

20 Cities Towards Zero Waste Kuala Lumpur



Population: 2,100,000

Kuala Lumpur, Malaysia

Why this city?



Kuala Lumpur deserves recognition as one of 20 Zero Waste Cities for its ambitious '20:40 by 2040' target under the Kuala Lumpur Towards Zero Waste 2040, a comprehensive policy introduced to address the city's rising waste management challenges and RM220 million annual operational costs by diverting 20% organic and 40% non-organic waste from landfills by 2040.

Impact & Sustainability

Over the past three years, Kuala Lumpur has reduced waste generation from 1.17 kg to 0.75 kg per capita per day despite rapid urbanization. Numerous recycling programmes have been implemented, and public participation has grown through initiatives such as the 1 Community 1 Recycling (1C1R) programme (https://www.urbansdgplatform.org/profile/profile_caseView_detail.msc?no_case=625&from=list) and separation-at-source pilots, which have recorded increasing recyclable collection rates.

Partnership & Collaboration

In advancing Kuala Lumpur Towards Zero Waste 2040, Kuala Lumpur embraces 4P (Public–Private–People Partnership) model to ensure systemic change through shared responsibility.

Public Sector Partnership

Kuala Lumpur works closely with Solid Waste Management and Public Cleansing Corporation (SWCorp), which regulates and enforces waste management under Solid Waste and Public Cleansing Management Act 2007 (Act 672). National Solid Waste Management Department (JPSPN) develops national policies while Alam Flora Sdn Bhd provides essential waste collection and public cleansing services across Kuala Lumpur.

Private Sector Partnership

Companies such as Berjaya Enviropark, Naza Enviro Holdings, FatHopes Energy Sdn Bhd, ReMeal and AmBank Berhad contribute through investments, innovation and Corporate Social Responsibility (CSR) initiatives. Their roles range from advancing recycling technologies and food waste recovery solutions to supporting sustainable financing and environmental awareness programs.

Community Partnership

Local and international organizations including Zero Waste Malaysia, CityNet, Tzu Chi, Think City, PEMUDA GEMA, CRC Box, academic institutions (such as Universiti Malaya, Universiti Pertahanan Malaysia, City University), C40 Cities, Zero Waste Foundation of Türkiye and Z-Zurich drive grassroots engagement. They support recycling programs, lead education and awareness campaigns as well as promote citizen participation and research to foster long term behavioral change. Together, these partnerships ensure that Kuala Lumpur's zero-waste transition is inclusive, innovative and community driven.

Inclusiveness & Social Equity

One concrete example of how marginalized groups are actively included and benefit from our waste management system is through 1 Community 1 Recycling (1C1R) programme in Kuala Lumpur. The initiative specifically targets residents of low cost housing areas, many of whom are from low-income and vulnerable groups. Through the programme, recyclables such as plastics, paper, aluminium cans and used cooking oil can be exchanged for essential household goods or rental payments. This not only encourages proper waste segregation in support of Kuala Lumpur Towards Zero Waste 2040 vision but also reduces the financial burden of marginalized communities, ensuring they are active participants and direct beneficiaries of the city's circular waste management system.

Innovation & Technology

Kuala Lumpur has adopted Black Soldier Fly (BSF) larvae technology at hawker centres, which are food courts where many small vendors serve affordable local dishes. Due to the high volume of meals prepared daily, these centres generate large amounts of food waste. This innovation reduces dependence on landfills and lowers greenhouse gas emissions, while supporting the city's Zero Waste 2040 vision. By transforming organic waste into valuable resources, the initiative demonstrates a practical circular economy approach, where waste is reintegrated into the value chain instead of being discarded.

Scalability & Transferability

Kuala Lumpur has published Kuala Lumpur Towards Zero Waste 2040, which serves as a comprehensive policy and reference framework for sustainable waste management. The roadmap sets ambitious targets including **20% organic** and **40% inorganic waste diversion** from landfills by 2040 and outlines four strategic pillars: policy & governance, enforcement, infrastructure & facilities and Government–Industry–Community–Education (GICE) collaboration. The document also

highlights programmes such as **1 Community 1 Recycling (1C1R)**, waste separation at source, landscape waste composting and innovative projects like Black Soldier Fly (BSF) larvae treatment. By detailing strategies, implementation timelines and measurable outcomes, the roadmap functions as a toolkit and case study that other municipalities in Malaysia and the region can adapt to replicate Kuala Lumpur's transition towards a circular economy and zero-waste future.

Summary

Key points	Summary
Key achievements	Kuala Lumpur has significantly reduced per capita waste generation from 1.17 kg to 0.75 kg per day over the past three years, despite rapid urbanization. Through programmes such as <i>1 Community 1 Recycling (1C1R)</i> and separation-at-source pilots, the city has increased recycling rates and public participation . Its flagship <i>Kuala Lumpur Towards Zero Waste 2040</i> roadmap sets ambitious targets to divert 20% of organic and 40% of non-organic waste from landfills, addressing both environmental challenges and high operational costs.
Policies & governance	The city's zero waste transition is guided by a strong policy framework, including the Solid Waste and Public Cleansing Management Act 2007 (Act 672), National Solid Waste Management Policy, and the Circular Economy Blueprint. The <i>Kuala Lumpur Towards Zero Waste 2040</i> roadmap provides a comprehensive strategy with clear targets, supported by enforcement of mandatory waste separation. Governance is strengthened through a 4P (Public-Private-People Partnership) model , involving national agencies, private sector actors, and civil society, alongside the rollout of Zero Waste Zones across all 11 parliamentary constituencies .
Practices & innovations	Kuala Lumpur combines social innovation, technology, and community engagement. The 1C1R programme incentivizes recycling by allowing low-income households to exchange recyclables for essential goods or rent payments, promoting inclusivity. Technological innovation includes the use of BSF larvae to process food waste at hawker centres, reducing landfill dependency and emissions. A structured financing model, combining federal funding, municipal budgets, and private sector service delivery, ensures sustainability, while robust monitoring systems track recycling rates and waste diversion in line with the city's 2040 targets.

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