# Garden Fleet (GF) White Paper

## Garden Fleet: Regenerative Solution for Coastal Restoration and Waste Management

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GF offers tailored **ESG service packages** that enhance corporate environmental, social, and governance performance through coastal rehabilitation, plastic waste recovery, and community-driven sustainability initiatives. By integrating blockchain-verified environmental impact tracking, GF ensures transparency and measurable ESG improvements, helping businesses achieve regulatory compliance, enhance sustainability reporting, and meet investor and stakeholder expectations for responsible corporate stewardship. **We provide visible and measurable impact by cleaning the coastlines of plastic debris and leaving behind pristine, forested beaches.**

Launching in **Palawan**, Philippines, GF's fleet spearheads ocean cleanup and mangrove reforestation, tackling urgent environmental challenges while establishing a scalable, technology-driven model for coastal restoration. The Philippines, contributing approximately **36%** of the world's ocean plastic waste, serves as the ideal launch point for this initiative. By addressing plastic pollution at its source, GF aims to create a replicable framework for expansion into other regions worldwide, particularly those severely impacted by plastic waste in waterways and coastal ecosystems.

> In addition to this White Paper, an **ESG services brochure** is available, providing a comprehensive overview of the fleet's offerings for potential stakeholders. Additionally, a **Yellow Paper** is available, detailing the technical aspects of the blockchain token's coding.

# 2. Introduction

## 2.1 Problem

Plastic pollution and beach erosion are two critical environmental challenges that significantly impact 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**. The region, which once stood as a global symbol of ecological success, now faces biodiversity loss and habitat destruction driven by unchecked pollution and environmental degradation.

- **Plastic Waste:**

The world produces approximately **400 million tonnes of plastic waste annually**, a figure that has nearly doubled since the beginning of the century. An estimated **1.7 million tonnes** of plastic waste enter the oceans each year, accounting for about **0.5%** of global plastic waste. Of the **seven billion tonnes** of plastic waste generated globally so far, **less than 10%** has been recycled, leading to significant accumulation in natural environments.

The mismanagement of plastic waste is a pressing concern, with approximately 52 million tonnes entering the environment annually due to inadequate waste management systems. Projections indicate that, without intervention, global plastic waste generation could nearly triple by 2060, reaching a staggering one billion metric tons per year. This trend underscores the urgency for comprehensive strategies to enhance recycling rates, improve waste management infrastructure and anti-pollution efforts.

- **Beach Erosion:**

Approximately **24%** of the world's sandy beaches are eroding at rates exceeding **0.5 meters per year**, while **28%** are accreting and **48%** remain stable. Between 1984 and 2015, nearly **28,000 square kilometers** of permanent land in coastal areas were lost globally, an area roughly equivalent to the size of Haiti. If current trends persist, it is projected that up to **50%** of the world's sandy beaches could disappear by the end of the century due to coastal recession driven by sea-level rise.

If plastic pollution and coastal erosion are not urgently addressed, the environmental damage will become increasingly difficult to reverse, leading to **runaway pollution** that will escalate beyond manageable levels. The unchecked accumulation of plastic waste in oceans will result in widespread biodiversity loss, disrupting marine food chains and accelerating the decline of crucial ecosystems such as coral reefs and mangrove forests. Likewise, escalating beach erosion threatens not only natural landscapes but also human settlements, infrastructure, and economies reliant on coastal tourism. This is a global crisis that demands immediate intervention at both international and local levels to prevent irreversible environmental collapse.

## 2.2 Solution

To effectively address the dual crises of **plastic pollution and coastal erosion**, our solution leverages a **token-powered fleet of low-cost ships** dedicated to **waste collection, recycling, and mangrove reforestation**. This initiative introduces a **self-sustaining, decentralized model** that ensures continuous funding, operational efficiency, and community engagement.

## Our fleet operates on four core principles:

**Removing Plastic Waste from Coastal Areas**

- Deploying a cost-effective fleet to collect and transport waste from beaches, shallow waters, and nearshore ecosystems.
- Engaging local communities to assist in collection efforts, creating jobs while promoting environmental stewardship.
- Sorting, recycling, and upcycling plastic waste into reusable materials, reducing landfill reliance.

**Combating Beach Erosion through Mangrove and Coastal Reforestation**

- Restoring natural barriers by planting mangroves, which stabilize coastlines, prevent flooding, and enhance biodiversity.
- Partnering with local conservation groups, privater firms and government institutions to ensure ecologically sound reforestation practices that benefit tourism.
- Monitoring and assessing the impact of mangrove growth on sediment retention and shoreline stability.

**Leveraging Blockchain for transparent funding and money allocation**

- Introducing a Regenerative Finance (ReFi) cryptocurrency token that funds cleanup operations through smart contract-based payments utilizing a DAO governance model.
- Partnering with hospitality businesses, government agencies, and mission-driven investors to build a self-sustaining economic model for environmental restoration.
- Providing real-time tracking of impact metrics (e.g., plastic removed, trees planted) to ensure transparency, accountability, and measurable progress in conservation efforts.

**Selling Coastal Cleanup as a Service to ESG compliant stakeholder**

- Offering contract-based coastal waste management services to government agencies, tourism businesses, and ESG compliant businesses seeking to improve their social responsibility and environmental ratings.
- Providing subscription-based or pay-per-service models for ongoing waste collection and environmental monitoring.
- Establishing public-private partnerships to integrate cleanup efforts into municipal waste management plans for long-term sustainability.

# 3. Business Case

The success of this initiative relies on transforming coastal cleanup and reforestation 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. Additionally, GF will offer **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 credits, plastic waste recovery certificates, and corporate social responsibility (CSR) partnerships, 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 producer responsibility (EPR) 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.

**Public Health (Microplastics Reduction):** 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. Moreover, phthalates are known to leach out from microplastics over time, potentially contaminating aquatic ecosystems and **entering the human food chain.**

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. |

Beyond economic and environmental concerns, coastal restoration is a critical component of national security. Beach erosion threatens military installations, coastal communities, and vital infrastructure, particularly in regions prone to typhoons and rising sea levels. The **Department of National Defense (DND)** and the **Armed Forces of the Philippines (AFP)** recognize the strategic importance of maintaining stable coastlines to prevent land loss, fortify national borders, and mitigate disaster risks.

By partnering with a specialized third-party agent like **Garden Fleet (GF)**, these agencies enhance project efficiency while reducing costs. GF offers a dedicated workforce trained specifically for large-scale coastal reforestation and erosion control.

## 3.2 ESG 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 **GF to serve as a service to bolster ESG compliance** for institutions intending to improve their standing.

Growing public awareness about environmental issues has led to increased demand for cleaner technologies and waste management solutions. Companies are now more inclined to invest in anti-pollution measures to align with consumer expectations and enhance their corporate social responsibility profile

## 3.3 Value Proposition

The value proposition of GF is centered on delivering economic, environmental, and social benefits through contract-based coastal restoration services. By providing a scalable and transparent solution. The value benefit to each listed stakeholder will be focused on: rejuvenating the ecosystem through trash removal, preventing coastal erosion, the beautification of beaches and providing jobs to the local labor workforce.

## Stakeholder Value Propositions

| Stakeholder | Value Proposition |
|---|---|
| Government Agencies & Municipalities | **Regulatory Compliance** – Helps meet local and international environmental mandates (e.g., SDGs, ESG reporting).<br>**Cost-Effective Waste Management** – Outsourcing cleanup reduces public sector burden.<br>**Disaster Mitigation** – Mangroves protect against flooding, storm surges, and erosion. |
| Tourism & Hospitality Businesses | **Enhanced Tourist Appeal** – Pristine beaches drive bookings and improve guest satisfaction.<br>**ESG & Sustainability Certification** – Helps resorts meet sustainability goals and gain eco-friendly branding.<br>**Higher ROI** – Clean environments increase property value and repeat visitor rates. |
| Cryptocurrency investors | **Measurable Impact** – Verified waste removal and carbon sequestration metrics.<br>**Token Utility & Staking Rewards** – Investors can **stake tokens** to earn rewards based on environmental impact metrics.<br>**NFT Trading & Ownership** – **Coastal Cleanup NFTs** and **Tree Planting NFTs** provide **investment opportunities and exclusive environmental contributions**. |

## 3.4 Revenue Model

GF operates as a contract-based environmental service provider, offering scalable, technology-driven solutions to stakeholders in both the public and private sectors and leveraging ESG policies. The Philippine Senate introduced bills requiring all corporations, both stock and non-stock, to submit sustainability reports to the SEC. These bills propose integrating sustainability and financial reports, mandating independent assurance of ESG disclosures, and establishing an ESG Code of Conduct for rating providers.

| Revenue Source | Target Clients | Services |
|---|---|---|
| Regenerative Finance NFTs | Social Responsibility investors, corporations and donors | NFTs tied to verified cleanup and reforestation efforts that can be used as tax-deductible donations. (Also offered as a physical certificate) |
| Private Cleaning Contracts | Hospitality firms, hotels and island bars | Paid cleanup and restoration services to maintain pristine shorelines for guests and improve ESG compliance |
| Government Cleaning Contracts | Environmental Government agencies and municipal governments | Long-term service contracts for regular beach cleaning, pollution control. |
| Government Forestation Contracts | Environmental Government agencies and municipal governments | Long-term contracts for mangrove reforestation and shoreline stabilization to combat coastal erosion. |

A Non-Fungible Token (NFT) is a unique digital asset on a blockchain. For coastal cleanup, an NFT can verify waste removed (in tons) or area cleaned (in $km^2$), ensuring transparency and impact tracking.

Recurring revenue from government and hospitality contracts ensures long-term financial stability for cleanup and reforestation services. Blockchain-based NFTs create a scalable funding stream, allowing corporations to support ESG initiatives while serving as verifiable proof of impact. These NFTs are also used for tax write-offs, as they certify the tonnage of waste removed, the area ($km^2$) cleaned, and the number of mangroves planted.

### Recurring revenue

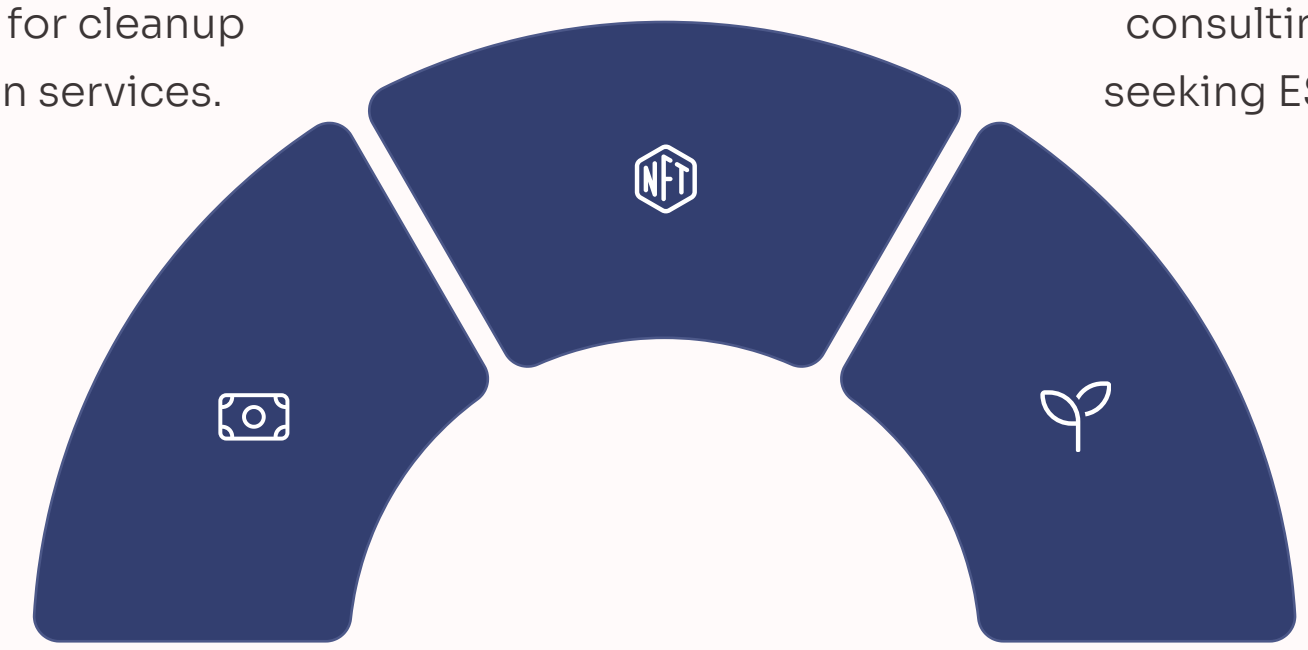
Government and hospitality contracts ensures long-term financial stability for cleanup and reforestation services.

### Blockchain-based NFT funding model

provides a **scalable, transparent funding stream**, allowing corporations to verifiably support ESG initiatives while benefiting from tax deductions.

### ESG Services & Compliance Support

As ESG adoption grows, GF can scale by offering third-party verification, impact reporting, and compliance consulting to businesses seeking ESG improvement.




## 3.5 ESG Service Packages

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

GF enables businesses, governments, and investors to meet their ESG compliance requirements with measurable environmental contributions. Our services are designed to integrate seamlessly into corporate ESG strategies.

### Verified Coastal Cleanup

Systematic removal of plastic waste and marine debris to maintain pristine coastlines and ensure ESG compliance

### Service Offerings:

- Removal of plastic waste and marine debris from beaches and shallow coastal waters
- Sorting and proper disposal or recycling of collected waste to minimize environmental impact
- Blockchain-based tracking and verification of waste removed (in metric tons) for ESG reporting

### For:

- Hospitality businesses aiming to keep shorelines clean for guests and maintain a positive brand image
- Government agencies responsible for coastal environmental management and pollution control
- Corporations seeking plastic neutrality and compliance with Extended Producer Responsibility (EPR) laws

### ESG Benefit:

- Provides documented proof of plastic waste recovery for ESG reporting and regulatory compliance
- Helps businesses offset their plastic footprint and demonstrate measurable environmental impact
- Contributes to ocean health and biodiversity protection by reducing pollution in marine ecosystems

### Coastal Forestation

Rebuilding coastal ecosystems with mangrove forests to prevent island erosion and sequester carbon.

### Service Offerings:

- Planting and maintaining mangroves to restore natural barriers against coastal erosion
- Strategic reforestation to enhance shoreline stability and protect against storm surges
- Monitoring and data collection to track tree growth and assess environmental benefits
- Blockchain-backed verification of trees planted and hectares restored for ESG compliance

### For:

- Corporations looking to invest in carbon sequestration projects and environmental conservation
- Hospitality businesses protecting beachfront properties from erosion and storm damage
- Government agencies focused on climate resilience and biodiversity restoration

### ESG Benefit:

- Verifiable carbon sequestration data to support corporate net-zero commitments
- Reduces coastal erosion, preventing infrastructure damage and habitat loss
- Enhances biodiversity, creating ecosystems that support marine and terrestrial wildlife

## 3.6 Financial Projections

Garden Fleet's financial strategy is designed to balance scalability, operational efficiency, and long-term sustainability. The initial fleet deployment and growth projections are based on a $1M startup fund, with expansion contingent upon revenue generation from NFT sales, private contracts, and government partnerships.

## Projection Table:

| Year | ESG Services | Gov Contracts | Total Revenue | Total Cost | Net Profit | Profit Margin (%) |
|---|---|---|---|---|---|---|
| 2025 | $15,000 | $0 | $15,000 | $100,000 | $-85,000 | 0% |
| 2026 | $35,000 | $50,000 | $85,000 | $110,000 | $-25,000 | 0% |
| 2027 | $70,000 | $110,000 | $180,000 | $135,000 | $45,000 | 25% |
| 2028 | $140,000 | $260,000 | $400,000 | $190,000 | $210,000 | 52% |
| 2029 | $280,000 | $260,000 | $540,000 | $250,000 | $290,000 | 53% |

## 3.7 Fleet Capital Allocations

Assuming $1M of initial start up moneys to be expended on fleet capital assets.

### Total Fleet Capital Allocation

| **Category** | **Allocations (USD)** |
|---|---|
| Ship Acquisition | 25% |
| Port Construction & Infrastructure | 20% |
| Miscellaneous/Contingency | 15% |
| Safety & Emergency Equipment | 10% |
| Fuel & Energy Costs | 10% |
| Specialized Tools & Supplies | 10% |
| Safety & Emergency | 5% |
| Legal/Audits | 5% |

### Per Squad Capital Allocation

Each fleet squad consists of **two transport ships** for crew deployment, **one tugboat** for carrying equipment and botanical supplies, and a **Floating Transport Unit (FTU)** for collecting and transporting coastal waste. The estimated **minimum cost per fleet is $25,000**, but actual costs may vary depending on available funding, which influences the **quality of equipment and the operational scope of each squad**.

## Per Squad Capital Allocation Table

| Category | Allocations (USD) |
|---|---|
| Ships/Engines | $15,000 |
| Safety | $1500 |
| Emergency Fuel/Energy | $1750 |
| Equipment & Special Tools | $1750 |
| Cleaning & Sanitation | $1000 |
| Administrative Costs | $1500 |
| Monitoring/Data | $1250 |
| Crew Essentials | $1250 |

> To ensure crew safety and adherence to maritime nautical standards. $25,000 is considered the minimum viable investment per team.

Garden Fleet (GF), incorporated as a **social enterprise**, offers investors returns that extend beyond traditional financial gains. Investors receive a dual benefit, comprising measurable **social and environmental impacts** alongside sustainable financial returns.

### 4.1 Social & Environmental ROI

Investors receive blockchain-based **Impact NFTs**, providing transparent, auditable, and regulatory-compliant proof of their social and environmental contributions. These certifications include detailed metrics on:

- **Waste Removal (metric tons)**
- **Mangroves Planted (count)**
- **Restored Coastal Areas ($km^2$)**
- **Verified Carbon Sequestration (credits)**

> These NFTs serve as credible ESG documentation, boosting investor ESG scores, and enhancing corporate social responsibility reputations.

## 4.2 Financial ROI

Garden Fleet (GF) offers investors attractive financial returns through strategic use of blockchain technology, specifically the GF token, which serves as the cornerstone of its regenerative finance model.

- Provides access to impact-driven staking pools, offering token holders **monthly rewards** and Impact NFTs for verified environmental contributions.
- Enables governance participation via DAO voting, granting token holders a direct voice in fleet operations, expansion decisions, and allocation of funds.
- Creates potential for significant token appreciation tied to increasing global demand for verifiable ESG solutions.
- Offers liquidity opportunities through decentralized exchanges, providing flexible exit strategies for investors.

# 5. Risk Management

Garden Fleet (GF) is dedicated to transparency and proactive management of risks inherent in environmental and blockchain-related projects. The following outlines key risks and GF's strategies for mitigation:

## 5.1 Operational Risks

| Risk | Description | Mitigation Strategy |
|---|---|---|
| **Fleet Disruptions** | Natural disasters, extreme weather, and logistical challenges may hinder operations. | Weather-resistant vessel designs, real-time forecasting, contingency plans, and diversified supply chains. |
| **Safety Concerns** | Occupational hazards and maritime risks may affect personnel and operations. | Strict safety protocols, regular crew training, safety gear, and emergency response strategies. |

## 5.2 Financial & Market Risks

| Risk | Description | Mitigation Strategy |
|---|---|---|
| **Funding Volatility** | Market fluctuations in cryptocurrency and operational expenses may impact financial stability. | Diversified revenue streams (ESG partnerships, government contracts, traditional funding), and maintaining reserve funds. |
| **Cost Management** | Rising maintenance, fuel, and operational costs could strain resources. | Conservative financial planning, regular audits, and contingency budgets. |

## 5.3 Regulatory & Compliance Risks

| Risk | Description | Mitigation Strategy |
| --- | --- | --- |
| **Legal Changes** | Evolving maritime, environmental, and blockchain regulations may affect compliance. | Engage legal experts, monitor policy updates, and ensure adaptable operational frameworks. |
| **Environmental Standards** | Non-compliance with sustainability guidelines may impact reputation and contracts. | Internal audits, third-party sustainability certifications, and adherence to global environmental policies. |

## 5.4 Social & Community Risks

| Risk | Description | Mitigation Strategy |
| --- | --- | --- |
| **Local Engagement** | Resistance or lack of community support may hinder project success. | Transparent communication, community education, local employment, and integrating feedback into planning. |

# 6. Tokenomics

The fleet will feature the **Garden Fleet (GF) Token**, built on the **Celo ecosystem**, to support **governance, liquidity distribution**, and the issuance of **NFTs** as verifiable certificates for **ESG compliance**.

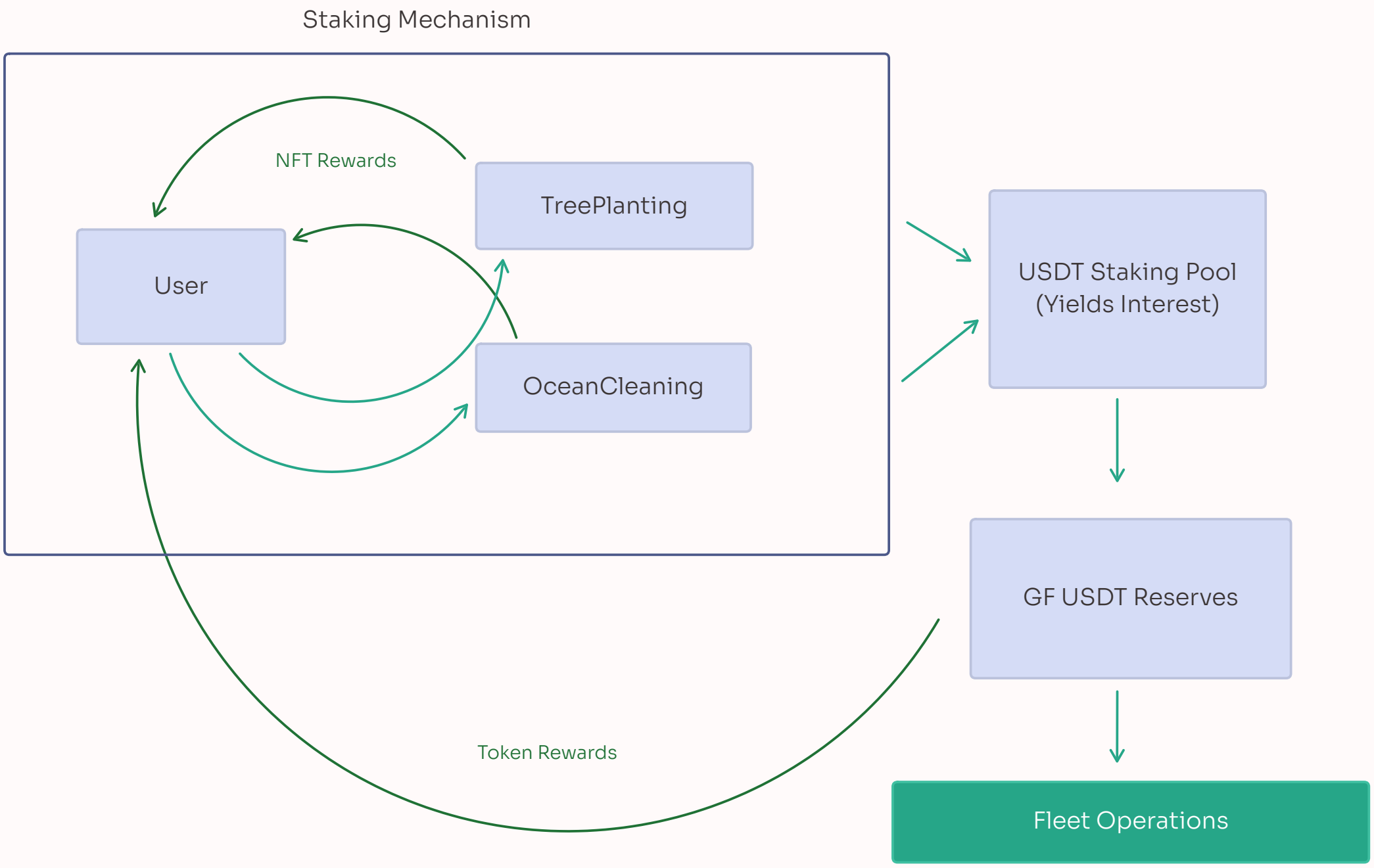
## 6.1 Token Utility

The Garden Fleet **(GF)** token is a **Celo-based ReFi asset** that creates a self-sustaining, impact-driven economy. By aligning blockchain incentives with real-world environmental restoration, GF bridges the gap between profitability and sustainability.

The GF token also powers a **decentralized autonomous organization (DAO)** that governs all spending decisions with a policy of **Absolute Transparency**. Token holders participate in on-chain governance, ensuring that fund allocations for fleet operations, mangrove reforestation, and recycling incentives are fully visible and accountable to the community. Through smart contracts and transparent treasury management, every expenditure is recorded on-chain, making GF a trustless, community-driven financial system for regenerative impact.

## 6.2 Liquidity Flow Diagram & Distribution

Tokens serve as the primary medium for funding and rewarding ecological activities. The ecosystem is designed to encourage participation from individuals and institutions in coastal cleanup and mangrove reforestation.



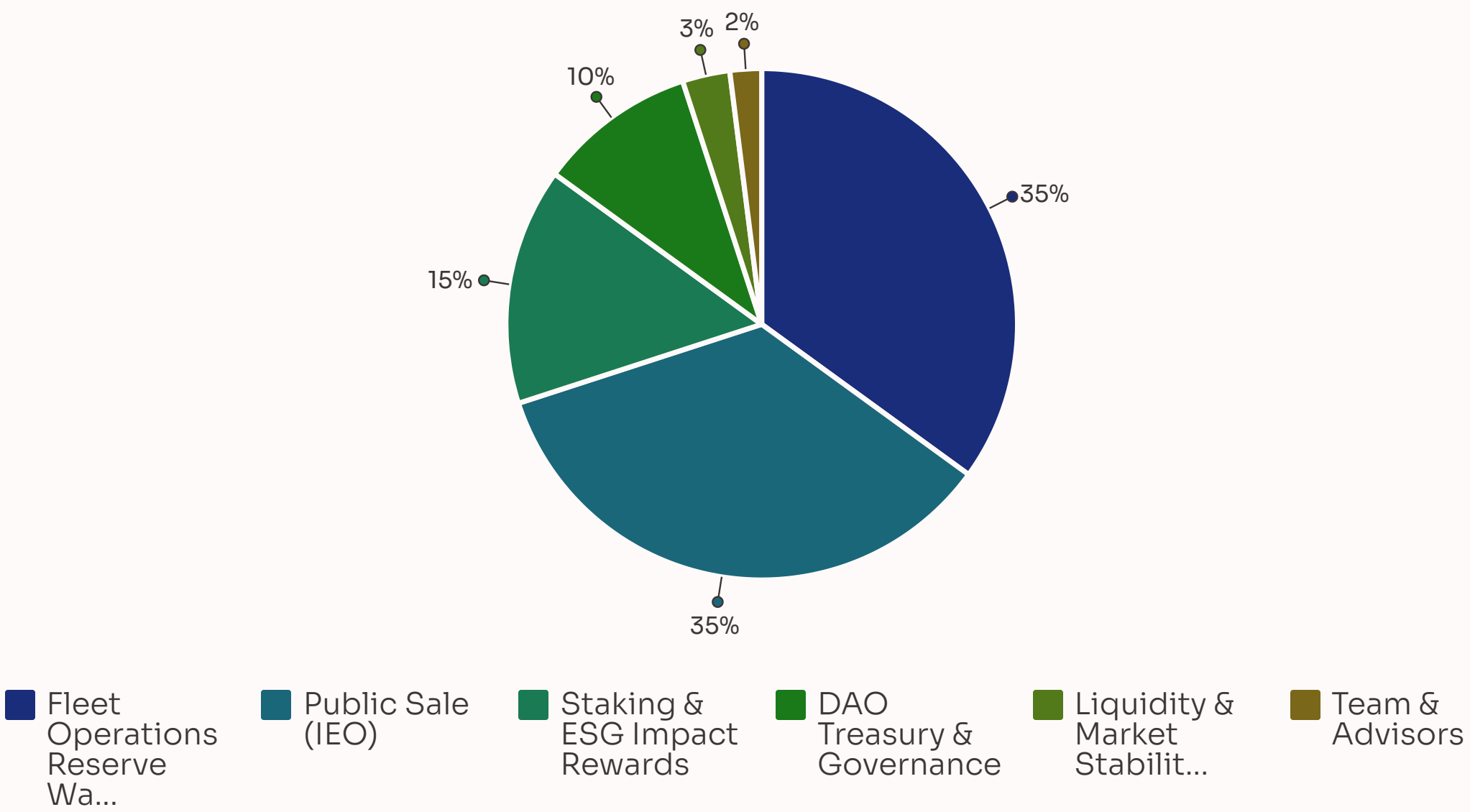

1. Token purchases made in the marketplace are used to Stake USDT in either **TreePlanting** pool or **OceanCleaning** pool.
2. The user's wallet is periodically rewarded with **Impact NFTs** for either Tree Planting and/or Ocean Cleaning based on the amount of tokens staked.
    a. **Mangrove Guardian NFT** - is issued to users participating in the **TreePlanting** staking pool
    b. **Ocean Guardian NFT** - is issues to users participating in the **TreePlanting** staking pool
3. Staking NFT rewards are issued monthly to participating wallets.
4. Money generated from the staking mechanism in USDT interest is used for Fleet Operations
5. Token Rewards are issued periodically as Drop Rewards to participating wallets who hold any amount of GF tokens

> Impact NFTs display the user's investment amount in USDT (calculated based on the token's price at the time of issuance) and can later serve as Proof of Impact for ESG compliance.

## Staking Reward Model & Token Distribution

- **Stake Duration:** Monthly lock-in with auto-renewal.
- **NFT Distribution:** Sent at the end of each staking cycle.

**Total Supply:** 1,000,000,000 GF




## Allocations Table:

| Category | Allocation (%) | Allocation (GF) | Purpose |
|---|---|---|---|
| Initial Coin Offering (IEO) | 35% | 350,000,000 | Provides liquidity & funding for operations. |
| Fleet Operations Reserve Wallet | 35% | 350,000,000 | Funds coastal cleanup & mangrove reforestation |
| Staking & ESG Impact Rewards | 15% | 150,000,000 | Users stake GF to fund cleanup and reforestation, earning monthly NFT and token rewards. |
| DAO Treasury & Governance | 10% | 100,000,000 | Funds community-led projects, fleet expansion, and technology development |
| Liquidity & Market Stability | 3% | 30,000,000 | Ensures smooth trading & market stability on CEX & DEX |
| Team & Advisors | 2% | 20,000,000 | 4-year vesting with a 1-year cliff for executive blockchain team. |

## Initial Coin Offering (IEO) – 35%

The IEO (Initial Coin Offering) is the primary fundraising mechanism to support fleet deployment, impact tracking technology, exchange listings, and operational scaling.

1. A portion of the raised funds will ensure **sufficient liquidity on decentralized (DEX) and centralized exchanges (CEX)** to maintain a stable trading market for GF tokens.
2. The funds will help purchase and **deploy cleanup fleets** in coastal areas.
3. Supports public awareness efforts, including **media campaigns, partnerships, and direct engagement** with potential stakeholders and investors.

## Fleet Operations Reserve Wallet – 35%

This reserve is dedicated to funding coastal cleanup operations, mangrove reforestation, and the ESG services offered by GF to clients.

1. Directly **funds on-the-ground operations**, ensuring a steady flow of capital for cleanup activities.
2. Provides maintenance and fuel for the transport & tugboat fleets used for waste collection and disposal.
3. Ensures continued expansion into new cleanup sites beyond Palawan by deploying additional ships and personnel. **Supports GF's ESG services** offered to businesses.

## Staking & ESG Impact Rewards – 15%

This allocation incentivizes user participation in impact-driven staking pools. Participants stake GF tokens to directly fund cleanup and reforestation, receiving monthly rewards in tokens and NFTs.

1. Encourages **institutional and individual staking**, allowing participants to support coastal restoration while earning blockchain-verified impact rewards.
2. Users earn **impact-based NFTs** representing their contributions (e.g., "Mangrove Guardian" for reforestation).

## DAO Treasury & Governance – 10%

The DAO Treasury ensures absolute transparency in all expenditures and public-facing activities while funding community-led proposals, fleet expansion, and ecosystem development through decentralized governance. Token holders vote on new projects, sustainability initiatives, and treasury allocations.

1. Ensures **Absolute Transparency**. Every expenditure from the DAO Treasury is trackable on-chain, providing full public visibility into how funds are used.
2. GF holders can vote on how funds are allocated for impact-driven initiatives.
3. The DAO funds new fleet launches, scaling operations beyond the Philippines

## Liquidity & Market Stability – 3%

This allocation ensures sufficient liquidity for GF token trading on exchanges, preventing extreme price volatility.

1. **Funds liquidity pools on DEXs** (Uniswap, PancakeSwap) and market-making reserves on CEXs
2. Supports GF **pairings with stablecoins** (e.g., USDT, CELO) to maintain price stability.
3. Reduces price fluctuations by ensuring sufficient buy/sell depth.

## Team & Advisors – 2%

This allocation rewards core contributors, environmental scientists, blockchain developers, and key strategic advisors for their role in building and expanding the project.

1. Funds salaries & incentives for **project founders, developers, and operational managers**.
2. Onboards blockchain engineers & NFT developers to maintain and **improve impact-tracking technology.**
3. Retains environmental scientists & sustainability experts to optimize fleet impact strategies.

## 6.3 Pseudo-Code

This pseudo-code is a rough draft and an approximation of how the final Garden Fleet (GF) token will function. It outlines the core tokenomics, staking mechanisms, DAO governance, liquidity management, and vesting schedules. However, the actual smart contract implementation will involve more detailed security checks, gas optimizations, and integration with blockchain standards

The final version will also undergo testing, audits, and refinements to ensure it meets industry security standards and operates efficiently on the **Celo blockchain**.

**All coding-related materials, including technical specifications and implementation details, are documented in the Yellow Paper**

Although Garden Fleet is targeting **$1M** in startup funding, the project **does not need to reach this goal to begin operations**. A **minimum of $25,000** is required to deploy **one team** while meeting maritime safety standards, and at least **$50,000** is needed to outfit a port in palawan for operations. Additional funding will allow for expansion, but the fleet can **start executing its mission as funds come in**.

# 7. Operations Framework

- The Garden Fleet operates with a structured approach to maximize efficiency in coastal cleanup and mangrove reforestation. Each fleet is composed of four integral components that work in coordination to execute operations.
- **Two Transport Ships:** These vessels transport personnel to and from cleanup and planting sites. Each ship carries a crew of four, totaling eight personnel.
- **One Tug Boat:** The tug boat serves as the primary hauler of equipment and is responsible for towing the Floating Transport Unit (FTU). It is operated by a three-person crew.
- **Floating Transport Unit (FTU):** This device is a specialized barge floating container designed for collecting and transporting waste materials back to shore. It is towed by the tug boat during cleanup operations.

Each fleet operates with a total of **11 personnel**, ensuring effective execution of tasks, from trash collection to reforestation efforts.

| Fleet Component | Function | Crew Size |
|---|---|---|
| Transport Ship 1 | Personnel transport (4 people) | 4 |
| Transport Ship 2 | Personnel transport (4 people) | 4 |
| Tug Boat | Equipment & FTU towing | 3 |
| Floating Transport Unit (FTU) | Trash collection device | 0 |
| Total Crew | - | 11 |

## Operational Workflow

1

### Deployment

The transport ships deliver personnel to the designated cleanup or planting site, while the tug boat tows the FTU with necessary equipment.

2

### Execution

Crews collect waste and load it into the FTU. Simultaneously, another team plants mangroves or conducts erosion control activities.

3

### Retrieval

Once the FTU is filled, the tug boat hauls it back to shore for waste processing and disposal.

4

### Reset

Equipment is inspected, and the fleet is returned to port and prepared for the next mission.

This fleet configuration ensures **efficient, low-cost, and scalable operations**, supporting the Garden Fleet's mission to restore and protect coastal ecosystems while maintaining operational sustainability.

# 8. Governance

## 8.1 Leadership Team

### Core Team:

### Abu-Bakr Harakat

Founder and leader of Garden Fleet, with over a decade of experience in military operations, U.S political campaigns, and information systems. A seasoned project management specialist, driven by the purpose of reducing global pollution. Leverages AI-driven tools and the PHC methodology to deliver scalable, blockchain-verified ESG impact through coastal restoration and regenerative finance.

### David Winter

An engineering veteran with 30+ years of global experience in Oil & Gas, Rail, and Infrastructure. He brings expertise in project risk analysis and assurance to ensure Garden Fleet's ESG operations are safe, efficient, and accountable. Utilizing the PHC (Project Health Control) system, he provides stakeholders with clear monetary oversight and performance tracking.

### Advisor Team

**Tahira Amir Khan**

Technologist (20+ yrs), trained Mathematician, MBA and award-winning Author, she has advised the Singapore & Qatar Gov on e-governance frameworks. As the former President of Mobile Alliance Singapore, an initiative supported by IE Singapore, she now focuses on building sustainable value-based EcoSocieties. As Founder of Through The Golden Door, she has been called a Visionary by Singapore's Ambassador-at-large to the UN, Tommy Koh, with an endorsement by Singapore's Former Nominated Member of Parliament, Viswa Sadasivan.

**Kari Honkanen**

Kari Honkanen is a seasoned professional in the software industry, credited with developing high-impact solutions for technology giants such as Facebook, Yahoo, and VMware—work that reached hundreds of millions of users. Since 2014, he has driven innovation in the UK's fintech sector, guiding multiple startups to success with his determined vision and strategic expertise. His journey in artificial intelligence began in 2008 with early experiments in Bayesian networks, setting the stage for his current focus on building AI-driven fintech solutions.

**Tony Knight**

An entrepreneur and mentor with 25 years of experience in health, finance, and personal development. As the founder of EarthStar, a wholefood and organic sales consultancy, he is passionate about integrating natural laws into everyday life.

### Jyotirmoy Goswami

Prof. Jyotirmoy Goswami is a retired professor of Bengali literature and a lifelong advocate for ecological harmony. As founder of the Glob-Cal Green Mission, he champions permaculture and sustainable rural development to address environmental, agricultural, and employment challenges. His initiatives have been recognized by and implemented through local and state government agencies in India. Now focused on building a community-based university in the Himalayas, Prof. Goswami brings deep cultural insight, grassroots leadership, and policy-level experience to Garden Fleet's mission of regenerative coastal restoration.

## 8.2 Decentralized Autonomous Organization (DAO)

The **Garden Fleet (GF) DAO** governs the ecosystem, ensuring transparency, sustainability, and stakeholder participation. Governance is structured to balance decentralized decision-making with operational efficiency, ensuring that funds, project approvals, and impact verification remain aligned with environmental objectives.

- **GF DAO** – The governing body where token holders propose and vote on initiatives.
- **Steering Committee** – A multi-sig council composed of environmental scientists, blockchain experts, and fleet operators who execute DAO-approved proposals.
- **DAO Treasury** – The treasury holds funds allocated for expansion, sustainability efforts, and community-led initiatives.
- **On-Chain Proposals** – All funding requests, fleet expansions, and ESG partnerships are voted upon transparently.

## 8.3 Steering Committee

The Steering Committee is a specialized governance body responsible for overseeing legal, financial, and operational compliance within the Garden Fleet (GF) ecosystem. While the DAO governs decentralized decision-making and fund allocations, the Steering Committee ensures that GF operates within legal frameworks and contractual obligations as a social enterprise.

The Steering Committee acts as the bridge between blockchain governance and real-world legal, financial, and operational requirements. It handles:

- Legal Entity Management – Ensuring compliance with national and international regulations.
- Contracting & Subcontracting – Managing agreements with governments, private sector clients, and service providers.
- Financial Oversight & Accounting – Maintaining transparency in fund allocations and revenue reporting.
- Regulatory Compliance – Adhering to sustainability laws, ESG standards, and tax requirements.
- Business Operations – Overseeing fleet logistics, procurement, and service execution.

The Steering Committee operates independently of the DAO but is accountable to token holders and required to publish financial reports and legal filings on a quarterly basis.

## 8.4 Legal Incorporation

GF will be incorporated as a **Social Enterprise**. Ensuring that profits are reinvested into environmental restoration rather than distributed as dividends.

- **Entity Type:** Social Enterprise (SEC-registered)
- **Business Model:** Revenue from ESG contracts, cleanup services, and blockchain-based impact funding
- **Legal Compliance:** ESG reporting requirements, corporate tax filings, and adherence to sustainability laws

As a social enterprise, all profits generated by Garden Fleet will be reinvested into operations and allocated to the **Fleet Operations Reserve** as USDT. These funds will support the continuous expansion of the fleet, fair compensation for personnel, equipment upgrades, and the development of advanced recycling solutions. This reinvestment strategy ensures the long-term sustainability of the project while maximizing its environmental and social impact.

# 9. Media & Public Outreach

Garden Fleet leverages transparent, engaging multimedia content to demonstrate measurable ESG impact and maintain public accountability. Our Media and Communications Plan ensures stakeholders, partners, investors, and the public remain continuously informed and engaged.

### Garden Podcast

The podcast regularly shares impact stories through interviews with crew members, community leaders, and partners directly involved in coastal cleanup and mangrove reforestation projects. It provides educational insights from ESG experts and environmental scientists, covering essential topics such as impact verification methods and corporate sustainability practices.

The podcast strengthens community relationships and investor confidence, promoting long-term trust and meaningful partnerships.

**Projected Podcast Costs**

| Costs | Allocations |
|---|---|
| Media Studio Setup | $20,000 |
| Podcasting & Video Gear | $15,000 |
| Digital Marketing | $20,000 |
| Misc Costs | $15,000 |
| **Total** | **$70,000** |

# 8. Roadmap

Our strategic implementation plan spans five phases (2025-2029):

### Phase 1: Project Initialization & Funding (Q3, 2025)

- Complete IEO ($1M target)
- Establish legal entity
- Develop blockchain infrastructure on Celo
- Acquire initial fleet and build Palawan Port

### Phase 2: Fleet Deployment & Launch (Q4, 2025)

- Begin coastal cleanup and mangrove planting in Palawan
- Secure initial ESG contracts with tourism partners
- Launch impact-verified NFTs and ESG reporting

### Phase 3: Expansion & Integration (Q1-Q4, 2026)

- Scale fleet based on funding and demand
- Form local community partnerships
- Expand multimedia capabilities at Palawan Port
- Launch real-time transparency dashboards

### Phase 4: Regulatory Integration (2027)

- Secure government environmental contracts
- Expand ESG compliance services
- Integrate with corporate reporting frameworks
- Implement independent auditing

### Phase 5: Regional Growth (2028-2029)

- Expand beyond Palawan to other Philippine regions
- Establish additional strategic ports
- Diversify ESG offerings including carbon credits
- Scale up recycling & Up-cycling methods

# 10. Partnerships

Garden Fleet is committed to fostering collaborative partnerships with NGOs, public entities, and educational institutions.

## 10.1 Partnership with Order Efficiency

Garden Fleet (GF) has formed a strategic partnership with Order Efficiency Ltd (OE), incorporating OE's advanced **Project Health Control (PHC)** system. OE supports GF as a sponsor, driven by its strong corporate social responsibility and commitment to environmental and social governance (ESG).

**PHC** is a comprehensive project management methodology developed by **Order Efficiency Ltd**, designed to monitor, assess, and optimize project performance in real-time. Utilizing key project management metrics and real-time analytics, PHC ensures projects remain aligned with stakeholder expectations, ESG objectives, and regulatory compliance.

## 10.2 Partnership with Crowdfunds & NGO/NPO

To further its mission of environmental restoration and coastal preservation, Garden Fleet (GF) actively seeks partnerships with global philanthropic organizations and engages with crowdfunding platforms dedicated to sustainability and ocean conservation.

| Platform/Organization | Description |
| --- | --- |
| Indiegogo | A global crowdfunding platform that hosts a wide range of projects, including those focused on sustainability and environmental innovation. |
| Chuffed | Focuses on socially conscious projects, providing a platform for environmental campaigns and conservation efforts. |
| Gitcoin | A blockchain-based crowdfunding platform that funds open-source projects, including sustainability and climate initiatives. |
| GoFundMe | A popular crowdfunding platform that allows individuals and organizations to raise funds for various causes, including environmental projects. |
| Kickstarter | A well-known platform for creative projects, including those that promote sustainability and environmental awareness. |
| Bill & Melinda Gates Foundation | One of the largest philanthropic organizations globally, funding initiatives in health, poverty reduction, and climate change solutions. |

## 10.3 Partnership Strategies

- **Real-time Project Oversight:**
  PHC's analytics allow GF to continuously monitor fleet operations, coastal cleanups, mangrove planting initiatives, and overall project health, ensuring operational effectiveness and ESG compliance.
- **Risk Mitigation & Early Intervention:**
  PHC identifies project risks early, allowing timely interventions that maintain fleet productivity, environmental objectives, and financial efficiency.
- **Transparency & ESG Reporting:**
  GF utilizes PHC's detailed tracking and reporting capabilities to demonstrate transparent ESG metrics, satisfying regulatory requirements and stakeholder expectations.

As a sponsor, OE supports GF by **pledging 10% of its annualized profits toward social responsibility** initiatives. This funding enables direct financial and resource assistance, including fleet expansion, port infrastructure development, acquisition of safety equipment, and the production of media content such as podcasts and documentaries. OE further enhances GF operations through technology integration and specialized training, ensuring GF personnel effectively utilize PHC tools to achieve peak efficiency, sustainability, and compliance.

## 10.4 Workforce Development

Garden Fleet (GF) collaborates with Order Efficiency Ltd (OE) and its Project Health Control Consortium (PHCC) to build a professional workforce, positioning GF for future international growth. PHCC provides specialized training in project analytics, risk management, ESG compliance, and operational efficiency through OE's Project Health Control (PHC) methodology.

GF personnel benefit from ongoing professional development, certifications like PMP, and training aligned with global ESG standards. Additionally, PHCC fosters mentorship, peer learning, and continuous innovation, ensuring GF's workforce remains skilled, adaptable, and strategically equipped for global environmental initiatives beyond Palawan.

## 10.5 Community Engagement in Palawan

Garden Fleet is deeply committed to community empowerment and active participation in Palawan. By partnering with local communities and youth organizations, we cultivate a shared sense of environmental responsibility and stewardship. Our current collaborations include vibrant partnerships with prominent youth groups such as Tau Gamma Phi, Alpha Rho Sigma, Alpha Kappa Rho, and Zeta Phi Omega, all of which have expressed enthusiasm and dedication to volunteering in our coastal cleanup activities and mangrove reforestation projects.

Together, we strive to create a resilient, environmentally aware community, laying the foundation for long-term ecological sustainability and social empowerment throughout Palawan.

## 10.6 Partnership with CubeSpawn for waste Recycling

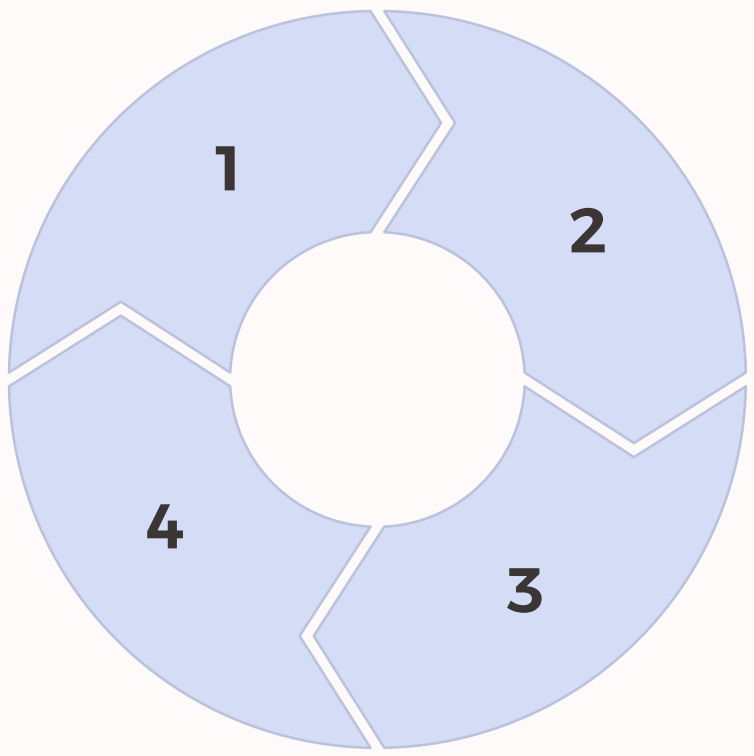
Garden Fleet (GF) partners with **CubeSpawn** to convert recovered ocean plastic into durable, low-cost building materials. These materials will be provided at cost to at-risk communities in Palawan, where homes made from weak materials are frequently destroyed by storms, leading to loss of life. This initiative reduces plastic waste while strengthening community resilience. The waste recycling facility will be integrated into the initial port in Palawan, ensuring efficient processing and local accessibility.

### Trash Collection

Waste is removed from the ocean and coastlines through the **Ocean Guardian** program.

### Recycling

Recycled materials are made available at-cost for sustainable infrastructure, ensuring waste finds a productive second life.




### Sorting & Processing

Plastic waste is categorized and prepared for repurposing, ensuring efficient material conversion.

### CubeSpawn Integration

Sorted plastic is processed through **CubeSpawn's** modular manufacturing system, transforming it into building materials.

Our recycling and remediation strategies employ responsible, scientifically backed methods to process collected plastic waste, ensuring that our recycling efforts prevent secondary pollution, microplastic release, and toxic emissions.

Our waste remediation framework integrates precise sorting, advanced thermal treatments, and multi-stage filtration technologies to maximize material recovery

| | |
|---|---|
| Multi-Stage Sorting | Plastic waste is sorted by polymer type (PET, HDPE, LDPE, PP, etc.), contaminants are filtered out, and materials are shredded for efficient thermal conversion and reuse. |
| Multi-Chamber Secondary Burning | Utilizes high-efficiency **pyrolytic combustion** in a **closed-environment chamber** to ensure complete molecular breakdown, preventing microplastic release while capturing heat energy. |
| Oxygen Deprives Gasification | Plastics are converted into **synthetic gas (syngas)** through gasification, a process that operates under **low-oxygen, high-temperature conditions** to break down materials without direct incineration emissions. |
| Filtration, Capture, & Precipitation | Filtration, gas capture, and precipitation work together to eliminate harmful byproducts. Particulate **filtration** removes residual solids, **gas scrubbing** neutralizes airborne contaminants, and **precipitation** stabilizes remaining compounds for safe |

By implementing these **remediation and recycling strategies**, Garden Fleet, in partnership with CubeSpawn, ensures that plastic waste is **permanently removed from the environment**

## 10.6 Partnership with Through The Golden Door

Garden Fleet (GF) is committed to not only restoring coastal ecosystems but also fostering a vibrant community around its operational hub in Palawan. In alignment with this vision and in collaboration with Through The Golden Door (TTGD) to create an immersive experience for stakeholders, investors, and environmental advocates who wish to witness the fleet's impact firsthand.

At the core of this partnership is the creation of a **regenerative community** around GF's port operations, designed to provide a sustainable foundation for both local residents and visiting ESG stakeholders. Key components include:

- **Eco-friendly housing & sustainable agriculture** – Ensuring GF's workforce and volunteers have green living spaces and access to locally grown food.
- **Waste-to-Wealth programs** – Converting recovered plastics into valuable materials to support a circular economy.
- **Educational & mental health facilities** – Providing resources and services for local families to promote long-term community well-being.
- **Accommodations for ESG investors, corporate partners, and eco-tourists** – Allowing guests to witness and participate in GF's ocean cleanup and mangrove reforestation activities.
- **Conferences, governance meetings, and sustainability workshops** – Hosting events focused on ESG leadership, impact investing, and regenerative finance.
- **Eco-tourism experiences** – Offering hands-on participation in beach cleanups, mangrove planting, and other sustainability-focused activities.

# 11. Conclusion

The Garden Fleet (GF) project stands at the intersection of sustainability, technology, and economic viability, offering a scalable, blockchain-powered solution for coastal restoration. By integrating Regenerative Finance (ReFi) incentives, decentralized governance, and ESG-aligned services, GF transforms environmental responsibility from an obligation into a profitable and measurable investment.

Through its token-powered fleet, GF directly addresses the dual crises of plastic pollution and coastal erosion, delivering tangible impact by removing marine waste, restoring shorelines with mangroves, and fostering community-driven stewardship. The integration of blockchain technology ensures absolute transparency, allowing businesses, governments, and investors to track their environmental contributions with verifiable proof.

Now is the time to act. Whether as an investor, corporate partner, or stakeholder in environmental stewardship.

*Join us in reshaping coastal conservation—one fleet at a time.*