E-Waste Recycling (China): Status, Challenges, and Policy Measures





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Introduction

E- waste refers to the discarded electronic devices like Computer, Phones, TVs, Laptop, etc. China is one of the largest producers and Importers of e-waste in the world.

The exponential growth of electronic devices globally has led to a corresponding increase in electronic waste (e-waste), posing significant environmental and health risks.

China, as both a major producer and consumer of electronics, is at the epicenter of the global e-waste problem.



Why E-Waste Recycling Emerged in China?

- **Environmental concern**: Unregulated dumping caused soil, water, and air pollution.
- ▶ **Public health**: Informal recycling method exposed workers to toxic chemical.

- **Economic potential**: Valuable metal like gold, silver, copper, and rare earth metal can be recovered.
- ▶ **Job creation**: A formal recycling industry can generate employment opportunities.



Formal vs. Informal Recycling Sectors

- ► China's e-waste recycling industry operates in both formal and informal sectors. The formal sector is regulated by the government and employs modern techniques for collection and processing. It includes over 100 licensed companies operating under environmental protection standards.
- ▶ In contrast, the informal sector which processes nearly 60% of e-waste remains widespread, especially in rural areas. Informal recyclers often use dangerous methods, leading to pollution and poor labor conditions.

Government Policy and Regulation

The Chinese government has enacted several policies to promote responsible ewaste management:

- ► Circular Economy Promotion Law (2009): Encourages recycling and reuse of materials.
- ▶ WEEE Management Regulation (2011): Mandates producers to participate in the disposal fund scheme.
- Extended Producer Responsibility (EPR): Holds manufacturers responsible for post-consumer disposal of their products.

Recent revisions to the WEEE Directive in China aim to broaden product categories and enhance the tracking of waste flow through digital platforms.

Challenges in E-Waste Management

Despite progress, China faces numerous challenges:

- Weak Enforcement: Many informal operations continue unchecked due to local corruption or lack of oversight.
- Insufficient Consumer Awareness: Many consumers are unaware of or lack access to formal disposal channels.
- ► Technical Gaps: While formal recyclers exist, they sometimes lack the capacity to handle complex waste streams.
- ➤ Cross-border E-Waste: Although China banned the import of foreign waste in 2018, illegal smuggling still occurs.

Conclusion

China's e-waste recycling landscape is undergoing rapid transformation, shifting from hazardous informal methods to regulated and sustainable models. While significant challenges remain, government policy, technological advancement, and international cooperation offer a path toward a cleaner, safer e-waste future.

