

Community-Scale Reusable Foodware Program

Workplan for Coalition of Woodbridge Township and City of Hoboken, NJ

Overall Project Summary and Approach

a. Description of GHG Reduction Measures

Single-use waste is a growing problem. Containers and packaging contribute over 23 percent of material reaching landfills in the U.S.¹, and the last few years in particular have seen the consumption of single-use plastics, including packaging and disposable foodware, increase by 250 to 300 percent.²

To address the growing waste problem, reduce emissions associated with single-use consumption models, and begin to push a transformative shift towards reuse, ***the proposed GHG reduction measure is the design and implementation of a community-scale reusable foodware system*** for Woodbridge Township and the City of Hoboken, New Jersey, applying as a coalition.

Reuse is specifically included in the State of New Jersey Priority Climate Action Plan (PCAP) as an action under Priority Measure 10: Achieve a 50% Reduction in Food Waste by 2030, due to the overlap between single-use plastics and food waste. See page 63 of the attached PCAP for additional information.

A reusable foodware system provides ‘foodware as a service’ to foodservice establishments (FSEs) to replace single-use foodware, such as cups and takeout containers. In such a system, a reusable foodware service provider supplies FSEs with reusable foodware in exchange for a per-use fee, similar to how FSEs currently purchase single-use products. FSEs are then able to serve food and drinks to their customers in those reusable items. Customers then return the reusable products to conveniently placed collection bins when they are finished using them. A service provider then collects, cleans, inspects, and repackages the reusable foodware items before once again redistributing them to FSEs. The system is designed to be immersive and convenient for all, profitable for the reuse service provider(s), free or low cost to users, and comparable in cost to using disposable products for participating businesses.

A document that illustrates the Physical Nodes of a Community-Scale Reuse System, developed by Perpetual through its ongoing work to establish community-scale reuse systems in four U.S. cities, is included as an attachment.

Reusable foodware systems offer a compelling solution to the waste and pollution generated by single-use foodware. Life-cycle assessments (LCAs), academic studies, startup programs, pilots, and ongoing reuse operations have repeatedly shown that, even when including impacts associated with washing and logistics, reusables can result in 2 to 10 times less lifecycle GHG emissions than disposable alternatives, in addition to waste generation, litter, and other pollution benefits.³ Pilots and startups deploying reusable items have proven that the technical capabilities exist and users can have a great experience.⁴ With sufficient scale, reusable foodware can be affordable and reliable for businesses. When reuse systems are implemented city-wide, returning foodware is convenient for customers and can even become the social norm.⁵ Nonprofit Perpetual, a partner on this project who we intend to have

¹ [EPA, 2014](#)

² Upstream, [Reuse Wins](#).

³ [Hitt, 2023](#); [Gordon, 2023](#); [Lelong, 2023](#); [Reloop & Zero Waste Europe, 2020](#)

⁴ Moss, 2022.

⁵ [Unpacking Customer Perspectives on Reusable Packaging, Closed Loop Partners, 2018](#)

assist with the system design and implementation, is currently working to establish and validate just that - city-scale, community-centered, immersive reuse systems for foodware - in four U.S. cities.⁶

The benefit is clear: well-designed reuse systems have the potential to be better than disposable foodware for the environment, businesses, people, and their communities. The challenge is establishing reusable foodware infrastructure and systems at sufficient scale, for example, to serve entire communities. With solar and wind electrical generation, the technological development required funding, and subsidies are still required to increase market adoption until the technologies become cost competitive with conventional power generation. With reusable foodware systems, funding support is similarly needed to overcome the capital investment required to purchase and install existing technology and equipment, and to subsidize operations until they get to critical volume and can be self-sustaining. One significant difference is that reusable foodware programs can achieve scale and cost competitiveness on a significantly shorter timeline because the technologies and equipment already exist and are mature. In a study from Zero Waste Europe, payback times were short as 3-4 years for this type of reuse model.⁷ Another difference is that, unlike solar panels and wind turbines, reusable foodware programs should be thoughtfully designed to fit the unique characteristics of the communities where they are implemented. This presents an opportunity to implement systems heavily influenced by public input which can facilitate adoption through fostering community excitement and buy-in.

This proposal seeks funding for the necessary tasks and infrastructure investments to establish an effective reusable foodware system that achieves this scale. This funding would enable the procurement of the equipment and supplies for a comprehensive system design and implementation effort which includes:

- A. a stakeholder engagement and community participatory design process;
- B. geospatial modeling of foodware flows within the city to determine optimal placement of assets and routing for collection and redistribution;
- C. a parametric Life Cycle Assessment model that can run scenario analysis to assess impacts of system design choices;
- D. Circularity Assessment Protocol (CAP) to provide a snapshot of a city's circularity and current foodware and plastic packaging flows;
- E. design for human behavior;
- F. reusable foodware system governance structure;
- G. procurement and installation of infrastructure and equipment;
- H. competitive process for selecting reusable foodware service provider(s) to operate the system;
- I. recruiting of restaurant and hospitality businesses and schools to participate in the foodware service; and
- J. hands-on support during the launch of the system.

The final system design and items to be purchased will be determined through the community consultation and participatory design processes, with expert consultation on technical requirements, and the selection of a reuse service provider(s) to operate the system. The initial system design and enrollment efforts will be focused on restaurant takeout and delivery in both Woodbridge and Hoboken and reusable foodware for K-12 public schools in Hoboken. Throughout this work plan, mention of implementing reuse in restaurant takeout and delivery will apply to both Woodbridge and Hoboken, while mention of providing reusables for schools will apply to Hoboken.

⁶ These cities are: Hilo, Hawai'i; Savannah, Georgia; Ann Arbor, Michigan; and Galveston, Texas

⁷ [Zero Waste Europe, 2023](#)

Once the infrastructure is built, the system will be able to serve additional use cases, including providing reusable foodware to institutions like food courts, event spaces, campuses, corporate cafeterias, and stadiums; expanding to additional packaging formats; and partnering with meal delivery services or edible meal recovery efforts, where food that would otherwise go to waste is collected and redistributed to local food programs. The proposed system can then be expanded and replicated in neighboring communities, thereby catalyzing greater environmental, social, and economic benefits.

Restaurant Takeout and Delivery (Woodbridge & Hoboken)

Virtually all restaurant takeout and delivery happens in single-use, disposable containers, resulting in nearly one trillion disposable food service products used each year in the U.S.⁸ In the coalition area, more than 44 million single-use cups and containers are used and thrown away each year.⁹ In recognition of the exponentially growing problem of plastic waste, some steps have been taken to move away from plastic. Across the country, ordinances have been passed banning expanded polystyrene (Styrofoam), limiting single-use products like straws, or requiring that restaurants use compostable or recyclable containers. In 2020, New Jersey passed legislation to decrease the use of single-use plastic bags, straws, and polystyrene foam products (P.L. 2020, c.117). Many restaurants have also voluntarily taken steps to move away from single-use plastics. However, the other single-use products that take their place have their own environmental impacts. Compostable bio-based products, for example, even when composted properly do not necessarily have lower Global Warming Potential (GWP) than plastics made from petrochemicals; when landfilled or incinerated, which they most often are, they have higher GWP. Paper packaging also produces greater lifecycle emissions than comparable plastic products. Across almost every environmental measure, reuse is better for the environment.¹⁰

Reusable foodware programs for to-go food and drinks have been slowly gaining traction in Europe, Asia, South America and the U.S., with 38 cup and container programs in the U.S. as of 2022, and 56 in Europe.¹¹ These small-scale programs have proven that these systems can work technically - tracking technology, durable and appealing cup and container design, high-efficiency washing, and optimized logistics - but without the supporting ecosystem of infrastructure and messaging, the scale needed for the economics to work has been elusive. There are growing efforts to achieve this scale, and several cities in Europe have launched or are in the process of launching ambitious reuse systems for takeaway or delivery, which may catalyze further adoption.¹²

In the move towards reuse, a key barrier is the difficulty of competing with the dominance of single-use models. To change behavior and consumption paradigms, individual restaurants cannot compete with disposable culture on their own, and there are logistics challenges that need scale to be overcome. There needs to be comprehensive, system-level change that happens at an immersive and community-wide scale. The proposed measure would set up the infrastructure and system that would support exactly this type of community-scale reuse and would unlock the benefits of reuse while helping to shift the market and culture towards a more sustainable alternative.

K-12 Schools (Hoboken)

⁸ Upstream, [Reuse Wins](#).

⁹ See the *Technical Appendix* for calculation details.

¹⁰ Upstream, [Reuse Wins](#).

¹¹ Living Landscape of Reuse Solutions - www.reuselandscape.org

¹² <https://zerowasteeurope.eu/press-release/launch-of-eric-project-empowers-local-authorities-to-prevent-plastic-waste-production/>

The vast majority of public school meals are served on single-use foodware. Schools are aware of the negative environmental and health impacts of exposure to certain PFAS via usage of single use food serviceware (such as links to kidney, testicular, breast cancers and other health effects including hormone disruption, damage to the immune system, thyroid disease, reduced growth hormones in children, increased cholesterol levels¹³), but have difficulty switching to reusable dishwashing systems at each school site. Despite case studies showing savings when schools switch to reusables, many school districts are reluctant to systematically install dishwashers at each school site due to increased labor costs, concern over maintenance of dishwashers and, for some, a trend to move towards dry kitchens and less food preparation at each school.¹⁴

Upstream's Reuse Wins report advocates that *"we can't recycle or compost our way to a sustainable future. We have to work upstream to redesign the systems that generate all the waste in the first place."*¹⁵ Community dishwashing hubs represent a paradigm shift towards the circular economy. School districts are an ideal anchor client for these community dishwashing hubs for three specific reasons.

- Schools have consistent volume:
 - School meal programs represent a highly predictable quantity of daily business compared to other markets (e.g., events, individual restaurants).
 - This helps counteract the impact on operational efficiency from a less consistent quantity of products generated by individual restaurant takeout and delivery orders.
 - Schools' foodware usage is typically counter-cyclical with tourism, allowing for load-balancing and high utilization of washing facilities.
- High volumes at individual sites:
 - Cost effectiveness is maximized when collecting and delivering large quantities of products to the fewest number of individual locations.
 - A medium-size school district might generate approximately 20,000 product washes per day from a handful of schools.
- Closed loop system:
 - Reuse providers can easily collect used products at the same time they are delivering clean foodware on a daily basis.
 - Due to their contained nature, closed loop systems often achieve high return rates yet require minimal investment for education and signage.

Providing reusables to public schools in Hoboken will provide these anchor benefits to the system in that community, with public school enrollment of more than 3,000 students across 5 schools. See the attached Letter of Support from the Hoboken Board of Education. Once the infrastructure is built, public schools in neighboring communities can participate as well to provide reusables for a larger share of New Jersey's 1.3 million public K-12 school students.

Coalition Role

The coalition will provide oversight and support to contracted or sub-awarded organizations to lead the system design and implementation. The coalition members will attend regular meetings, review budget and expenditures, provide input and review of key decisions, and leverage existing city communications channels and connections to improve stakeholder engagement, community outreach, and system

¹³ [CEH, 2020](#)

¹⁴ [Plastic Free Restaurants, 2023](#)

¹⁵ [Upstream, 2022](#)

adoption. Woodbridge, as the coalition lead, will administer the grant funds, pass funds through to coalition members and sub awardees, and be responsible for reporting to and communicating with the EPA. Woodbridge will submit an MOA signed by both coalition members by July 1, 2024, that outlines members' roles and responsibilities in more detail.

Throughout this project, we intend to leverage the resources and expertise of Perpetual, one of our nonprofit project partners, which has experience implementing these types of community-scale reuse projects in other locations. We intend to make a subaward to Perpetual to support their involvement in the system design. See the attached Letter of Commitment from Perpetual.

Our coalition recognizes the pervasive issue of single-use waste and the negative environmental and community impacts that come from our use of disposables, and each of us has taken steps to try to address it, from enforcing ordinances to testing pilots.

Woodbridge fosters a culture of sustainability. It was awarded Sustainable Jersey's first Energy Gold Star in 2018 and the first Water Gold Star in 2022. It currently holds two of the five total gold stars in the state. The work it has done to raise awareness of sustainability has created an environment favorable to new initiatives like this foodware program.

Hoboken was certified as the first LEED Gold city in New Jersey by the U.S. Green Building Council in 2019. Hoboken received an A from the CDP-ICLEI unified climate reporting system, in 2021, 2022 and 2023, a global rating system for climate action. Their score represents Hoboken's leadership in climate adaptation and mitigation among cities around the world. The City of Hoboken initially achieved Bronze Certification from Sustainable Jersey in 2011, and Silver Certification in 2017, 2021 and 2023 and is currently pursuing the Sustainable Jersey Gold Star in Energy as outlined in their 2024 Climate Action Plan. Hoboken has an expanded polystyrene (Styrofoam) ban, a plastic bag ban, and a Green Business Recognition Program that asks businesses about minimizing packaging and participating in environmental initiatives.¹⁶

While these initiatives are valuable, they also underscore the need for scale and comprehensive infrastructure to truly effect transformative change related to reuse. Achieving meaningful progress requires more substantial support than can be provided through isolated pilot programs or local legislation.

Furthermore, the proposed measure represents a significant departure from the current consumption paradigm; like other significant infrastructure and resource management systems, it requires federal-level support to realize its full potential. Our coalition recognized the opportunity that the CPRG program represents to provide the support needed to make reuse happen and quickly committed to working together and making this a measure a priority. It is the type of bold and innovative approach that addresses both the immediate imperative to reduce GHG emissions and single-use waste and the broader imperative to build more sustainable, resilient communities and models of consumption.

This measure is innovative and ambitious, and an ideal fit for the CPRG program. It will result in reuse on a groundbreaking scale, and will establish infrastructure and logistics to support a transformative system with significant potential to scale within New Jersey, while the model can be expanded and replicated in other jurisdictions. It achieves GHG emissions reductions that will continue to grow as the system expands, and it simultaneously helps address the increasingly concerning waste and pollution crises generated by single-use disposables. At the same time, it achieves considerable community benefits,

¹⁶ <https://www.hobokennj.gov/resources/hoboken-green-businesses>

leveraging extensive community and stakeholder engagement to create an equitable system built for its users that creates jobs in disadvantaged communities, enhances local economic resilience, and is convenient, user-friendly, and accessible.

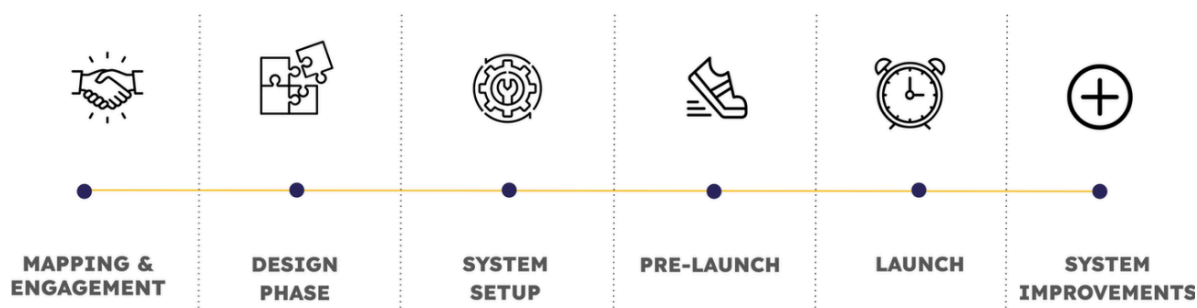
Features, Tasks, and Milestones

The proposed reuse system integrates several features designed to ensure success and adoption of the measure.

- **Stakeholder Engagement.** Stakeholder engagement is a core feature of the system design, and the first phase of the project focuses primarily on engaging key stakeholders, partners, and community members to gather input to co-design a system that works for the communities.
- **Leveraging Local Partnerships.** Local partners and organizations with expertise in the communities will be important partners in designing and launching the reuse system. Organizations with expertise in outreach and engagement, deep community relationships, experience in workforce development, and unique community perspectives will be leveraged to provide invaluable input, advice, and assistance to system design and implementation, ensuring that the resulting system incorporates the best available expertise, local knowledge, and fulfills community needs.
- **Community Participatory Design Process and Regular Community Input.** From the first mapping and engagement stage to regular opportunities for input once the full system has been launched, community input in the design and operation of the system will be critical to ensuring community buy-in, maximizing participation, and continually improving the system to make sure it works for the entire community.
- **Economic and Environmental Sustainability.** Core tenets of the proposed project are environmental and economic sustainability. The system will be designed to maximize the environmental benefits, for example through optimized logistics, using electric vehicles for distribution, and ensuring dishwashing is as efficient as possible. Economic sustainability is the ultimate goal - we will be establishing a system that, once operational, will be self-sustaining, ensuring the reuse system will serve the communities in perpetuity.

The project has been designed to follow a process similar to that Perpetual has used in other cities. These project phases are outlined in **Figure 1**, with the key tasks and related assumptions and risks described in detail below. See **Figure 2** later in this document for the implementation timeline.

Figure 1: Design & Implementation Process



Phase 1: Mapping & Engagement

Systems that can both represent and work for the communities in which they operate should be designed with public input and an understanding of the key components of a community including local geography, tourism flows, climate and weather, key languages, community assets, and more. This process will either be led by a nonprofit organization or put out to bid to an organization with expertise in diverse community outreach as well as equity and inclusion considerations. It will be conducted in close coordination with and with contributions from the municipalities.

Thorough stakeholder engagement and community-centered design will ensure that the system is designed and built for the communities it will serve. Local perspectives, preferences, and considerations will be incorporated into each element of the system design, helping the resulting reuse program fully meet the needs of all community members. The thorough stakeholder engagement process will also help build buy-in, driving excitement and adoption once the system is launched.

The workshops and survey(s) will seek to bring together a diverse cross-section of the community to provide input and engage with users of disposable foodware, as well as restaurant and K-12 school nutrition directors and cafeteria operators, to understand what would be needed for a reusable foodware system to work in their ecosystem. This phase may also uncover opportunities for the program to serve other groups or institutions, such as local soup kitchens or other programs that feed those in need, farmers' markets, hospitals, senior centers, or food trucks.

This phase of work is critical to identify local assets such as underutilized dishwashing facilities and transport vehicles, drop-off locations and pick-up routes for current materials management, and more. Leveraging existing assets to the extent possible will improve the cost-effectiveness and environmental sustainability of the measure and, as such, identifying those assets will be a key component of this phase.

Tasks

1. Conduct community "ecosystem assessment"
2. Conduct a series of participatory stakeholder workshops and surveys in each community
3. Engage Reuse Service Providers: Put out an open call for reuse service providers to engage in the process and conduct initial conversations regarding providers' current technical capabilities
4. Map the current system landscape to identify existing assets and infrastructure
5. Circularity Assessment Protocol to set baseline circularity metrics
6. Develop five-year financial model

Milestones: *Ecosystem Assessment results obtained, Circularity Assessment Protocol results obtained, stakeholder workshops and surveys completed.*

Assumptions & Risks: The key assumption in this phase is that there will be stakeholder support and enthusiasm for developing a community-scale reuse program. From Perpetual's experience designing reuse systems in four different cities, there is documented strong support from local communities for reuse options. In both Ann Arbor, MI, and Galveston, TX, for example, community workshops found that 96 percent of people were likely or very likely to use a reusable cup and container if the system were available in their community. In Hilo, HI, this number was 99 percent.¹⁷ On a national scale, 84 percent of registered US voters support increasing the use of reusable packaging and foodware and 80 percent

¹⁷ <https://www.perpetualuse.org>

support requiring companies to reduce their single-use plastic packaging and foodware.¹⁸ In addition, based on the support for this project from the coalition members, we believe this risk is minimal.

Aside from the risk of potential lack of community support for a community-scale reusable foodware program, which we believe is negligible, there are timeline and budget risks associated with using a participatory design process. Public participation can be time-consuming and expensive. Additionally, if executed poorly, public participation can result in, for example, negative perceptions of the project or loss of faith in community leadership (e.g., local governments). A negative experience during the participatory process may lead participants to have negative perceptions of the proposed program itself and they may be less likely to participate. These risks can be mitigated by adhering to best practices and leveraging Perpetual's extensive experience from the participatory design processes successfully executed in communities like Hilo, HI, Galveston, TX, and Ann Arbor, MI.

Phase 2: System Design

The system design phase will create a system that incorporates best practices in reuse programs, represents the values of the community, and is optimized for the features of the coalition. By incorporating public input and data-driven design, the system design phase ensures that the resulting program meets community needs, is equitable, and is optimized for economic and environmental effectiveness and efficiency. During this phase, the insights from local community engagement are synthesized into a System Design Plan, which is put up for a public comment period before finalization. The data collected will be used to create a location-specific foodware flow model which will later be used to optimize asset placement and transportation routing for collection and redistribution. Careful considerations of all these elements at the design stage generates a sustainable reuse system from the very beginning.

The resulting System Design will include technical features (e.g., infrastructure needs, specifications for reusable items, collection locations, asset tracking, etc.), financial elements (e.g., deposit vs penalty vs other for consumers, fee per use, etc.), behavioral (e.g., ensuring design aligns with human behavior, specify non-financial return incentives, etc), and governance (e.g., contracting, coalition members' oversight roles, mechanisms for continued community input, etc.).

Tasks

1. Data collection on current usage volumes for single-use items
2. Volume Modeling: Create a location-specific foodware flows model to optimize asset placement and routing for collection and redistribution. See the relevant city map attachments for an example of draft maps for bin placement throughout Woodbridge and Hoboken. These maps are illustrative and would be verified and refined during the design process.
3. LCA Scenario Analysis: Use the parametric LCA model created by Dr. Greg Keoleian to test different system design scenarios and provide data to inform design choices.
4. Draft System Design
5. Hold a public input period to refine draft System Design
6. Finalize System Design

Milestones: *System design complete. See Perpetual's draft from the Hilo, HI Design Process document, included as an attachment, for a sample System Design plan.*

¹⁸ [Ipsos](#) and [Oceana](#)

Assumptions & Risks: There are few risks in this stage, aside from the data collection, analysis, and design work taking longer and costing more than expected. However, Perpetual’s experience designing systems for other communities will mitigate those risks. Public input on the draft System Design has risks similar to those in the Phase 1 participatory process, but those risks can be mitigated in a similar fashion.

One risk that could impact the expected GHG emissions reductions is if system design choices selected are different than those that have been built into assumptions incorporated in the budget and emissions reduction calculations. For example, the emissions calculation is based on lifecycle emissions savings of a reusable stainless steel container compared to disposable plastic and paper containers. If the system design and stakeholder input processes result in the selection of a different material for the reusable containers, such as glass, that will affect the emissions reductions of the system.

Phase 3: System Set Up & Pre-Launch

The system set up and pre-launch phase begins implementing the design determined during the engagement and mapping process. The set up phase includes procurement of necessary assets, infrastructure, permits; identification of and operational collaboration with reuse providers; development of the pricing model and enrollment process for participating businesses; and creation of the mechanism through which the community will have an ongoing voice in system operations. As the system is set up, the focus is on establishing a system that is environmentally sustainable, equitable, and that will become economically self-sustaining.

A key element of this phase is selecting a reuse service provider or multiple providers to individually or collectively operate the washing, reusable asset collection and distribution logistics, and other elements according to specifications outlined in the System Design. There are currently 38 reuse service providers operating reusable foodware programs in the U.S.¹⁹, and we expect 6-8 of them to be competitive for this project given its scale. Priority will be given to organizations already operating in the area, if possible. The selection process will also consider the potential that the Reuse Service Provider will be a collaboration or joint venture between an existing operator and a local entrepreneur or organization. Perpetual has experience issuing an RFP for service providers from its work in Galveston, TX²⁰, that will be valuable to this step. Similar to how it was issued for Galveston, the RFP will likely be split into individual system components - Technology, Return Infrastructure, Reverse & Forward Logistics, Washing, and Foodware. Though it is plausible for one service provider to apply and be selected for multiple components of the system, each component will be contracted to the entity that is best fit for operational success while meeting environmental, and community needs.

Tasks:

1. Establish governance
2. Select and secure facility for washing and packaging
3. Competitive procurement process to select reuse service provider(s)
4. Procure system assets and equipment
5. Acquire required permits for washing facility and outdoor collection bins
6. Onboard participating businesses and K-12 schools for initial system launch
7. Install and test equipment with pilot businesses
8. Create reuse brand identity and communications strategy
9. Outreach and education campaigns

¹⁹ [Reuse Landscape, 2024](#)

²⁰ [Perpetual, 2024](#)

10. Continued stakeholder engagement

Milestones: *System operator chosen; reuse assets for initial launch procured and received; initial businesses and institutions confirmed.*

Assumptions & Risks: There are risks of system set up and pre-launch taking longer than anticipated, for example if the necessary permitting were delayed, which would push back the launch of the system and delay anticipated emissions reductions. However, the timeline has been structured to account for all set-up steps and necessary processes and timing, and we believe it is reasonable. Besides timing, a key assumption is that there will be a reuse service provider(s) who will respond to the RFP and will be able to effectively service the system. Perpetual can confirm from its experience and the Galveston RFP process that there are currently existing service providers who could provide every necessary component of a reuse system, and that service providers would be eager to respond to the opportunity to service a system that has received grant funding to overcome the initial barriers; as a result, the risk of this assumption being unreasonable is essentially zero.

Phase 4: Initial (Pilot) Launch

This phase will launch a pilot version of the reuse system with a subset of businesses and schools. Learnings from the initial launch will provide useful feedback on gaps and improvements needed before the full launch.

Tasks:

1. Mobilize volunteers to support system success during first two weeks of system operation
2. Hands-on support for system success
3. Promote launch

Milestones: *Initial system launched*

Assumptions & Risks: The risk of the pilot launch is that it will uncover significant unanticipated issues that will affect the full system launch. While this could delay the full launch and require resources and attention to address, identifying any potential issues during this initial launch will help test the system and ensure the success of the full launch. This risk is not expected to affect overall GHG emissions reductions.

Phase 5: Full System Launch

The full launch of the system is expected in January of 2027, targeting initial adoption among approximately 10 percent of restaurants in Woodbridge and Hoboken.

Tasks:

1. Monitor system performance and address gaps
2. Continue enrolling businesses
3. Install equipment with businesses and schools for full system

Milestones: *Full system launched*

Assumptions & Risks: The assumption built into the budget and emissions calculations has been the initial adoption rate of reusables among restaurants and schools in the communities. If adoption is lower than anticipated, that will lower the resulting emissions reductions. Based on Perpetual's experience,

validation from existing pilots, and reports from reuse service providers, we believe that the assumed initial adoption rates are reasonable and achievable and that the risk of not meeting them is low.

Phase 6: Expansion & Improvements

Once launched, continual monitoring and improvements will be important to ensuring the reuse system is operating as intended and meeting the needs of users and participating restaurants and schools. Ongoing marketing and outreach efforts to enroll additional participants will ensure gradual expansion of participation.

Tasks:

1. Monitor and improve system performance
2. Enroll additional businesses and schools
3. Ongoing engagement and outreach
4. User experience research
5. Regularly report operational and impact metrics

Milestones: *Report on first year of operations (2028), including operational and impact metrics, and regular subsequent reporting*

Assumptions & Risks: Once the system is operational and grant funding is no longer subsidizing operating expenses, there is an inherent risk that the system will not be viable without external funding support and will not be able to continue operating after the program period. If the system ceases to operate after the program period, the anticipated emissions reductions of the measure beyond 2030 would not be realized to the extent expected. Though the infrastructure and assets could be repurposed, without the broader system, the impact would be less transformative.

We believe this is an unlikely outcome. The barrier to establishing effective reuse systems at scale is the upfront investment required. The components of the system and pilot programs have proven the potential for success at scale and shown that it is possible to create a system that is profitable for the reuse service provider(s), free or low cost to users, and comparable in cost to using disposable products for participating businesses. Furthermore, immersive reuse systems are already happening in other places, and by the time of this program's launch will be in additional locations through Perpetual's current work. In Denmark, the City of Aarhus and TOMRA have partnered to implement a reuse system for takeaway packaging.²¹ In Monaco, a reusable glass container system for takeout is available around the city.²² In addition, Zero Waste Europe (ZWE) is working on to-go reuse initiatives in more than a half dozen cities. Through Perpetual's work, city-scale reuse systems for restaurant takeout are being set up in Galveston, Texas²³, and Hilo, Hawai'i.²⁴ The risks of launching reuse have been addressed by these other systems and countless pilots, and there are no challenges in implementing this measure that have not been previously overcome.

The commitment of the coalition members to this measure, the expertise of Perpetual's ongoing work and ability to leverage their resources from other cities, in conjunction with the experience of local organizations, and the transformative potential of reuse once it overcomes the initial capital requirements mitigate this risk and smooth the path for an effective and innovative system.

²¹ [TOMRA and Aarhus City enter collaboration to create innovative reuse system, 2023](#)

²² [Monaco Life. How to use MaConsigne's Reusable Take-Away Containers 2022](#)

²³ [Perpetual - Galveston, 2024](#)

²⁴ [Perpetual - Hilo, 2024](#)

b. Demonstration of Funding Need

Reusable foodware and packaging pilots and efforts to date have successfully validated the essential elements of reuse systems for economic and environmental viability. There are examples of refillable beverage container systems operating at scale, hygiene and safety measures have been successful, and reuse services are being further codified²⁵ in the next supplement to the 2022 FDA Food Code.²⁶ However, a key insight from these efforts is the importance of scale. Broad adoption of reuse requires that receiving and returning reusable items be convenient for users and that replacing disposable items with reusables not impose an economic or operational burden on businesses. To get to this point, community-scale reuse systems require support to get started and achieve scale and operating efficiencies, and they need a timeline that allows for the shift in behavioral norms needed to enable the mainstream success of reuse systems.

Reusable foodware systems require specific infrastructure, such as collection bins, transport vehicles and dishwashing machines. While some reuse service startups are using debt or investment capital to get started, receiving grant support for this infrastructure would allow the reuse service provider to charge a lower per-use fee sooner, lowering the cost burden on participating restaurants and foodservice operators. This enables the system to be economically self-sustaining more quickly and with lower risk.

There are no funding sources available on the scale needed to implement reuse as a community-scale climate solution. Some other entities have been successful at leveraging other grant opportunities, such as the EPA Solid Waste Infrastructure for Recycling (SWIFR) grant program, to apply to reuse, and the Pollution Prevention grants can address source reduction, but these opportunities are much smaller than the scale needed for true reuse impact, and there are not otherwise existing dedicated opportunities.

Given this lack of dedicated funding opportunities, Woodbridge has not received funding to implement the type of community-scale reuse system proposed. Woodbridge and Hoboken have recognized that replacing single-use foodware with reusables represents an opportunity to reduce both GHG emissions and waste, and have explored options that they can take on to encourage the use of reusables in restaurants. For example, Woodbridge's "Waste, Recycling and Materials Management Strategy" and "Zero Waste Plan" (both included as attachments) identify the need for foodware reuse system infrastructure. However, they have not received either the funding or the transformative support on the scale needed to implement an effective reuse system that achieves its full potential environmental and economic benefits. CPRG support is necessary to do something transformative.

Just as government funds have been foundational to establishing today's waste management and recycling systems, government funds are essential to establishing the reuse systems now increasingly recognized as far more effective and beneficial than their predecessor systems. A distinction with the proposed reuse system is that, while government funding has continued to support the ongoing operations of waste management and recycling systems past the initial establishment, the proposed reuse system only requires funding to get established; it is designed to be self-sustaining and fully operated by a private reuse service provider(s) after the initial period of start-up support.

CPRG funds would provide this support to achieve the necessary scale and ease of use, unlocking the environmental and economic benefits of reuse. This funding would provide the influx of support that would allow the system to deploy, allow the reuse service provider to charge a lower per-use fee sooner, lower the cost burden on participating restaurants and foodservice operators, and enable the system to

²⁵ [FDA, 2023](#)

²⁶ [FDA 2022 Food Code](#)

be economically self-sustaining more quickly and with lower risk. CPRG funds in particular are an excellent fit for launching reuse systems, as these systems require initial financial support to deploy, yet they deliver cost-effective GHG and pollution reductions along with a range of other benefits to local communities and society as a whole.

Economic sustainability is a core premise of this project: the goal is to establish a reusable foodware system that generates enough revenue to be economically self-sustaining over time. The objective is for a Reuse Service Provider to be successfully established in the area with a revenue model that supports the ongoing operations of the reusable foodware system over time without the need for other funding (such as philanthropic or government). CPRG funding would overcome the initial barriers that, without such support, would limit convenience for consumers, affordability for businesses, or prevalence required to shift social norms. In this way, this project ensures that, once established, this service continues to provide reusable foodware, and the resulting benefits, to the communities it serves indefinitely.

Perpetual has received funding to support these types of community-scale reuse projects in other locations. From this funding, it has developed resources, tools, and data needed to establish reuse systems. To leverage these resources for our coalition, CPRG funds are needed to bring Perpetual's expertise from its ongoing work in other cities to design and implement an effective reuse solution for our communities.

c. Transformative Impact

Reuse is a transformative climate solution. Life-cycle assessments (LCAs), academic studies, startup programs, pilots, and ongoing reuse operations have repeatedly shown that, even when including impacts associated with washing and logistics, reusables can result in 2 to 10 times less lifecycle GHG emissions than disposable alternatives.²⁷ Beyond the immediate GHG emissions reductions that will come from implementing a community-scale system, reuse is an innovative and replicable measure that can be scaled up within our communities and transferred to other jurisdictions, driving behavior and consumption paradigm shifts that will lead to significant additional emissions reductions as it scales.

The transformative power of the community-scale reuse system proposed in this application comes from the infrastructure it develops. Once established, this infrastructure enables other settings, users, and applications to offer reusable options and achieve the environmental benefits that come from reuse. Infrastructure built for the open system designed around restaurant takeout and delivery can also be used by institutions, cafeterias, event spaces, and other closed venues. It can accommodate other packaging formats, serve additional surrounding areas, and make reuse the norm in our communities. It can expand to adjacent programs, including meal recovery efforts.

By the time this project is moving into implementation, there will be several examples of city-scale reuse projects functioning at scale. Through Perpetual's work, both Galveston, Texas and Hilo, Hawai'i will have operational systems. The impact results, learnings, and examples of proven success from these and our coalition's reuse system will streamline every future reuse project. They will make system replication and adoption easier, accelerating reuse and its transformative climate benefits across the country.

²⁷ [Hitt, 2023](#); [Gordon, 2023](#); [Lelong, 2023](#); [Reloop & Zero Waste Europe, 2020](#)

Impact of GHG Reduction Measures

Magnitude and Cost Effectiveness of GHG Reductions

The estimated GHG reductions are based only on the totals for Woodbridge and Hoboken. We expect additional communities to implement similar programs after success is demonstrated by this coalition project, in which case the GHG reductions resulting from EPA funding would be many times greater.

Cumulative GHG Emission Reduction (2025-2030)	1,642 Mt CO ₂ e
Cumulative GHG Emission Reduction (2025-2050)	14,841 Mt CO ₂ e
Cost Effectiveness of GHG Reductions (2025-2050)*	\$8,515 / Mt CO ₂ e

**Cost effectiveness of GHG reductions = (Requested CPRG funding) / (Sum of Quantified GHG reductions from CPRG funding from 2025-2030)*

The measure will result in a permanent reduction in cumulative GHG emissions, and the transformative and scalable nature of the measure means that emissions reductions will increase as the system expands. The primary GHG reductions come from the avoided production of single-use items. A key factor that affects the magnitude of these benefits is the number of (re)uses in the lifecycle of a reusable container, and a key requirement to achieve these benefits is scale. Since CPRG funding will be establishing a system that has been designed to operate at scale, and reusable containers will directly replace single-use items, the emissions reductions are permanent and will increase as the system grows.

CPRG funding would establish a system that, without such an influx of support and given the lack of other dedicated opportunities at a similar scale, would not otherwise be created. Once the infrastructure is established, the reuse system will scale after the program period: more equipment will be purchased, reusable assets will be added, and more restaurants, schools, and communities will be served. Because CPRG funding will be directly and solely responsible for the creation of the reuse system, designed to be self-sustaining to operate in perpetuity, all lifetime emissions reductions that result from the system, including as it scales, can be attributed to the CPRG funding used to set it up.

See the attached Technical Appendix for annual and cumulative emissions reductions from 2025 through 2050 and the methodology and assumptions used.

Environmental Results – Outputs, Outcomes, and Performance Measures

A & B. Expected Outputs, Outcomes, and Performance Measures

The expected outputs and outcomes of the reuse system are listed below. For each output and outcome, suggested performance measures to track progress are listed. The performance measures identified are the minimum measures expected to be tracked. Others may be identified during the system design process.

To track progress toward achieving the expected outputs and outcomes associated with the reuse system, required tracking and reporting by the reuse service provider(s) will be a key source of updates. As part of the RFP and contract established with the reuse service provider(s) selected, metrics and

reporting requirements will be outlined and agreed upon. This reporting will go to the governing entity of the reuse system, either the coalition or a separate governing body if determined / established during the system design process.

Perpetual, as a subrecipient, will be required to report on progress and expenditures of funds to Woodbridge, as will Hoboken. Purchases of equipment and supplies, categorized as participant support costs, will be tracked closely by Woodbridge as the manager of the grant.

Reporting from the reuse service provider(s) and subrecipients will be included in regular reports provided by Woodbridge to the EPA. The required semi-annual and final reports will summarize technical progress, accomplishments, and milestones achieved. Outputs and outcomes will be described, planned activities for the next six months identified, and a summary of expenditures to date provided. Each report will include an update on community engagement, with the substance of the updates and results provided largely by Perpetual and other local organizations involved as relevant. Progress on job quality will also be described. Input from local organizations and partnerships with local job training groups will help ensure high quality employment opportunities, and tangible steps toward defining employment practices required of the reuse service provider(s) will be identified.

To quantify actual GHG emissions reductions, data from the reuse service provider(s) will provide information that has as yet been limited or nonexistent. Key areas of impact have been identified by existing research and include the transportation and washing processes, with return rate having a significant impact on overall emissions reduction potential of reuse. As the reuse system becomes operational, actual data from the reuse service provider(s) on the washing stage (e.g., hot water use, electricity) and transportation (e.g., miles driven) will improve emissions estimates and impact calculations.

Output / Outcome	Outputs & Outcomes	Performance Measures	Approach & Plan
Output	Establishment of reusable foodware infrastructure and services	Equipment, infrastructure, and associated service will be set up and operational on a pilot scale by April 2026 and full scale by January 2027.	Coalition will meet regularly with nonprofit partner(s) leading system design and implementation to ensure progress towards system set-up. Participant support costs will go largely to establishing the system infrastructure, and close tracking and reporting of expenditure of funds will be required.
Output	Strong adoption among foodservice establishments	10 percent of restaurants / foodware-using businesses across the coalition communities will participate in the system in the first year. 3 of the public schools in Hoboken will participate in the system in the first year.	Outreach and onboarding to target restaurants and enroll schools. Reuse service provider(s) required to report on number of participating businesses and schools. Coalition to receive regular updates in meetings.
Output	Acceptance and usage by community users	90 percent or greater return rate of reusable items from consumers	Reuse service provider(s) required to report on return rate and average amount of time before items are returned.

Output	Transparent and accountable reporting	Complete semi-annual progress reports are submitted on time to the EPA Comprehensive final report is submitted on time to the EPA	Coalition members will meet regularly (anticipate monthly at least in Year 1) and will include reporting as an agenda topic. Expect that the nonprofit(s) involved in system design will assist with assembling report content. Woodbridge will be responsible for submitting the reports to the EPA.
Outcome	GHG emissions reductions <i>>1,600 Mt CO₂e by 2030</i>	Expected ~25 million cup + container uses by 2030.	Reuse service provider(s) required to report number of reusable product uses, which will be used to estimate emissions reductions. Further, service provider will be required to provide key metrics to refine GHG emissions estimates, such as monthly electricity bill, vehicle fuel or electricity consumption, water use, etc.
Outcome	Reductions in waste generation: Reduction in foodware waste generated by participating businesses & schools <i>(>500 tons by 2030)</i> Reduction in single-use plastic foodware items <i>(>300 tons by 2030)</i>	Number of reusable cup & container uses	Reuse service provider(s) required to provide usage data. Use the number of reusable cup/container uses to estimate the number and mass of avoided single-use items.
Outcome	Financial savings to city waste management departments from reduction in waste generation	Number of reusable cup & container uses	Reuse service provider(s) required to provide usage data. Use number of uses to determine number and mass of avoided single-use items. Use city waste management costs to calculate savings.
Outcome	Jobs created, including jobs in LIDAC communities	10-15 FTEs are created by 2030, with a majority in LIDAC communities	Reuse service provider(s) required to provide job data

C. Authorities and Implementation Timeline

The Township of Woodbridge and City of Hoboken have authority to implement the proposed system in their communities.

The implementation of the proposed measure will be a collaborative effort between the coalition, key project partners, and the reuse service provider(s) once selected. Woodbridge, as the coalition lead, and Hoboken as a coalition member will work closely with Perpetual and other organizations with relevant expertise to implement each phase of the project and ensure a successful reuse system is established. Implementation will involve close collaboration between city departments, restaurant representatives, relevant community organizations, school representatives in Hoboken, and other stakeholders.

The MOA will clearly outline roles and responsibilities of each party. The general structure will be set up with Woodbridge administering the grant funds and passing through funding to Hoboken and nonprofit

partner organizations. Hoboken will contribute support, assist with engagement and outreach, leverage city communication channels and connections, and participate in meetings. Perpetual and / or other nonprofit organizations will fulfill the responsibilities of conducting outreach and designing and implementing the system. Perpetual will provide technical advice to inform system design and input based on reuse systems set up in other cities. Once selected, the reuse service provider(s) will assume responsibility for operating the system and taking necessary set up steps such as obtaining permits.

Through regular coalition meetings and close collaboration with partner organizations, the reuse system will be implemented according to the timeline outlined in **Figure 2**, targeting a full launch of the system in January of 2027. This timeline assumes a grant award date of October, 2024. Key milestones of each stage are shown in green.

Figure 2: Implementation Timeline

Phase	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026	2027	2028	2029
Grant Reporting			Semi-Annual Report		2nd Semi-Annual Report		Semi-Annual Report		Semi-Annual Report	Semi-Annual Reports	Semi-Annual Reports	Semi-Annual & Final Report
Coalition Meetings												
Mapping & Engagement	Grant Award		Mapping & Engagement Complete									
Community "Ecosystem Assessment"												
Map the Current Landscape												
Circularity Assessment Protocol												
Stakeholder Workshops & Surveys												
Engage Reuse Service Providers												
Develop 5-year financial model												
System Design					System Design Complete							
Data Collection on Disposable Use												
Volume Modeling												
LCA Scenario Analysis												
Public Input				Input on Draft								
System Design Plan				Draft System Design	Final System Design							
System Set Up & Pre-Launch												
Establish Governance						Governance Established						
Select Service Provider					RFP Issued	Provider(s) Selected						
Select and Secure Facilities						Facilities Secured						
Procure Assets & Equipment						Assets Procured						
Acquire Permits						Permits Acquired						
Enroll & Onboard Businesses & Schools						Initial Participants Confirmed						
Install & Test Equipment												
Create Reuse Brand Identity						Brand Identity Created						

Outreach & Education Campaigns												
Initial (Pilot) Launch												
Mobilize Volunteers to Support First Two Weeks												
Hands-On Support for Pilot Launch												
Promote Launch												
Full System Launch												
Monitor Performance & Address Gaps												
Enroll Additional Businesses & Schools												
Install & Test Equipment												
Expansion & Improvements												
Enroll Additional Businesses												
Monitoring & Improvements												
Ongoing Engagement												
User Experience Research												
Report on Operations												

Low-Income and Disadvantaged Communities

a. Community Benefits

The proposed project will result in both direct and indirect benefits to low-income and disadvantaged communities in the areas served. Maximizing the benefits to these communities and incorporating their input will be key considerations throughout the community engagement and system design stages, as well as an ongoing focus once the system is operating.

Figure 3, included in the New Jersey PCAP, shows Adversely Impacted Overburdened Communities (AIOBC) as defined by New Jersey and Disadvantaged Communities (DAC) as defined by the White House's CEJST. Two communities in Woodbridge and seven in Hoboken meet the definition of low-income or disadvantaged for this application, with a total population of 49,461 (16,190 in Woodbridge and 33,271 in Hoboken). See the attached list of these communities.

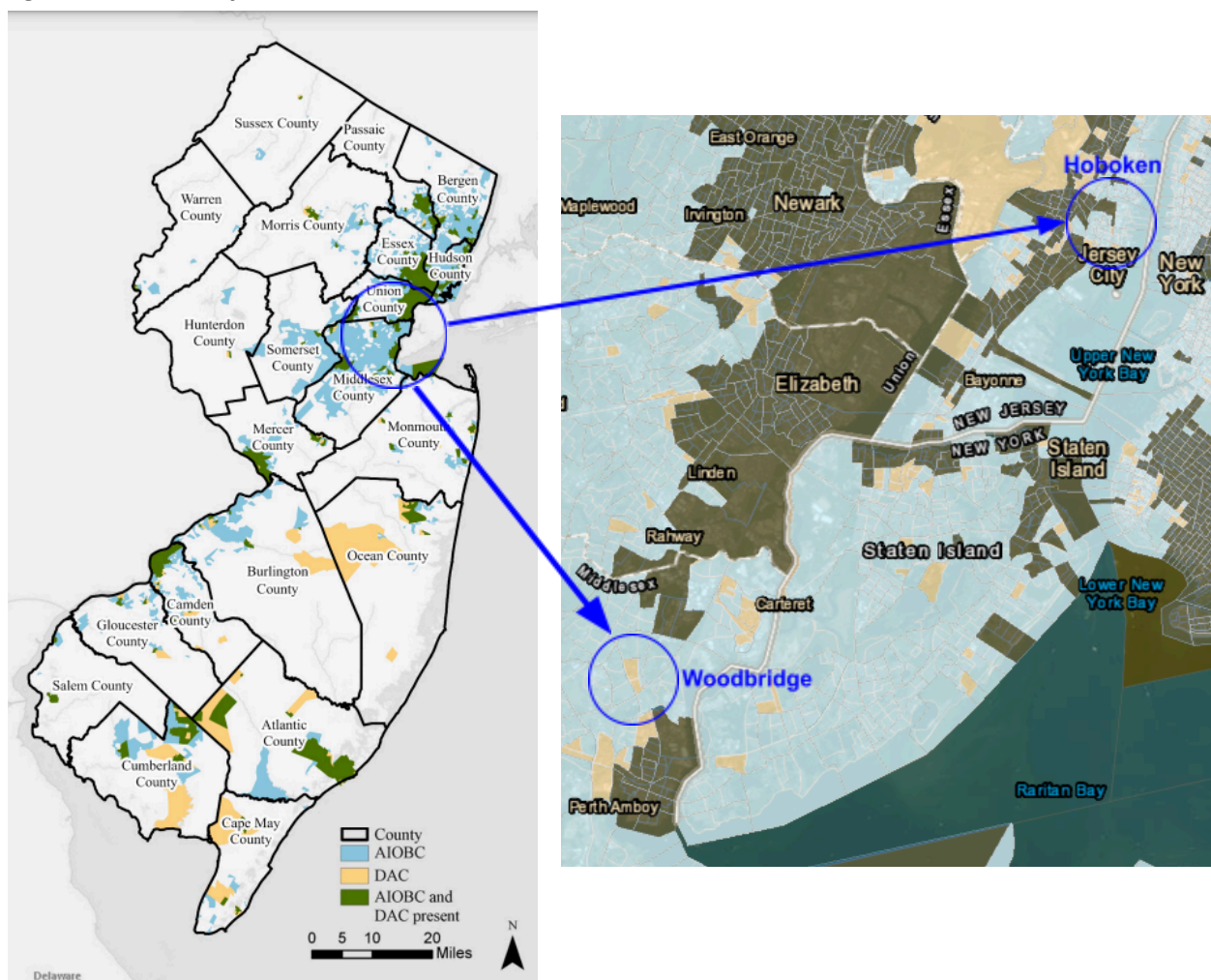
The reuse system described in this application requests funding to establish two washing facilities, one to service Woodbridge Township and one to service Hoboken, and all of the associated logistics infrastructure to support community-wide use of reusables. This infrastructure will create numerous high-quality jobs in sorting, washing, packing, distribution, collection and other logistics, as well as supervisory roles. The system is expected to create a minimum of 12 full-time jobs in the first year of operation. Job opportunities will continue to increase as the system scales, and an emphasis will be placed on maximizing opportunities for LIDACs and for workers from disadvantaged populations as much as possible.

During the stakeholder engagement phase, we will coordinate with local job training, workforce development, and similar organizations that serve these communities and have relevant expertise, and the system design will incorporate their feedback and suggestions regarding . The washing facility

locations will be determined in close coordination with these organizations and with community member feedback through community engagement efforts. The goal will be to locate the washing facilities where they will ensure job creation benefits are directed to these communities to the extent possible.

Additionally, strategic location of logistics infrastructure allows for ease in system expansion within communities and system replicability in nearby communities. Hoboken border towns such as Jersey City, Edgewater, Bayonne, and others that have made substantial materials management and other sustainability efforts in the past and would be perfectly placed for system replication. In fact, many of these communities are majority LIDAC.

Figure 3: New Jersey AIOBCs and White House DOCs



Sources: New Jersey DEP Priority Climate Action Plan, EPA's Environmental Justice Screening and Mapping Tool (Version 2.2)

Single-use plastic waste and pollution disproportionately burden lower income and disadvantaged communities.²⁸ With solid waste facilities usually located near these communities, they are most exposed to the resulting air, water, and soil pollution. However, alternatives to single-use plastic tend to be more expensive and some reuse programs have requirements that make them inaccessible for lower

²⁸ [UNEP, NEGLECTED: Environmental Justice Impacts of Marine Litter and Plastic Pollution, 2021](#)

income communities. Lower cost restaurants and foodservice options are more likely to serve food and drinks in disposable foodware, increasing the exposure of vulnerable communities to chemicals of concern and microplastics while also increasing the amount of trash that they are responsible for disposing of. Establishing a reusable foodware system that equitably serves the whole community provides a much needed alternative where none exists today. This system will give people a cost-free option to avoid the use of single use foodware and all of its associated challenges. Along with increased access to reuse services, increased awareness of reuse options and enhanced community engagement are additional benefits.

Reduced use of single-use items, of which the majority are not widely recyclable, reduces the need for communities to find new capacity to manage waste such as landfills and incineration, which are often located near disadvantaged communities. Research has shown that in many cities disadvantaged neighborhoods often have less access to waste management services, leading to higher litter rates. This program can reduce this burden.²⁹

The small business community is also a subset of the populations covered that will benefit from the proposed measure. The reuse system will result in decreased reliance on the global disposable supply chain, leading to increased stability of foodware costs, which is particularly important to small business owners in a low-margin industry.

Potential negative impacts to low-income and disadvantaged communities could arise around the accessibility of reusable options, but these impacts will be mitigated by inclusive program design. For example, some reuse pilots have been designed using a deposit-refund system, where a user pays an upfront deposit to borrow a reusable container, with this deposit returned once the container is returned. However, this approach, which requires a credit card or bank account, access to a smartphone, or a financial deposit upfront, can limit inclusion and accessibility of the system particularly for low-income and disadvantaged communities. The reuse program established through this grant will be intentionally designed to be equitable and accessible and will include options to use the system without a smartphone, credit card, or bank account. For instance, it could be designed to accommodate the use of benefits cards and/or transportation cards for engaging in the system.

Assessing and quantifying the benefits and avoiding disbenefits to low-income and disadvantaged communities will be included in the performance tracking and reporting of the system. Specific processes will be determined in conjunction with the communities and with reuse service providers as part of the community engagement and system design processes, and considerations have been integrated into the engagement approach described in the next section.

b. Community Engagement

Community engagement is a core element of program design and implementation. Incorporating community perspectives in the project design includes all community stakeholders, including low-income and disadvantaged communities, and intentional efforts are planned to include these communities in the development and implementation. A local organization will be selected to work as a partner and lead in the engagement phase of the project, leveraging local expertise and connections to maximize participation and facilitate outreach.

²⁹ [EPA, Equity in Solid Waste Management, 2023](#)

The first phase of the project will involve identifying and reaching out to relevant local stakeholder groups and leveraging local organizations to ensure all stakeholders have been identified and contacted. A series of community participatory design workshops will be used as a key mechanism to engage with stakeholders. In order to engage the greatest number and diversity of people in the design workshops, local organizations will assist with the outreach, including using existing channels and going to existing community forums and meetings to introduce this work and let people know about opportunities to be involved and to provide input. Design workshops will be advertised through social media, local newspapers, and newsletters of local organizations in English and Spanish and other languages identified by the communities.

To facilitate community member attendance, days, times, and duration of meetings will be chosen that are convenient for participants with different types of jobs or other responsibilities. To ensure that workshop attendance is inclusive and representative, each workshop will provide reasonable incentives and accommodations, such as making childcare and food available and reimbursing travel and other expenses for those who need it. The workshops themselves will provide a hands-on experience of the reuse system to give people a chance to experience the elements of a reuse system so that they can provide meaningful feedback on design choices. Time in the workshops will be balanced between providing enough context for participants and deep listening. There will be a range of ways for participants to provide input - spoken, written, open form, survey.

Site selection will be a highly collaborative and community-centered process. Given the intention to locate the washing facilities in LIDAC tracts to maximize the job opportunities for these communities, integrating their input into site selection will be essential. This collaborative selection will be part of the system design phase.

Beyond the workshops, there will be opportunities for engagement and input throughout the process, including after the initial pilot launch and following the full system launch. Community engagement will be conducted regularly to understand what is working and what needs to be improved. Post-launch engagement may take the form of written and online surveys, listening sessions, and focus groups. This process will ensure that the community feels a sense of ownership in the program and that it continues serving the community's needs. Feedback from this engagement may be used to expand the program to other packaging formats. Further, the behavior analysis planned pre- and post-launch can help inform this engagement and where focus should be placed.

Job Quality

Job creation is one of the direct outcomes of the proposed measure, and ensuring job quality, a diverse workforce, and high road labor practices will be integrated into the system design. Good Jobs Principles will be integrated into the design of the system's workforce management, from the recruitment and hiring stage to career advancement. In Hoboken, we anticipate leveraging organizations including the Hoboken Business Alliance and HOPES Community Action Partnership, Incorporated (HOPES CAP, Inc.), a nonprofit that provides programs which respond to the social, educational, and training needs of the community. To ensure jobs created are high-quality and promote a diverse, skilled workforce, the below strategies and commitments will be followed.

Recruitment and Hiring: Applicants will be actively recruited from diverse pools, especially from underserved communities. Local organizations will be contacted to share job opportunities among their networks. The youth population, students at institutions such as Stevens Institute of Technology in

Hoboken or Rutgers University (in New Brunswick, near Woodbridge), and housing authorities may be other sources of applicants or partners to work with. Applicants will be evaluated and treated equally. To integrate the commitment to hiring from local communities, particularly LIDAC tracts, the RFP to select a reuse service provider(s) will require a local workforce component with training and hiring incentives for local residents.

Job Quality: Workers will have a safe, healthy, and accessible workplace, built on input from workers and their representatives. Workers will have job security without arbitrary or discriminatory discipline or dismissal. They will have adequate hours and predictable schedules. The use of electronic monitoring, data, and algorithms will be transparent, equitable, and carefully deployed with input from workers. Workers will be free from harassment, discrimination, and retaliation at work. Individuals from underserved communities will not face systemic barriers in the workplace. All workers will have equal opportunity and will be respected, empowered, and treated fairly. Diversity, Equity, Inclusion, and Accessibility (DEIA) is already a core value and practiced norm within coalition communities and this will be furthered with the reuse system.

Pay and Benefits: Workers will be paid a stable and predictable living wage of at least \$24.76 per hour, the living wage rate for New Jersey.³⁰ Pay will be fair, transparent, and equitable. Workers' wages will increase with increased skills and experience, and workers will be provided benefits that promote economic security and mobility and include paid leave and workforce flexibility.

Skills Development and Advancement: Workers will have equitable opportunities and tools to progress to future good jobs within the reuse system ecosystem or outside it. Workers will have transparent promotion or advancement opportunities.

Programmatic Capability and Past Performance

a. & b. Past Performance & Reporting Requirements

US Fish & Wildlife - Ecological

Restoration - Federal

NJDCA Lead Abatement - State

NJDCA Recreation - State

NJDEP It Pay\$ to Plug In - EV

infrastructure - State

NJDOH Strengthening

Communities - State

Woodbridge Township has met all of the reporting requirements for the listed assistance programs.

³⁰ MIT Living Wage Calculator, last updated 14 Feb 2024. <https://livingwage.mit.edu/states/34>

c. Staff Expertise

Woodbridge Township has expert project managers on staff within the Mayor's Office, Engineering Division, and Recycling Division to help complete this project. Individual staff members have been responsible for overseeing a variety of Federal and State grant performance tracking and metrics. Between expertise and the full Township administration's support, Woodbridge Township has the resources necessary to make sure the project is completed effectively and in a timely fashion.

The Township of Woodbridge has a long-standing commitment of innovative sustainability initiatives. As the Sustainable Jersey silver-level Champion for large-size municipalities for the 14th year in 2023, the Township continues to lead the state in sustainable and green initiatives. In the quest for the 14th Champion Award, Woodbridge Township competed against participating municipalities, including Sustainable Jersey certified municipalities and Silver-Level Certified towns in the Sustainable Jersey competition, earning sustainable points with 93 actions in 18 separate categories – scoring 1,165 points. And throughout, Greenable Woodbridge continued to advance many more sustainable initiatives and programs that serve to better manage the ways we use energy and other natural resources at work and home. Woodbridge Township has wide-spread experience in managing contracts, GHG datasets, and interagency relations. Expertise is centered on organizational management and innovative economic solutions towards enhancing sustainability. The Township provides support and technical analysis centered on increasing waste reduction, non-mandated recycling management, and the development of a reuse center permitting Township residents to drop-off and pick up items for free which would have otherwise ended up in the landfill. Team expertise is also centered on zero waste management planning and public health awareness in order to cohesively ensure enhanced engagement.

The Hoboken Green Team will also be involved in this project. In April of 2010, the Hoboken City Council passed a resolution supporting the City's participation in the Sustainable Jersey certification program. Sustainable Jersey is a nonprofit organization that provides tools, training and financial incentives to support communities as they pursue sustainability programs. By supporting community efforts to reduce waste, cut greenhouse gas emissions, and improve environmental equity, Sustainable Jersey is empowering communities to build a better world for future generations. All communities participating in the Sustainable Jersey program must establish a Green Team. Green Teams provide the leadership to develop plans, implement programs and assist with educational opportunities that support the creation of a sustainable community. In August of 2011, the Mayor and City Council formally established the Hoboken Green Team by resolution. The Hoboken Green Team is comprised of volunteers who meet monthly to focus on completing actions required for Sustainable Jersey certification, as well as other volunteer initiatives to promote environmental sustainability in our community.³¹

See the attached bios for information on the specific Hoboken city staff who will be involved in the project.

Perpetual is a nonprofit launched in early 2022 by a team with a collective 20+ years of experience in the reusable foodware space. Perpetual's mission is to accelerate the adoption of reuse, starting with foodware in the US. The Perpetual team (perpetualuse.org/team) is led by Ellie Moss, a veteran sustainability and circular economy strategist and facilitator, and Dagny Tucker, founder of Vessel, a reusable service provider that operated for seven years. (Dagny has fully relinquished her ownership interest in Vessel and is dedicated to working at the system design level.) The Perpetual team brings a unique combination of knowledge of the reuse space, on-the-ground experience working to scale

³¹ <https://www.hobokennj.gov/resources/green-team>

reusable foodware solutions, systems thinking and solution design skills, stakeholder engagement expertise, and rigorous project management capabilities.

Budget and Timely Expenditure of Grant Funds

This proposal requests \$13,982,779 in funds for the design and implementation of a community-scale reusable foodware system in New Jersey in Woodbridge Township and Hoboken. Please see the attached Budget Description document for detail and explanation of the requested funds and a description of the approach to ensuring timely and efficient expenditure of awarded funds.

	2025 Year 1	2026 Year 2	2027 Year 3	2028 Year 4	2029 Year 5	Total
<i>Project Phase</i>	<i>Mapping & Engagement, System Design</i>	<i>System Set Up, Pre-Launch, Initial Pilot Launch (April), Expansion</i>	<i>Full System Launch (Jan)</i>	<i>Scaling & Improvements</i>	<i>Scaling & Improvements</i>	
I. Personnel						
Purchasing Dept. Director: Burns, Jennifer L., \$122,563/yr, 8.3% FTE	\$10,214	\$10,214	\$10,214	\$10,214	\$10,214	\$51,068
DPW Director: Brew, George T., \$204,700/yr, 8.3% FTE	\$17,058	\$17,058	\$17,058	\$17,058	\$17,058	\$85,292
Redevelopment Agency Executive Director: Ehrlich, Carol, \$221,484/yr, 12.5% FTE	\$27,686	\$27,686	\$27,686	\$27,686	\$27,686	\$138,428
Mayor's Office Student Assistant: Shah, Kush K, \$16/hr, 26.9% FTE (560 hrs)	\$8,960	\$8,960	\$8,960	\$8,960	\$8,960	\$44,800
Mayor's Office Student Assistant: Lawrence, Nichole, \$16/hr, 26.9% FTE (560 hrs)	\$8,960	\$8,960	\$8,960	\$8,960	\$8,960	\$44,800
Administrative: Luks, Pamela G, \$89,494/yr, 4.2% FTE	\$3,729	\$3,729	\$3,729	\$3,729	\$3,729	\$18,645
Grant Manager: Kushpa, Megan L., \$92,116/yr, 16.6% FTE	\$15,353	\$15,353	\$15,353	\$15,353	\$15,353	\$76,763
Communications: Walsh, Kellie A., \$48,450/yr, 16.6% FTE	\$8,075	\$8,075	\$8,075	\$8,075	\$8,075	\$40,375
Sustainability Manager, Tom Flynn, \$112,532/yr, 20.8% FTE	\$23,444	\$23,444	\$23,444	\$23,444	\$23,444	\$117,221
TOTAL PERSONNEL	\$123,478	\$123,478	\$123,478	\$123,478	\$123,478	\$617,391
II. Fringe Benefits						
25.26% - Purchasing Dept. Director	\$2,580	\$2,580	\$2,580	\$2,580	\$2,580	\$12,900
25.26% - DPW Director	\$4,309	\$4,309	\$4,309	\$4,309	\$4,309	\$21,545
25.26% - Redevelopment Agency Executive Director	\$6,993	\$6,993	\$6,993	\$6,993	\$6,993	\$34,967
7.65% - Student Assistant	\$685	\$685	\$685	\$685	\$685	\$3,427

Mayor's Office						
7.65% - Student Assistant Mayor's Office	\$685	\$685	\$685	\$685	\$685	\$3,427
25.26% - Administrative	\$942	\$942	\$942	\$942	\$942	\$4,710
25.26% - Grant Manager	\$3,878	\$3,878	\$3,878	\$3,878	\$3,878	\$19,390
25.26% - Communications	\$2,040	\$2,040	\$2,040	\$2,040	\$2,040	\$10,199
25.26% - Sustainability Manager	\$5,922	\$5,922	\$5,922	\$5,922	\$5,922	\$29,610
TOTAL FRINGE BENEFITS	\$28,035	\$28,035	\$28,035	\$28,035	\$28,035	\$140,174
III. Travel - None Requested	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL TRAVEL	\$0	\$0	\$0	\$0	\$0	\$0
IV. Equipment - None Requested	\$0	\$0	\$0	\$0	\$0	\$0
V. Supplies - None Requested	\$0	\$0	\$0	\$0	\$0	\$0
VI. Contractual - None Requested	\$0	\$0	\$0	\$0	\$0	\$0
VII. Other						
Subaward to Coalition Member (Hoboken)	\$14,881	\$14,881	\$14,881	\$14,881	\$14,881	\$74,404
Subaward to Perpetual	\$807,300	\$760,500	\$769,500	\$201,000	\$75,000	\$2,613,300
Participant Support Costs	\$0	\$6,473,654	\$2,005,467	\$1,143,983	\$852,667	\$10,475,771
TOTAL OTHER DIRECT COSTS	\$822,181	\$7,249,035	\$2,789,848	\$1,359,864	\$942,548	\$13,163,475
TOTAL DIRECT	\$973,694	\$7,400,548	\$2,941,361	\$1,511,377	\$1,094,061	\$13,921,040
INDIRECT						
Indirect Personnel Costs, de minimis 10%	\$12,348	\$12,348	\$12,348	\$12,348	\$12,348	\$61,739
TOTAL	\$986,042	\$7,412,896	\$2,953,709	\$1,523,725	\$1,106,409	\$13,982,779