



The production scale of traditional manufacturing industry is large.

- China has the largest output of 220 products in the world. It brings great pressure on resources and environment.
- For example, China produces about half of the world's steel and 60 percent of cement.



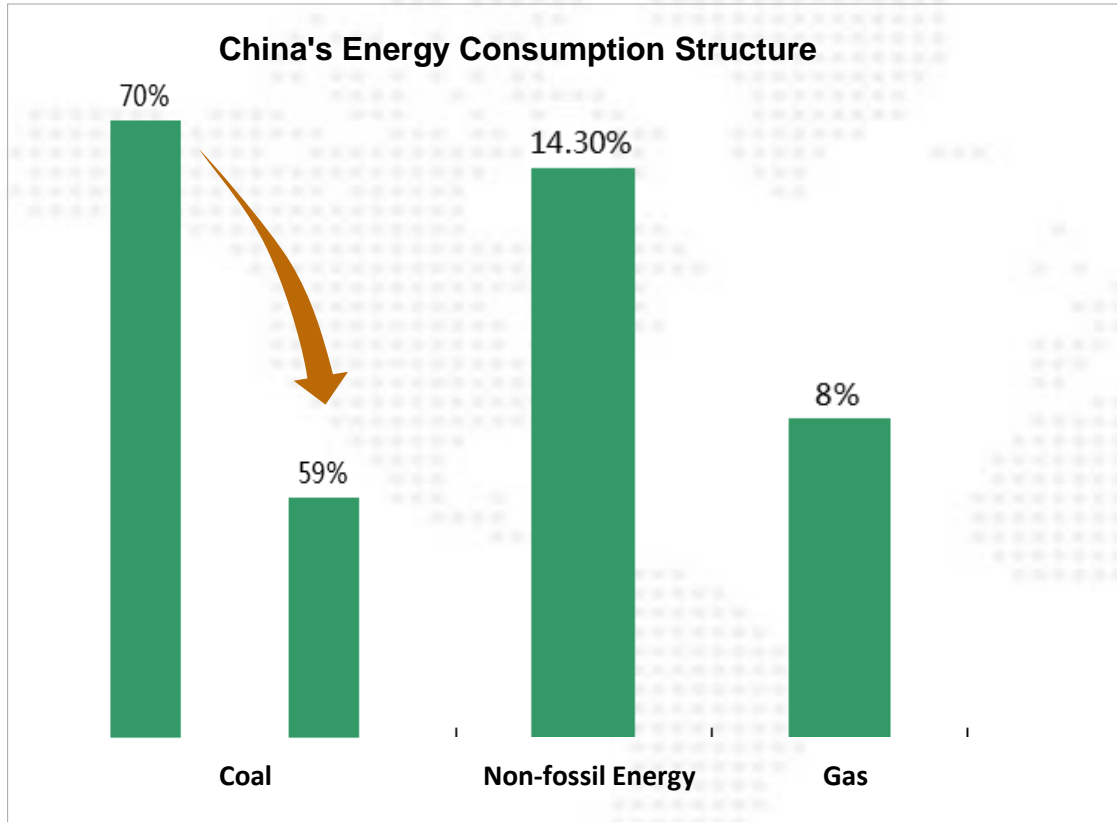
A batch of emerging industries is on the rise.

- In 2018, the added value of high-tech manufacturing and equipment manufacturing increased by 11.7% and 8.1% respectively, compared to the previous year.
- The proportion of those sectors accounted for are 13.9% and 32.9% of industries above designated size respectively.
- The growth rate of energy-saving and environmental protection industry is more than 10%.
- Now China has a total of 2.61 million new energy vehicles.

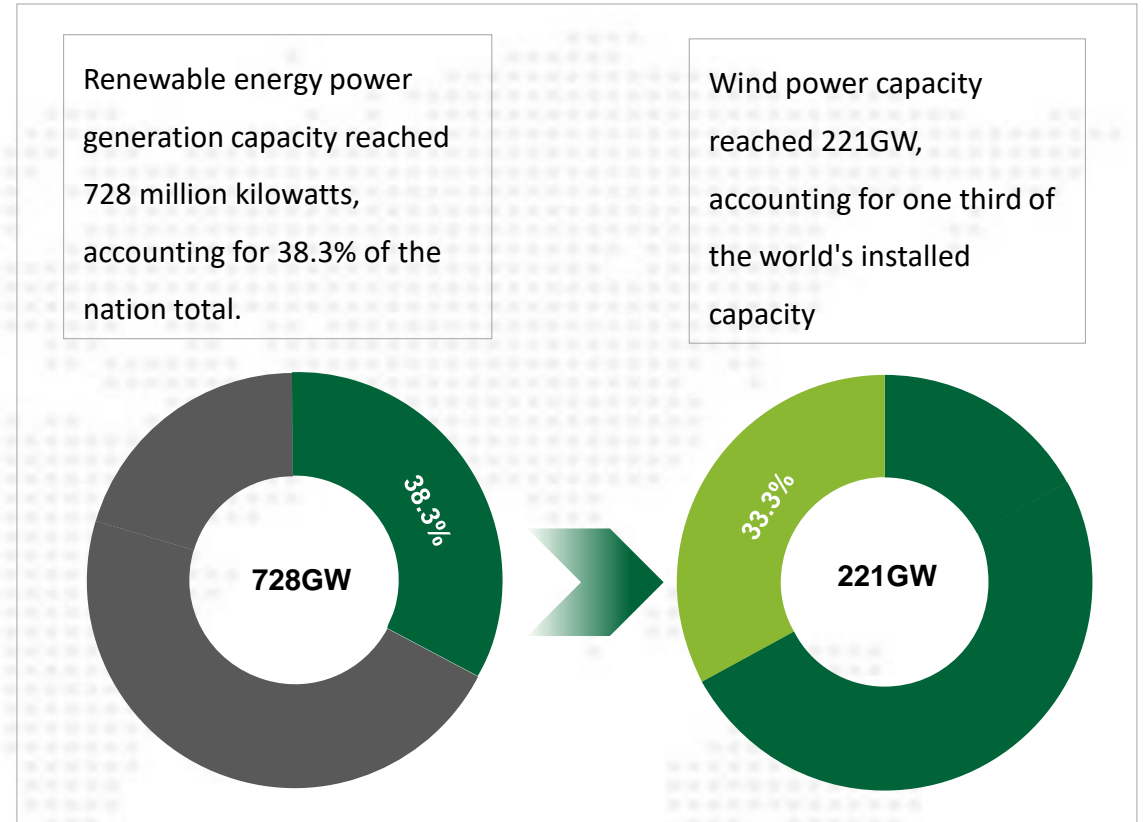


Progress of Green Transition Development in China's Industry

Secondly, positive changes have taken place in energy consumption.



The proportion of coal consumption dropped from over 70% to about 59%. The proportion of non-fossil energy consumption accounted for is 14.3%, and the proportion of natural gas consumption increased to 8%.



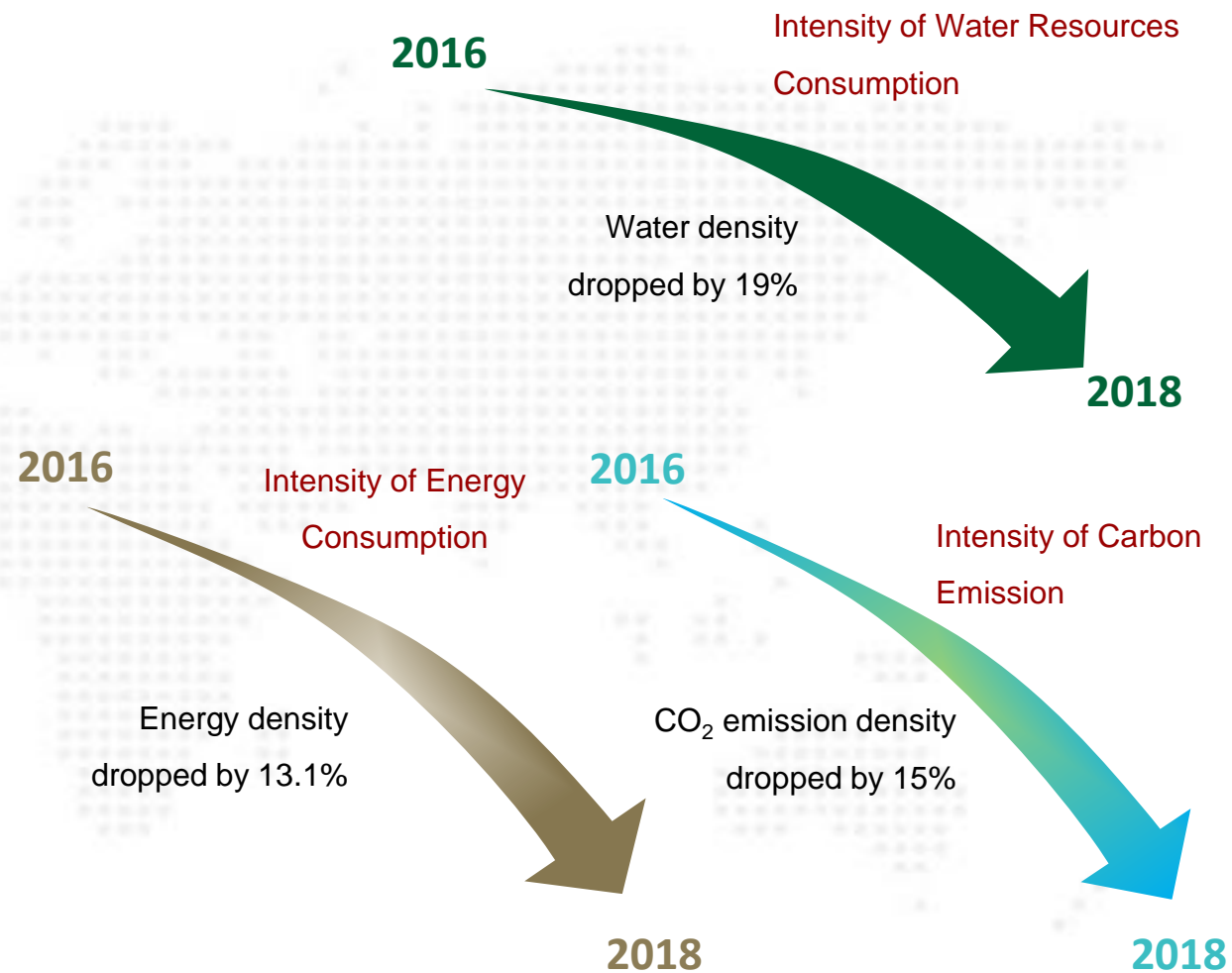
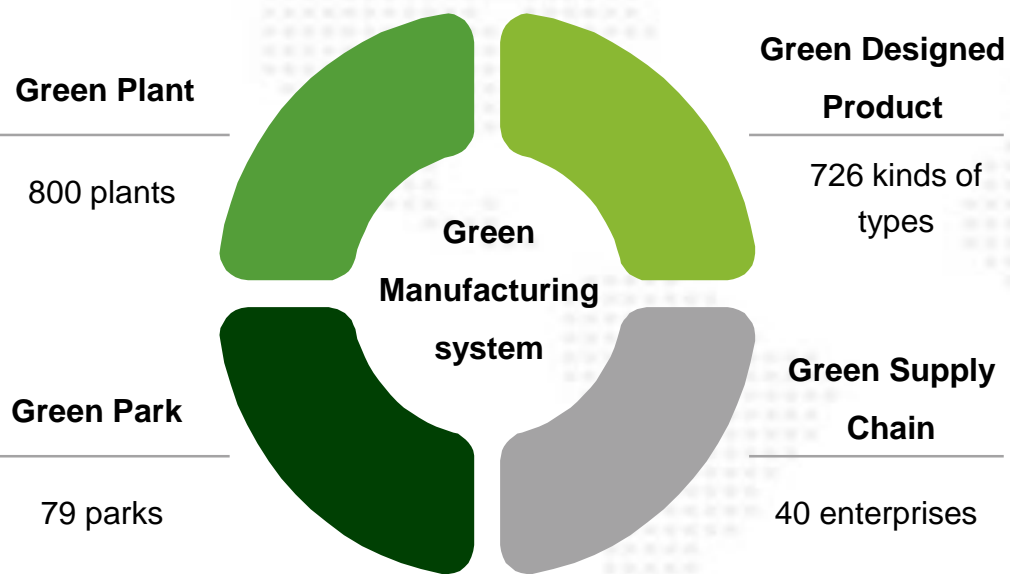
China has become the world's largest country in terms of new and renewable energy utilization.



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Thirdly, an initial green manufacturing system has been established.

Three batches of Green Manufacturing demonstration lists





Progress of Green Transition Development in China's Industry

Fourth, the ecological environment has been significantly improved.



For example, China's smog control has won recognition by all countries in the world. Actually, China is the first developing country in the world to carry out large-scale PM2.5 control.



PM2.5 in 338 prefecture-level cities

- the average concentration has dropped by around 30% compared with 2013 (severe smog period).



PM2.5 in Beijing

- the average concentration has dropped from $89.5\mu\text{g}/\text{m}^3$ (microgram per cubic meter) in 2013 to $51\mu\text{g}/\text{m}^3$ last year, a total decrease of 42.7%.



Forest coverage rate

- has increased from 16.6% at the beginning of this century to about 22%.



Progress of Green Transition Development in China's Industry

Fifth, the leading role of green development has been strengthened.

—China is working hard to play as an important participant, contributor and leader in the global eco-civilization construction

1

As early as 2016, China has taken the lead in issuing the Country Program for China to Implement the **2030 Sustainable Development Agenda**, and deposited the instrument of ratification of the Paris Agreement in the United Nations.

2

In 2017, China, together with the UNEP and other international agencies, has launched the **International Alliance for Green Development** among the countries of "the Belt and Road" program.

3

At the Second Belt and Road Forum for International Cooperation, which has just ended last April this year, a **"Green Road" sub-forum** was set up in a way to offer green development suggestions to the countries of "the Belt and Road" program.





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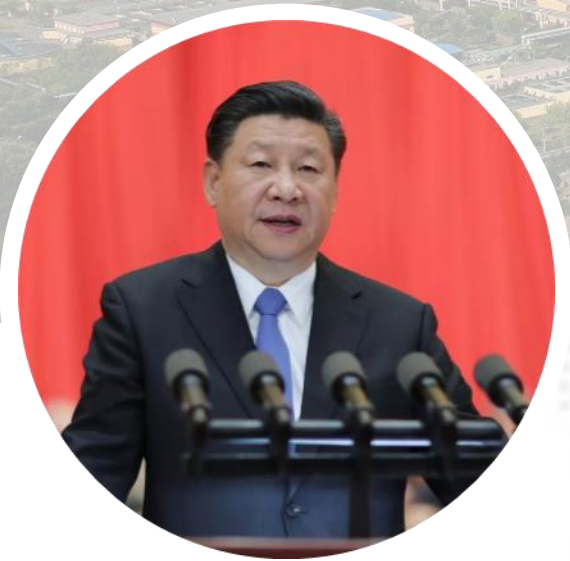
02

Mode and Practice of Integrated Waste Management in China

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Developing circular economy is the only way to improve resource utilization efficiency. Recycling is the main requirement in China's economic development and the whole country should follow this process.

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China has carried out a large number of useful practices in the legal and regulatory systems, government management systems and policy guarantee systems.

In a concerted government efforts through various programs to promote ecological advancement, China has made positive progress in the integrated utilization and management of wastes, and the development model of circular economy has been gradually established.



Mode and Practice of Integrated Waste Management in China

A sound system of laws and regulations has been established.

The Chinese government gives high importance to legislation as the first step in promoting the management of integrated utilization of solid waste. These laws and regulations play important roles in strengthening the integrated use of solid waste and establishing the development model of circular economy.

Policy and Regulatory Documents	Implementation Date
Law on Prevention and Control of Environmental Pollution by Solid Waste	April 1 st , 1996
Measures for Administration of Recycling Scrapped Automobiles	June 3 rd , 2001
Cleaner Production Promotion Law	January 1 st , 2003
Circular Economy Promotion Law	January 1 st , 2009
Regulations on Recycling and Disposal of Waste Electrical and Electronic Products	January 1 st , 2011
Interim Measures for Management of Recycling and Utilization of Electric Vehicle(EV) Batteries	August 1 st , 2018
Interim Provisions on Management of Recycling and Traceability of Electric Vehicle(EV) Vehicle Batteries	

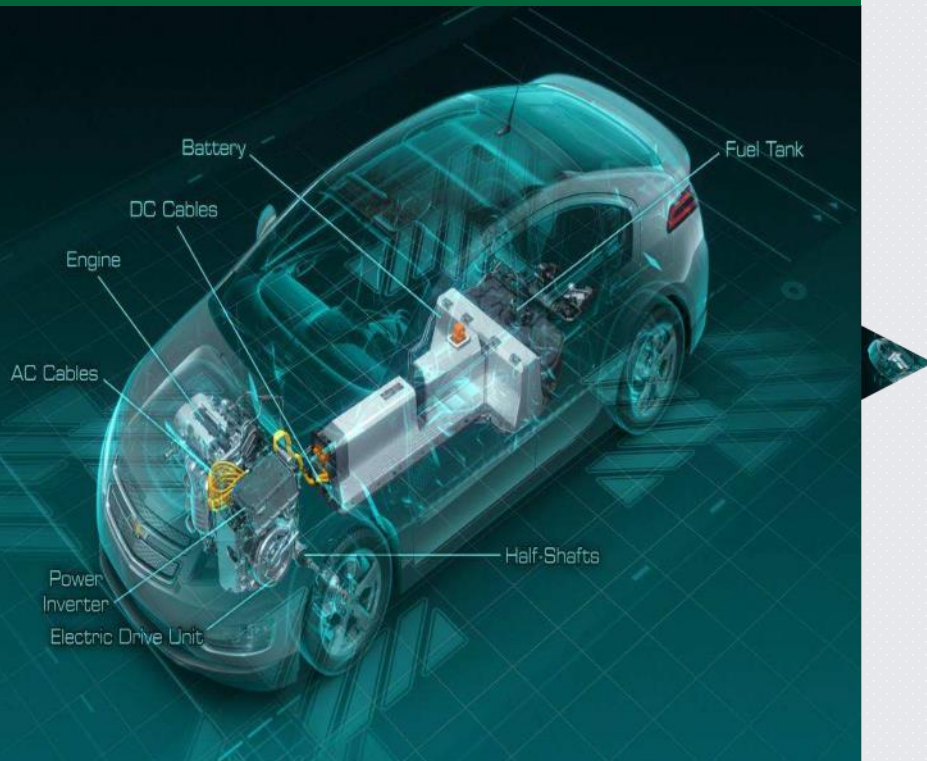


Mode and Practice of Integrated Waste Management in China

A sound government management system has been established.

Case Study:

Recycling and Utilization of Electric Vehicle(EV) Batteries



- In the light of *Interim Measures for Management of Recycling and Utilization of Electric Vehicle(EV) Batteries* and *Interim Provisions on Management of Recycling and Traceability of EV Batteries*, China has organized 17 local governments to carry out the EV batteries recycling pilots, and 3500 recycling service outlets have been built.
- In another important way, the EV batteries will be reused in the communication base stations as the Uninterrupted Power Supply(UPS) across the country.
- Aside from this, a national platform has been set up, which is used for the monitoring and management of EV batteries full life cycle traceability system.



Mode and Practice of Integrated Waste Management in China

A sound government management system has been established.

Various departments of the Chinese government have established a sound management mechanism for integrated utilization of solid waste. Responsibilities of several important government management departments are shown as bellows:

**National Development
and Reform Commission**

The comprehensive management department for circular economy promotion; responsible for the organization, coordination, supervision and management of circular economy development management in the whole society

**Ministry of Industry and
Information Technology**

Mainly responsible for promoting comprehensive utilization of industrial solid waste, comprehensive utilization of renewable resources, recycling of waste industrial products and other management work

**Ministry of Ecology
and Environment**

responsible for the supervision and administration of the prevention and control of solid waste pollution, especially the prevention and control of hazardous waste pollution

**Ministry of Agricultural
and Rural**

responsible for promoting the comprehensive utilization and management of agricultural and forestry wastes

Ministry of Commerce

responsible for promoting the comprehensive utilization and management of waste in e-commerce, logistics and other fields



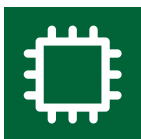
Mode and Practice of Integrated Waste Management in China

A sound policy guarantee system has been established.



Tax policy guarantee

China has offered added-value tax, income tax and environmental tax relief policies to enterprise or product to encourage integrated use of waste.



Advanced and applicable technical support

MIIT Issued the National Catalog of Advanced Technology on Industrial waste Integrated Utilization, which promoting the recycling of the tailings, waste rock, fly ash, blast furnace slag, chemical and other waste material.





Mode and Practice of Integrated Waste Management in China

A sound policy guarantee system has been established.



Case Study:

Integrated utilization of fly ash and blast furnace slag

- Every year, China produces more than 500 million tons of fly ash and 200 million tons of blast furnace slag in its industrial production process. Through the advanced technology of integrated utilization, China can use the fly ash, blast furnace slag and other industrial solid wastes as raw materials to produce cement, concrete and other building materials.
- At present, China's integrated utilization rate of fly ash and blast furnace slag has reached 80% and 95%, and in some building materials fields, China has banned the use of primary resources as raw materials. Instead, industrial solid waste must be used.



Mode and Practice of Integrated Waste Management in China

Implementing the circular mode of production.

The focus is to promote the iron and steel, nonferrous metals, petrochemical, chemical, building materials and other industries to expand the product manufacturing, energy conversion, waste treatment and absorption, recycling and other industry functions, strengthen the horizontal coupling between industries, ecological links, raw material mutual supply, resource sharing.

For example, In Guizhou province, China carried out a pilot project which use the cement kiln to co-dispose the solid industrial waste, such as garbage and sludge. This project not only solved the problem of "garbage mountain around cities", but also use the calorific value of the waste. Their mode will provide beneficial experience for other regions.

China also engaged in promoting the recycling improvement of various industrial parks , especially in promoting them to achieve the coupling of production processes and ecological links. So that the resource output efficiency and competitiveness of industrial parks will be improved.

At present, all the 79 green parks named by MIIT have achieved the requirements as just mentioned. They all have the high resource output efficiency and competitiveness. "zero waste" has been realized among some of them.



- It is the common choice of all countries to implement the UN 2030 agenda for sustainable development and promote economic prosperity.

- China are ready to work with all of you to uphold the banner of green development, strengthen communication and cooperation and work together to meet challenges. We will help Africa to transform itself into a green land, achieve green, low-carbon and circular development, promote harmonious relationship between man and nature, and most of all is to protect our mother earth.



谢谢大家!
Thank you!