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Response to City of Philadelphia Solid Waste Management RFI

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Executive Summary

ECHO Systems is a Philadelphia-based nonprofit organization dedicated to **upstream waste prevention** and the development of community-supported **reuse infrastructure**. Founded in 2022 and operated as a consultancy since 2018, our mission is simple: *we stop waste where it starts*. We focus on reducing single-use packaging and fostering a culture of reuse by providing education, technical assistance, and access to reusables for specific entities in need. By activating local reuse solutions in the food, beverage, and events sectors, ECHO Systems seeks to cultivate an equitable, circular economy that benefits both the environment and Philadelphia's community at large.

We commend the City of Philadelphia for issuing this RFI to inform data-driven, environmentally responsible waste management strategies. In this response, we offer recommendations and insights in line with the City's *Safe, Clean & Green* agenda and its **Zero Waste** goals. We emphasize methodologies to evaluate true health and environmental costs of waste systems (Section 1), discuss the capacity of both established and nascent service providers including gaps in organics and reuse (Section 2), highlight innovative policies and initiatives – from toxic substance bans to event-based reuse programs (Section 3 and 3.A), and present strategies for **producer responsibility** that can shift the burden of waste management upstream (Section 4). Throughout, we center **environmental justice (EJ)** and public health, recognizing that our waste choices have profound impacts on communities within and beyond city limits. Notably, Philadelphia's waste disposal has disproportionately affected Black and brown communities, such as Chester, PA, which hosts the nation's largest waste incinerator. This response urges the City to integrate EJ considerations, accountability, and **waste prevention approaches** into every aspect of its solid waste management plans.

We appreciate the opportunity to contribute to this important conversation. Philadelphia stands at a pivotal moment to reimagine its waste system in a way that reduces harm, conserves resources, and uplifts local solutions. ECHO Systems is eager to serve as a partner in advancing upstream innovations and community-centered infrastructure that will help Philadelphia achieve its ambitious goal of **90% waste diversion by 2045, and we emphasize that burning waste should not be considered diversion, as**

waste-to-energy and advanced recycling are not a viable solution. Below, we provide our detailed input, following the RFI's requested areas. We begin with a short set of clarifying questions regarding roles and accountability, then address Sections 1 through 4 in turn.

Section 0: Requests for Clarification on Interagency Roles, Enforcement, and Accountability

Before addressing the core questions, ECHO Systems seeks clarification on how various City agencies and initiatives will coordinate roles, enforcement powers, and accountability mechanisms in implementing future waste management contracts and programs:

- **Interagency Roles:** The RFI is issued jointly by the Office of the Chief Administrative Officer (Clean & Green Initiatives), the Streets/Sanitation Department, and the Office of Sustainability. We request clarity on each entity's specific decision-making authority in waste contracting and planning. How will the **Clean & Green Cabinet** (established by Executive Order 11-24) interface with the Streets Department and Sustainability Office on strategy and oversight? Clear delineation of roles will help respondents tailor recommendations to the right departments.

- **Enforcement Authority:** Philadelphia's waste management involves multiple enforcement aspects – from litter and dumping enforcement (historically handled by SWEEP under the Streets Department) to recycling compliance for businesses (which involves Licenses & Inspections and Streets) to any future requirements on contractors (e.g., emissions limits or diversion targets). We ask the City to clarify which agencies will be responsible for enforcing contract provisions and new regulations arising from this RFI process. For example, if new diversion or emissions standards are set in contracts, will the Streets Department monitor compliance, or will the Office of Sustainability take a lead on environmental performance enforcement?

- **Accountability & Transparency:** We urge the City to establish transparent reporting and accountability structures for waste vendors. How does the City plan to hold contractors accountable for meeting environmental and health performance metrics? Will there be public reporting of key indicators (emissions, diversion rates, community complaints, etc.) and dedicated liaisons for community concerns? Experience shows the importance of this – for instance, when recycling market upheaval in 2018 led Philadelphia to send half its recyclables to an incinerator, it only came to light through media reports waste360.comwaste360.com. Proactive transparency and oversight (perhaps via City Council's Committee on the Environment or a public advisory board unlike the SWRAC which in my opinion did not always kead to progressive outcomes and this is crucial to maintain trust and course-correct as needed, right

now these committees seem to operate in a silo. How is public opinion considered?

- **Integration with State and Regional Entities:** Finally, clarification is needed on how City efforts align with state agencies like PA DEP. The City's waste decisions have a regional impact (e.g., the Covanta Chester facility requires state permits). How will Philadelphia coordinate with state regulators or neighboring counties on issues like emissions compliance or developing new infrastructure? Clear channels for inter-governmental coordination will improve outcomes, especially on cross-cutting issues such as environmental justice in host communities.

By addressing the above points, the City will help respondents craft more targeted solutions. We strongly recommend that, as Philadelphia moves forward, it **assign clear responsibility** for championing waste reduction and environmental health goals within the City government, so that innovative ideas do not fall through bureaucratic gaps. Ensuring all relevant agencies are aligned – and that contractors know they are being closely watched by a united City team – will set the stage for the successful implementation of the strategies discussed below.

Section 1: Methodologies and Measurement Tools for Evaluating Health and Environmental Impacts

1.1 Embracing True-Cost and Life-Cycle Methodologies: Philadelphia should adopt a **"true cost accounting"** approach in its upcoming waste management RFP and decision-making. This means evaluating not just the direct dollar costs and operational metrics of proposals, but also the *health, environmental, and social costs* associated with each option, nj.govarchive.epa.gov. Tools like **Life-Cycle Assessment (LCA)** models can quantify the cradle-to-grave impacts of waste disposal vs. recycling vs. composting. For example, the U.S. EPA's **Waste Reduction Model (WARM)** is widely used by cities to estimate greenhouse gas emissions for different waste management methods westcoastclimateforum.com. We recommend that the City require vendors to provide LCA data or use WARM (or a similar tool) to compare the carbon footprint and energy impacts of their proposals. Importantly, this analysis should account for *long-term externalities*, such as the **public health burden** of air pollution from waste facilities, climate change costs (using the Social Cost of Carbon), and environmental justice impacts on host communities.

Philadelphia's commitment to centering **environmental justice** in waste decisions must be backed by methodology. We suggest incorporating an **EJ screening** criterion in proposal evaluations – for instance, using EPA's EJScreen or similar data to score how a proposed facility or route might impact vulnerable populations. The rationale is clear: nearly *80% of municipal solid waste incinerators in the U.S. are located in EJ communities*, and these facilities emit toxins linked to asthma, high blood pressure, miscarriage, and lung disease phlcouncil.comphlcouncil.com. The City should not only acknowledge

these disparities but also quantitatively **weigh proposals that minimize harm** to overburdened communities. A submission that, say, relies on sending waste to an incinerator in a predominantly Black, low-income community (like Chester) should be scored lower on health/EJ impact than one using a more benign disposal method or a facility in compliance with stricter emissions controls. In practice, the City can ask RFP respondents to answer specific questions about the demographics and health vulnerabilities around any proposed facility (whether in Philadelphia or elsewhere) and how they will mitigate harm phlcouncil.comphlcouncil.com.

1.2 Sample Criteria and Data Collection Needs: To implement the above, the City's forthcoming RFP should include concrete questions and scoring criteria such as: **(a)** quantified emissions per ton of waste (greenhouse gases, criteria air pollutants, air toxics) for each disposal option; **(b)** life-cycle emissions comparisons of proposals (using a standardized model like WARM for consistency); **(c)** anticipated community health impacts (noise, traffic, odor, pollution) with evidence or case studies; and **(d)** contributions to City climate goals (e.g. how much a proposal would reduce or increase Philadelphia's carbon footprint). The City can establish a **standard scoring system** where, for example, proposals are awarded points for lower emissions per ton, higher diversion rates, and demonstrable community health safeguards. Including open-ended questions like *"Describe any anticipated health or environmental burdens of your approach and how you will monitor and minimize them"* will compel vendors to address these issues transparently. The RFI already signals interest in such criteria, for instance, suggesting side-by-side comparisons of waste treatment options that factor in long-term health impacts. We agree and encourage making those comparisons as **quantitative** as possible (e.g., pounds of pollutants emitted, number of asthma cases potentially exacerbated, etc., based on modeling). Where uncertainty exists, proposals should at least qualitatively disclose risks and mitigation plans.

To support these methodologies, Philadelphia must improve its **data tracking infrastructure**. The City should invest in systems (and require vendors to utilize them) that capture data on: total waste tonnages by stream and geographic source, real-time emissions from facilities and trucks, incidences of non-compliance or community complaints, and public health indicators in relevant areas. Some minimum data requirements we identify include: geospatial tracking of collection vehicles (to calculate **distance traveled per ton** of waste, a proxy for diesel pollution), scales and auditing at transfer stations to determine **waste composition and contamination rates**, and regular emissions monitoring reports from disposal facilities (for criteria pollutants and GHGs). The City's RFI already enumerates many useful metrics – e.g., frequency and volume of collections, diversion rates, vehicle fuel consumption, and even **water usage in processing facilities**. We support these and add that capturing **health outcome data** (perhaps via Health Department coordination) in communities near waste facilities is important for long-term evaluation of impacts.

1.3 Continuous Improvement Frameworks: Beyond one-time RFP evaluations, Philadelphia should institutionalize frameworks for ongoing assessment. We recommend that the City explore forming a **Waste Management Impact Review Board** or task force that annually reviews the performance of waste contractors against health and environmental KPIs (key performance indicators). This body could use tools like the **True Cost Accounting** framework to report on the "hidden" costs of the waste system, for example, estimating the healthcare costs attributable to air emissions or the climate damages from landfill methane. By reporting these alongside traditional budgetary costs, the City can make more holistic decisions over time nj.gov.

In terms of technological tools, the City can consider emerging options such as **sensor networks** (for air quality near facilities and along truck routes), **GIS mapping** of waste flows and impacts, and software that integrates all waste data for analysis. For example, some cities use dashboard platforms to track waste collection efficiency, complaints, and environmental metrics in one place, allowing quick identification of problem areas. **Life-cycle assessment software** could be used not just at procurement, but to simulate how introducing a new program (like citywide composting) would change the overall impact. In planning for that ambitious goal of 90% diversion by 2045, these tools will illuminate the path forward.

1.4 Safety and Backup Controls: Finally, methodologies must extend to **operational health and safety**. We urge the City to require that proposals detail their **emissions control systems, contingency plans, and compliance track records**. As part of the evaluation, Philadelphia should treat a strong environmental compliance history and robust backup controls as non-negotiable. For instance, waste-to-energy operators should demonstrate maximum uptime of pollution control equipment and have plans to minimize emissions during maintenance or outages. The RFP can ask: "What procedures and technologies will you employ to ensure **maximal compliance with all City and State environmental regulations and to minimize emissions of air pollutants, greenhouse gases, and water pollutants** during operations?". In scoring, give weight to proposals that include redundant pollution controls, independent emissions monitoring, worker safety training, and community safety measures (like neighborhood notice systems if something goes wrong). This aligns with best practices to ensure disposal methods do not compromise public health and safety.

In summary, Philadelphia's procurement and planning should be underpinned by **rigorous, data-driven methodologies** that capture the full picture of waste management impacts. By using LCA tools (like EPA WARM for GHG analysis (westcoastclimateforum.com), setting standardized health/EJ criteria, and insisting on robust data reporting, the City can make informed choices that prioritize sustainability and justice alongside operational needs. ECHO Systems stands ready to assist in developing these evaluation

frameworks, including identifying relevant research and helping interpret true-cost data, as the City moves toward its next generation of waste contracts.

Section 2: Provider Capacity & Availability – Gaps and Opportunities in Service Provision

2.1 Established Large-Scale Providers: Philadelphia's municipal waste needs are currently met by a few major industry players, under multi-year contracts. Since 2019, the City's disposal and recycling contracts have been primarily with **Waste Management, Inc.** and **Covanta** phila.gov. These contracts involve a network of **11 facilities** (landfills, waste-to-energy incinerators, transfer stations, and even an alternative fuel facility) that collectively have capacity exceeding the City's annual waste tonnage phila.gov. In other words, on paper, the big providers *can* handle Philadelphia's waste volume. For example, Waste Management operates local transfer stations and the SpecFUEL facility that converts certain waste into fuel pellets (recovering some recyclables in the process), phila.gov. Covanta operates the Delaware Valley Resource Recovery Center in Chester (the large incinerator), and has access to other incinerators (Plymouth, PA; Camden, NJ; Lancaster, PA) and landfills (e.g., Conestoga and Rolling Hills in PA) as designated alternatives, phila.gov. The City deliberately structured these contracts to **minimize landfill use** by diverting waste to waste-to-energy and the reuse of waste as fuel phila.gov.

From a pure capacity standpoint, these incumbents can likely continue servicing the city. However, **capacity is not the only concern** – the **quality and impact** of that service are crucial. Covanta's Chester incinerator, while large, has faced intense public criticism and legal scrutiny due to pollution and environmental injustice concerns whyy.orgphlcouncil.com. Community advocates in Chester have implored Philadelphia not to renew its Covanta contract, citing severe health consequences like elevated asthma and cancer rates among residents downwind ecowurd.com. This indicates that while Covanta has capacity (burning ~3,500 tons of trash per day regionally, including ~90,000 tons/year from Philadelphia fox29.com), relying on it comes at a **steep social cost**. Likewise, Waste Management's primary landfill options are outside city limits, meaning continued exporting of trash with climate impacts from long hauling distances and potential environmental burdens on other communities.

2.2 Organics Processing Gap: One glaring capacity gap in Philadelphia is local **organics processing (composting)** at scale. Unlike peer cities, Philadelphia currently has *no citywide composting pickup* and no large municipal compost facility whyy.org. The Streets Department has openly stated it lacks the capacity for a "widespread composting" program at present whyy.org. This gap is partially being addressed by a **new pilot program**: the City plans a small-scale pilot organics collection and recycling

initiative to evaluate citywide feasibility. Additionally, Philadelphia Parks & Recreation's **Community Compost Network** is expanding to 10-12 new sites in 2024, supporting neighborhood-level composting hubs with three-bin systems and volunteer training phila.govphila.gov. These are promising steps, but they operate on a *pilot* or community scale, not the thousands-of-tons scale needed for citywide diversion (food and yard waste make up an estimated 30% of Philadelphia's residential waste stream whyy.org).

Currently, residents who want to compost have limited options: backyard composting (if they have space/ability) or paying for **private subscription services**. Two notable local companies, **Bennett Compost** and **Circle Compost**, have been serving Philadelphians willing to pay a monthly fee for curbside organics pickup whyy.orgwhyy.org. These companies have modest fleets and process capacity (Bennett Compost, for instance, processes tens of thousands of pounds per week, not hundreds of tons). They also partner with the City on pilots – Bennett is facilitating compost pickup at ~30 recreation centers as part of the new pilot, and Circle Compost is helping manage some of the 12 community drop-off sites whyy.orgwhyy.org. However, their capacity is relatively **small-scale**; they cannot single-handedly handle the city's full organic output without major expansion. The City's plan to team up with existing composters in the pilot is smart whyy.org – it leverages their expertise. But to truly fill this gap, Philadelphia likely needs to either **attract investment in a large composting facility** (or anaerobic digester) within or near the city, or significantly grow the network of mid-sized facilities (as one local analysis suggested, multiple small-to-mid-sized compost sites could collectively boost capacity) gridphilly.com.

2.3 Reuse and Waste Reduction Providers (Nascent Capacity): As a nonprofit focused on **reuse**, ECHO Systems must note that the current waste contracting landscape largely overlooks **upstream, waste-preventing services**. Traditional contracts are with haulers, processors, not with organizations that *eliminate* the need for disposal. Yet Philadelphia is home to a burgeoning community of reuse and waste reduction enterprises whose capacity, while nascent, could grow with City support. Examples include:

- **ECHO Systems' programs** – such as partnerships with food businesses and events to implement reusable container systems (cups, take-out containers, etc.). We have piloted reuse at local street festivals and grocery stores, creating full schemas and circulating tens of thousands of commercially sanitized reusable flatware, demonstrating high recovery rates of containers, but these remain pilot-scale due to funding constraints (e.g., a festival might avoid a few thousand single-use cups via a borrow-return system). With City endorsement (and inclusion in contracts or RFPs), such systems could scale to larger events and venues citywide.

- **Refill and Repair businesses** – Philadelphia has several small refill shops (offering bulk goods to customers with their containers) and repair cafes or fix-it initiatives. Organizations like **Circular Philadelphia** (a coalition advocating for the circular economy) have been fostering a network of these businesses. Their "Reuse Champions" include companies like Remark Glass/Bottle Underground (which repurposes used glass bottles locally) and Rabbit Recycling (a startup collecting hard-to-recycle items and reusing materials where possible). These are currently limited by market forces and public awareness, but represent *local capacity to divert waste upstream*. They could process much more (glass, plastic, textiles, etc.) if given a stable supply and perhaps City contracts for certain streams.

- **Nonprofit recyclers and material hubs** – e.g., **Philadelphia Community Corps** (which salvages building materials) or the **Philadelphia Furniture Bank** (reuses furniture for those in need). These entities reduce landfill tonnage by direct reuse. Their capacity is moderate (for instance, the Furniture Bank diverts hundreds of tons per year of furniture by redistributing to families), but with City referrals and support, they could grow.

Currently, these reuse-focused providers often operate *without integration into the City's waste system*. The City can change this by formally recognizing and contracting with such providers for diversion services. For example, a future RFP could include a lot for "Reuse and Waste Prevention Services," seeking proposals from networks of nonprofits/small businesses to handle certain materials or run waste reduction campaigns. This would gauge capacity and stimulate growth.

Reuse Pilot Scale: It's important to acknowledge that most reuse initiatives in Philly are still *pilots* or early-stage. A reuse service for take-out containers might serve a handful of restaurants or a few thousand customers at present. A reusable cup system at events might handle one music festival. These are not yet citywide programs. However, with the City's help in policy (see Section 3. A on waste prevention), these pilots can multiply. Other cities have shown that reuse models can scale rapidly when there's an enabling environment – e.g., Seattle's partnership to launch a citywide reusable cup program for events, reuseseattle.org, or the proliferation of reusable container services in cities in Europe after policy mandatespackagingdive.com. Philadelphia's providers have the **expertise** and **community relationships**; what they need is investment and inclusion to expand capacity.

2.4 Opportunities to Expand and Diversify Service Delivery: Given the above, Philadelphia has a few key opportunities to diversify its waste management provider base:

- **Invest in Organics Infrastructure:** As the City pilots organics collection, it should simultaneously cultivate the processing side. This could mean issuing an RFP for organics processing services to attract companies that build composting or digestion facilities (possibly in partnership with the Water Department for co-digestion of food waste at wastewater treatment plants). It could also mean grants or land access for local composters to expand. Notably, a *regional solution* might be needed – e.g., working with neighboring counties to create a regional composting site, since siting a large facility in the city might be challenging. Expanding organics capacity not only diverts waste but also creates local jobs and compost products for urban agriculture, aligning with sustainability goals.

- **Support Nascent Providers ("Emerging Market" Support):** The City explicitly seeks ways to support nascent providers. We recommend creating a **"Diversion Incubator" or pilot fund**. This could provide seed funding, technical assistance, or guaranteed small contracts to new waste diversion businesses (for reuse, repair, specialty recycling, etc.). By lowering barriers (permitting assistance, helping navigate regulations, etc.), the City can grow the ecosystem of providers. An example barrier is a lack of space – the City could offer low-cost leases of city-owned warehouses for reuse activities or expand the Sanitation Convenience Centers to host reuse drop-off areas operated by nonprofits.

- **Public-Private Partnerships for Reuse:** The City can facilitate partnerships where established haulers team up with reuse organizations. For instance, as part of the next waste contract, require big haulers to subcontract a portion of work to local reuse/diversion firms (much like disadvantaged business enterprise requirements in procurement). This would integrate reuse providers into the larger system and give them a stable flow of materials to handle. An area to try this is **textile recycling/reuse** – the City could carve out textiles from curbside waste (since they clog landfills) and contract a partnership of a hauling company plus local textile recyclers to run a collection and reuse program. Similar carve-outs could work for electronics or mattresses, tapping firms that specialize in those.

- **Enhanced Recycling Processing:** Though Philadelphia has a recycling contract, adding competition or complementary providers could improve service. The current MRF (Materials Recovery Facility) capacity is sufficient, but quality issues (contamination) persist. Bringing in companies that do innovative sorting or local end-market manufacturing (like a facility that turns mixed plastic into usable products) could diversify outlets for our recyclables, making the system more resilient to market swings. The City might not find many alternatives immediately, but keeping an open door to new technologies (like advanced recycling methods that are proven

environmentally sound) is worthwhile.

In sum, **large-scale providers** like Waste Management and Covanta can meet Philadelphia's volume needs today, but the City's goals (Clean & Green, *15%+ recycling*, 90% diversion by 2045) won't be met by status quo operations. There is a need – and an opening – for **new players and approaches**. The City can harness the enthusiasm and innovation of local reuse and composting initiatives by integrating them into formal waste plans, while also steering the big companies to improve (or making room for new large entrants if they can offer cleaner, better solutions). On the demand side, Philadelphians are hungry for more waste diversion options – evidenced by long waitlists for community compost sites and the positive response to refill stores and tool libraries. By leveraging both the reliable capacity of established firms and the creativity of emerging ones, Philadelphia can build a **diverse, robust waste management system** that is resilient, equitable, and sustainable.

Section 3: Innovative Solutions & Initiatives for Waste Reduction and Accountability

Philadelphia's waste challenges call for bold, **innovative policies** to reduce waste generation and hold all stakeholders accountable for environmental impacts. Below, we outline several initiatives – some already gaining traction elsewhere – that Philadelphia should consider:

3.1 Phasing Out Toxic and Hard-to-Manage Materials: The City can significantly improve its downstream waste outcomes by regulating what enters the waste stream in the first place. Two priority targets are **single-use plastics** and **PFAS-laden packaging**:

- **Single-Use Plastics Bans/Fees:** Building on the success of Philadelphia's plastic bag ban, the City could target other problematic single-use items. For example, many cities and states have banned **polystyrene foam food containers** due to their non-recyclability and tendency to litter. States like New Jersey, New York, and Delaware already have foam bans in effect surfrider.org. Philadelphia should consider banning foam food containers citywide (the state's prior preemption on such local action has lapsed). Similarly, the City could implement ordinances requiring food establishments to only provide single-use utensils, straws, or cups *upon request*, and eventually transition toward reusable or fiber-based alternatives. These policies directly shrink the waste stream and reduce litter.

- **PFAS-Free Compostables:** Many "compostable" fiber food service items (bowls, plates, etc.) contain **PFAS** chemicals for grease resistance, which pose health risks and contaminate compost. To ensure that any composting program is clean, Philadelphia should ban food packaging with

intentionally added PFAS. This aligns with what several states have done – e.g., **California** and **Oregon** have passed laws prohibiting PFAS in food packaging (CA's took effect in 2023; Oregon's starts in 2025)renouvo.netsurfrider.org. San Francisco also banned fluorinated chemicals in any foodware labeled "compostable" starting 2020, packaginglaw.com. By enacting a local PFAS-in-packaging ban, Philadelphia would protect consumers and compost quality. Such an ordinance can be paired with support for vendors to find alternative packaging (ensuring this doesn't unduly burden small businesses).

3.2 Green Procurement and Lead-by-Example: The City government itself should lead in waste reduction. Philadelphia can strengthen its **green purchasing policies** to eliminate single-use and toxic products in City offices, events, and contracts. For instance, require all City-sponsored events to use reusable serveware – no single-use plastic bottles or Styrofoam allowed. The City could invest in its **reusable dishware stockpile** or partner with a service provider to supply events with reusables (and washing services). A successful model is Washington, D.C.'s policy that all official events must avoid single-use plastics. This not only reduces waste directly but also helps spur a market for reusable event services. The city could partner with PWD's water bar for any event requiring a permit. If warewashing is required, an RFP could be published for a local warewasher to bid for this opportunity. This could drastically reduce locally generated waste. Beer gardens like Parks on Tap and PHS Beer Garden, and the Food Trust generate an intense amount of single-use waste with no regulation. We conducted a study of the two PHS beer gardens and have found that each week for 30 weeks of the year, the operation generated 15,000 units of single-use waste a week. Mandating these operations to switch to reuse models can keep millions of units of waste from ever being generated in the first place.

Philadelphia's **Greenworks** sustainability plan included waste reduction goals; reviving and updating those with specific, measurable targets (e.g., "Reduce City government waste by 50% by 2030") will set an example. We also recommend that the City train its procurement staff on **evaluating packaging waste** in contract bids – for example, when City departments contract for catering, office supplies, etc., giving preference to vendors who minimize packaging or use take-back programs. This kind of criteria can ripple out to private sector adoption.

3.3 Accountability Systems for Waste Generators and Managers: Accountability is key to sustaining progress. We propose several mechanisms:

- **Public Reporting and Dashboards:** The City should maintain a publicly accessible **Zero Waste dashboard** tracking key metrics – recycling rate, diversion rate, tons landfilled/incinerated, greenhouse gas emissions from waste, etc. Updated quarterly, this would keep the City

accountable to the public (and to its own goals). Cities like San Francisco publish annual zero waste reports; Philadelphia's dashboard could be more frequent and interactive. Importantly, include metrics by geography and demographics where possible (to highlight environmental justice considerations – e.g., cleanliness scores or waste facility impacts in different neighborhoods).

- **Contractor Accountability & Incentives:** Future waste contracts should include **performance clauses** with financial incentives or penalties. For example, if a recycling processor achieves contamination below X% or a diversion above Y%, they could get a bonus; conversely, failure to meet minimum recycling rates or any environmental violation should result in penalties or possible termination. The City's experience, such as contractors raising prices and sending recyclables to incineration waste360.comwaste360.com, shows the need for binding commitments. Philadelphia can also require contractors to **disclose their end-destinations** for waste/recyclables and notify the City of any changes. That way, the City isn't caught off-guard by, say, a market collapse – contingency plans will be triggered transparently.
- **Enforcement of Waste Regulations:** On the collection side, accountability means ensuring residents and businesses comply with waste separation rules. The City should reinvigorate enforcement against illegal dumping and improper trash set-outs. Stronger fines (with an educational component for first-time offenders) and the use of camera evidence for dumping prosecutions can deter behavior that undermines a clean city. At the same time, equitable enforcement is crucial, focusing enforcement resources on chronic violators and landlords or businesses, rather than penalizing individuals lacking access to services. The recently formed **Environmental Crimes Unit** (in the Streets Department and Police partnership) should be supported and expanded if needed to crack down on major dumping operations. The city should also ensure proper dumping fees for smaller haulers to encourage legal dumping over short dumping. The current disposal system does the opposite and has led to legacy dumping throughout our city. The city should support and leverage the work of non-profits like Trash Academy and Block by Block to build community connections rather than working in a silo as it has historically made it challenging for community groups and local non profits to succeed and collaborate with city agencies.

3.4 Special Event and Venue Waste Reduction: Philadelphia hosts countless events – parades, concerts, sports games – that generate high volumes of waste in a short time. This is a ripe area for innovation. We propose that the City launch an **"Event Waste Reduction Initiative"** with elements such as:

- **Reusable Cup/Plate Systems for Events:**. The Oregon Convention Center, for example, implemented a reusable cup and tray system and saw significant waste reduction oregoncc.org.

Philadelphia could pilot this at a large event (say, the Welcome America festival or at Eagles games in Lincoln Financial Field) by partnering with a reuse service that provides the cups and collection bins. If successful, it could be scaled and even mandated: for instance, an ordinance that any event on City property or needing a City permit *must submit a waste minimization plan*, with large events required to incorporate reusables or other waste-reduction measures. We are consistently providing consulting to other municipalities for hosting resume schemas, but we are not applying these systems to our own city events, and that is unfortunate.

- **Event Waste Zones & Onsite Sorting:** Innovative cities create "zero waste stations" at events where attendees can return reusables, with volunteers or staff assisting. Philadelphia's Cabinet could coordinate the training of event volunteers to staff such stations (perhaps in partnership with groups like ECHO Systems, which has experience in event waste reduction and reuse). This not only diverts waste but also educates tens of thousands of attendees on proper separation, reinforcing long-term behavior change.

- **Accountability for Event Organizers:** Include waste clauses in event permits – a refundable cleanup bond, requirements to report waste generation, and escalating penalties if the City has to do massive cleanup afterward. This pushes organizers to plan for waste management proactively. The City can offer lower permit fees as an incentive if an organizer commits to certain sustainability practices (e.g., providing water refill stations to avoid plastic bottles, using digital ticketing to avoid paper, etc.).

3.5 In essence, Section 3 recommendations focus on **policy levers** Philadelphia can pull to prevent waste and ensure accountability. By banning the worst materials (like PFAS, foam) surfrider.orgsurfrider.org, greening its operations, requiring reusables and waste plans for events, and tightening oversight of all actors, the City will create conditions that naturally drive waste generation down and diversion up. These innovations, combined with robust public communication, can transform the culture around waste in Philadelphia – from one of "out of sight, out of mind" to one of shared responsibility and pride in a cleaner city.

Section 3. A: Centering Waste Prevention – Community Hubs, Refill/Reuse Support, and Green Purchasing

At the pinnacle of the waste management hierarchy is **waste prevention** – not creating waste in the first place. Philadelphia's long-term success in waste reduction will come from making reuse and reduction an accessible norm in every community. Here we expand on specific strategies to **center waste prevention**:

3.A.1 Establishing Community Reuse & Repair Hubs: To truly engage residents in waste prevention, the City should support the development of local **"Recycling and Reuse Resource Hubs"** (perhaps reimagining the existing Sanitation Convenience Centers). These hubs could serve as one-stop shops where residents can drop off items for reuse or repair, swap usable goods, refill containers with common products, and learn about zero-waste practices. For example, a hub might include a tool library, a fix-it clinic (staff or volunteers who help repair small appliances or bikes), a section for donating items (like a mini thrift store), and refill stations for cleaning supplies or water. By co-locating these services with the sanitation drop-off centers, we utilize existing infrastructure and make waste prevention convenient. This approach resonates with the **"circular economy"** model that many cities are pursuing – keeping materials in use locally for as long as possible.

The City could pilot one or two such enhanced centers in neighborhoods that have space (perhaps repurposing a vacant warehouse or as part of a new sanitation center design). Community organizations and social enterprises could be tapped to operate parts of the hub (e.g., a nonprofit might run the repair café weekly, a local start-up could run the refill station). Not only would this prevent waste, it would create community green jobs and provide affordable goods to residents (through swapping and second-hand availability). We note that Philadelphia has strong networks like the Philly Fixers Guild (repair events) and groups hosting material swaps – by giving them a physical home and City backing, their reach can multiply.

3.A.2 Incentivizing Refill and Reuse in Businesses: Many residents want to reduce single-use waste in their daily lives, but options can be limited. The City should actively support **refill and reuse systems** for consumers. One key step is to remove policy barriers – for instance, ensuring that the Health Code allows customers to use clean reusable containers at restaurants and stores. Philadelphia's Department of Health can issue clear guidelines (following FDA Food Code allowances) so that businesses feel comfortable allowing reusable coffee cups or containers. Additionally, the City can create an incentive program (or recognition program) for businesses that implement reuse.

City Council might explore legislation requiring dine-in restaurants to use reusable dishware (several cities in California have done this), and requiring large chain retailers to provide options for shoppers to buy certain goods in refillable format (or at least to take back packaging). Short of mandates, even a City-led voluntary campaign – "BYO Philly" – encouraging residents to bring their bag, cup, and container, with businesses offering a discount for BYO, can shift behavior. Many coffee shops already give, say, 50 cents off for a reusable mug; the City can publicize and standardize this to encourage citywide adoption. Ultimately, normalizing reuse is a cultural shift, and the City can use its platform to celebrate pioneers (imagine an annual awards for waste-preventing businesses, where innovations are highlighted).

3.A.3 Waste Prevention Goals & Education: We recommend that Philadelphia set explicit **waste reduction goals**, not just diversion goals. For example, a goal to *reduce total waste (trash + recycling) per capita by 10% by 2030* would focus attention on source reduction (meaning consuming less and reusing more). The City should track per capita waste generation as a core metric. Achieving such goals requires widespread public education. ECHO Systems has been involved in campaigns like "Philly Talks Trash," a virtual series educating residents on waste issues. The City could amplify these efforts via schools (integrating zero-waste principles into curricula), community workshops, and neighborhood challenges (perhaps a "Zero Waste Ambassador" program in each council district). When people understand the impact of their consumption, for instance, that **plastic pollution and climate change** are directly tied to our throwaway habits echosystems.org – many are motivated to change.

Philadelphia might also partner with organizations to distribute **waste reduction toolkits**, like the Philly Unwrapped program is currently doing by advocating for waste reduction and reuse can be a barrier, and the coalition looks to overcome these limitations. Ensuring equity in waste prevention is key: all communities deserve access to the benefits (cost savings over time, cleaner neighborhoods, potential entrepreneurial opportunities in repair/refill). As noted in ECHO's mission, *sustainability must be inclusive*; support for small businesses in low-income areas to adopt reusables is an essential component of Philly Unwrapped echosystems.org.

3.A.4 Municipal Green Purchasing (Leading by Example): We touched on City procurement above; here we reinforce that the City should eliminate unnecessary single-use items in its operations. For instance, City offices can stop purchasing bottled water and use Kadeya water service instead, or use water coolers and pitchers instead. A policy could be instituted that any City purchase over a certain amount must consider product durability and waste, e.g., favoring reusable or refillable products in contracts for janitorial supplies, catering, etc. Some cities have implemented "Zero Waste purchasing guidelines" that detail these practices; Philadelphia's Procurement Department could adopt a similar manual and train all departments.

3.A.5 Collaboration and Outreach: Centering waste prevention also means collaborating with regional and national initiatives. Philadelphia could join networks like the Urban Sustainability Directors Network (USDN) or the Ellen MacArthur Foundation's cities program to learn best practices on waste prevention. There may be grant funding available for pilot projects in reuse (for example, the Closed Loop Fund or grants from the EPA for waste innovation). By being active in these circles, the City can bring additional resources to our local efforts. Eagle Point Funding posts high-value government grants, and many of them fund waste reduction initiatives. The city should also support local NGO's in accessing these grants and have a method for applying for these funds with local NGO's in a consortium. The city should not compete with local NGO's as this presents an unfair competitive disadvantage to local non-profits

already doing this important work. How can the city use its RFP process to support local operators instead of trampling on them?

In conclusion, **Section 3. A** emphasizes that Philadelphia's zero waste aspiration (90% diversion) will only be achievable by a significant *reduction* in waste generation itself. Recycling and composting, while important, are not enough if we continue to generate waste at current rates. Therefore, prioritizing waste prevention through community reuse hubs, support for refill/reuse businesses, strong public education, and leading by example should be a cornerstone of the City's strategy. These efforts will save money (handling less waste), spur local economic activity (reuse and repair jobs), and align with climate goals (since the most climate-friendly product is one you never have to throw away). ECHO Systems is particularly passionate about this preventive approach, and we offer our continued partnership to the City in designing and implementing waste prevention programs across Philadelphia's neighborhoods.

Section 4: Producer Responsibility – Recommendations for the City on EPR and Corporate Accountability

A significant share of the waste management burden (and cost) carried by Philadelphia is a direct result of decisions made upstream by **producers** – companies that design and sell products and packaging. To truly shift to a sustainable materials system, those producers must share responsibility for the end-of-life of their goods. We offer the following recommendations for how Philadelphia can advance **Extended Producer Responsibility (EPR)** and related producer-focused initiatives:

4.1 Advocate for State-Level EPR Legislation: Pennsylvania does not yet have a broad packaging EPR law, but momentum is building around the country. Since 2021, five U.S. states – **Maine, Oregon, Colorado, California, and Minnesota** – have enacted packaging EPR programs erp-recycling.org. These laws require producers of packaging (and sometimes paper products) to fund and manage recycling programs, shifting costs off taxpayers while incentivizing packaging reduction. Philadelphia should leverage its influence (as the largest city in PA) to push for similar legislation in Harrisburg. The City's **Office of Sustainability and intergovernmental staff** can work with state lawmakers and coalitions like the Pennsylvania Recycling Markets Center or the Product Stewardship Institute to draft a bill that suits Pennsylvania's needs. City Council could pass a **resolution** formally supporting packaging EPR at the state level, demonstrating unified local support. (Such a resolution would be akin to Councilmember Gilmore Richardson's resolution on exploring waste contract alternatives with EJ considerations, phlcouncil.com, using Council's voice to push higher authorities.)

If a comprehensive state EPR law is too distant, Philadelphia might explore a **county-level or regional approach** in concert with neighboring counties, though waste management is often preempted by state.

At minimum, the City can join forces with other municipalities to call for producer responsibility – a strategy that helped states like New York and New Jersey consider EPR (their big cities applied pressure).

4.2 Implement Local Producer Responsibility Initiatives: While awaiting state action, Philadelphia can take steps within its jurisdiction:

- **EPR for Specific Products:** The City has authority over certain waste issues, like electronics and hazardous waste, through its waste plan. Pennsylvania already has an e-waste law (covering TVs, computers), but Philadelphia could explore local requirements for other troublesome products. For instance, **mattress recycling** – some cities require mattress retailers to fund recycling programs (if state law doesn't). Philadelphia could pass an ordinance requiring producers or retailers of items like mattresses, carpeting, or tires to manage their collection and recycling (or pay into a City-run program). Another target is **propane cylinders** or other hard-to-dispose products that often litter or contaminate waste streams; an ordinance could mandate take-back by sellers.

- **Packaging Take-Back Pilots:** The City could initiate voluntary or pilot take-back programs with willing companies. For example, partner with large e-commerce or delivery companies in Philadelphia (Amazon, Blue Apron, etc.) to pilot a packaging take-back where plastic packaging or insulated liners are picked up for reuse or recycling. If successful, this could be expanded or made mandatory for certain business categories.

- **Producer Transparency and Waste Impact Fee:** Consider a local requirement that large producers/distributors operating in Philly (above a certain sales threshold) *report the amount of packaging they bring into the city annually*, and perhaps pay a fee per ton of packaging. The fee could fund the City's recycling efforts. While implementing such a policy might face industry pushback, it's a way to internalize costs. Cities like Vancouver (Canada) instituted a "single-use item fee" on cups and bags that, in part, gets used for waste management – a similar concept could apply here, with revenue from producers supporting zero-waste programs.

4.3 Leverage City Contracts and Convening Power: Philadelphia can require **product stewardship** through its procurement and contracts. For example, any City vendor that supplies products (like office electronics, light bulbs, paint, etc.) could be required to have a take-back program for those products at the end of life. This would ensure that materials are recycled responsibly at the manufacturer's expense, not the City's. The City can also use its convening power to gather major businesses and institutions in Philly (universities, hospitals, sports teams) to form a **Packaging Waste Reduction Pledge** – collectively

asking suppliers to reduce packaging or provide return programs. If many big purchasers demand this, producers often respond.

Additionally, the City could join or form a regional **EPR Task Force** with other cities. There is precedent: the Northeast Recycling Council (NERC) sometimes coordinates municipal efforts on EPR. By standing together, cities can pressure manufacturers to start voluntary take-backs in the absence of legislation.

4.4 Support for Reuse Business Models (Local Producer Responsibility): Extended producer responsibility is not only about recycling; it can also mean producers ensuring their products are reusable. Philadelphia could encourage businesses to shift to **reuse models**, effectively making them responsible for providing a service instead of a disposable product. One example is encouraging breweries and beverage companies to use refillable bottles or kegs and set up a return system (like the old milkman model). The City might provide recognition or economic incentives (tax credits, expedited permits) to companies that implement reuse systems that reduce single-use packaging.

City Council recently showed interest in waste issues; in April 2023, a hearing on waste and Covanta was called to consider alternatives and recommit to Zero Waste goals, phlcouncil.com. As a follow-up, the Council could hold hearings specifically on **corporate responsibility for waste**, bringing in major packaging producers, local business owners, and experts. The outcome could be a policy platform or action plan that the City and community will pursue together. We would be remiss if we did not acknowledge that oftentimes these goals lead to dead-end outcomes at the expense of community health outcomes, and we consider that to be a negligent act on behalf of municipalities whose job it is to properly manage these externalities.

4.5 Learning from Elsewhere: There are many EPR models to draw from. For instance, in Europe, EPR is standard for packaging – producers there subsidize municipal recycling. Closer to home, **Maine's new EPR law** will reimburse towns for recycling costs starting in 2026, and **Oregon's law** creates producer responsibility organizations to both fund and improve recycling programs. Philadelphia should study these and perhaps pilot aspects voluntarily. Some companies (like those in the Circular Philadelphia network) are already proactively reducing packaging; the City can lift these examples to show EPR doesn't have to be painful for business – it can spur innovation and savings (through using less material).

4.6 Resolution and Commitment: Finally, we recommend that the City formalize its stance with a clear resolution or policy statement: "Philadelphia supports the principle of extended producer responsibility and will actively work to implement and advocate for measures that make producers financially and operationally responsible for the waste their products generate." This sets the tone and can guide future

administrations. It also signals to residents that the City is not simply placing the burden on them to recycle better, but is pushing for systemic change where **corporations take on their fair share**.

In conclusion, **producer responsibility** is the upstream counterpart to the downstream innovations we've discussed. By pursuing EPR and related initiatives, Philadelphia can reduce the strain on its budget, improve recycling outcomes, and drive a market shift toward less wasteful products. This is a long game – state legislation can take years – but steps taken now (pilots, local policies, coalition-building) will position Philadelphia as a leader in the Mid-Atlantic on this front. ECHO Systems and our partners are committed to supporting these efforts, whether through advocacy, public education on EPR (ensuring consumers understand the need to involve producers), or helping convene stakeholders to advance pilot projects. Together, we can move the responsibility for waste upstream to where it belongs: with those who design and profit from the products in our homes.

Lastly, we would like to emphasize that our organization works tirelessly to provide education, technical assistance, and guidance on reuse in the Philadlephia area. We have provided guidance to the Department of Health and should adapt the current health code, which has multiple reuse adaptations. We have made multiple attempts to communicate with Dawn Kiesewetter regarding these Center for Food Protection recommendations and the new language in the food code and have received no response.

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