



Financing Zero Waste

Practical Guidance for Immediate Action by
Local and National Governments

SEPTEMBER 2026

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GUIDANCE FOR LOCAL GOVERNMENTS

Introduction

Local governments face significant financial, institutional, and operational challenges in delivering waste management services, including constrained budgets, competing public-service priorities, political pressures, infrastructure gaps, and limited technical capacity. At the same time, local governments have a critical role to play in building waste management systems that prevent waste, expand reuse and repair, ensure source separation and collection of recyclable and organic materials, and maximize recycling and composting while reducing reliance on landfilling and incineration.

This chapter aims to help local governments understand **how they can finance and sustain zero waste systems in practice**. Rather than prescribing a single financing model, it helps local governments identify which financing approaches are most appropriate to their circumstances, what they can finance independently, and where support from national governments, development finance institutions, donors, or other external partners may be required. It also considers the institutional, legal, operational, and financial conditions that can enable local governments to access and sustain different financing approaches.

The experiences and approaches presented in this chapter reflect the diversity of local governments and the different contexts in which they operate. **The term “cities” is therefore used broadly to refer to all types of local government, including cities and municipalities, districts, towns, and villages.** In this chapter, **zero waste** refers to systems that prioritize waste prevention, reuse, repair, source separation, composting, recycling, and the recovery of materials and nutrients, while reducing reliance on disposal and incineration.

For clarity, the publication uses three related but distinct terms. **Financing mechanisms** provide upfront capital and typically involve repayment, such as loans, bonds, and blended finance. **Funding mechanisms** provide recurring, non-repayable revenue to cover ongoing operations and services, such as grants, user fees, tariffs, transfers, and ring-fenced cost savings. A **financing approach** is the broader strategy a local government develops by combining financing and funding mechanisms with the institutional, legal, and operational conditions needed to access and sustain them.

This chapter is intended primarily for local government leaders, senior officials, technical staff, and planners working across waste management, finance, environment, urban planning, public works, and health. It is also relevant to local community and civil society organizations, cooperatives, and waste pickers implementing zero waste systems, as well as national policymakers, donors, and development finance institutions seeking to support local governments in financing these systems.

Drawing on experiences across diverse contexts, the chapter identifies common challenges and pitfalls, highlights the rationale for prioritizing zero waste, and presents a range of financing approaches that can support implementation.

Unique Context and Challenges for Local Governments

Waste management is an essential public service. Local governments hold primary responsibility for solid waste management in most countries. They oversee operations in more than three-quarters of cities studied, though actual service delivery is more evenly split, with roughly half of collection, transport, treatment, and disposal publicly operated and the remainder delivered through private or public-private arrangements. National governments, meanwhile, set the fiscal, regulatory, and institutional conditions in which these services operate; nearly all countries (94%) have a national agency or department mandated to oversee the sector, even where implementation itself remains local (World Bank Group, 2026).

Unlike some other municipal services, however, waste management is largely cost-centered and rarely generates sufficient market revenue to cover its costs. At the same time, it generates significant public benefits, including cleaner air, disease prevention, reduced methane emissions, equitable sanitation, and access to nutritious and affordable food. As a result, waste management cannot be financed through market revenues alone and depends on sustained public funding.

This places waste management in direct competition with other essential public services, including health, education, and transport. Local governments therefore face a fundamental financing challenge: they must maintain essential waste services while also finding resources to improve service quality and invest in waste prevention, reuse, source separation, organics management, recycling, and other solutions further up the waste hierarchy. The financing needs and options available to each municipality also vary considerably according to factors such as budget and resource availability, geographic structure, settlement patterns, institutional maturity, and technical capacity.



Inadequate budget allocation remains one of the greatest barriers to effective waste management.

Even where the public benefits of sound waste management are significant, waste services often remain underfunded. Limited public finance may be directed primarily towards maintaining existing collection and disposal services, leaving little fiscal flexibility for source separation, organics management, recycling, waste picker integration, or other interventions further up the waste hierarchy.

A recent study by the Climate Policy Initiative (CPI) found that solid waste management budgets in sampled Indonesian cities accounted for only 0.3–2.4% of municipal budgets, rising to 6.6% in Rio de Janeiro, Brazil (CPI, 2025). This reflects a broader global pattern: solid waste services consume close to 20% of municipal budgets in low-income countries, more than 10% in middle-income countries, and around 4% in high-income countries (World Bank Group, 2018). At the same time, these allocations remain below the 0.3–0.8% of GDP that the World Bank estimates is needed to achieve universal, environmentally sound collection and disposal. This highlights a fundamental challenge: in many low-income contexts, waste management can absorb a relatively large share of already constrained municipal budgets while still falling short of the resources required to provide adequate services.

Beyond the overall level of funding, the allocation of available finance is also a concern. Global climate finance remains highly uneven across sectors: of the US\$1.9 trillion in climate finance tracked globally, only US\$29 billion was allocated to the waste sector, of which US\$4.1 billion supported methane abatement in the solid waste subsector (Putra, 2025).

Even within this limited pool, finance is not necessarily directed towards the solutions with the greatest potential to prevent waste and reduce methane emissions. CPI's Landscape of Methane Abatement Finance 2023 report found that Waste-to-Energy (WTE) incineration accounted for 94% (US\$3.86 billion) of solid waste methane abatement finance in 2021/22. Landfill gas capture and anaerobic digestion received 5%, while organic waste management—one of the fastest and most cost-effective mitigation pathways—received just 1% (US\$22 million) (CPI, 2023).



This illustrates an important financing challenge that mirrors the budgetary landscape at the local level. The limited finance reaching the waste sector is currently directed towards capital-intensive end-of-pipe infrastructure, deepening rather than resolving the underlying financing gap. Therefore, finance needs to increase and shift towards accessible and sustainable solutions that local governments can implement and sustain.

Where a municipality is located and how its population is distributed also influence what can realistically be financed and implemented. Collection rates in low-income countries average only 28%, falling sharply outside urban centers where basic collection and processing infrastructure is largely absent (World Bank Group, 2026). This gap is associated with a persistent underinvestment pattern: three-quarters of low- and middle-income countries spend less than 0.15% of GDP on waste management, well below the 0.3–0.8% of GDP that the World Bank estimates is needed to secure basic universal collection (World Bank Group, 2026). These differences underscore why financing zero waste solutions cannot follow a one-size-fits-all approach.



Financing mechanisms need to match the readiness of municipalities, including the current service level, infrastructure base, financial resources, and stage of transition.

Institutional and technical capacity also determine whether finance can be effectively accessed, managed, and implemented. Even where funding is available and infrastructure needs are clearly identified, a municipality's ability to absorb and manage finance can present a separate constraint. Bureaucratic and administrative requirements—including accounting, procurement, legal compliance, contract management, and planning capacity—can become significant barriers before financing is even secured.

This is particularly relevant to zero waste systems, where implementation may involve multiple decentralized facilities, community organizations, waste picker cooperatives, and small-scale operators rather than a single centralized service provider. Institutional readiness is therefore itself a financing consideration. Municipalities need to assess whether they have the technical, administrative, and governance systems required to absorb and sustain a particular source of finance before pursuing it.

Faced with financial and institutional constraints, local governments are often presented with technologies that promise to address waste management challenges through large-scale infrastructure investment. However, end-of-pipe systems such as WTE incineration and co-processing of Refuse-Derived Fuel (RDF) can impose substantial long-term financial and contractual obligations. WTE incineration is among the most capital-intensive and expensive ways of treating municipal waste and is generally unaffordable for many municipalities in the Global South without significant external financing. The resulting debt burden can place further pressure on already constrained municipal budgets, while long-term put-or-pay contracts can lock governments into paying for a guaranteed supply of waste and maintaining a particular infrastructure model for decades.

These arrangements can create a fundamental contradiction with zero waste and circular economy objectives. WTE incinerators require a continuous supply of combustible waste to remain financially and operationally viable, creating incentives to maintain waste generation and waste flows rather than reduce them. They can also compete with recycling and reuse for materials with economic value, while diverting scarce public and climate finance away from waste prevention, reuse, source separation, composting, recycling, and other solutions further up the waste hierarchy. In this way, WTE can become not only a poor fit for the financial realities of many municipalities, but also an obstacle to the transition towards circular, resource-efficient waste management systems.

For local governments with limited fiscal space, the long-term financial implications are therefore critical. A major infrastructure investment may consume a significant share of available borrowing capacity and future waste management budgets, leaving fewer resources for decentralized, lower-cost systems that can be scaled progressively as municipal capacity and revenues increase. Financing decisions must consequently consider not only whether a project can be financed initially, but whether its costs,

contractual obligations, and resource requirements can be sustained over the long term—and whether the investment supports or undermines the municipality's zero waste and circular economy objectives.

Taken together, these realities illustrate why financing zero waste cannot rely on a single financing mechanism, funding source, or investment model. Municipalities differ significantly in their financial resources, institutional capacity, infrastructure, service levels, and stage of development. Financing approaches must therefore be tailored to local circumstances and to the specific readiness of each municipality.

Recognizing these differences, this chapter presents practical financing and funding mechanisms that can be combined with local readiness conditions to support different levels and forms of zero waste implementation. The key question for local governments is therefore not simply **how to secure finance or funding, but which financing approach is most appropriate to their context, what can realistically be accessed and managed, and how available resources can be used to support effective, sustainable, and locally appropriate zero waste systems.**



Why Local Governments Should Prioritize Zero Waste

Zero waste means managing waste as an essential public service in line with the waste hierarchy, prioritizing waste prevention, reuse, source separation, composting, recycling, and resource recovery through decentralized, community- and waste picker-led systems. Rather than treating waste as a commodity for centralized incineration or landfilling, zero waste focuses on delivering public benefits such as methane reduction, improved public health, resource conservation, and decent livelihoods (Moon, 2021).

For local governments, zero waste represents one of the most compelling and immediately actionable opportunities to transform waste management from a costly liability into a driver of **fiscal resilience, local economic development, public health, and climate action**.

Strengthening fiscal resilience

Unlike traditional, capital-intensive waste systems that can lock municipalities into decades of debt and inflexible infrastructure, zero waste models can deliver **“small investment, big payoff”** solutions (Moon, 2021, p. 12). By prioritizing prevention, reuse, source separation, composting, and recycling, municipalities can reduce the volumes of waste requiring collection, transport, disposal, and treatment, while extending the lifespan of existing disposal infrastructure and delaying or avoiding the need for costly new landfills or WTE incineration facilities.

Improved collection, recycling, and composting systems can reduce waste management costs per tonne by **66–75% compared with WTE-heavy scenarios** (Moon, 2021). Decentralized systems can also reduce exposure to volatile fuel costs associated with long-distance transport to centralized disposal facilities. Composting can reduce reliance on synthetic fertilizers, whose production is highly energy- and fossil fuel-intensive, while reuse and recycling can reduce demand for virgin plastic production, which is predominantly fossil-fuel based and therefore exposed to fluctuations in oil and gas prices.

These characteristics create an important distinction between financing waste management under a traditional, linear economy model and financing a transition towards a circular economy underpinned by environmental justice principles. Rather than requiring large upfront investments that create long-term debt and operating obligations, many zero waste interventions can be developed incrementally, scaled according to local capacity, and financed through a combination of public funding, local revenues, and targeted external finance.

Creating local jobs and economic opportunities

Beyond financial benefits, zero waste systems can **strengthen local economies by supporting repair and reuse enterprises, recycling businesses, cooperatives, and small and medium-sized enterprises (SMEs)**. They can also create opportunities for collaboration across sectors, including waste service providers, composting and black soldier fly (BSF) enterprises, agricultural and agri-food businesses, and other local economic actors.

As labor-intensive, service-based systems, zero waste approaches can generate significantly more employment than disposal-based systems. They can create up to **200 times more employment opportunities in the repair sector per tonne of waste managed than incineration or landfilling** (Ribeiro-Broomhead & Tangri, 2021).

Integrating waste pickers and other informal workers into municipal waste management systems can further strengthen livelihoods and working conditions while improving the reliability and reach of waste recovery services. Such integration can provide waste pickers with a recognized role within municipal systems while recognizing and strengthening the contribution they already make to recover resources (GAIA, 2025; UNEP, 2017).

Improving public health and climate outcomes

Zero waste systems can also improve public health by reducing open burning and illegal dumping, improving air quality and sanitation, and reducing exposure to environmental hazards. Avoiding WTE incineration can further reduce exposure to harmful pollutants associated with combustion. Compost application can improve soil health and water retention, helping communities manage flood and drought risks.

At the same time, preventing waste and increasing reuse, recycling, and composting can reduce emissions associated with waste collection, transport, disposal, and the production of virgin materials. Better management of organic waste can significantly reduce methane emissions, making zero waste an important component of local and national climate action.

Supporting policy implementation and public trust

Zero waste systems can also help local governments **meet existing legislation and policy commitments**, including waste diversion targets, environmental quality standards, climate targets, circular economy policies, and commitments to a just transition. By investing in systems that align waste management, climate, resource efficiency, and social objectives, local governments can address multiple policy priorities through integrated interventions.

Finally, zero waste can **build public trust** by delivering cleaner neighborhoods, more visible and effective public services, and better outcomes for communities living near landfills, dumpsites, and incinerators. Greater participation by residents, community organizations, waste pickers, and local businesses can strengthen partnerships between municipalities and the communities they serve. Together, these outcomes can **strengthen social cohesion and reinforce confidence in local government**.

For local governments, therefore, zero waste is not simply an environmental ambition. It is an approach to public service delivery that can **reduce costs, create local economic opportunities, improve public health, cut methane and other emissions, strengthen resilience, and deliver more equitable outcomes**—while avoiding long-term financial and infrastructural commitments that can constrain municipalities' ability to adapt to changing needs.

Financing in Practice: The Hasiru Dala Model

Hasiru Dala is a nonprofit organization based in Bengaluru, Karnataka, India, working for the welfare and rights of waste pickers since 2010. Its flagship Dry Waste Collection Center model operates as a public-private-community partnership, formalized through a memorandum of understanding (MOU) between three parties: the urban local body (ULB), Bruhat Bengaluru Mahanagara Palike (BBMP); waste pickers; and a resource organization, such as Hasiru Dala, one of five organizations supporting the model.

The model combines different forms of financing and support. The ULB provides **land, infrastructure, and vehicle costs**; waste pickers generate **income through the collection and sale of recyclable materials**; and Hasiru Dala provides **nonfinancial support**, including training, digital financial literacy, business and leadership skills, and support to engage with residents and the ULB.

This illustrates how zero waste systems can combine **public investment, market-based income, and capacity-building support** rather than relying on a single source of financing. By providing essential infrastructure while enabling waste pickers to generate livelihoods from resource recovery, the model has been able to expand without requiring the ULB to directly finance all operating costs.

Hasiru Dala now works with more than **25,000 waste picker families** and has supported **5,431 documented livelihoods** to date, helping to formalize a workforce that was previously excluded from the city's waste management system.

Source: Hasiru Dala (personal communication, June 2026). Presentation at the Zero Waste Forum, Istanbul.

How Cities Can Drive Zero Waste Implementation Now

A common misconception is that zero waste systems require significant new funding before implementation can begin. While scaling zero waste systems will ultimately necessitate additional investment, municipalities do not need to wait for large capital allocations before taking action.

In practice, many municipalities have begun implementing zero waste systems through small-scale, decentralized projects that combine existing public resources, in-kind contributions, partnerships, and targeted external funding. Initial interventions can begin immediately by optimizing how existing land, labor, infrastructure, and budgets are used, alongside restructuring systems and processes to align with the waste hierarchy and environmental justice principles.

These early investments can establish proof of concept, demonstrate impact, and build a case for securing additional funding to expand and institutionalize successful programs. Decentralized approaches can also support operational sustainability by enabling community groups, waste picker organizations, and other local actors to participate meaningfully in the design and delivery of waste services. This helps ensure that systems are grounded in local conditions while building trust and political support as they scale.

Understanding the cost drivers

Understanding the main costs of waste service delivery helps clarify which financing mechanisms are best suited to different needs. In decentralized, community-based models, capital expenditure is overwhelmingly driven by land and buildings: these account for 97% of total capital costs in Accra and Buenos Aires and 66% in Quezon City, regardless of whether the model is operated by a community group, waste picker cooperative, or local government department (Allen & Moon, 2025a, 2025b, 2025c).

Operational expenditure for these community-based operators is driven primarily by labor, although the proportion varies considerably by context: labor accounts for 98% of operating costs for community groups in sampled Indonesian cities, 90% in Buenos Aires, 66% in Accra, and 48% for waste picker cooperatives in Brazil (Allen & Moon, 2025a, 2025b; CPI, 2025). Moreover, decentralized community-based composting in Bandung and waste picker cooperatives and home composting in Brazil achieved competitive or lower levelized costs of waste management than centralized government or private operators, despite thinner operating margins (CPI, 2025).

Recognizing these cost drivers matters because different financing mechanisms are designed to address different types of costs.

For example, grants or in-kind contributions may be particularly useful for securing land, buildings, equipment, and other upfront investments, while public investment, service contracts, employment programs, or other recurring funding sources may be better suited to covering labor and ongoing operating costs.

The mechanisms below illustrate how municipalities can establish, implement, and scale zero waste initiatives over time. They are not

mutually exclusive. In practice, successful zero waste programs often combine several approaches, depending on municipal context and stage of readiness (see “City Archetypes” in the following section). Early-stage cities, for example, may begin with grant funding and in-kind public support before progressively incorporating other financing and funding mechanisms as programs mature.

Financing and funding mechanisms available now

1. GRANT FUNDING

Grant funding provides non-repayable resources from philanthropic organizations, development agencies, national or subnational governments, and other public or private funders. Grants can be particularly useful for initiating zero waste pilots and financing capital expenditures, including equipment, facilities, and initial infrastructure.

However, grants often do not cover ongoing operational costs. Local governments should therefore consider from the outset how recurring expenses will be funded once grant support ends. Where possible, grant-funded pilots should be designed to demonstrate the feasibility, cost savings, and public benefits needed to secure longer-term municipal funding or other sustainable sources of revenue.

2. PROVISION OF PUBLIC ASSETS

Provision of public assets can reduce the upfront cost of zero waste projects by making municipal land, buildings, equipment, vehicles, or other infrastructure available at no or low cost. Examples include providing land or facilities for composting and material recovery, making underutilized machinery available, or providing transportation for collected materials.

These assets can be formally recognized as in-kind municipal contributions to capital costs. Doing so demonstrates public commitment to the project and can help zero waste initiatives leverage additional external funding.

3. PRIVATE-SECTOR IN-KIND SUPPORT

In-kind contributions are not limited to the public sector. Local governments can also broker donations or other forms of support from businesses, retailers, manufacturers, and business associations. Contributions may include machinery and equipment, such as shredders, bins, or material recovery infrastructure, or support for facility construction.

Businesses may provide this support in exchange for reputational benefits, regulatory goodwill, or opportunities to improve the management of their own waste streams. As with publicly provided assets, private-sector contributions can be formalized as in-kind capital, reducing upfront costs while helping projects build a track record that can support further fundraising.

4. CROSS-DEPARTMENTAL FINANCING

Zero waste projects generate public goods and benefits across multiple local government functions, including waste management, public health, environmental protection, spatial planning, tourism, livelihoods, and public-space management. **Cross-departmental financing** can therefore pool resources from different municipal departments to support zero waste interventions whose benefits extend beyond waste management alone.

Making this approach work requires evidence that translates the benefits of zero waste into the mandates and priorities of different departments. Quantifying co-benefits—such as avoided waste-management costs, improved sanitation, reduced health risks, job creation, and improved public spaces—can strengthen the case for allocating coordinated budget allocation across multiple departments.

Experiences from groundWork in Durban, South Africa, and Yaksa Pelestari Bumi Berkelanjutan (YPBB) in Bandung, Indonesia, demonstrate how community-led zero waste systems can generate benefits across waste management, sanitation, health, tourism, and livelihoods (Jones et al., 2025). In Durban, organic waste diversion reduces costs for waste collection and disposal, supports market infrastructure and informal traders, provides compost for public spaces, and avoids landfill-related social and environmental costs. In Bandung, decentralized composting is substantially cheaper than landfilling, improves sanitation and public health outcomes, and supports approximately 1,500 workers through redirected municipal budget allocation (Ferdinand & Fam, 2019; Media Indonesia, 2026).

Community-based organizations and NGOs can help enable this coordination by convening relevant departments, facilitating joint planning and budget discussions, and supporting accountability for implementation. Local governments may face institutional and budgetary barriers to coordinating investments across departments, even when a project produces shared benefits. In Durban and Bandung, groundWork and YPBB have helped demonstrate the cross-sectoral value of zero waste systems and build support among relevant government agencies. They have also helped secure commitment from senior local-government leadership, which is often necessary to align departmental workplans, responsibilities, and budgets.

4. PUBLIC INVESTMENT

Ideally, zero waste initiatives should increasingly be embedded in dedicated municipal budgets, rather than relying extensively on external capital. Once these initiatives are successfully deployed and demonstrated initial results through grant funding or in-kind support, allocating an adequate municipal budget is critical to sustain and scale their operation throughout the city.

Public investment is particularly important for institutionalizing and sustaining basic services, primarily universal source separation and separate collection of organic materials. These services are often perceived as relatively high-risk investments by the private sector, yet they are prerequisites for effective waste diversion regardless of waste processing technology choices. Embedding them in dedicated municipal budgets can therefore increase city readiness for additional financing and reduce investment risk for waste processing after waste collected separately.

Municipal solid waste management budgets are, however, often constrained, making it difficult to allocate additional resources specifically to zero waste. Public investment is therefore particularly relevant for municipalities that have reached a more advanced stage of implementation and have sufficient fiscal space to institutionalize successful programs (see **“What cities cannot do alone”** in the following section).

6. PUBLIC EMPLOYMENT PROGRAMS

Key roles in zero waste systems such as waste collectors, sorters, composters, and other types of workers handling waste processing activities can be incorporated into **public employment programs**. Waste pickers can also be integrated into cooperatives or other formal structures and supported through municipal employment or service programs.

These public employment programs can be particularly important for sustaining the basic services established through public investment because labor is often the largest operating cost in decentralized zero waste systems. Many projects struggle when pilot funding ends because there is no sustainable source of funding for staff and workers. Covering key roles through public employment programs can therefore improve financial sustainability and reduce workforce discontinuity.

Formalizing these roles also provides greater legal certainty and predictable income. Informal or *ad hoc* staffing arrangements can become a major point of failure once pilot funding ends, while formal employment or service arrangements provide greater stability for workers and greater predictability for municipalities.

7. COST-SAVINGS MODELS

Cost-savings models involve quantifying avoided landfill, transport, and disposal costs and establishing mechanisms to reinvest those savings in zero waste operations, including recycling, composting, and other community-based operations.

Although conceptually simple, these models can be institutionally challenging. Avoided costs are rarely ring-fenced in practice. Savings may instead be transferred between departments through accounting adjustments or interpreted as an unspent budget, potentially creating a perception of underperformance rather than fiscal innovation.

Local governments should therefore explore the fiscal instruments available within their public financial management systems to ensure that verified savings can be retained and reinvested in zero waste interventions. Early projects demonstrate the potential scale of these savings. In Buenos Aires, Argentina, *Recuperadores Urbanos del Oeste* (RUO) saves approximately US\$17,864 per year in avoided landfill costs by diverting organic waste to composting operations (Allen & Moon, 2025a). In Durban, South Africa, diversion of organic waste from two municipal markets is estimated to save the city approximately US\$1 million over 10 years (Jones et al., 2025). In Accra, Ghana, the Green Africa Youth Organization's (GAYO) decentralized materials recovery facility diverts approximately 144 tonnes of organic waste annually, generating estimated savings of US\$1,152–2,880 per year in avoided landfill and transport costs – savings that could be reinvested to help sustain and scale the project's operations (Allen & Moon, 2025b).

Policy and market mechanisms

Procurement policies, incentives, subsidy reform, and regulatory measures can complement direct financing by creating the enabling conditions and market demand needed, lowering barriers for local implementers in starting, scaling, and sustaining zero waste systems.

1. PROCUREMENT POLICY AND INCENTIVES

Conventional procurement systems often favor formal, established businesses and act as a persistent barrier for waste picker cooperatives, SMEs, and community-based organizations to provide services to local governments. Procurement reform, green procurement, and circular economy market incentives can therefore form part of a broader financing approach by creating eligibility, generating market demand, and removing barriers for local implementers.

This approach can be developed through three complementary measures:



REFORM PROCUREMENT POLICIES

Municipalities should simplify service contracts for collection, sorting, and organic waste processing so that cooperatives, SMEs, and community organizations can take part in local government procurement processes. It should also involve creating eligibility categories that they can qualify for in the service procurement system.

This should be accompanied by pathways to help local actors obtain formal legal status where required. Without such recognition, these organizations may remain excluded from service and offtake contracts regardless of their operational track record or potential contribution to municipal waste diversion targets.

Formal service contracts also allow operators to receive predictable payment for the environmental services they provide, rather than relying solely on income from the sale of recyclable materials. This can reduce exposure to fluctuations in global commodity markets and competition from increasingly inexpensive virgin plastic resin.



USE GREEN PROCUREMENT TO CREATE DEMAND

Once an inclusive procurement framework is established, **green procurement policies** can create predictable demand for products and services generated by cooperatives, SMEs, and community-based organizations that implement zero waste systems. Municipalities can establish targets for purchasing from local implementers and create offtake markets for outputs such as compost, BSF products, and other products of organic waste processing. This converts municipal purchasing power into a recurring source of demand and revenue, complementing the supply-side eligibility created through procurement policy reform previously explained.



DEVELOP CIRCULAR ECONOMY MARKET INCENTIVES

Local governments can further support repair, reuse, refill, and recycling enterprises through simplified licensing processes, reduced fees or local rebates, and access to appropriate space. These measures reduce the regulatory, financial, and spatial barriers faced by implementers and can lower recurring operating costs without requiring significant upfront capital. Without such support, local enterprises may remain informal, fragmented, and excluded from municipal procurement opportunities.

2. SUBSIDY REFORM OR REDIRECTION

Subsidy reform or redirection can address market distortions that favor disposal over solutions that follow the waste hierarchy. Large-scale centralized disposal—including landfill and WTE incineration—is often supported by public subsidies. These can include feed-in tariffs and renewable energy incentives that misclassify WTE power generation as renewable, as well as tipping-fee subsidies that reduce the effective cost of disposal. Such arrangements can lock cities into long-term supply contracts and compete directly with the funding needed to scale zero waste systems.

A similar distortion affects markets for organic waste processing outputs. Synthetic fertilizer is frequently subsidized as part of food security policies, while fishmeal and soy-based animal feed can benefit from agricultural support and import arrangements. This can make conventional inputs artificially cheap and place compost, BSF frass, liquid fertilizer, and BSF protein products at a competitive disadvantage.

In Thiruvananthapuram, India, following the forced closure of the city's only landfill in 2011, the municipal corporation offered subsidies of up to 50% to households and residential complexes for establishing decentralized composting and biodigester units, enabling the city to sustain a fully decentralized waste management system in the absence of any centralized disposal infrastructure (Ramachandran, 2019).

Subsidy reform does not necessarily mean withdrawing support altogether. It means **redirecting public support toward environmentally sound, circular solutions that follow the waste hierarchy and away from disposal-intensive systems.**

3. EXTENDED PRODUCER RESPONSIBILITY

Extended Producer Responsibility (EPR) is a policy framework that requires producers to contribute financially to waste prevention, collection, and treatment. Expanding EPR to food products is gaining attention as a potential way to address persistent funding gaps for organic waste collection, particularly in cities with low collection and diversion rates. Zero Waste Europe has proposed introducing EPR for food products in the upcoming EU Circular Economy Act, including support for food redistribution and consumer awareness campaigns in addition to collection (Mörsen et al., 2026).

Where EPR systems are effectively designed and implemented, they have potential to support zero waste projects and waste picker integration. A key challenge is ensuring that EPR funding reaches local governments and service providers to cover actual waste management costs rather than remaining primarily with Producer Responsibility Organizations (PROs).

4. PAY-AS-YOU-THROW

Pay-As-You-Throw (PAYT) links waste fees to the amount of residual waste generated. It can both incentivize source separation and generate revenue to support collection, recycling, and composting. PAYT is more commonly implemented at the national or regional level but can also be effective at the local level. It requires sufficient capacity to monitor waste generation and enforce compliance.

While most functioning PAYT schemes rely on national or municipal governments to set tariffs and enforce compliance, the model can also emerge from the ground up, built and run entirely by the community itself. *Banjar Tegeh Sari* in Bali, Indonesia, provides an example of a community-led volume-based PAYT model. The customary Balinese neighborhood association operates fixed-subscription and pay-by-weight drop-off streams, with organic waste priced 60% lower than residual waste to encourage source separation (PPLH Bali, 2026).

5. INTER-MUNICIPAL FEEBATE AND TAX-REFUND SYSTEMS

European municipalities have used **carrot-and-stick mechanisms** to make landfill diversion financially attractive. In Sardinia, Italy, a regional penalty-and-reward system linked to the municipal waste tax has been in place since 2004. Municipalities that separately collect more than 90% of waste while operating a qualifying PAYT system can receive a waste tax discount of up to 75%, with lower discounts at the 80% and 70% collection thresholds. Municipalities with separate collection rates below 65% pay a 5% surcharge on their annual waste fee (McQuibban, 2026). This model demonstrates how disposal taxes can be used to create performance-based incentives that encourage municipalities to improve waste diversion while generating resources that can support zero waste systems.

6. MARKET-BASED CAP-AND-TRADE ALLOWANCES

The United Kingdom's former **Landfill Allowance Trading Scheme (LATS)** used a cap-and-trade approach to limit biodegradable waste sent to landfill. Municipalities that exceeded their waste diversion targets could bank or trade surplus landfill allowances with authorities that had not met their targets, creating a financial incentive for recycling, composting, and other diversion activities (International Solid Waste Association, 2013).

However, the landfill cap was **not accompanied by a corresponding cap on WTE incineration**, inadvertently creating an incentive to divert waste from landfill to incineration rather than up the waste hierarchy. This highlights an important policy design lesson: **market-based restrictions must address all major disposal pathways and be aligned with zero waste and climate objectives.**

Forward-looking financing opportunities

The following mechanisms represent more forward-looking opportunities rather than approaches that have been broadly demonstrated within zero waste systems.

1. GREEN, SOCIAL, SUSTAINABILITY, AND CLIMATE BONDS

Green, social, sustainability, and climate bonds are debt instruments that can be used to finance projects with defined environmental and/or social benefits and are typically accompanied by reporting requirements. Green and climate bonds can support environmentally beneficial projects, while social bonds can finance projects designed to deliver defined social outcomes, such as improved livelihoods, employment, and social inclusion. Sustainability bonds can combine environmental and social objectives within the same financing framework.

2. SUSTAINABILITY-LINKED LOANS

Sustainability-linked loans are loans whose financial terms can be linked to defined performance targets. Development finance institutions and other lenders can potentially structure such loans around zero waste targets that reward progress up the waste hierarchy. Targets tied to WTE incineration, RDF, or other bottom-of-the-waste-hierarchy technologies should not qualify as zero waste performance outcomes.

Because these two financing opportunities are debt instruments, municipalities should assess carefully whether the projects being financed generate sufficient long-term public value, reliable revenue base, and fiscal capacity capable of servicing the associated repayment obligations. For core public waste services, such as source-separation and separate waste collection, municipalities should generally rely on public funding to avoid adding unnecessary debt-driven fiscal pressure.

What cities cannot do alone

Local financing has a ceiling determined in part by decisions made above the city level. Sustained, large-scale implementation of zero waste therefore also depends on national government action that municipalities cannot undertake on their own.

First, local governments cannot independently redesign the **intergovernmental fiscal transfer systems** that determine the fiscal space available to them. Only national governments can fundamentally change these systems or increase the resources transferred to local governments.

Second, local governments cannot redirect **national subsidies** away from WTE and other centralized disposal systems when those subsidies are established and funded through national policies and budgets.

Third, local governments cannot always grant legal recognition to **waste picker cooperatives and other waste worker organizations** where such recognition depends on national legal frameworks and policy backing.

These are therefore not simply additional sources of support for local financing; they are **preconditions for effective local action**. Cities can stretch their own budgets, public assets, partnerships, and cost-savings mechanisms only so far. National policy and fiscal reforms are essential to create the enabling conditions in which local governments can sustainably finance and scale zero waste systems.

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Financing in Practice: The RUO Model in Buenos Aires

Recuperadores Urbanos del Oeste (RUO) is a waste picker cooperative operating a composting facility and eco-park in Buenos Aires, Argentina. It demonstrates how multiple financing mechanisms can be combined to move a zero waste project from pilot to sustained operation.

The project's capital base was built almost entirely without new debt. Machinery and equipment were funded through grants from two national institutions, while the national government provided the site at no cost. Together, these grants and the in-kind provision of land accounted for 97% of the project's total capital costs.

This combination of grant funding and in-kind public assets enabled RUO to direct its own resources toward ongoing operations rather than infrastructure. The project also supports livelihoods: eight of the cooperative's twelve composting-site workers are former informal waste pickers, now employed as drivers, logistics assistants, and plant operators.

Source: GAIA (2025b), Building Community Resilience and Green Jobs through Organic Waste Climate Benefits and Economic Model of Just Organic Waste Management in Buenos Aires City.

City Archetypes: Where Are You Now?

Guidance that treats all cities as if they have the same starting point is unlikely to work in practice. The following archetypes provide a starting point for matching financing approaches to **current institutional and operational realities**, rather than to aspirational end states.

The archetypes are defined primarily by **institutional readiness for zero waste**, not by city size or wealth. A large, well-resourced municipality can still be considered an early-stage city if it has not yet established policies, systems, or infrastructure that prioritize zero waste.

The purpose of these archetypes is not to classify cities, but to help municipalities identify their current stage of readiness, the challenges they are likely to face, and the financing approaches most suited to their context. Cities may also straddle more than one archetype, depending on the specific aspects of their waste management system. The framework is therefore intended to be **self-assessed by the reader rather than imposed as a rigid label**.





**ARCHETYPE A:
START-UP —
EARLY-STAGE
CITIES**

DESCRIPTION

Start-up cities are typically at an early stage of developing zero waste systems, with limited collection coverage—often between 10–30%—and basic waste infrastructure, including open dumpsites.

They may face severely constrained budgets, limited or no dedicated municipal waste financing, inadequate infrastructure, heavy reliance on informal waste workers, and limited technical and institutional capacity. In some contexts, there may be no municipal waste budget at all, with private operators recovering costs through user fees.

PRIORITY ACTIONS

Priority actions for these cities include establishing universal collection, introducing source separation and basic composting, integrating waste pickers into municipal systems, and developing and demonstrating successful pilot projects.

RELEVANT FINANCING APPROACHES

Relevant financing approaches include grant and philanthropic funding, in-kind public contributions such as land, equipment, and labor, and cross-departmental financing. These approaches can help cities establish basic services and demonstrate successful models without requiring significant upfront debt.



**ARCHETYPE B:
TRANSITIONING
— SCALING AND
REPLICATING
CITIES**

Transitioning cities are moving from successful pilots toward city-wide implementation. This stage often corresponds with stronger institutional and technical capacity and more established municipal waste services. Municipal waste budgets may be approaching the World Bank's indicative adequacy benchmark of 6% of municipal spending (World Bank Group, 2026), although significant financing gaps may remain.

Key challenges include rising operational costs, securing predictable long-term funding, coordinating increasingly complex governance arrangements, and resisting pressure to invest in centralized infrastructure such as WTE incineration that can create long-term financial and contractual commitments.

Priority actions for these cities include scaling successful zero waste programs, optimizing collection systems, strengthening governance and institutional capacity, and embedding zero waste within mainstream municipal waste management systems and budgets.

Relevant financing approaches include reinvestment of verified cost savings, public investment, public employment programs, procurement reform and green procurement, and subsidy reform or redirection. These cities can increasingly move from short-term external funding toward recurring public financing and locally generated resources.



**ARCHETYPE C:
ADVANCED —
SYSTEM-
CHANGE CITIES**

Advanced cities have well-established waste management systems and are well positioned to drive system-wide change through continuous improvement, optimization, and circular economy initiatives. Waste prevention, source separation, and diversion programs are typically well established and may achieve near-universal coverage.

However, aging legacy infrastructure may require strategic reinvestment and system redesign.

Priority actions for advanced cities include accelerating waste prevention, maximizing material recovery, expanding reuse and repair, and further embedding circular economy policies and practices across the waste management system.

A major challenge is overcoming policy, market, and behavioral barriers that limit progress further up the waste hierarchy.

Relevant financing approaches include Pay-As-You-Throw (PAYT), Extended Producer Responsibility (EPR), landfill and disposal taxes, performance-based fiscal incentives, and green, social, sustainability, and climate bonds. Advanced cities may also be better positioned to use more sophisticated financing instruments, provided that the resulting debt and contractual obligations are consistent with long-term fiscal sustainability and zero waste objectives.

Pitfalls to Avoid

Local governments tend to repeat a few predictable mistakes when financing and implementing zero waste systems. These pitfalls are less often technological; rather, they arise from weaknesses in financial planning, governance, procurement, and implementation. Drawing on lessons from zero waste initiatives globally, the following pitfalls highlight common mistakes and practical ways to avoid them.

PITFALL	DETAILS
Treating Grants as a Substitute for Operational Expenditure (OPEX) Planning	Zero waste projects are too often built around capital grants for land, equipment, and infrastructure, with no plan for what happens once the funding ends. Salaries, maintenance, and day-to-day operations then go unfunded. The result is a familiar pattern: facilities operate for a year or two and then collapse, reinforcing the false narrative that decentralized zero waste systems cannot be sustained. Municipalities should treat OPEX as a core financing requirement from the start, identifying sustainable sources of funding—including cross-departmental budgets, direct public investment, service payments, or reinvested cost savings—before accepting grant funding.
Defaulting to the “One Big Contract” Approach	Awarding a single large contract to one service provider is often seen as an easy solution that simplifies procurement and minimizes compliance risks. However, this approach can exclude waste picker organizations, cooperatives, and community-based operators that are central to successful zero waste systems. Municipalities should consider contracting models that enable multiple service providers to participate, allowing decentralized operators to contribute while maintaining appropriate oversight and accountability. This can also reduce the risk of monopolistic behavior, including excessive price-setting power or discriminatory pricing.

PITFALL	DETAILS
Misreading Your City Archetype	Municipalities need to understand their current stage of zero waste readiness because this affects which projects should be prioritized and which financing approaches are most appropriate. Misreading the city archetype can lead, for example, to early-stage cities investing in industrial-scale materials recovery facilities (MRFs) before basic collection and source separation are in place, or to more advanced cities continuing to run pilots instead of institutionalizing approaches that have already been proven to work. Both situations can waste resources and drain political support. Applying a later-stage mechanism too early—or remaining dependent on an early-stage mechanism for too long—can itself indicate that a city has misread its readiness. For example, direct public investment is generally more appropriate once a city has demonstrated the feasibility of a system and is ready to institutionalize it.
Treating Land Access as Something to Solve Later	Access to suitable land is crucial to the successful implementation of zero waste projects. Many projects fail because land is addressed only after funding has been secured. At that stage, political, legal, or administrative barriers to land access can delay implementation or cause financing to be withdrawn. Land access should therefore be addressed well before project financing is approved. The RUO cooperative in Buenos Aires illustrates this approach: it transformed an abandoned railway site into an eco-park that includes MRF, training center, productive units for carpentry, forging and ceramics, educational spaces, an orchard and plant nursery, an artificial lake, and a composting site. These activities were developed incrementally on land provided at no cost, rather than through a single large infrastructure project.
Mistaking Scale for Progress: The Economic Limits of Scale	Zero waste projects can be scaled too quickly, before governance systems, operational capacity, or demand are ready to support expansion. Increasing mechanization or centralizing operations does not necessarily reduce costs, particularly where higher transportation, fuel, and maintenance costs outweigh potential efficiency gains. In some contexts, a network of smaller decentralized facilities can be more resilient and cost-effective than a single large facility. Municipalities should therefore scale based on demonstrated performance, local conditions, and cost-effectiveness—not simply on the assumption that bigger is better.

PITFALL	DETAILS
Locking in Long-Term Debt for Disposal Infrastructure	Municipalities may be offered large-scale infrastructure financing that appears to solve immediate waste management challenges but creates decades of debt and contractual obligations. WTE incineration is particularly problematic because it requires high upfront capital investment, continuous waste feedstock, and long-term contractual commitments, creating significant debt burdens that can crowd out investment in waste prevention, reuse, recycling, and composting. Municipalities should assess the full lifetime cost, debt implications, contractual obligations, and opportunity costs of major infrastructure investments. Financing arrangements that lock public budgets into disposal-dependent systems should be avoided, particularly where they undermine investment in zero waste systems and create long-term fiscal exposure.
Failing to Formalize Community Operators	Local governments should engage community operators and other local actors—including waste picker groups—from the earliest stages of planning, rather than after key decisions have already been made. This engagement should be supported by simple service agreements outlining volumes, service standards, responsibilities, and payment arrangements. Without early, formal inclusion, community organizations may operate without contracts or predictable income, leaving projects vulnerable to delays or collapse when pilot funding ends. Cooperatives may also require formal legal status to rent land, sell products, or enter into public service contracts. Formalizing labor-intensive roles such as composters, sorters, and collectors can further reduce workforce discontinuity and provide the legal certainty and operational predictability that financiers require.
Prioritizing Visible Infrastructure Over Effective Systems	Municipalities may prioritize highly visible infrastructure, such as large bins and recycling stations, because these investments are easy to publicize and politically justify. However, visible infrastructure does not necessarily translate into effective waste collection or diversion. In some contexts, door-to-door collection can achieve better results than street bins or community recycling “igloos” or “bells,” while also creating greater opportunities to integrate waste pickers and cooperatives. Cities should assess infrastructure based on system performance, using indicators such as collection and diversion rates, contamination levels, service coverage, and cost per tonne. Infrastructure investments should also be designed to integrate waste pickers and other community-based operators rather than inadvertently excluding them.

GUIDANCE FOR NATIONAL GOVERNMENTS

Introduction

Local governments are responsible for the operational delivery of municipal solid waste management, including collection, transport, treatment, and safe disposal. However, they perform these functions within broader legislative, fiscal, financial, and institutional frameworks established at the national level. These frameworks can either enable or constrain local governments' ability to deliver effective waste services and develop zero waste systems.

National governments therefore play a critical role as systemic enablers of zero waste.

They establish the laws, policies, fiscal frameworks, and institutional arrangements that determine the resources available to local governments and the conditions under which zero waste systems can be implemented and scaled. They can also coordinate across sectors and levels of government to align waste management with broader climate, circular economy, public health, employment, and environmental objectives.

This chapter focuses on two complementary pillars through which national governments can enable zero waste: **strategic regulatory and policy frameworks** and **direct access to finance**. Together, these can remove structural barriers faced by local governments and ensure that they have both the legal mandate and financial resources needed to establish and sustain effective zero waste systems.

National governments can establish robust and legally binding regulatory frameworks, including national waste management legislation, waste diversion targets, landfill and incineration restrictions, and Extended Producer Responsibility (EPR) frameworks (World Bank Group, 2021). They can also establish direct-access funding channels and dedicated public funding for local governments, small and medium-sized enterprises (SMEs), waste picker cooperatives, and other community-based operators, covering both capital and operational expenditures. These measures are particularly important where local governments have limited fiscal capacity or where existing funding systems favor centralized disposal infrastructure over waste prevention, reuse, recycling, and organics management.

This chapter is written primarily for national government officials, policymakers, and technical staff working across waste management, finance, environment, urban planning, public works, and health. It also provides a useful framework for regional and local governments, community organizations, donors, and development finance institutions. Its objective is to clarify the critical role national governments play in creating the enabling conditions and directing public finance needed for local governments to implement and scale zero waste systems.

Unique Context and Challenges for National Governments

Waste management is fundamentally a local service: local public entities hold the operational mandate for collection, transport, treatment, and disposal, and local governments interface directly with residents, businesses, and waste workers. National governments do not generally deliver these services directly. Instead, they establish the **legal, fiscal, financial, and institutional frameworks** within which local governments operate, including financing mechanisms, institutional coordination, and incentives (World Bank Group, 2018).

This is not a competitive relationship, but a complementary one: **local governments hold the operational mandate, while national governments control many of the systemic levers that determine whether that mandate can be fulfilled sustainably.** This distinction is important because many of the constraints local governments face—including limited budgets, capital expenditure-focused financing, and lack of legal recognition for community operators—cannot be resolved by a mayor or municipal waste department alone. They originate in decisions made at the national level, often long before a city develops its annual waste budget. In some countries, these regulatory and fiscal responsibilities may instead fall partly or entirely under regional, provincial, or state governments.

National governments have several key functions that shape the financial and institutional conditions under which local governments deliver waste management services. These include **fiscal transfers, fiscal policy instruments, legal frameworks, cross-sectoral coordination, and management of debt and fiscal risk.**

Fiscal transfers

Before any fiscal transfer reaches a city, the national government determines how much of the overall public budget is allocated to waste and environmental services relative to health, education, transport, and other priorities. It then establishes the formulas, conditions, and reporting requirements governing how those resources are distributed to local governments.

Most cities currently receive **general-purpose intergovernmental transfers** that do not make specific provision for zero waste or organic waste diversion outcomes. As a result, transfer systems often provide few incentives for municipalities to prioritize waste prevention, source separation, recycling, or organic waste diversion over conventional collection and disposal.

National governments also establish administrative and financial due-diligence requirements, including accounting standards, procurement rules, reporting formats, and performance indicators. These requirements can determine whether a municipality is actually able to access, disburse, and effectively use funds once they have been allocated.

Fiscal policy instruments: incentives and subsidies

National governments use fiscal policy instruments—including tax incentives, subsidies, guarantees, and other financial measures—to promote economic growth, industrial development, and the adoption of particular technologies.

Subsidy design can therefore work in either direction. National governments determine which activities within the waste system receive public support and which do not.

Waste-to-energy (WTE) incineration is frequently subsidized, both through capital support such as grants and guarantees and through operating mechanisms such as tipping-fee support and feed-in tariffs for electricity generation. Upstream interventions such as waste prevention and reuse rarely receive equivalent support.

Some subsidies sit outside the waste sector entirely but nevertheless work against zero waste objectives. In Indonesia, for example, petrochemical producers—the industry manufacturing many of the single-use plastics that zero waste policies seek to reduce—can receive a 100% corporate income tax exemption for up to 20 years under Ministry of Finance Regulation PMK 130/2020, as amended by PMK 69/2024. Such incentives can directly undermine waste policies pursued by the same government.

Similarly, national agricultural policies that heavily subsidize synthetic fertilizers and agrochemicals can distort markets for compost and other organic alternatives. In Bangladesh, for example, urea fertilizer is subsidized, while in Sri Lanka, government subsidies vary by crop type and reach up to 90% of the total product cost for some farmers, such as rice growers (Kaza et al., 2016). By making chemical inputs artificially cheap, these policies can discourage farmers from using organic alternatives, leaving municipal composting projects at a structural price disadvantage and reducing demand for locally produced compost.

Legal frameworks

Legal frameworks established by national governments—and, in some countries, by provincial or state governments—shape both **what municipalities are expected to achieve and who is legally permitted to participate in delivering waste services.**

National legislation can establish requirements such as organic waste diversion mandates, waste prevention targets, separate collection requirements, or national recycling and diversion targets that are subsequently translated into local obligations. At the same time, the legal framework determines whether waste picker cooperatives, community-based organizations, and small enterprises, including Black Soldier Fly operations, are recognized as eligible service providers or excluded from formal contracts and markets.

Brazil's 2010 National Solid Waste Policy (PNRS) illustrates the potential of national legislation to enable inclusive zero waste systems (Izidoro & Trevizan, 2025). By establishing priority for contracting waste picker cooperatives, the policy created pathways for thousands of workers to access formal contracts, training, and social protection—an enabling reform that requires national-level legal authority.

Cross-sectoral coordination

Waste management competes with health, education, housing, transport, and other priorities for limited public resources. Yet many of its most significant benefits—including improved public health, climate mitigation, employment, soil health, and food security—accrue across these sectors and often materialize over a longer timeframe (UNEP, 2017).

This creates a persistent coordination problem.

The departments that benefit most from zero waste investment are often not the departments responsible for funding or regulating waste management. Cleaner air and reduced disease burdens benefit health systems; improved soil health and food security benefit agriculture; and higher-quality recyclable feedstock benefits the industry. Yet these sectors rarely contribute resources or policy support to the waste systems that generate these benefits.

The same disconnect can affect labor policy. Responsibility for formally recognizing and integrating informal waste workers may sit with a labor department rather than an environment or waste department. The institutions best positioned to close legal and employment gaps may therefore not be involved in developing waste policy.

National governments can help address these silos by establishing **cross-sectoral policies, budget coordination mechanisms, and co-benefit accounting frameworks** that recognize the wider public value generated by zero waste systems. Deploying co-benefits accounting can help continuous funding as quantified benefits can serve as foundations towards multi-sectoral budget and policy coordination. This can help move waste management from a siloed cost center toward a shared public investment that sustains operational costs of decentralized zero waste systems.

National development priorities add another layer. When national governments favor particular infrastructure models—such as WTE incineration, large landfills, Refuse-Derived Fuel (RDF), or co-processing—this preference rarely remains at the national level. It can shape the projects that local governments are encouraged or required to co-finance, potentially draining the same operational budgets that are already chronically underfunded.

Managing debt and fiscal risk

National governments face a category of financial risk that is particularly important because they are often the point of intermediation for external climate and development finance. Their decisions about which projects to prioritize internationally—including what they include in their Nationally Determined Contributions (NDCs)—can influence which technologies gain access to concessional finance and which do not.

More than half of low- and middle-income countries are currently in or near debt distress – unable, or at high risk of becoming unable, to meet their public debt obligations without debt restructuring, major fiscal adjustment, or external support (World Bank Group, 2025). Waste projects financed through non-concessional loans for capital-intensive infrastructure such as WTE incineration can create significant fiscal exposure where projects fail to generate sufficient revenue to service the debt. They can also lock countries into long-term contractual and infrastructure commitments that constrain future waste policy and investment.

This makes the **quality and structure of finance** as important as its volume. National governments should prioritize concessional and public finance for waste prevention, reuse, source separation, recycling, composting, and other zero waste systems rather than directing scarce borrowing capacity toward expensive disposal infrastructure.

Beyond finance: building the conditions for implementation

Finance alone will not deliver successful zero waste implementation; it is one component of a broader enabling framework (World Bank Group, 2018). National governments also need to provide appropriate policy direction, technical assistance, institutional support, and capacity building to enable local governments to implement and sustain zero waste systems.

Tacloban in the Philippines illustrates the importance of this broader support. Rather than relying solely on major infrastructure investment, the city combined technical assistance, community engagement, and phased implementation to expand waste collection from 30% of households to 64 of the city's 138 barangays within two years, reducing waste sent to landfill by 31% during program rollout (Liamzon, 2019).

Ultimately, **national governments are uniquely positioned to create the enabling environment for successful local implementation.** By establishing appropriate fiscal and legal frameworks, aligning subsidies and incentives, strengthening institutional capacity, and directing finance toward solutions that follow the waste hierarchy, national governments can give cities and municipalities the conditions they need to deliver effective and equitable zero waste systems. Together with community organizations and waste pickers, local governments can then implement solutions that match the speed and scale of the waste and climate challenges they face.

Why Zero Waste Is a Strategic Choice

Across the developing world, the transition to zero waste is an urgent environmental, public health, economic, and climate priority. In Africa, more than 90% of waste is still disposed of on land, frequently in uncontrolled dumpsites where open burning is common (Omokaro, 2024). This represents a significant loss of recoverable materials and an opportunity cost for job creation. It is also a direct threat to urban livability and public health. Open dumping and burning release hazardous particulate matter and other pollutants associated with severe respiratory and other health impacts (Angwah and Matsui, 2026), while uncontrolled disposal can contaminate rivers, wetlands, and other watercourses. These risks are intensifying. Since 2023, major landfill fires—including at Sarimukti and Jatiwaringin in Indonesia, Bandhwari in India, and Maseru in Lesotho—have been linked to methane accumulation in dumpsites operating beyond capacity, forcing emergency evacuations, prolonged exposure to toxic smoke, and, in some cases, permanent dumpsite closures across Asia and Africa.

Zero waste systems, by contrast, prioritize waste prevention, reuse, source separation, composting, and recycling. They can simultaneously improve public services, create jobs and local economic opportunities, reduce pollution and methane emissions, and strengthen social equity (World Bank Group, 2026).



For national governments, zero waste is therefore not simply a municipal waste management strategy. **It is a strategic policy opportunity to connect climate action, public health, resource efficiency, employment, and economic development.**

While waste management has historically been treated primarily as a local government responsibility, national governments shape many of the conditions that determine whether local zero waste systems can be implemented and scaled. They establish the regulatory and fiscal frameworks, determine national investment priorities, and influence how domestic and international finance is directed. This gives national governments an important role in translating global commitments into concrete implementation at the local level.

In particular, national governments can use NDCs and other national climate and development policies to establish clear, measurable targets for waste prevention and diversion. Global commitments—including the Paris Agreement, the Global Methane Pledge, the COP28 Lowering Organic Waste Methane (LOW-M) Initiative, the COP29 Reducing Organic Waste (ROW) Declaration, and the COP30 No Organic Waste (NOW) Initiative—provide an opportunity for governments to translate international ambition into national policy

and measurable municipal action. Including quantitative waste and methane targets in NDCs can make local action visible within national climate commitments, establish baselines against which progress can be measured, and strengthen the case for international climate finance.

NDCs can also influence **which waste infrastructure is eligible for international finance**. National governments play an important role in determining the policy environment in which Multilateral Development Banks (MDBs), development agencies, and other international financial institutions operate. Under the Joint MDB Methodological Principles for Assessment of Paris Agreement Alignment of Direct Investment Lending Operations, an activity is assessed as not aligned where it is explicitly ruled out by the host country's NDC (Multilateral Development Banks, 2023). Where an activity is not addressed or is supported in the NDC, MDBs apply additional tests, including consistency with long-term low-emissions strategies and the risk of carbon lock-in. National climate commitments can therefore influence, but do not by themselves determine, which waste projects MDBs are able to finance.

A national government that embeds **organic waste diversion targets, composting and recycling targets, and an explicit exclusion of WTE incineration** from its NDC and associated investment frameworks can therefore help steer international finance toward zero waste solutions. Conversely, where national climate commitments remain silent on waste, individual financing institutions retain greater discretion to determine which waste infrastructure is considered compatible with climate objectives.

This gives national governments a financing lever that local governments do not have: **the ability to shape the policy and eligibility conditions that determine which waste infrastructure can access international finance in the first place.**



By aligning national climate commitments, regulatory frameworks, public investment, and international finance with the waste hierarchy, national governments can shift finance upstream—from disposal toward prevention, reuse, recycling, and organics management—and create the conditions for local governments to implement zero waste at scale.

Swachh Bharat Mission: Mobilizing National Finance and Municipal Action

Launched in 2014, India's **Swachh Bharat Mission (SBM)** represents one of the world's most ambitious national mobilizations of solid waste finance and institutional reform. Its second phase, launched in 2021, places solid waste management, source segregation, and waste processing at the center of India's national urban agenda. The program has also supported behavioral change through financial incentives and other measures.

Rather than focusing on individual cities, SBM provides a **unified national platform** for mobilizing investment and driving municipal action. It has unlocked more than **US\$9.5 billion in shared investment** across states and municipal jurisdictions through several national-level levers:

1. **Competitive performance monitoring:** The mission established *Swachh Survekshan*, a national cleanliness survey that publicly ranks urban areas against a range of waste management and sanitation indicators. This creates political and institutional incentives for municipalities to improve their performance.
2. **Supporting local circular value chains:** The program supports waste processing and resource recovery, including biogas initiatives that convert organic waste into energy and help create markets for recovered resources.
3. **Formal worker integration:** National guidelines encourage cities to integrate informal waste workers into municipal waste management systems, supporting their livelihoods and participation in resource recovery.

Source: World Bank Group, 2026; UNICEF, 2019.

How National Governments Can Finance Zero Waste Now

As strategic enablers and essential partners to local governments, national governments play a critical role in creating the institutional and financial conditions needed to plan, implement, and sustain zero waste systems.

Advancing zero waste does not necessarily require entirely new national spending programs. Many of the most important interventions can be achieved by **redirecting, reconfiguring, or mobilizing policy instruments already under national authority.**

Adjusting an intergovernmental fiscal transfer formula, recognizing waste picker cooperatives as legal service providers, or restructuring an existing subsidy can require relatively little additional public expenditure while unlocking significant funding, legitimacy, and implementation capacity at the local level.

This gives national governments a degree of leverage that individual local governments cannot replicate.

The mechanisms available to national governments can be broadly organized into three pillars:



REGULATORY PILLARS

Instruments that establish the legal foundations of zero waste systems, including worker recognition, technology and disposal standards, producer obligations, procurement rules, and municipal performance requirements.



FISCAL PILLARS

Mechanisms that direct public resources toward zero waste, including intergovernmental transfers, subsidy reform, tax incentives, and the provision of public assets.



INSTITUTIONAL PILLARS

Measures that strengthen local government capacity and readiness, including technical assistance, research support, and monitoring, reporting, and verification (MRV) systems.

These pillars are mutually reinforcing. A regulatory reform without fiscal backing may have limited impact, while a fiscal instrument may fail if its intended beneficiaries lack legal recognition or the institutional capacity to access it. National governments should therefore consider these mechanisms as part of an **integrated enabling framework**, rather than as standalone financing tools.



REGULATORY PILLARS

National governments have the regulatory authority to establish and reform policy and legislative frameworks that ensure financial resources are directed toward zero waste initiatives.

- **Extended Producer Responsibility (EPR):** EPR requires producers to contribute financially to waste prevention, collection, treatment, and recovery. National governments can establish mandatory prevention and recycling targets, define producer obligations, and require Producer Responsibility Organizations (PROs) to finance relevant municipal waste management activities, including collection, recycling infrastructure, public awareness, and waste picker integration. When designed effectively, EPR can provide a stable, long-term source of funding that reduces the financial burden on municipalities while accelerating the transition to a circular economy. National governments should ensure that EPR revenues reach the public systems and workers responsible for delivering waste management services, rather than being captured primarily by PROs.
- **Procurement Policy Reform and Green Procurement:** National governments can reform public procurement frameworks to prevent municipalities from becoming locked into polluting and financially burdensome disposal projects, including WTE incineration and RDF-based facilities.

National governments' procurement guidelines can instead prioritize flexible, context-specific, and small-scale service contracts over large capital-intensive projects. This allows cooperatives, SMEs, and community-based operators to compete on more equal footing with operators that already have the capacity to manage larger waste volumes.

Once this enabling framework is established, green procurement policies can further stimulate demand for locally produced compost, recycled materials, repair and reuse services, and other circular economy products. Public purchasing commitments can provide greater market certainty and predictable revenues while reducing long-term municipal waste management costs.

- **Pay-As-You-Throw (PAYT):** PAYT links waste fees to the amount of residual waste generated, creating an incentive for source separation while generating revenue for waste collection and treatment. National governments can establish the legal and policy framework for PAYT, including common rules, measurable targets, and performance requirements that local governments can adapt to their circumstances. PAYT requires sufficient institutional capacity to monitor waste generation, collect fees, and enforce compliance, and should be designed to avoid disproportionate impacts on low-income households.
- **Legal Recognition for Waste Workers:** National legislation can formally recognize waste picker cooperatives and other informal waste workers as legitimate participants in municipal waste management. National governments can establish legal frameworks and standardized contracting mechanisms that enable municipalities to formally engage and remunerate these organizations as public service providers. Legal recognition can also provide workers with identification, occupational protections, social protection, and access to public services, while enabling municipalities to integrate their existing resource recovery activities into formal zero waste systems.



In addition to establishing an enabling legislative and regulatory environment, national governments can channel financial resources toward local zero waste systems through fiscal transfers, subsidy reform, tax incentives, and the provision of public assets.

- **Fiscal Transfers:** National governments can use intergovernmental fiscal transfers to reward measurable improvements in waste diversion and service delivery. Performance-based transfers can create additional fiscal space for municipalities while providing a predictable source of funding for recurring operational costs. Transfer formulas can also incorporate indicators such as source separation, organic waste diversion, recycling, and waste picker integration, rather than focusing primarily on disposal.
- **Subsidy Redirection:** National governments can redirect subsidies and tax incentives that support high-carbon and fossil-fuel-dependent disposal technologies toward solutions higher up the waste hierarchy. This includes redirecting public resources away from WTE incineration and toward waste prevention, reuse, source separation, composting, recycling, and other decentralized zero waste systems. Subsidy reform can provide offtake guarantees for local compost and organic fertilizer producers that foster enabling conditions for upscaling and sustain organic waste management operations (Putra, 2025; GAIA, 2025). Realigning fiscal incentives in this way can reduce the structural market advantages enjoyed by synthetic agrochemicals while creating more favorable conditions for community-based zero waste enterprises.

- **Tax Rebates and Circular Economy Incentives:** National governments can use tax rebates, credits, and other fiscal incentives to support businesses and organizations involved in waste prevention, reuse, repair, recycling, and organic waste recovery. These mechanisms can improve the competitiveness of circular economy activities and help develop markets for recovered materials and compost.
- **Land, Assets, and In-Kind Support:** National governments can reduce upfront costs by making state-owned land, buildings, equipment, and other assets available for zero waste projects. Land and buildings can account for a significant share of capital costs: in Indonesia, land accounted for up to 89% of capital costs, compared with 58% in Brazil (CPI, 2025). In Buenos Aires, for example, unused state railway land enabled the *Recuperadores Urbanos del Oeste* (RUO) cooperative to establish the Yerbal Green Center without incurring land costs, allowing the cooperative to direct its own resources toward processing and composting infrastructure (Allen & Moon, 2025a).

YERBAL GREEN CENTER





INSTITUTIONAL PILLARS

National governments can also strengthen the technical and institutional capacity required for local governments to access, manage, and sustain zero waste finance.

- **Monitoring, Reporting, and Verification (MRV) Systems:** Robust but practical MRV systems are essential for generating the transparency and credibility needed to attract climate and development finance. National governments can establish standardized methodologies for measuring the full range of zero waste benefits, including methane reductions, material recovery, green jobs, and public health outcomes. Integrating these indicators into national databases and NDC reporting frameworks can turn local waste management performance into measurable national outcomes, strengthening the evidence base for accessing grants and other international funding.
- **Technical Assistance:** National governments can coordinate universities, NGOs, technical agencies, and other institutions to provide technical assistance and subsidized services to municipalities. This could include support for project design, market development, compost quality testing, business planning, and access to finance. Such support can reduce implementation costs, strengthen market confidence, and improve the long-term financial sustainability of zero waste systems.



FORWARD-LOOKING FINANCING MECHANISMS

Beyond conventional fiscal and financing instruments, national governments can explore additional mechanisms to diversify the sources of finance available for zero waste. These mechanisms remain less established within zero waste systems and should therefore be approached cautiously.

- **Blended Finance (Grants and Concessional Loans):** National governments can partner with MDBs, development agencies, and philanthropic organizations to combine grants and public capital with concessional loans. Blended finance can help address upfront investment needs where projects are not immediately commercially viable. However, blended finance remains heavily focused on CAPEX, while insufficient attention is often given to the recurring OPEX required to sustain municipal waste management systems. Excessive reliance on debt to finance essential but low-revenue public services can also increase fiscal vulnerability. Debt should therefore be used selectively and should not replace public funding for core services such as collection, source separation, and organics management.

- **Carbon Markets:** Waste diversion can generate measurable emission reductions that may potentially be monetized through carbon market mechanisms, including Article 6 frameworks (Climate and Clean Air Coalition, 2016). Carbon revenues could supplement municipal budgets and contribute to OPEX. However, carbon markets should not be treated as a reliable core funding source. Revenues can be uncertain and volatile, while registration, monitoring, and verification can create substantial administrative costs. Carbon markets have also been criticized for methodologies that can favor downstream technologies, including WTE incineration, rather than prioritizing prevention and diversion. **Any carbon finance mechanism should therefore be explicitly aligned with the waste hierarchy and strong environmental integrity criteria.**
- **Debt-for-Climate Swaps:** Debt-for-climate swaps have gained attention as a mechanism for mobilizing domestic climate investment in countries facing debt and liquidity constraints (Nwaobi, 2025). Under such arrangements, governments negotiate with international creditors to reduce or restructure sovereign debt in exchange for commitments to invest an agreed portion of the resulting fiscal savings in climate or environmental priorities. These arrangements are complex and require creditor agreement, sovereign-level negotiations, and strong governance arrangements, but they could provide an additional avenue for financing zero waste and methane reduction where appropriate.
- **Sovereign Wealth Funds and Public Financial Institutions:** National governments can leverage sovereign wealth funds, national development banks, and other public financial institutions to establish dedicated investment facilities for municipal waste management and the circular economy. These institutions can act as anchor investors and help attract additional capital. However, institutional and development finance often favors large-scale, capital-intensive projects perceived as more easily bankable or capable of generating predictable financial returns. Dedicated investment criteria are therefore needed to ensure that decentralized, community-based, labor-intensive, and service-oriented zero waste systems are not systematically excluded.

Pitfalls to Avoid

As national governments create the enabling conditions for effective zero waste systems, they must navigate several structural, financial, and institutional pitfalls. Reorienting waste management requires changes not only to waste policy, but also to national fiscal policy, infrastructure priorities, labor frameworks, and economic incentives. The following pitfalls can undermine otherwise ambitious zero waste commitments.

PITFALL	DETAILS
Formulating Symbolic NDC Commitments Without Implementation Roadmaps or Earmarked Finance	National governments may treat NDCs as high-level political commitments, setting ambitious targets for waste management and methane reduction without translating them into concrete domestic implementation roadmaps, budgets, responsible institutions, or financing mechanisms. Waste targets should be accompanied by clear implementation pathways, measurable indicators, and identified sources of public and external finance.
Privatizing and Treating Solid Waste Management as a Commercial Venture	National governments may design waste management policies and financing systems around a commercially driven model that treats waste primarily as a business expected to generate financial returns. This can undermine recognition of waste management as an essential public service and exclude activities that generate substantial public benefits but limited direct revenue, including collection, source separation, composting, and waste picker integration. Financing zero waste interventions should recognize the public, environmental, and social value generated by these services rather than relying on commercial returns alone.

PITFALL	DETAILS
Enabling Sovereign-Backed Debt Traps for Capital-Intensive Waste Projects	National governments can create significant long-term financial risks by facilitating sovereign-backed loans, guarantees, or private concessions for capital-intensive WTE incineration and RDF projects. These facilities can require decades of contractual commitments and guaranteed waste flows, creating debt burdens while locking municipalities into disposal infrastructure. They can also penalize waste reduction and composting efforts because reducing the waste stream can undermine the financial assumptions underpinning the project. National governments should therefore assess the full lifetime fiscal and opportunity costs before supporting such projects and should not transfer private-sector project risks onto municipalities and public budgets.
Channeling EPR Revenues Primarily to Private PROs	When designing national EPR frameworks, governments may allow producer fees to be controlled primarily by private, corporate-run PROs, limiting public oversight and weakening the transparent and equitable allocation of these revenues. EPR systems should establish clear public-interest safeguards and ensure that revenues reach the municipalities, waste workers, and infrastructure responsible for delivering waste prevention, collection, reuse, recycling, and recovery outcomes.
Enabling Sovereign-Backed Debt Traps for Capital-Intensive Waste Projects	National governments can create significant long-term financial risks by facilitating sovereign-backed loans, guarantees, or private concessions for capital-intensive WTE incineration and RDF projects. These facilities can require decades of contractual commitments and guaranteed waste flows, creating debt burdens while locking municipalities into disposal infrastructure. They can also penalize waste reduction and composting efforts because reducing the waste stream can undermine the financial assumptions underpinning the project. National governments should therefore assess the full lifetime fiscal and opportunity costs before supporting such projects and should not transfer private-sector project risks onto municipalities and public budgets.

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Acknowledgments

GAIA is grateful to all local member organizations featured in the publication for agreeing to be interviewed and featured, and for sharing their photos for use in the publication.

This work was co-created with LUMEC and made possible through the support of the Urban Movement Innovation Fund, a sponsored project of Rockefeller Philanthropy Advisors, and the Global Methane Hub. This report or its parts may be reproduced for non-commercial purposes provided the source is fully acknowledged. Reproduction for sale or commercial purposes is prohibited without written permission of the copyright holder.

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GAIA is a network of grassroots groups as well as national and regional alliances representing more than 1000 organizations from over 100 countries. With our work we aim to catalyze a global shift towards environmental justice by strengthening grassroots social movements that advance solutions to waste and pollution. We envision a just, Zero Waste world built on respect for ecological limits and community rights, where people are free from the burden of toxic pollution, and resources are sustainably conserved, not burned or dumped. www.no-burn.org

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Financing Zero Waste:

Practical Guidance for Immediate Action by Local and National Governments

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