PUBLIC BRIEF

Philadelphia's Trash, Chester, and a Net-Positive Path

Diverting organic waste, recovering its nutrients safely, and where the Closing the Circle plan fits

Ronald Patterson, Philadelphia · As of November 11, 2026

What this document is — and is not

A public point of view and a project proposal for discussion. It is **not** an endorsement of, or opposition to, any bill, contract, amendment, or candidate, including Bill 260794.

Closing the Circle is a finished written plan, **not a built plant**. No agency has received, reviewed, or signed on to it.

Organizations named in the plan (for example PWD, PGW, and PEA) are **research candidates, not partners**. Nobody has been contacted for this project.

Plan timelines are planning estimates measured from a future authorization, not promises or published schedules. Fertilizer production must never compromise sewage treatment.

The point

Most of the public argument about Philadelphia's trash is framed as a choice between two disposal contracts: burn some of it in Chester, or bury all of it in landfills. This brief asks a different question: **what can Philadelphia change in its own waste stream so that the outcome is net positive** — less organic material burned in Chester, the nutrients in that material put to safe and useful work, and sewage treatment never put at risk?

The largest changeable piece is food and other organic waste, which the City itself estimates at about 30% of the residential waste stream. If that material is actually collected separately and kept out of the loads hauled to Chester, Philadelphia's tonnage at the incinerator falls. If it is digested or composted with proper safeguards, its energy and nutrients can be recovered instead of burned or buried. The Closing the Circle plan offers a careful, gated way to handle the nutrient end of that loop.

This is a real contribution, but a bounded one. It does not replace the incinerator, does not handle plastics, metals, or other residual trash, and will not by itself close a regional plant that also takes waste from Delaware County, New York, and New Jersey. Being honest about those limits is part of the proposal.

1. What is stuck

Philadelphia's Sanitation Department collects more than 610,000 tons of trash a year from about 510,000 households [7]. At a 2025 City Council Environment Committee hearing, city officials testified that about **180,000 tons (roughly 30%)** of city-collected waste went to Reworld's Delaware Valley

facility in Chester (formerly Covanta), and about **430,000 tons** went to landfills [1]. The City's October 2026 organics solicitation repeats the same rough split: about 70% landfill and 30% incineration for city-collected waste [5].

The current disposal contracts with WM and Reworld were extended by six months and expire at the end of 2026 [2][3]. The administration has selected WM, Republic Services, and Reworld for new contracts; the Reworld agreement would run four years with up to three one-year extensions [3]. Bill 260794, which would authorize those agreements, was introduced October 1 and referred October 22 to Council's Committee on the Environment [4]. NBC10 reports that the committee is expected to hold a hearing on the proposed contracts on November 18, 2026 [1]. Separately, Councilmember Mark Squilla's Zero Waste and Circular Economy Act, which the administration supports, would require a plan to divert waste from both landfills and incineration over the longer term [2][6]. Councilmember Jamie Gauthier, who chairs the Environment Committee, has pursued ending the city's use of incineration and has said she plans to propose removing Reworld from the bill [4][12].

Those facts are context. This brief takes no position on how any of these measures should be decided.

The tonnage figures do not agree — and that matters

~180,000 tons/year city-collected to Reworld, about 30% — City testimony at the 2025 hearing, as reported by NBC10 [1].

355,139 tons of Philadelphia-origin municipal waste at Reworld Delaware Valley in 2024 — PA DEP data compiled in advocacy materials by the Energy Justice Network, which describe it as 28% of all Philadelphia municipal waste disposed, public and private [11]. The Inquirer described the same ~355,000 tons as "collected by the city" [12].

Reported shares of Philadelphia trash that is burned range from about **28% to 36%**, depending on the source and on whether private haulers and other incinerators are counted [1][4][11][12]. The Inquirer separately reported that about 31% of what the Chester plant burned in 2024 came from Philadelphia [12].

This brief uses the City's 180,000-ton figure for its estimate because it describes the stream the City directly controls. Readers should treat every number here as approximate until the City publishes reconciled tonnage.

2. Why Chester is the pressure point

Chester is a city of roughly 35,000 people on the Delaware River [1]. The Reworld plant sits on its waterfront among other industrial uses. It has six combustors, each permitted to burn 448 tons per day, which began operating in 1991 [9], and it processed about **1,158,000 tons** of municipal solid waste in 2025, according to the company [8]. Waste arrives mainly from Delaware County, Philadelphia, New York, and New Jersey [10]. Pennsylvania DEP's 2023 permit review notes that the facility is located in an Environmental Justice community, in an area then designated as nonattainment for ozone (marginal) and fine particulate matter (moderate) [9]. Chester's mayor and longtime resident groups have asked Philadelphia to stop sending trash there [1][2].

What the studies and statements say — and where they disagree

- **Reworld** reports 2023–2025 average emissions up to 99.6% below federal standards and says a company-commissioned health risk assessment found risks below EPA thresholds [8][1][2]. Its own data also estimates the plant accounts for about 16% of Delaware County's nitrogen-oxide emissions, as NBC10 reported, and under 1% of countywide fine particulate [1][8].
- **Delaware County's Zero Waste Plan**, citing a life-cycle analysis it commissioned, reports that incineration at Chester carried about $193 more in human-health and environmental costs per ton than landfilling at the county's Rolling Hills Landfill, and that on health costs alone incineration was 23 times worse [10].
- **The City of Philadelphia's** Office of Sustainability said it found no clear consensus that either incineration or landfilling is worse overall [2]. An internal city analysis obtained by NBC10 concluded neither method was environmentally "superior," while noting hazardous air pollutants and concerns about "historically overburdened communities" [1].
- **State regulators** list 14 enforcement matters at the facility since 2014, with penalties of more than $241,000; DEP reports the plant is currently in compliance, with no violations found in an October 2026 inspection [1].

These sources reach different conclusions using different methods. This brief makes no health claim of its own. It also notes a point that an environmental engineer made to NBC10: every alternative — landfills, composting sites, digesters, and the trucks between them — has neighbors of its own [1]. A net-positive approach has to account for that.

3. What in the waste stream can actually change

The City Fund's October 2026 request for proposals, issued for the City's Office of Clean and Green Initiatives, states that Philadelphia generates about 1.3 million tons of municipal waste a year, nearly half collected curbside by the City, and that **organic materials and food waste make up about 30% of the residential waste stream and 19% of the commercial stream, with food waste the single largest component** [5].

Today the City does not offer citywide curbside organics collection; its 2025 information request described plans for a small-scale organics collection pilot and listed residential curbside compost pickup among strategies of interest [7]. The October 2026 RFP seeks a consultant to build an "all-of-the-above" organics strategy covering composting, anaerobic digestion, co-digestion at the Philadelphia Water Department's existing wastewater digesters, gasification, and pyrolysis, and to help launch pilots — including a food-waste composting pilot at the Fairmount Park Organics Recycling Center and possible digester or co-digestion pilot work with PGW and PWD [5]. The administration has said it aims to build an anaerobic digester within four years [4].

In other words, the City is already asking where its organics should go. That is where a nutrient-recovery plan can be useful — as an end use for material the City is already trying to pull out of the trash. (This brief does not evaluate gasification or pyrolysis.)

4. The net-positive test, and how Closing the Circle fits

A change counts as net positive, in this brief's view, only if it can show all of the following with measurements, not projections:

1. **Fewer tons of Philadelphia organics burned in Chester**, measured at the scale house — not just tons "diverted" on paper.
2. **No new burden shifted** onto another neighborhood through odor, truck traffic, or poorly sited processing.
3. **Sewage treatment performance unchanged or better.** Digesters exist to treat wastewater; added food waste or gas use must not upset them, starve them of heat, or exceed their capacity.
4. **Recovered nutrients that are tested and safe** for their intended use, including for PFAS, metals, and pharmaceuticals, with a disposal fallback for anything that fails.
5. **Transparent costs** that are not quietly shifted onto household water and sewer bills.

What Closing the Circle proposes

From Community Waste to Community Fertilizer: A Sequential Execution Plan, introduced as *Closing the Circle*, describes two "harvests" from wastewater digesters [13]. The first is recovered nutrients: capturing phosphorus and some nitrogen from digester liquids as struvite or ammonium salts. The second is new nitrogen fertilizer: cleaning biogas and using it as the hydrogen source for ammonia, with the nitrogen taken from air. The plan recommends direct nutrient recovery as the lower-risk first investment, and compares supplying cleaned gas to an existing ammonia producer against a small on-site unit before choosing either.

It is organized as six phases, each ending in a decision gate: (1) establish ownership and screen sites, with an explicit "do not convert" option; (2) prove safety and compare routes; (3) secure contracts, permits, and finance; (4) build and measure a full operating year; (5) expand only what works; and (6) replicate regionally. The plan treats PWD, PGW, and PEA's existing biogas work at the Northeast plant as a first local screening choice, and Newtown Creek in New York as a benchmark. All of these are candidates to study; none has been contacted [13].

Where it sits in the City's organics work

If the City pursues co-digestion at PWD digesters, separately collected food waste would add to the gas and nutrients those digesters produce. Closing the Circle can sit downstream of that work as a **nutrient-recovery and fertilizer end use**, governed by the same gates: measure available gas and heat first; test feedstocks and products; reject contaminated material rather than dilute it; and protect treatment above all. Composting at the Organics Recycling Center is complementary, not competing — finished compost also returns nutrients to soil.

What it can and cannot do

- **Can:** reduce the city's incinerator tonnage, if organics are actually collected and removed from loads that would otherwise go to Chester; turn part of that material into energy and tested nutrients; and give the City a measured, staged path rather than a single large bet.

- **Cannot:** close the Chester plant, which processes waste from several jurisdictions; handle plastics, metals, textiles, or other residual trash; or guarantee where the City routes its remaining waste. Those decisions remain with the City and Council.

5. An illustrative estimate

The table below is an **estimate, not a forecast**. It asks: if the City captured a share of its organics, how much could its Chester tonnage fall, and how much would the plant's total change? Assumptions follow the table.

Organics capture	Organics diverted (tons/yr)	City tons to Chester (from ~180,000)	Change in city's Chester tonnage	Change in plant's 2025 total (1,158,000)
10%	18,300	~161,700	−10%	−1.6%
25%	45,750	~134,250	−25%	−4.0%
50%	91,500	~88,500	−51%	−7.9%

Best case for Chester: every diverted ton is subtracted from the Reworld share. Figures rounded.

Assumptions

- City-collected trash of about 610,000 tons/year (180,000 to Reworld + 430,000 to landfills), from 2025 testimony [1]. Using the 355,139-ton figure instead would make the percentage cut smaller [11][12].
- Organics at 30% of that stream, about 183,000 tons. The City's 30% figure applies to residential waste; applying it to all city-collected trash is a simplification [5].
- Every diverted ton comes out of Reworld's share. If diversion were instead spread proportionally (about 30% from Chester loads), the city's Chester tonnage would fall only about 3%, 8%, and 15% at the three capture rates.
- The plant's 2025 throughput of 1,158,000 tons, as reported by Reworld [8]. The plant may replace lost tons with waste from other customers, so its total may not fall at all.

The takeaway: Philadelphia's own tonnage in Chester could drop substantially if organics are captured and routed away from incineration first, while the plant's total throughput barely moves. Organics diversion is a meaningful way for the city to reduce its share of the burden. It is not a plan to close the facility.

6. What a careful next step looks like

Offered as analysis, not as instructions to Council or any agency:

- **Measure first.** Publish reconciled tonnage — city-collected and private, by facility — and a current waste characterization, so that diversion can be verified rather than assumed.
- **Pilot before scaling.** Start with a limited organics collection route and a co-digestion or composting pilot that tracks contamination, digester performance, odor, and truck trips.
- **Route diverted organics away from incineration first,** if the goal is to reduce Philadelphia's share of the burden in Chester, and report that routing publicly.

- **Avoid terms that penalize diversion.** Whatever disposal arrangements are adopted, minimum-tonnage or similar commitments that charge the City for sending less waste would work against an organics program. Whether any proposed agreement contains such terms is worth checking.
- **Protect treatment.** Any co-digestion or gas reuse must be screened against digester capacity, heat demand, and permit conditions, with nutrient products tested before any use on land.
- **Keep Closing the Circle gated.** Begin with Phase 1 screening and direct nutrient recovery; expand only after a full year of independently measured performance.

7. Read the full plan

The complete plan, with all six phases, decision gates, candidate sites, worked numbers, funding programs and their 2026 limits, and numbered sources:

- Article — *Closing the Circle*: https://www.rockuunderstanding.online/articles/closing-the-circle
- Full plan (PDF) — *From Community Waste to Community Fertilizer: A Sequential Execution Plan*: https://www.rockuunderstanding.online/media/closing-the-circle/from-community-waste-to-community-fertilizer.pdf
- Project page — 18 Plus: https://18pluscreate.com/work/community-fertilizer

Comments and corrections are welcome. Figures will be updated as the City publishes better data.

Sincerely,
Ronald Patterson
Philadelphia

Sources

Checked November 11, 2026 (ET). News reports and company statements are cited as reported; they are not independent verification.

[1] NBC10, "Philadelphia sends its trash to be burned. Neighbors say they've had enough," Nov. 9, 2026 (updated Nov. 10). https://www.nbcphiladelphia.com/news/local/philadelphia-chester-incinerator-trash/4494072/

[2] WHYY, "Mayor Parker wants to renew a contract to burn Philadelphia's trash in Chester…," Sep. 17, 2026. https://whyy.org/articles/burning-philadelphia-trash-chester-contract/

[3] Philadelphia Inquirer, "Mayor Parker moves to renew Philadelphia's contract with controversial Chester incinerator," Jul. 13, 2026. https://www.inquirer.com/politics/philadelphia/parker-renew-contract-chester-trash-incinerator-20260713.html

[4] Philadelphia Politics, "The city's trash contract bill, including the Chester incinerator, goes to the Environment Committee," updated Oct. 23, 2026. https://www.philadelphiapolitics.org/on-my-block/trash-disposal-contract-bill-260794-environment-committee

[5] Philadelphia City Fund, RFP: "All-of-the-Above" Food and Organic Waste Diversion Strategy, Oct. 2026. https://philacityfund.org/wp-content/uploads/2026/10/Organic-Waste-Diversion-Strategy-RFP-FINAL-100226.pdf

[6] City of Philadelphia, "City of Philadelphia Announces Transformative Zero Waste Initiative and Provides an Update on the Municipal Solid Waste Contracts" (release dated Sep. 16, 2026). https://www.phila.gov/2026-10-08-city-of-philadelphia-announces-transformative-zero-waste-initiative-and-provides-an-update-on-the-municipal-solid-waste-contracts/

[7] City of Philadelphia, Request for Information on Solid Waste Management, Jun. 26, 2025. https://www.phila.gov/media/20250626125721/rfi-solid-waste-management-rfp-20250626.pdf

[8] Reworld, Delaware Valley 2025 Facility Performance Sheet. https://www.reworldwaste.com/hubfs/CSR%20Resources%20Page/Performance%20Sheets/2025/Delaware%20Valley%202025%20Performance%20Sheet.pdf?hsLang=en

[9] PA DEP, Title V Operating Permit Renewal Review Memo, Covanta Delaware Valley, TVOP 23-00004, 2023. https://files.dep.state.pa.us/RegionalResources/SERO/SEROPortalFiles/Community%20Info/Covanta/Review_Memo_Covanta_23-00004_finalized_Mar_2023_JR.pdf

[10] Delaware County, PA, Zero Waste Plan. https://www.delcopa.gov/sites/default/files/2025-12/Delaware_County_Zero_Waste_Plan.pdf

[11] Energy Justice Network / Philly Zero Waste, "Stop Trashing Our Air" presentation and facility tables (PA DEP 2024 disposal data). https://phillyzerowaste.org/powerpoint2025.pdf — viewed through a search index; direct download did not complete.

[12] Philadelphia Inquirer, "Philly sends a third of its trash to a Chester incinerator…," Nov. 8, 2025. https://www.inquirer.com/politics/philadelphia/city-councilmember-jamie-gauthier-chester-trash-incinerator-20251108.html

[13] R. Patterson, *From Community Waste to Community Fertilizer: A Sequential Execution Plan* (Closing the Circle), Nov. 2026. https://www.rockuunderstanding.online/media/closing-the-circle/from-community-waste-to-community-fertilizer.pdf