

Advancing High-Quality Development Through Circular Economy With Smart Digitalization



Focus

- We examined how digitalization can increase the effectiveness and implementation of the circular economy and strengthen key policy instruments—including ecodesign, Extended Producer Responsibility, and Digital Product Passports—building on recent circular economy policy developments in China, Germany, and the European Union.
- We set out recommendations for effective digital governance of the circular economy and identified ways to move from end-of-pipe waste management toward a life-cycle and value-chain approach, focusing on priority sectors.

Findings

- ✓ The twin digital and circular economy transitions offer significant potential. Aligning those policy frameworks can both unlock the potential of digital technologies for circularity and ensure more sustainable digitalization.
- ✓ Digitalization is becoming a key enabler of the circular economy by improving connections between products, materials, and data flows and strengthening life-cycle traceability, implementation, and oversight.
- ✓ For digital tools like Digital Product Passports to work well, they need connected systems, reliable ways to verify data accuracy, safeguards to keep sensitive business information private, and accessible technology.

Recommendations

- 1 **EMBED** circularity more firmly across China’s national priorities for ecological civilization, the dual-carbon goals, and resource security, positioning it as a core pillar of green, high-quality development.
- 2 **FOCUS** on key industries and important product categories, moving beyond simply recovering materials toward reusing them in higher-value ways, creating new opportunities for green, low-carbon growth.
- 3 **USE** digital technology to build a trustworthy, secure, and connected system for tracking products throughout their life cycle, making it easier to reuse resources, trace where things come from, and enforce regulations.
- 4 **BOOST** demand for recycled materials and circular products by setting clear standards, offering certification, and creating stable ways for these products to reach the market.
- 5 **DEEPEN** international cooperation on shared standards, certification, carbon footprint measurement, and related rules. This will make systems more compatible across borders and strengthen China’s role in shaping global rules for the circular economy.

