



广东省循环经济和资源综合利用协会
Guangdong Association of Circular Economy and Resources Comprehensive Utilization



摆脱塑缚
Plastic Free China

THE REUSE SHIFT

Reusable Cup Pilot Research and Operational
Guidelines



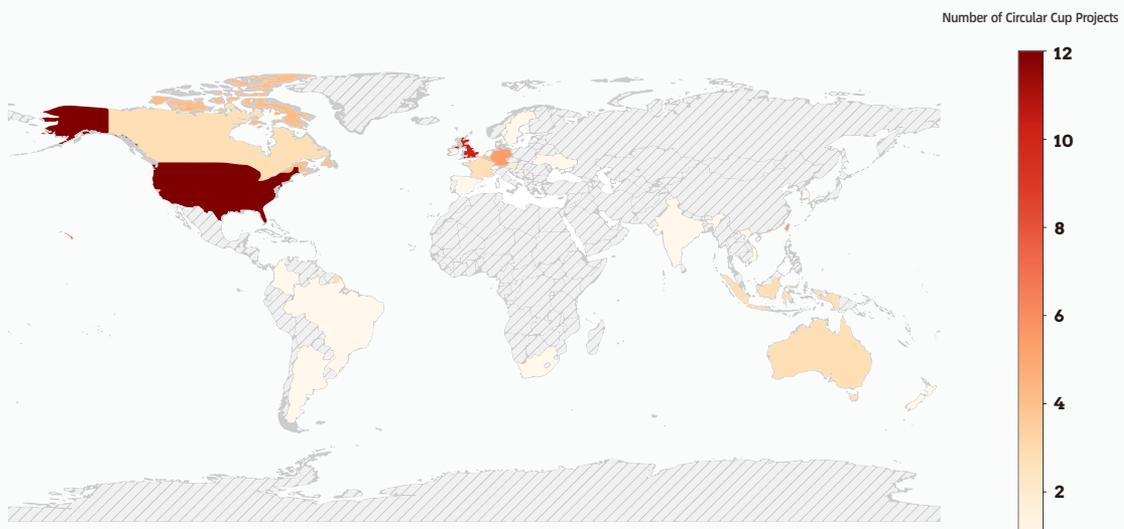
Executive Summary

In July 2024, China’s central authorities released the Opinions on Accelerating the Comprehensive Green Transformation of Economic and Social Development, marking the start of a new and more comprehensive phase in the country’s green and low-carbon transition. On the production side, it highlights the acceleration of new industries, business models, and value chains aligned with green and low-carbon development, while leveraging digital technologies to drive innovation. On the consumption side, it stresses the expansion of sustainable product supply, the strengthening of incentive mechanisms, and the mainstreaming of green consumption. Together, these policy directions create an enabling environment for all sectors to explore and scale low-carbon, circular, and innovation-driven models of operation.

China’s food delivery and freshly prepared beverage sectors are at the intersection of rapid growth and structural transformation. As consumption volumes continue to expand, there is a pressing need for a transition toward greener and more sustainable operations. The surge in takeaway beverage consumption has led to a dramatic increase in single-use plastic packaging, now a major source of municipal waste. While recycling remains an essential measure, it is far from sufficient to address the root of the problem. In an era of increasing resource and energy constraints, waste prevention and reuse offer the most effective pathways to preserve material value, reduce waste generation and public management costs, and stimulate innovation and entrepreneurship.

As a digitally enabled business model, reuse offers innovative solutions for the food and beverage sector’s green transition and delivers new experiences for consumers. Within this broader shift toward reuse, reusable cup systems have shown particularly strong momentum in recent years. Across both Western and Asia-Pacific markets, reusable cup programs have been widely implemented and continuously optimized—from coffee chains and university canteens to large-scale venues and office buildings—demonstrating strong commercial viability and user acceptance.

This report presents a systematic overview of more than 70 reusable cup programs worldwide, primarily distributed across North America, Europe, and parts of the Asia-Pacific region. These programs have evolved into a range of mature models ---- spanning closed-loop systems, open-loop systems, and city-level networks ---- with some achieving multi-country expansion or operation at the scale of thousands of outlets.



Global Circulation Cup Project Hotspot Map

The global rise of reusable cup initiatives has been driven by **supportive policy environments**. As one of the key solutions to plastic pollution, reuse has been prioritized in the foodservice sector. The EU Packaging and Packaging Waste Regulation (PPWR) requires foodservice operators to offer reusable packaging options by 2028 and achieve at least a 10% reuse rate by 2030. Several Member States have already established quantitative targets and banned single-use beverage cups in public institutions and large events. In the United States, regulatory measures have evolved from “Skip the Stuff” ordinances limiting disposable food accessories, toward comprehensive policies involving cup fees, Extended Producer Responsibility (EPR) schemes, and venue-specific restrictions. In the Asia-Pacific, Taiwan and Hong Kong have enacted more binding legislation—Taiwan setting quantitative targets for reuse uptake and single-use cup reduction, while Hong Kong has established a clear phase-out timeline for disposable cups and takeaway containers.

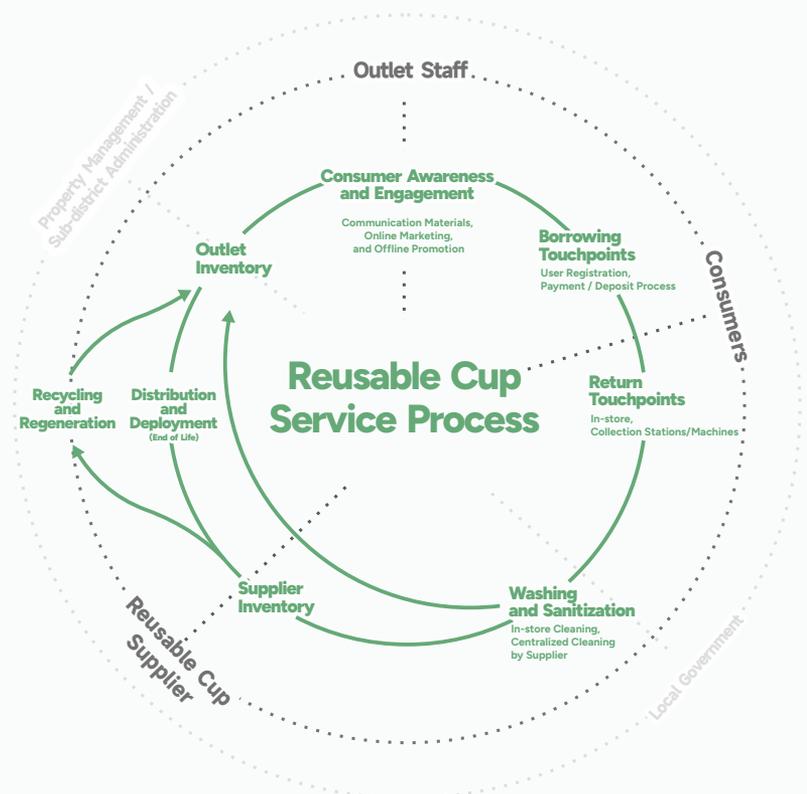
Globally, reusable cup systems not only help foodservice operators comply with new regulations but also deliver **measurable environmental and economic benefits**. Studies show that after 20–70 use cycles, the greenhouse gas emissions of a reusable cup are already lower than those of a single-use cup, and the actual design lifespan far exceeds this “environmental break-even point.” Many brands have achieved net economic gains by reducing ongoing procurement of disposable packaging, confirming the model’s long-term commercial viability.

Consumer participation is central to success. Surveys indicate that most users who have tried reusable cup services express high satisfaction and are willing to recommend them to others. The **social sharing effect of reuse** aligns naturally with beverage brands’ lifestyle-oriented marketing strategies. The reusable cup is thus not only a waste-reduction tool but also a new form of socially engaging, sustainability-driven consumption.

With an increasingly supportive policy environment, proven environmental and economic outcomes, and rising consumer engagement, reusable cup systems have shown strong growth potential. However, mainland China’s adoption of reusable cup models remains nascent, with limited large-scale experience or mature system design.

To inform future development, this report synthesizes global best practices and case studies, identifying **key design and operational features** and **strategic pathways** for establishing effective reusable cup systems in China.

Through a systematic review and comparative analysis of reusable cup initiatives worldwide, the report categorizes their application models into three types: **closed-loop settings, open-loop settings, and city-level systems**. Regardless of the scenario, the success of these programs is built upon well-designed and integrated system architecture. Although specific designs vary by context, several key design and operational features can be distilled from global practice:



KEY DESIGN AND OPERATIONAL FEATURES

Focus Area	Implementation Highlights
Product and Material Design	Cups and lids must balance safety, light weight, durability, ease of cleaning, and recyclability. Polypropylene (PP) remains the mainstream material due to its low cost and environmental performance, while stainless steel suits high-end or closed environments. Designs should also account for user psychology to prevent hoarding or accidental disposal.
Consumer Awareness and Behavior	Develop a comprehensive communication chain—from pre-launch promotion and in-use prompts to post-return engagement—to lower cognitive barriers, build trust, and increase participation.
Borrowing and Payment Design	Simplify user processes and integrate borrowing into existing ordering and payment systems for a seamless (“frictionless”) experience.
Return Incentive Mechanisms	Encourage returns through refundable deposits, overdue penalties, or point-based rewards. Automated deduction and credit-linked systems—aligned with China’s digital payment ecosystem—can reduce registration and deposit barriers.
Washing and Sanitation System	Use industrial-grade cleaning facilities and standardized protocols to ensure hygiene; communicate the process transparently to build user confidence.
Logistics and Inventory Management	Establish efficient collection and redistribution networks—daily collection is often required in foodservice. Maintain inventory levels at least twice daily demand. Use QR codes or RFID for real-time tracking.
Staff Training and Operational Support	Staff are the key operational touchpoints; provide standardized training, clear procedures, and motivational incentives.
Performance Monitoring and Communication	Implement data-driven metrics (e.g., return rates, reuse cycles, waste and carbon reduction), and share outcomes transparently to enhance brand credibility and public engagement.

Beyond system design, global experience highlights key strategic pathways that have emerged from global practice for scaling reusable cup programs:

1.Integration into Urban Sustainability Agendas – Reusable cup systems are increasingly being incorporated into city-level zero-waste strategies as an integral part of sustainable urban development. In many cities around the world, such systems have become an effective instrument for achieving municipal waste-reduction goals and advancing the transition toward a circular urban economy. By embedding the simple acts of borrowing and returning into everyday consumption, these initiatives make environmental action visible and participatory, enhancing public engagement while fostering collaboration among governments, businesses, and citizens.

2.Government Leadership and Multi-Policy Synergy – National and local governments play a pivotal role in shaping the enabling environment for reuse. Successful experiences around the world show that public authorities often drive progress by deploying a comprehensive mix of policy instruments, including fiscal incentives, regulatory measures, public procurement, infrastructure development, and awareness campaigns. These layered and mutually reinforcing mechanisms create the conditions under which reuse systems—such as reusable cup programs—can move from pilot initiatives to mainstream adoption.

3.Start-Up Innovation and Niche Application – Across different regions and contexts, start-ups and small enterprises have been at the forefront of experimentation in reuse. Many have focused on specific consumer settings or operational challenges, designing tailored solutions that respond to local needs—such as Business-district-based systems or community-scale return networks. These diverse pilot projects not only broaden the practical applications of reusable cup systems but also demonstrate the potential for innovation and entrepreneurship to accelerate systemic change.

Reusable cup systems are emerging as one of the key pathways to address plastic pollution and accelerate the shift toward sustainable consumption. Building on international experience and the current state of the Chinese market, this report proposes actions at three levels — government, business, and public — to advance the development and adoption of reusable cup systems.

At the National Level – Strategic Planning and Institutional Frameworks

• Strengthen legislation and policy frameworks

Develop specific regulations and standards for reusable packaging in the foodservice and freshly prepared beverage sectors, including guidance for dine-in use and bring-your-own-cup practices. Explore setting quantitative targets for the adoption of reusable cups.

• Apply economic and responsibility mechanisms

Assess the feasibility of introducing environmental surcharges on single-use packaging. Gradually enhance the Extended Producer Responsibility (EPR) system by integrating the environmental costs of single-use packaging into product lifecycle accounting, and reinvest collected funds to support R&D and infrastructure for reusable systems.



Government Leadership

- **Establish dedicated funds and fiscal incentives**

Create national-level circular economy or plastic reduction funds to support pilot programs, technological innovation, and washing-network development. Encourage the inclusion of reuse initiatives in green finance and carbon market mechanisms to form sustainable economic incentives.

- **Develop unified standards and guidance frameworks**

Formulate national guidelines and technical standards for reusable cup systems to provide clarity, consistency, and an enabling institutional environment for industry actors.

At the Local Level – Policy Implementation and Demonstration Leadership

- **Administrative regulation and scenario management**

Restrict or phase out single-use beverage cups in designated settings. Pilot reusable cup systems in public institutions and large-scale events as part of local waste-reduction strategies.

- **Public procurement and demonstration projects**

As major public purchasers, local governments can lead by example by adopting reusable cups in offices, schools, convention centers, and stadiums. Long-term procurement contracts with suppliers can strengthen market stability and create visible demonstration effects.

- **Infrastructure and collaborative platforms**

Act as conveners to build multi-stakeholder collaboration platforms that connect foodservice companies, cleaning and logistics providers, and civil society organizations. Jointly develop shared washing, collection, and redistribution infrastructure to support system operation.

- **Financial support and incentive mechanisms**

Offer local grants, pilot subsidies, or targeted fiscal support to reduce the upfront costs of reusable cup initiatives and encourage innovation.

- **Public awareness and behavioral engagement**

Leverage government communication channels and educational programs to raise awareness of plastic reduction and reuse. Encourage consumers to adopt “bring-your-own-cup” and “borrow-and-return” practices, fostering a cultural shift toward sustainable consumption.



Business Action

- **Proactively pilot reusable cup systems** in high-demand and concentrated-use scenarios such as major events, sports venues, or campuses. Extend pilots to cafés, communities, and corporate offices to explore models that enhance both economic viability and user engagement.
 - **Align with national and local sustainability agendas** on plastic reduction, waste minimization, and low-carbon transition to access policy incentives, funding programs, and partnership opportunities.
 - **Diversify financing channels**, exploring collaboration with impact investors, green finance institutions, and sustainability-linked funds to support system construction and operations.
 - **Strengthen cross-sector collaboration**, building partnerships with government agencies, investors, NGOs, and other stakeholders to drive collective action and scale systemic solutions.
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Public Participation

- Choose reusable options and practice “bring-your-own-cup” when purchasing takeaway beverages.
- Use available borrow-and-return cup services where offered.
- Share personal experiences and success stories through social media or community initiatives to help normalize reuse culture and inspire broader public participation.