GPNB Traceability Certification for Recycled Plastic waste using Blockchain Technology based Tracking System

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Key Partners

- **GPN Berhad**
  - ➤ ***Phase 1***: Development of private standard for traceability for Ocean Bound Plastic (OBP) waste
  - ➤ ***Phase 2***: Development of private standard for traceability for Post Consumer Recycled Plastic waste
  - ➤ Third party certification of traceability for Chain of custody processes

- **Empower Chain**
  - ➤ Development and operation of "Empower Chain" tracking system in Blockchain environment
  - ➤ Issuance of Digital passport after verification by GPNB (at recycling plant)

Proposed GPNB Traceability Process Standard for OBP

➢ **Scope**:
   ✓ Standard will cover the process of collection, transportation and Chain of Custody from source (e.g., beach, riverbanks etc.) up to bails delivered to the recycler.
   ✓ Standard will cover different entities such as:
      - **Plastic Waste Collectors** – Those who collect material from areas at risk of ocean plastic pollution.
      - **Material Aggregators** – Those involved in the collection and sourcing of raw material in large volumes.
      - **Recycling Organization/plant**

➢ **Boundary**: OBP recovered from within 50 kilometers (30 miles) of an ocean coastline or major waterway that feeds into the ocean in a geographic region that lacks formal waste management.

Key Features of GPNB Traceability Standard

➢ **Third Party Private Standard:** Based on ISO-22095:2020 for Chain of Custody, EU Traceability Standard for recycled plastic and other international standards such as ILO, ISO standards for Blockchain technology etc.

➢ *Process Standard :* Assurance about Ocean Bound Plastic's source, collection, handling, transport and storage consistent with good international ESG practices

➢ **ESG / EHS elements** : Legal, labor and working conditions, child / forced labor, fair wages, OHS training for safe handling for waste pickers etc.

➢ **Integration of Blockchain ecosystem in the Tracking System:** Use of smart contracts, hashing based data integrity validation, security, immutability, accessibility of data

Key Requirements of GPx Traceability Standard

GPx Standard

01
Blockchain based traceability

The standard mandates the use of blockchain technology to enhance the traceability and transparency of the recycling supply chain. This technology ensures that all transactions are secure, immutable, and verifiable, providing auditable records throughout the lifecycle of recycled materials.

02
Chain of Custody (CoC) Verification:

Detailed requirements are set for verifying the chain of custody, from the point of origin to the recycling plant. This involves tracking every stage of the supply chain to ensure that the recycled plastic is handled according to the standards.

03
Geographic and material criteria:

Specifies that the ocean-bound plastic waste must be collected from areas within 50 kilometers of an ocean coastline or major waterways leading to the ocean, particularly in regions lacking formal waste management systems.

Defines the types of materials that can be collected, focusing on post-consumer items like plastic bags, bottles, and fishing gear, while excluding hazardous materials like medical waste.

04
Compliance with legal and other req.

Organizations must comply with all applicable national laws and regulations concerning environmental protection, waste management, and occupational health and safety.

Compliance with international conventions addressing marine pollution and plastic waste management is also required.

05
Fair labor practices:

The standard enforces fair labor practices to ensure that all workers, including third-party and supply chain workers, receive fair wages, work in safe conditions, and are not subjected to discrimination or harassment

Key Requirements of GPx Traceability Standard

GPx Standard

06
Environmental, health, and safety (EHS) requirements:

Emphasizes the protection of ecologically sensitive areas and mandates comprehensive safety training for workers to minimize environmental impacts and ensure safety during waste collection and handling.

07
Unique identifiers and real-time tracking:

Requires that each batch of collected plastic waste be assigned a unique identifier or tracking code. This facilitates real-time tracking and management of plastic waste throughout the supply chain.

08
Transparency & accessibility

Ensures that all stakeholders have access to transparent and easily accessible information about the plastic waste's journey through the supply chain.

09
Security and data privacy:

Robust security measures must be implemented to protect sensitive data on the blockchain platform, ensuring that it complies with data privacy regulations.
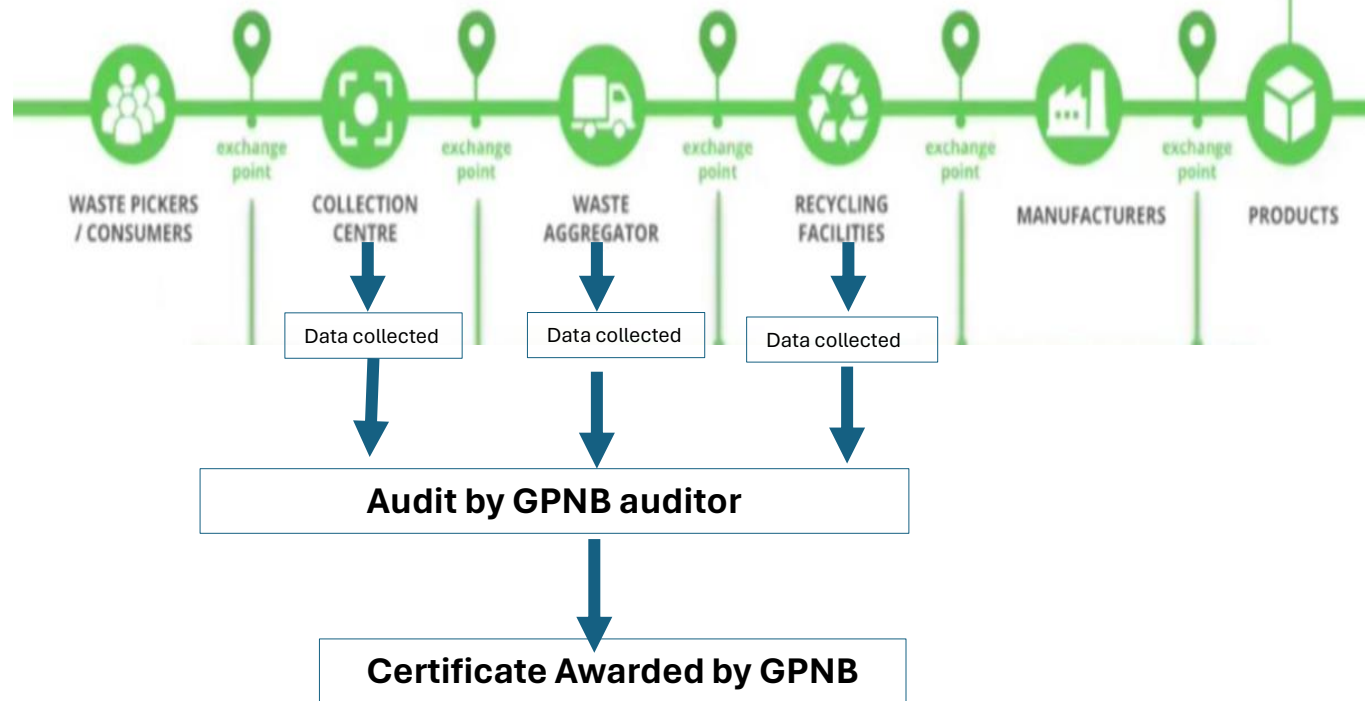
10
Auditing and verification:

Regular audits and verification checks are required to ensure the accuracy and integrity of the data and the adherence to the chain of custody standards.

GPx Certification Framework

Empower Chain Tracking System within Blockchain Ecosystem

WASTE PICKERS / CONSUMERS — exchange point — COLLECTION CENTRE — exchange point — WASTE AGGREGATOR — exchange point — RECYCLING FACILITIES — exchange point — MANUFACTURERS — exchange point — PRODUCTS

Data collected

Data collected

Data collected

Audit by GPNB auditor

Certificate Awarded by GPNB

Advantages of GPNB Certification

➢ Reduced time and cost of verification/certification with the use of digital tracking platform

➢ Assure transparency and traceability of waste plastic throughout the Chain of custody from source to recycler.

➢ Assurance of accessible, immutable, tamperproof and secured data

➢ Online audit along with on site audit

➢ No Green Washing