

Garden Fleet: War on Plastic Pollution

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This White Paper presents the operational model at the core of the Garden Fleet (GF) program, a system that integrates low-cost maritime cleanup teams, mobile recycling infrastructure, and education-driven community engagement to restore coastal ecosystems. It outlines how specialized field teams, modular recycling machinery, and public education partnerships work together to deliver measurable ESG outcomes by removing plastic waste and reducing future pollution through community resilience and environmental literacy. This includes direct collaboration with legally recognized Indigenous Peoples and local communities in each area of operation.

Grounded in practical, scalable field operations, the model demonstrates how localized implementation can achieve real-world environmental restoration while remaining adaptable for global deployment.

Although Palawan serves as the initial implementation site, Garden Fleet is designed as a replicable framework for other high-risk coastal regions where plastic pollution threatens both communities and biodiversity.

- ① In addition to this White Paper, the Garden Fleet program is supported by the **Program Cost Overview** which Provides an itemized breakdown of the full operating budget, covering fleet operations, recycling infrastructure, and community development over a 2 year period.

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1. The Crisis of plastic waste

Plastic pollution is a critical environmental challenge that significantly impacts marine ecosystems and coastal communities worldwide. Palawan, often referred to as the "final frontier" of ecological preservation, is home to one of the most biodiverse marine and terrestrial ecosystems in the world. However, this rich natural heritage is under severe threat due to increasing plastic waste accumulation and escalating coastal erosion. In terms of specific rankings, the Philippines is typically listed as the number one country in terms of ocean plastic waste, with estimates suggesting it emits around 356,371 metric tons of plastic into the ocean annually. This places the Philippines as the world's leading source of ocean-bound plastic, driven both by locally generated waste and by large volumes of foreign plastic carried to the archipelago by regional ocean currents.

1.1 Lack of waste management infrastructure

Based on our field work in Palawan, we identified a critical gap in the waste-management chain: even when plastic waste is successfully collected, the absence of local processing infrastructure means that this material often accumulates at a single collection point for extended periods. Without proper containment or onward transport, the waste is frequently re-introduced into the environment. In many communities, the lack of alternative trash processing streams leads residents to burn accumulated trash in the open. This practice reduces visible waste but creates additional hazards, including toxic smoke exposure, soil contamination, and the release of microplastics and harmful particulates into the air.

1.2 Impact on Indigenous People (IP)

Plastic waste in waterways, compounded by industrial runoff, disproportionately impacts Indigenous communities that rely on rivers and coastal ecosystems for food security and cultural practices. It contaminates fisheries, undermines livelihoods, and degrades environments of spiritual significance. Despite contributing minimally to plastic generation, Indigenous populations bear some of its most severe consequences.

Without urgent action, plastic pollution and coastal erosion will cause irreversible environmental collapse, devastating marine life and coastal communities.

2. Regenerative Solution

To effectively address the crisis of plastic pollution and its widespread ecosystem impact, our solution leverages a low-cost tools and methods dedicated to waste collection, recycling, and mangrove reforestation where appropriate. This initiative introduces a self-sustaining, decentralized model that ensures continuous funding, operational efficiency, and community engagement.

2.1 Removing Plastic Waste from Coastal Areas

- Deploying a cost-effective team to collect and transport waste from beaches, shallow waters, and nearshore ecosystems.
- Engaging local communities and Indigenous Communities (IPs) to assist in collection efforts, creating dignified work opportunities while promoting environmental stewardship.
- Sorting, recycling, and upcycling plastic waste into reusable materials and Eco-Bricks, reducing landfill reliance.

2.2 Repurposing collected plastics

- Collected plastics are shredded and compacted into durable eco-bricks, creating a usable construction material instead of allowing waste to re-enter the environment.
- With simple, affordable machinery, Garden Fleet can produce eco-bricks at high volume, enabling rapid expansion without heavy industrial infrastructure.
- Eco-bricks can be used to build low-cost, resilient structures from community facilities to modular housing. making large-scale, sustainable building possible even in resource-limited areas.



3. Business Case

The success of this initiative relies on transforming coastal cleanup into a scalable, revenue-generating service. By offering coastal waste management as a commercial solution. The project ensures long-term financial sustainability while maximizing environmental impact as an additional funding stream to crowdfunding, grant-seeking and other philanthropic contributions are sought for continued scalability.

GF offers *ESG compliance packages* tailored for corporations seeking to improve their Environmental, Social, and Governance (ESG) ratings. These packages will provide companies with verified carbon offset impact reports, plastic waste recovery certificates and tree planting certificates allowing them to meet sustainability commitments and regulatory requirements. By directly funding cleanup operations and reforestation projects, businesses can enhance their ESG reporting, fulfill extended corporate social responsibility (CSR) obligations, and demonstrate measurable contributions to global environmental restoration efforts.

3.1 Market Opportunity

The market opportunity for coastal cleanup and anti-pollution services in the Philippines is substantial, driven by the country's reliance on marine resources and tourism, coupled with the pressing challenges of marine pollution and its negative effects of tourism and biodiversity.

Tourism: In 2016, coastal and marine tourism contributed nearly \$3 billion USD to the Philippines' GDP, accounting for approximately 2% of the total GDP, and provided employment to around 900,000 individuals. The presence of plastic debris on beaches has been identified as a key factor deterring tourists, leading to shortened visits or the complete avoidance of certain areas.

Fisheries and Aquaculture: The fisheries and aquaculture sector generated over \$2.3 billion USD in 2016, representing about 1.5% of the GDP, and employed approximately 260,000 people. Plastic pollution adversely affects marine ecosystems, leading to reduced fish stocks. Additionally, the increase in microplastics and nano-plastics in the water reduce the quality and spawn rate of fish due to fertility reduction.

Public Sector: The presence of microplastics in seafood can deter tourists, particularly in coastal areas where marine cuisine is a major attraction. Additionally, microplastics can harm marine life by causing tissue damage and reduced growth, leading to decreased fish populations and affecting the livelihoods of local fishing communities. Addressing microplastic pollution presents a significant market opportunity. Additionally the presence of phthalates in microplastics raises environmental and health concerns since when ingested by marine organisms, these compounds can disrupt endocrine functions, affecting reproduction and development in animals and humans.

These market opportunities exist within various Philippine government agencies, including:

Department of Environment and Natural Resources (DENR)	Oversees environmental protection, pollution control, and reforestation projects.
Department of Tourism (DOT)	Supports initiatives that enhance coastal areas to boost tourism.
Bureau of Fisheries and Aquatic Resources (BFAR)	Focuses on sustaining marine ecosystems and fisheries, which are directly affected by pollution and coastal degradation.
Department of Public Works and Highways (DPWH)	Involved in coastal infrastructure and erosion prevention projects.
Local Government Units (LGUs)	Play a key role in implementing localized environmental programs and enforcing policies.

3.2 ESG/CSR Market Opportunity

The ESG and sustainability consulting market is projected to expand from \$14 billion in 2023 to over \$48 billion by 2028, indicating a compound annual growth rate (CAGR) of approximately 28%. While the ESG advisory market specifically is expected to grow from approximately \$15.6 billion in 2024 to nearly \$59.6 billion by 2030. These projections suggest a significant profit opportunity for GF to serve as a service to bolster ESG compliance for institutions intending to improve their standing.

3.3 Value Proposition

The value proposition of GF is centered on delivering economic, environmental, and social benefits through contract-based coastal cleaning services. By providing a scalable and transparent solution. The value benefit to each stakeholder will be focused on: rejuvenating the ecosystem through trash removal.

3.4 ESG Service Packages

Garden Fleet (GF) provides ESG-aligned environmental restoration backed by transparent, verifiable Proof of Impact. Through measurable contributions to coastal cleanup and ecosystem recovery, GF enables businesses, governments, and investors to strengthen their ESG and CSR performance. Instead of operating as a separate service, GF integrates seamlessly into existing sustainability frameworks, allowing institutions to support restoration efforts through routine program contributions. Each partner receives detailed, CSR-ready impact reports suitable for ESG disclosures, regulatory filings, and stakeholder communications

Garden Fleet (GF) offers ESG-aligned environmental restoration services, focusing exclusively on coastal cleanup and mangrove reforestation. By providing transparent, verifiable **Proof of Impact**.

Coastal Cleanup

Remove marine debris and plastics. Provide mechanized plastic sorting, processing and recycling into Trash bins

Mangrove Reforestation

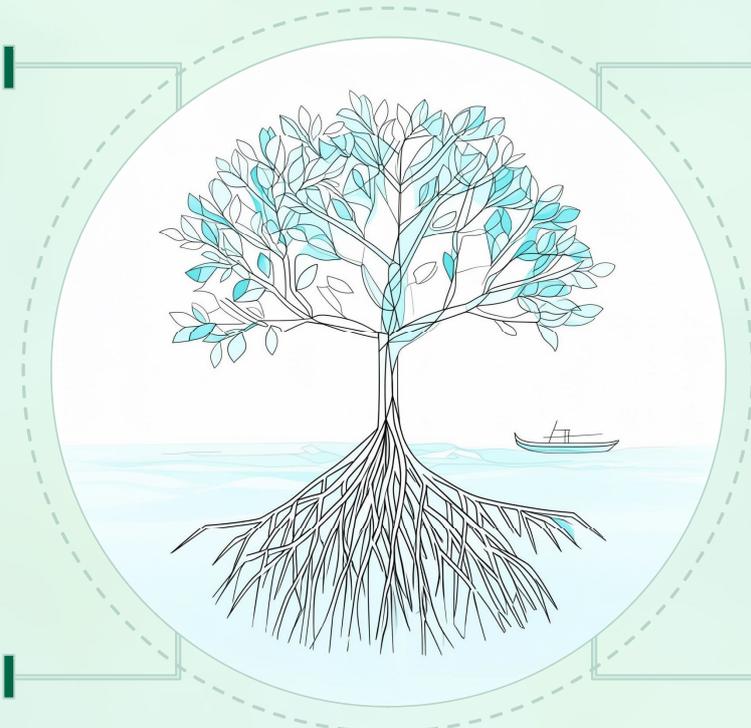
Carbon sequestration by restoring mangrove forests that protect shorelines and support biodiversity.

Proof of Impact

Transparent, verifiable environmental metrics of the work conducted by GF

ESG Integration

Enable compliance for businesses by providing a Proof of Impact report to offset their carbon footprint



3.5 Financial Strategy and Projections

Garden Fleet’s financial strategy is built to balance scalability, operational efficiency, and long-term sustainability. Initial fleet deployment and early growth are supported by a dedicated startup fund focused on establishing core maritime and recycling operations. Future expansion is designed to be self-reinforcing, driven by revenue from philanthropic crowdfunding, competitive grants, and supplemental income from small but reliable operational revenue streams.

Year	ESG Services	Gov Contracts	Total Revenue	Total Cost	Net Profit	Profit Margin (%)
2026	\$5,000	\$0	\$5,000	\$40,000	\$-35,000	0%
2027	\$12,000	\$10,000	\$22,000	\$45,000	\$-23,000	0%
2028	\$25,000	\$20,000	\$45,000	\$55,000	\$-10,000	0%
2029	\$40,000	\$40,000	\$80,000	\$70,000	\$10,000	12%

4 Social & Environmental ROI

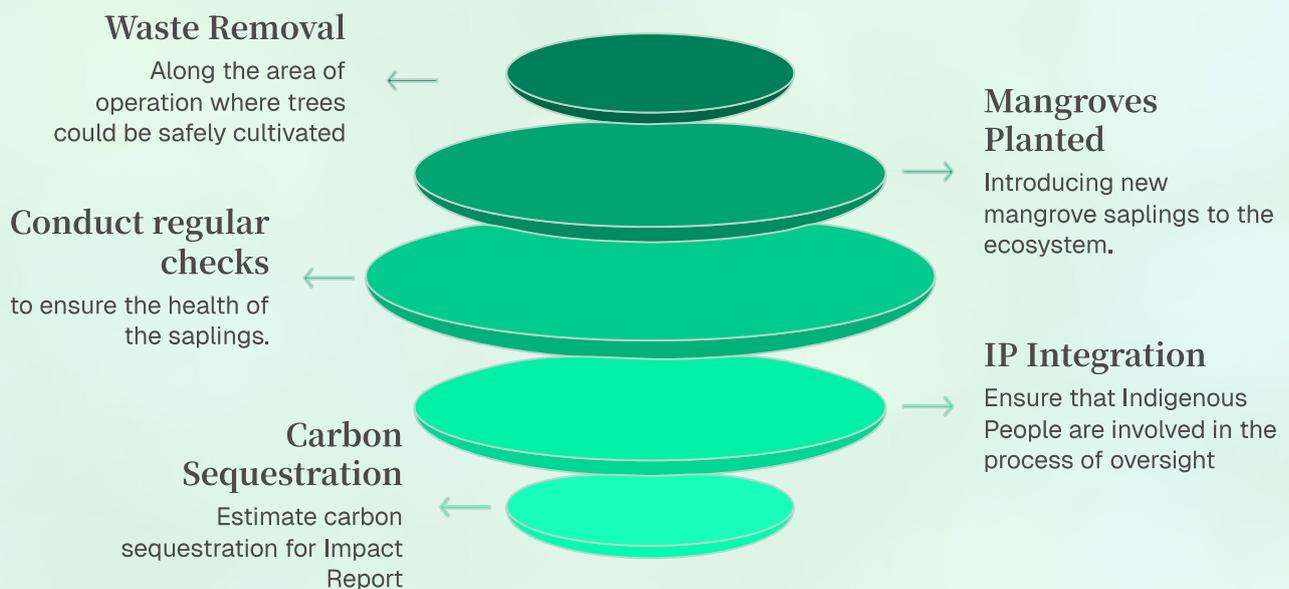
Garden Fleet build Impact Reports based on its field activities that quantify its environmental impact, providing transparent, auditable, and regulatory-compliant proof of social and environmental contributions. These certifications include detailed metrics on:

- **Waste Removal (metric tons)**
- **Mangroves Planted (count)**
- **Restored Coastal Areas (km²)**
- **Verified Carbon Sequestration by plant biomass**
 - Aboveground biomass (AGB) — trunks, branches, leaves (tree wood).
 - Belowground biomass (BGB) — roots (often estimated as a ratio of AGB).

These reports serve as credible ESG documentation, boosting investor confidence and enhancing corporate social responsibility (CSR) reputations.

4.1 Mangroves Cultivation

Mangrove cultivation is included only where ecological conditions support it and where resources allow. Because mangroves provide shoreline protection, habitat, and natural carbon storage, GF restores them as a complementary activity to plastic-removal operations. Planting occurs only after site assessments confirm suitability and when costs do not divert resources from core cleanup and recycling work. Indigenous People are always consulted for their knowledge on the cultivation of mangroves.



4.1 How Carbon Sequestration is Measured

When mangroves grow, they act like natural carbon vaults, pulling carbon dioxide (CO₂) out of the air and locking it away in their wood, roots, and the surrounding soil. This process, known as **carbon sequestration**, is how Garden Fleet measures its contribution to climate recovery.

Each mangrove captures carbon in three main areas:

1. **Aboveground biomass (AGB)** – the trunk, branches, and leaves.
2. **Belowground biomass (BGB)** – the root systems that anchor and store carbon beneath the surface.
3. **Soil organic carbon (SOC)** – carbon that accumulates in the mud and sediment, where mangroves naturally trap and preserve it for decades.

To estimate the carbon captured, we use a scientifically accepted formula recognized by the Intergovernmental Panel on Climate Change (IPCC):

$$\text{Tree Biomass} \times 0.47 \times 3.67 = \text{CO}_2 \text{ Stored}$$

Where:

- **0.47** = the fraction of biomass that is carbon.
- **3.67** = the ratio to convert pure carbon into CO₂ equivalent.

For example, a small mangrove weighing around **10 kg** (dry mass) stores about **17 kg of CO₂** in its first two years. Averaged out, this means each mangrove absorbs roughly **8–12 kilograms of CO₂ per year** during its early growth phase. As the tree matures, it continues to store carbon at a slower rate but retains what it has already captured in its roots and surrounding soil.

Tree Age	Estimated CO ₂ Stored	Description
1 year	~8–12 kg CO ₂	Early rapid growth
5 years	~60 kg CO ₂	Expanding roots & soil carbon
25 years	~250–300 kg CO ₂	Long-term storage in roots and soil

Garden Fleet applies these conservative, IPCC-aligned estimates to ensure credible, measurable, and verifiable carbon accounting. Every planting, measurement, and growth update is logged in the **Project Health Control (PHC)** system and recorded on ESG Impact Reports to provide transparent, auditable data.

This ensures that every mangrove planted by Garden Fleet contributes to both ecological restoration and scientifically valid carbon reduction.

5. Risk Management

Garden Fleet (GF) is dedicated to transparency and proactive management of risks inherent in environmental action. We utilize the Project Health Control methodology and the use of the tool [PHCPORT.COM](https://www.phcport.com) for managing project risk management.

PHC Port is accessible to the public for impact tracking and financial monitoring.

Risk Type	Description	Mitigation Strategy
Operational Delays	Weather, tides, or transport disruptions slow collection or delivery of materials	Add buffer days, diversify collection sites, maintain flexible routing
Equipment Failure	Boats, tools, or processing equipment malfunction	Preventive maintenance, backup tools, local repair partners
Safety Incidents	Injuries during collection or handling of waste	PPE, safety briefings, first-aid training, incident reporting
Waste Contamination	Hazardous or medical waste mixed with plastics	Sorting SOPs, staff training, hazardous waste training
Community Participation Drop-Off	Volunteers or partners disengage over time	Engagement events, recognition, cultural events and prizes
Partner Dependency	Over-reliance on a single barangay, school, or donor	Diversify partners, stagger onboarding
Regulatory Changes	New rules affecting waste handling or transport and unforeseen compliance requirements	Maintain LGU relationships, compliance monitoring, update SOPs
Funding Instability	Delays or gaps in donor or CSR/ESG funding	Multi-source funding, lean operations, quarterly forecasting
Supply Chain Disruptions	Difficulty sourcing bags, PPE, or materials and mechanical replacement parts	Local supplier mapping, minimum stock levels, alternatives

6. ESG/CSR Impact Reporting

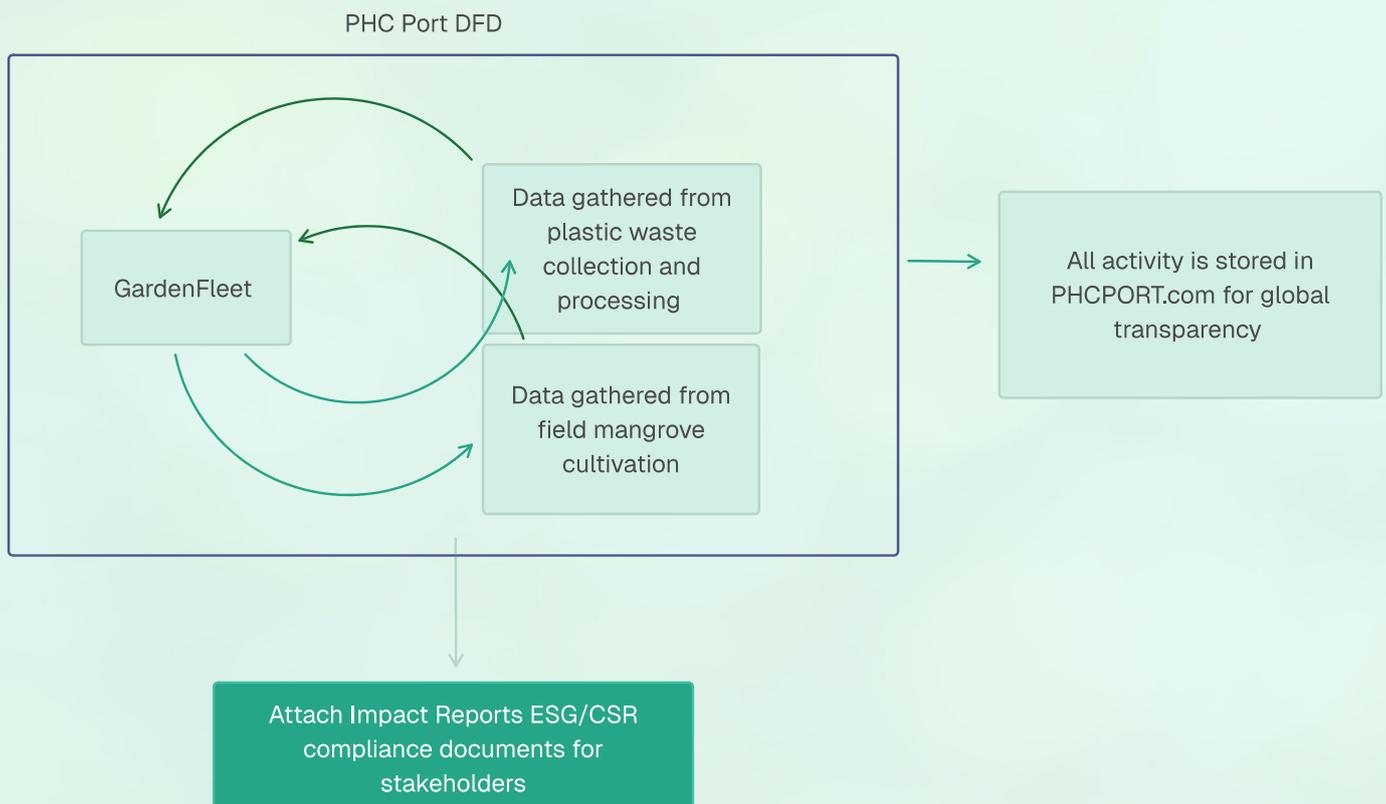
Garden Fleet uses a standardized Impact Report to measure, verify, and communicate the results of all cleanup operations. This reporting framework quantifies key metrics such as kilograms of waste collected, types of materials recovered, number of eco-bricks produced, partner sites served, and community engagement activities completed. By converting field operations into clear, data-driven indicators, the Impact Report provides institutions with transparent, audit-ready documentation that can be incorporated into ESG disclosures, CSR reports, and public sustainability communications.

Each Impact Report represents a real, measurable contribution to ecological restoration, such as:

- **Kilograms of plastic removed** from coastlines
- **Mangrove trees planted**
- **Square meters of shoreline restored**
- **Estimated CO₂ captured** by verified plantings
- **Individuals employed** by hours worked
- **Eco-Bricks created:** By amount of bricks manually built to transfer to partners

6.1 Impact Report

This report provides investors, ESG auditors, and corporate partners with comprehensive, human-readable evidence of the impact achieved and is stored as a publicly downloadable document within the PHC Portal which can be accessed from the main GF website. This document is both logged as a digital document and produced as a physical copy high quality media that can be showcased by stakeholders.



○ Data Dashboard (PHC Extract)

- Beach areas cleaned in square meters
- Total plastic removed (in metric tons or kilograms)
- Total trees planted
- Carbon sequestration estimates
- Community members employed from IPs and other stakeholder communities
- Operational hours logged by fleet
- Eco-bricks made

○ Visual Verification

- Before-and-after drone imagery of cleanup and mangrove zones
- Geotagged photos and maps verifying coordinates of impact

○ Third-Party Endorsements & Signatures

- Comment from the funder
- Testimonial statements from local stakeholders

○ ESG Alignment Table

- GRI 101, 301, 302, 304, 305, 306, 401, and 413 for materials use, emissions, waste, employment, and community engagement
- SDG alignment with Goals 6, 8, 11, 12, 13, 14, 15, and 17, addressing water quality, decent work, sustainable cities, responsible consumption, climate action, marine and terrestrial biodiversity, and global partnerships

○ Multimedia Integration

- Full-length videos of cleanup and planting operations
- before and after photos of the operational sites
- Interviews with crew members and local partners

The Impact Report supports corporate ESG reporting, provides investor assurance by linking verified outcomes to capital use.

6.2 Impact Certificate



This is an AI-rendered example of what an Impact Report Certificate may look like. The certificate is a symbolic gift presented to stakeholders who financially support GF's field operations through the purchase of an Impact Report. The actual report they receive will include verified metrics and data documenting the environmental impact their contribution helped make possible.

6.3 Compliance with UN Sustainable Development Goals (SDG)

These verifiable metrics included in the Impact Report are aligned with SDG and GRI standards, providing corporate partners, donors, and government stakeholders with transparent, audit-ready proof of environmental and social impact.

6 - Clean Water and Sanitation	Removes coastal waste and reduces marine pollution
8 - Decent Work and Economic Growth	Creates green jobs in vulnerable coastal communities
11 - Sustainable Cities and Communities	Supports coastal resilience and eco-infrastructure
12 - Responsible Consumption and Production	Promotes recycling and circular economy practices via CubeSpawn
13 - Climate Action	Captures carbon through mangrove reforestation
14 - Life Below Water	Protects marine ecosystems by cleaning coastlines
15 - Life on Land	Restores coastal vegetation and stabilizes shorelines
17 - Partnerships for the Goals	Builds cross-sector partnerships for environmental impact

6.4 Compliance with the Global Reporting Initiative (GRI)

Garden Fleet's operations are designed in alignment with internationally recognized sustainability frameworks, including the Global Reporting Initiative (GRI) Standards. By incorporating GRI-aligned metrics into our project tracking and ESG reporting systems, we ensure that all environmental, social, and governance outcomes are measurable, transparent, and globally comparable.

GRI 301 - Materials	Tracks waste recovery and recycling rates
GRI 304 - Biodiversity	Enhances biodiversity through mangrove restoration
GRI 305 - Emissions	Reports carbon drawdown from reforestation
GRI 306 - Waste	Discloses marine waste types, volumes, and destinations
GRI 401 - Employment	Reports on inclusive and green job creation
GRI 403 - Occupational Health & Safety	Ensures safety protocols for crew and volunteers
GRI 413 - Local Communities	Engages local communities in restoration efforts
GRI 419 - Socioeconomic Compliance	Adheres to coastal, labor, and marine regulations

7. Operations Framework

The Garden Fleet operates through a structured, low-cost model designed to maximize efficiency in coastal cleanup and, where feasible, mangrove restoration. The fleet consists of four coordinated components that work together to execute field operations while minimizing expenses and preventing scope creep. Activities are carried out in partnership with local LGUs and Indigenous Peoples whenever possible to strengthen community resilience, expand environmental education, and build long-term, relationships.

- **Transport Truck(s)** The truck(s) serves as the primary hauler of equipment and are responsible for towing the Floating Transport Unit
- **Floating Transport Unit (FTU):** A floating maritime vessel that allows crew to operate in near coastal areas to set up nets and other equipment for near-shore collection of plastic waste
- **Enclosed box trailer:** Houses integrated trash compaction and shredding equipment for on-site waste processing.



The truck serves as a frontline transport vehicle for Garden Fleet operations. Outfitted with the organization's signature decal, it carries essential crew members along with personal protective equipment (PPE), medical kits, and field tools. The truck supports rapid deployment to cleanup and restoration sites, ensuring that safety gear, emergency supplies, and operational equipment are always within reach.



The Floating Transport Unit functions like a near-shore emergency craft, supporting surface-level trash collection, net deployment for above-water debris capture, and diver access for retrieving waste deposits from the seafloor.



The enclosed box trailer houses all mechanical systems required for on-site mobile field operations, including integrated waste processing, solar-diesel hybrid power, and distribution equipment and essential crew gear. The trailer is outfitted with trash compaction and shredding tools, battery storage, and backup diesel generators to ensure uninterrupted functionality in off-grid environments. This self-contained unit enables rapid deployment and sustained operations.

7.1 Operational Workflow

1

Deployment

The transport trucks deploy crew members to the designated cleanup or planting site while towing the FTU and trailer ensuring all necessary equipment arrives on-scene for immediate operations.

2

Execution

Crews collect waste and load it into the FTU. Simultaneously, another team plants mangroves when appropriate in accordance with SOP

3

Retrieval

Once the FTU is filled, the truck hauls it back to the recycling machines for waste processing and disposal. Hand collected waste is also sorted based on its stream for processing into pellets or construction materials

4

Reset

Equipment is inspected, and the fleet is returned to base and prepared for the next mission. a briefing is conducted as an After Action Review

7.2 Waste Management

Garden Fleet employs a low-cost, community-scalable recycling methodology that converts suitable plastic waste into durable eco-bricks. This approach is designed for coastal and island environments where traditional recycling infrastructure is limited or nonexistent. The process emphasizes safety, simplicity, and replicability, using affordable shredders, compactors, and manual sorting systems. Garden Fleet employs a low-cost, community-scalable recycling methodology that converts suitable plastic waste into durable eco-bricks. This approach is designed for coastal and island environments where traditional recycling infrastructure is limited or nonexistent. The process emphasizes safety, simplicity, and replicability, using affordable shredders, compactors, and manual sorting systems.

Phase 1: Waste Collection & Initial Handling

Collected waste is transported from cleanup sites to a small processing area. At this stage, all materials are:

- **Visually inspected**
- **Separated from organics, metals, and hazardous items**
- **Prepared for sorting and drying**

Phase 2: Sorting for Eco-Brick Suitability

Not all waste can be used for eco-brick production. The sorting team separates materials into:

- Suitable plastics (soft plastics, films, sachets, mixed low-value plastics)
- Unsuitable materials (glass, metals, organics, contaminated waste)

This step is essential for producing consistent, high-quality eco-bricks and preventing machine damage.

Phase 3: Washing & Drying

Suitable plastics are washed when necessary to remove dirt, sand, and organic residue. Clean materials are then fully dried because moisture can:

- Reduce compaction quality
- Promote mold growth
- Weaken the structural integrity of the final eco-brick

Drying is a critical step in ensuring long-term durability.

Phase 4: Shredding & Size Reduction

Dried plastics are fed into low-cost shredders that reduce them into small, uniform flakes. Shredding:

- Reduces volume
- Improves packing density
- Ensures consistent eco-brick quality

This step allows communities to process large amounts of low-value plastic that would otherwise be discarded or burned.

Phase 5: Compaction into Eco-Bricks

Shredded plastic is packed into PET bottles or molds and compressed using **manual or low-cost mechanical compactors**. This produces:

- High-density eco-bricks
- Standardized building units
- Materials suitable for low-cost, sustainable construction

Eco-bricks can be used for garden beds, benches, walls, and beautiful modular structures for low cost or at-cost housing.

8. Garden Fleet Waste Recycling Mechanical System

Garden Fleet’s recycling workflow is built around a compact, low-cost mechanical system composed of machines that are already widely available in the global marketplace. The system is designed for coastal communities with limited infrastructure, allowing teams to convert suitable plastic waste into eco-bricks using durable, standardized equipment.

Key System Components

A comprehensive overview of the core elements.

- **10-ft enclosed box trailers** for system transport and establishing mobile checkpoints in areas of operation
- **Manual or low-tonnage compactor** for eco-brick formation
- **10 kW solar PV system with battery storage** and integrated power distribution
- **Diesel generators** for off-grid operations when PV power is unavailable or insufficient
- **Fully off-grid capable power architecture** with extensibility for future add-ons and operating cost management
- **Compact single-shaft or dual-shaft shredder (1–3 HP)** to reduce suitable plastics into uniform flakes
- **Sorting tables and solar drying racks** for pre-processing and drying suitable plastics before shredding
- **Trucks (e.g., Hilux-class)** for transporting the modular recycling infrastructure and trailers between checkpoints
- **Small-scale plastic extruder + mini pelletizer** for converting clean plastics into reclaimed pellets

8.1 Processing Streams

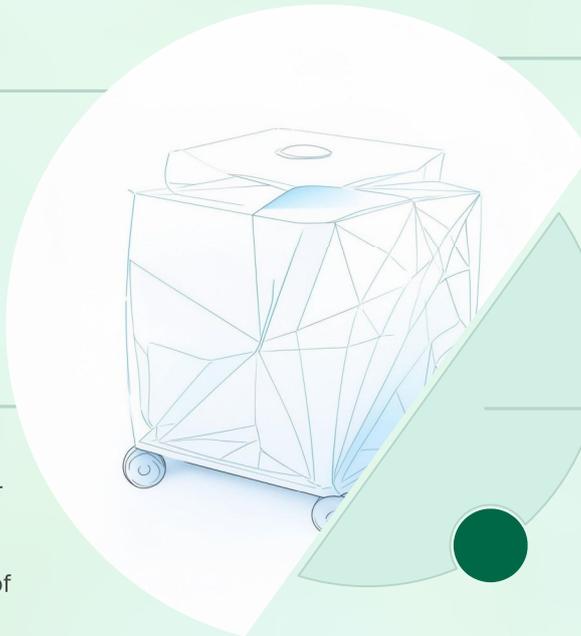
Tier	Type	Processing Method	Final Output
1	Severely degraded or toxic plastics (e.g., PVC)	Transferred for Pyrolysis or gasification via partner organizations	Safe disposal or inert carbon
2	Partially degraded plastics	Washing + Compacting	Eco Bricks to construction
3	Clean plastics	Washing + pelletization	Green/reclaimed plastic pellets
4	Organic Waste	Compost/Disposal	Soil Amendments

Minimal Emissions

fully converts plastics into clean construction materials.

Mobile System

Containerized modular system designed for mobility and rapid deployment, capable of being transported by trucks or sea vessels



Safe Transport

Securely moves untreatable waste streams to partner organizations to prevent waste build-up

Pelletization

Melts and extrudes cleaned plastic into uniform pellets as reusable raw material for molding durable recycled products.

The core of the mobile processing line is that it converts mixed low-value plastics into uniform flakes suitable for eco-brick compaction or further recycling.

Components

- Low-Horsepower Plastic Shredder (1–3 HP):
Capable of processing HDPE, LDPE, PP, and mixed soft plastics commonly found in coastal waste streams.
- Dual-Blade or Single-Shaft Cutting System:
Designed for low-energy operation and easy blade replacement.
- Safety Interlocks:
Prevent operation when the hopper is open or overloaded.
- Output Collection Bin:
Captures shredded flakes for weighing and batching

System Advantages

- Low-cost, low-energy, high-impact mechanical processing
- Fully off-grid capable
- Modular and scalable across multiple communities
- Rapid deployment for disaster response or seasonal cleanup surges
- Community-operable with minimal technical training

All mechanical systems are housed within a 10-ft enclosed box trailer, engineered for mobility, protection, and rapid deployment.

9. Legal Compliance

Garden Fleet operates through a dual-entity structure designed to ensure transparent governance, lawful operations, and full accountability across both the United States and the Republic of the Philippines. The program is administered by Garden Fleet Public Benefit Corporation, Inc. (GF Global), a U.S.–based parent organization, and its wholly owned operational arm, Garden Fleet Palawan Center, Inc. (GF Palawan), which manages field implementation in the Philippines.

Both entities maintain full compliance with all applicable national and local laws, including corporate registration, environmental regulations, labor standards, community-based program requirements, and all reporting obligations in their respective jurisdictions.

9.1 Garden Fleet Public Benefit Corporation, Inc. (GF Global)

GF Global is incorporated in the State of Delaware as a **Public Benefit Corporation (PBC)** under the name *Garden Fleet PBC, Inc.* This structure legally mandates that the organization prioritize measurable public and environmental benefits alongside financial sustainability. Profits are reinvested into ecosystem restoration, community programs, and operational expansion rather than distributed as dividends.

Entity Type: Social Enterprise, Public Benefit Corporation (SEC-registered, U.S.)

Legal Mandate: Reinvestment of surplus into environmental and community impact

Business Model: ESG service contracts, cleanup operations, philanthropic funding, and mission-aligned investment

9.2 Garden Fleet Palawan Center, Inc. (GF Palawan)

Garden Fleet Palawan Center, Inc. functions as the Philippines-based operational arm responsible for direct implementation, community engagement, and environmental impact verification. The organization is incorporated in Palawan as a **non-stock, non-profit environmental entity**, enabling it to work closely with local governments, Indigenous communities, and civil society partners.

Entity Type: Non-Stock, Non-Profit Environmental Organization (SEC-registered, Philippines)

Core Functions:

- Local operations and fleet deployment
- Community coordination and education programs
- ESG impact verification and reporting
- Indigenous Peoples (IP) engagement and benefit-sharing mechanisms

Governance:

GF Palawan is governed by a local Board of Directors composed of Indigenous Peoples (IP) representatives, environmental scientists, civic leaders, and community stakeholders. This governance structure ensures cultural legitimacy, scientific rigor, and compliance with Philippine environmental and community-based program standards.

10. Roadmap



10. Why This Work Matters

The plastic crisis isn't just about picking up trash, it's about what happens afterward. In many coastal and low-income communities, people collect plastic because they want cleaner shorelines and healthier homes, but once the waste is gathered, there's nowhere for it to go. Sorting isn't realistic, so everything ends up mixed together in growing landfills that overflow, get ignored, and slowly poison the environment.

Without proper infrastructure, families are left with only one option: burning their trash at home. It's a choice no one wants to make, but when you're trying to keep waste from piling up around your house, it feels like the only way. The smoke fills the air with microplastics and toxic fumes, putting people's health at risk, especially children and elders.

This work matters because it meets communities where they are. It recognizes that people are already doing their part and they just need the tools to finish the job. With a small investment and the right equipment, families can protect their environment, their health, and their future. Garden Fleet creates a way forward for communities that have been left without options for far too long.



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