Plastic Waste Reduction Standard

MR. GREEN AFRICA & REMOVALL: PLASTIC WASTE REDUCTION PROJECT IN KENYA

Document Prepared by Removall SAS

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1 PROJECT DETAILS

1.1 Summary Description of the Project

The "Mr. Green Africa & Removall: Plastic Waste Reduction Project in Kenya" project is a grouped plastic waste reduction activity developed and coordinated by Mr. Green Trading Africa Ltd (MGA). This project (hereafter referred to as MGA) aims to recover and recycle additional plastic waste throughout the host country of Kenya.

Plastic waste is sourced through multiple collection mechanisms, involving both organized entities and independent collectors. After the initial sorting and bundling of the collected plastic waste, it is then moved to a dedicated facility for further processing. Here, the waste undergoes a transformation process, where it is converted into raw materials, such as flakes or pellets.

The organization operates a network of waste aggregation centres across various strategic locations within the country. Additionally, it has established fixed collection sites in multiple urban areas to facilitate convenient waste drop-off. The organization also deploys mobile units, allowing direct collection from suppliers via equipped vehicles. MGA operates five plastic waste aggregation hubs throughout the country, located in Nairobi, Eldoret, Mombassa (Bamburi and Bombolulu) and Malindi. The recycling facility is based in Nairobi.

In Kenya, only 8%[1] of plastic waste gets collected for ensuring an appropriate end-of-life. The rest is dumped in unsanitary landfills or dumpsites – or, for most of it, not even collected. This results in around 903,974 tonnes[1] of mismanaged plastic waste per year. This estimate is projected to increase: by 2060, plastic generation will be 1.9 million metric tonnes per year[2]. In addition, collection of plastics is largely sourced by the informal sector, with no guaranteed revenue streams. Many waste pickers live in informal settlements or are homeless. They usually do not have the necessary equipment for collecting plastic waste from toxic dumpsites – and are therefore exposed to toxic chemicals.

Plastic Credits finance will allow the project to expand to new geographies for collection activities and to increase the volumes and types of plastic waste recycled.

The project intends to collect approximately 59,684 tonnes of plastics and recycle approximately 47,588 tonnes of recyclable plastics, across a 7-year crediting period starting 01 July 2020. The estimated annual average of collected plastic waste is 8,526 tonnes. The estimated annual average of recycled plastic waste is 6,798 tonnes.

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[1] WWF (2022) – Extended Producer Responsibility for single-use plastics and packaging waste streams: an assessment for Kenya

[2] Duke Nicholas Institute (Feb 2022) – Plastic Pollution Policy Country Profile: Kenya

1.2 Project Type and Eligibility (2.1)

The project is eligible under the scope of the plastic program due to the following criteria:

Material type(s) managed by the project:

The project manages the following types of plastic waste, which are all eligible under the plastic program:

- PP
- PET
- HDPE

The project also intends to extend its scope of types of plastic waste managed to LDPE and ABS in the coming years.

The project is a collection and/or recycling project:

The project is a grouped project with multiple instances of multiple project activities, involving both collection and recycling of plastic waste.

Activity type(s) in the project:

The activities carried out in the project involve informal collection, pre- sorting at the collection points, sorting, processing and mechanical recycling at the project's facility of plastic waste material.

Demonstration that the project has not generated plastic waste primarily for the purpose of its subsequent collection and/or recycling:

The project collection sources are mentioned in Section 1.1 above. In addition, Kenya has a baseline scenario of unmanaged plastic waste due to the insufficient infrastructure capacities of local government bodies. Thus, the project does not generate plastic waste primarily for subsequent collection and/or recycling.

1.3 Project Configuration (3.3)

The project is a grouped project with multiple instances of multiple project activities. The project activities are the collection and recycling of plastic waste and can be separated in two instances.

Collection instances:

In this project, a collection instance refers to an aggregation hub where plastic waste is gathered for initial processing. These points collect plastic waste either directly from individuals or entities that bring their waste to the location, or indirectly through collected waste being transferred from various collection sites or mobile units. At these points, preliminary processing steps such as sorting by type and colour, crushing, and bundling are undertaken to ready the plastic waste for transport to the main processing facility.

As of 2023, MGA operates 5 aggregation hubs in Bamburi, Bombolulu, Eldoret, Nairobi and Malindi. Future instances will involve similar collection and pre-processing processes activities located in other areas of Kenya and might include other types of plastic.

Recycling instance:

The sorting and recycling activity of the project are carried out at the MGA processing and Recycling facility in Nairobi where plastic waste is transformed into pellets.

Eligibility Criteria (grouped projects only) (3.3.13)

The following eligibility criteria shall be ensured for inclusion of all new project instances:

- All new project instances shall meet the applicability conditions set out in the latest version of the applicable methodologies - PWRM0001 Plastic Waste Collection Methodology and PWRM0002 Plastic Waste Recycling Methodology.
- All new project activity instances shall be located and operated within the designated geographical region, which is the country, Kenya.
- All new instances will have a start date which would be the same or later than the project start date (July 1, 2020) and be validated at the time of verification. Only volumes generated during the crediting period (from July 1, 2020, to June 30, 2027) and starting from the next verification period will be eligible for Plastic Credits.
- All new project activity instances shall apply the processes specified in this document to perform plastic waste collection, processing and recycling. Any new equipment or technologies that will be adopted during the project will be indicated in the subsequent monitoring reports.
- All new project activity instances shall have the same baseline approach as determined for the plastic waste collection and recycling activity within Kenya.
- All new project activity instances shall have the same additionality criteria that are consistent with the initial instance within the determined geographical area.
- All new project activity instances shall be included in the Monitoring Report with sufficient technical, financial, geographic and other relevant information to demonstrate compliance with the applicable set of eligibility criteria.
- The grouped project must meet specific requirements as stipulated by the entity responsible for coordinating and managing grouped projects and for conducting local stakeholder consultations, as applicable.
- Evidence of project ownership, with respect to each project activity instance will be held by the project proponents.

1.4 Project Proponent

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1.5 Other Entities Involved in the Project

Organization name	Mr. GREEN AFRICA KENYA
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1.6 Ownership (3.4)

Mr. Green Africa is the owner for all instances. Project Instances operate private leased lands for its collection in accordance with host country policies and laws. The mechanical recycling site is located in Nairobi on private land.

Project proponents demonstrate that they have the legal right to control and operate project activities. Ownership documents in line with Section 3.4.1 of the Plastic Waste Reduction Standard V1.0 have been submitted to the auditor for the validation of the activity.

MGA's Project ownership has been demonstrated by evidence such as official license provided by the government, land lease agreement, and employment contracts.

The transfer of ownership of the plastic waste material from the waste pickers to MGA occurs when the waste plastic is sold to MGA. Evidence is stored in MGA's Clerk App, where data such as contact person, kgs and prices are stored. The data is then transferred to the ERP system.

1.7 Project Start Date (3.5)

The project start date is 01/07/2020.

This date corresponds to the ERP implementation start date, where the project officially begun. Evidence such as first ERP invoices with AWS have been provided to the VVB during validation.

1.8 Project Crediting Period (3.6)

The grouped project activity adopts a renewable crediting period of seven years which can be renewed for a maximum of twice. This start date of the crediting period will vary based on the actual earliest commissioning/operation start date within the project activity instances of grouped project activity.

Crediting period start date	Crediting period end date
July 1, 2020	June 30, 2027

1.9 Estimated Collected and/or Recycled Plastic Waste

Table 1: Estimated annual net collected & recycled quantities, all instances *(start date: 01/07/2020, end date: 30/06/2027)*

Year	Estimated net collected plastic waste (tons)	Estimated net recycled plastic waste (tons)
2020	570	460
2021	2682	1858
2022	3983	2360
2023	5049	3410
2024	8400	7000
2025	12000	10000
2026	18000	15000
2027 (until June 30th)	9000	7500
Total estimated amount	**59684**	**47588**
Total number of crediting years	**7**	**7**
Average annual amount	**8526**	**6798**

For the detail per instances, please refer to *Section 4.3 Net Collected and/or Recycled Plastic Waste*

1.10 Description of the Project Activity

In Kenya, plastic waste management persists to be a major issue with around 92% of total plastic waste generated in the country mismanaged[3]. Due to the lack of organized Waste Management practices, the informal sector often fills the gap despite working in extremely unsafe and unstable conditions. The purpose of MGA's activities is to develop a network of collection and recycling infrastructure in order to remove plastic waste from the environment. The project benefits to local populations and most importantly it provides decent and sustainable living conditions for the informal sector while producing recycled plastic materials to displace the use of virgin plastics. The project focuses on PET, PP and HDPE which are widely used for packaging but overly mismanaged, which results in important plastic leakages throughout the country[4]. The project engages in both plastic collection and recycling activities under the methodology PWRM0001 v1.1 and PWRM0002 v1.1, respectively.

The whole project activity process is illustrated in Figure 1 below:

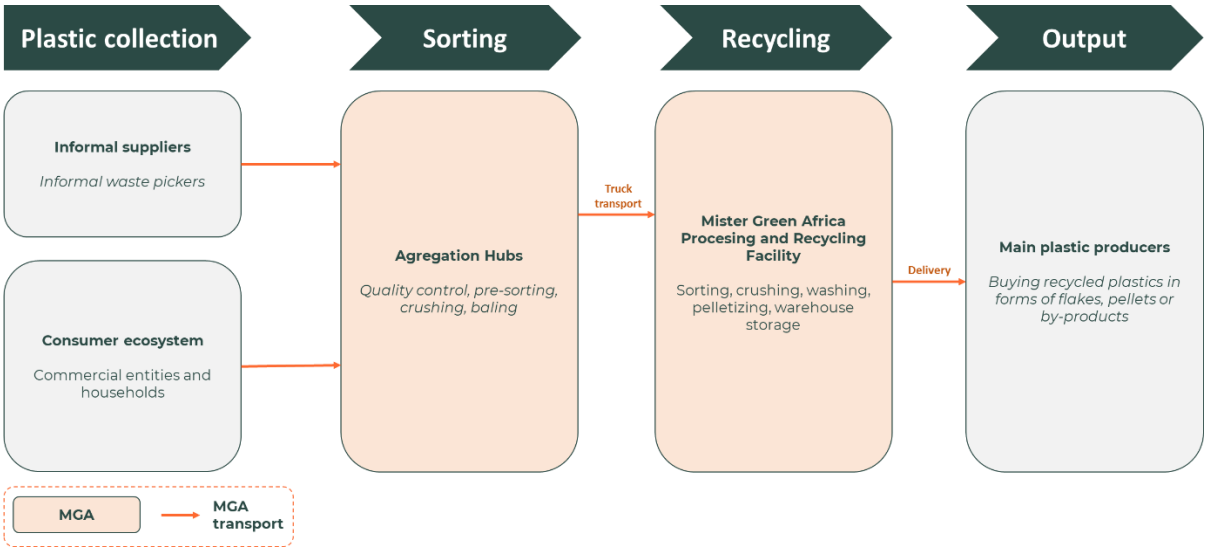

Figure 1: Flow diagram depicting the project activities from collection till end disposal

[3] WWF (2022) – Extended Producer Responsibility for single-use plastics and packaging waste streams: an assessment for Kenya

[4] WWF (2022) – Extended Producer Responsibility for single-use plastics and packaging waste streams: an assessment for Kenya

Collection activities:

Plastic waste is sourced through a combination of organized collection networks and contributions from individual collectors, originating from both natural and commercial sources. The collection framework includes central aggregation hubs, fixed collection points and buy-back centres.

The organization manages a number of central aggregation hubs distributed across key locations within the country. These hubs are involved in the initial stages of waste management, which include the collection of raw plastic waste, followed by preliminary processing steps such as sorting, crushing, and packaging. Waste is supplied to these centres both directly by individual collectors and communities, and indirectly through the organization's fixed collection points and buy-back centres. The prepared waste is then dispatched to a dedicated facility for further processing and recycling.

At the fixed collection points, waste pickers bring the collected plastic waste to an MGA agent (see Figure 7), in exchange for payment.

At the buy-back centres, consumers and citizens can bring their plastic waste to an MGA agent (see Figure 8), in exchange for payment.

MGA operates five plastic waste aggregation hubs throughout the country, located in Nairobi, Eldoret, Mombassa (Bamburi and Bombolulu) and Malindi.



Figure 2: Nairobi Hub



Figure 3: Eldoret Hub



Figure 4: Bombolulu Hub



Figure 5: Bamburi Hub



Figure 6: Malindi Hub



Figure 7: example of a MGA Collection Point where waste pickers come and sell their collected plastic waste

For its consumer ecosystem, MGA has also established buy-back centres throughout the country.



Figure 8: example of a MGA buy-back centre[5]

[5] Mr. Green Africa – We all win by recycling !

Plastic waste delivered to aggregation hubs, either from collection points or from specified buy-back centres, undergoes an initial sorting phase to distinguish between accepted types of plastics and other materials. This preliminary sorted waste is then measured and transported to the central processing location in Nairobi. Here, it undergoes a further sorting step to categorize it by colour. Subsequently, the plastic is processed through crushing equipment to create flakes, effectively reducing the volume for storage. Finally, the prepared material is compacted and packaged, making it ready for transport to the main recycling and processing facility.



Figure 9: Pre-processing operation line of the Nairobi hub

The organization commenced operations in 2020 with a single collection centre situated near its primary processing facility. Over the following years, additional centres were established in various locations, expanding the network's reach. Funding from plastic credit schemes is anticipated to support both the enhancement of current operations and the establishment of new collection points in additional areas, further broadening the initiative's impact across the region.

Recycling activity:

After the transportation from the different aggregation hubs, plastic waste is processed and transformed into flakes or pellets to be sold to plastic producers. MGA operates one processing and recycling facility located in Nairobi. The recycling activities consists in receiving sorted and crushed plastic waste as input, washing it into clean flakes and pelletizing it as output.

The processing process consists of washing and drying crushed plastic waste. The machinery line used is functioning in sequences based on the colour of the plastic waste. Colour-sorted plastic waste goes through a friction washer, a hot wash tank, drug barrels, float/sink tanks and driers. An inspection of the hot-washed flakes is performed before they are packaged. It controls the size, cleanliness, remaining labels, dryness, contaminants (check for metals, ceramics, glass, wood, paper…) of the flakes. The washing process entails the production of by-products such as sinking flakes (eliminated at the float/sink tank), fine particles (which are very small plastic flakes which do not meet the requirements to go through the packaging phase), loose labels, sludge which will also be sold to specific clients. The hot wash tank uses chemicals such as cleaning and brightening agents. It is therefore closely monitored by the project and a specific effluent treatment process is used (see Section 2.3.4).

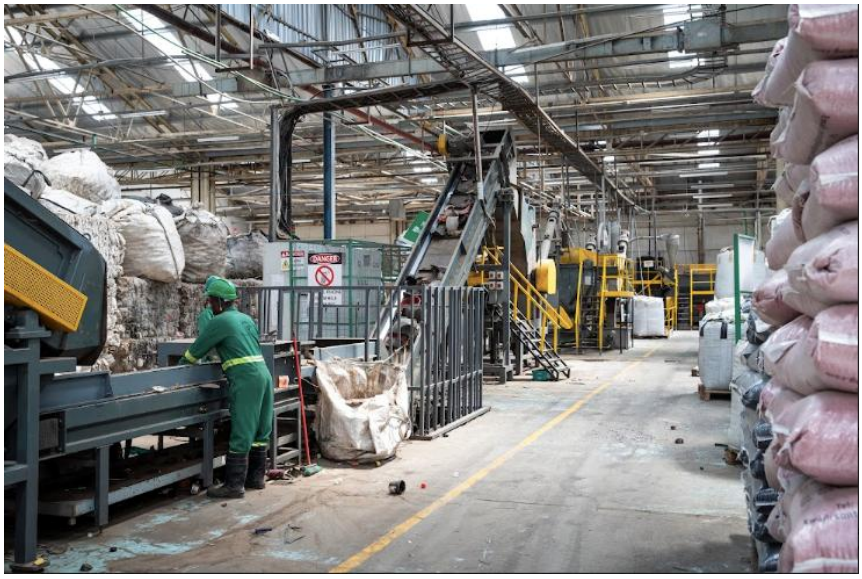

Figure 10: Washing line of the whole project, located in the processing and recycling facility in Nairobi

MGA mechanically recycles plastic waste producing pellets from the hot-washed flakes obtained during the processing process. Hot washed flakes are put into the conveyer which moves them to the heating part of the machine where they are melted and come out as pellets. The pellets are inspected to ensure conformity of colour and size. The pelletizing process entails the production of by-products such as machines lumps (which is materials that have not properly melted but is eliminated in the sieve) and dust, which will also be sold to specific clients.



Figure 11: Pelletizing line of the whole project, located in the processing and recycling facility in Nairobi

MGA started its recycling activity in 2020 with the current processing and recycling facility in Nairobi. Plastic Credits finance will help to scale-up the recycling activity by separating the processing and recycling facilities: processing operations will be relocated in a new centre close to the previous one, and new machines will be added in the existing recycling facility.

Plastic Credits finance will also help MGA to address new types of plastic (such as LDPE or ABS) in the recycling facility.

1.11 Project Location (3.7)

The project location and geographic boundaries are designated in the KML files attached as part of this document. At present, the collection and recycling centres have the following project location and geographic boundaries:

Table 2: List of instances location

Instance type	Instance name	Latitude & Longitude
Collection	Nairobi Hub	1°19'41.6"S 36°51'56.1"E
Collection	Bamburi Hub	3°59'58.9"S 39°42'53.3"E
Collection	Bombolulu Hub	4°01'13.7"S 39°41'55.9"E

Collection	Eldoret Hub	0°34'54.0"N 35°13'14.9"E
Collection	Malindi Hub	3°13'34.5"S 40°06'46.3"E
Recycling	Nairobi facility	1°19'41.6"S 36°51'56.1"E

Other aggregation hubs across Kenya are under planning.

The aggregation hub from Nairobi will soon move to another place.

Figure 12 below illustrates the locations of the instances as well as the project region.

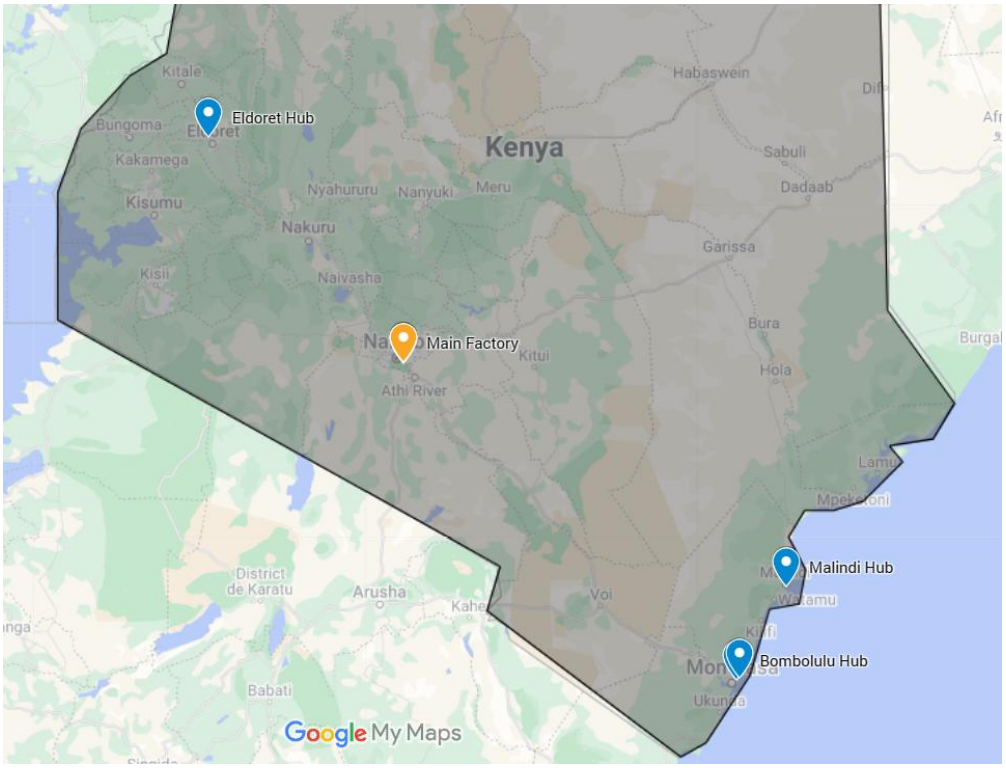

Figure 12: Project collection and recycling instances and project region

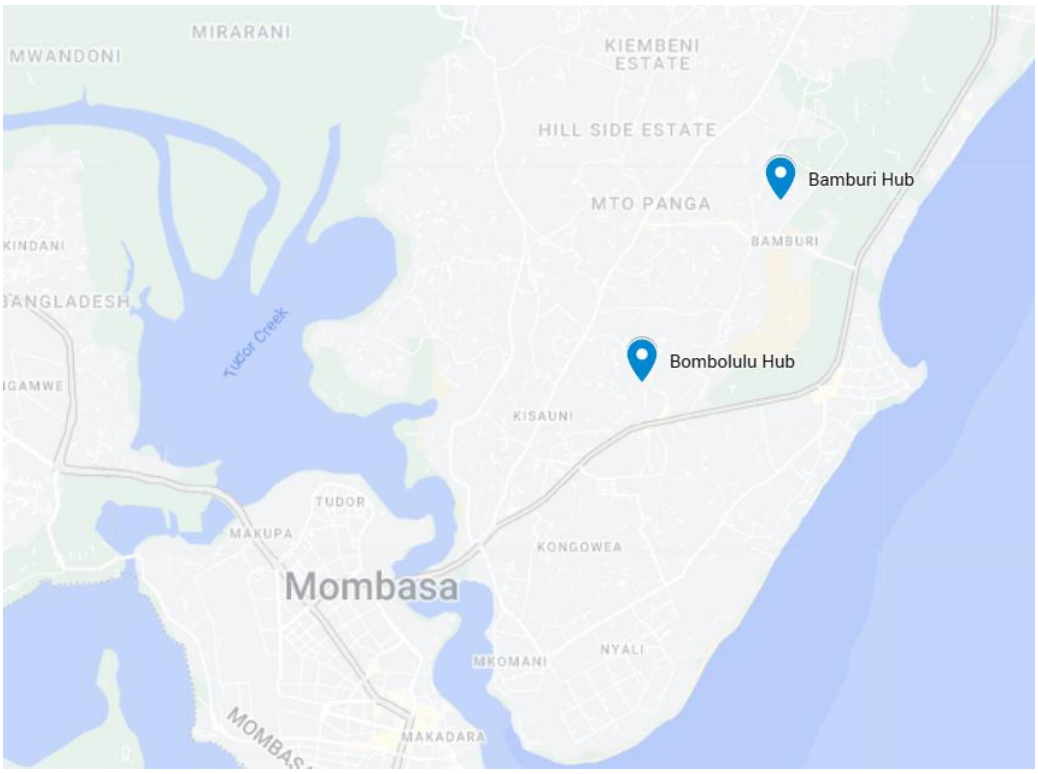

Figure 13: Location of project collection instances in Mombasa

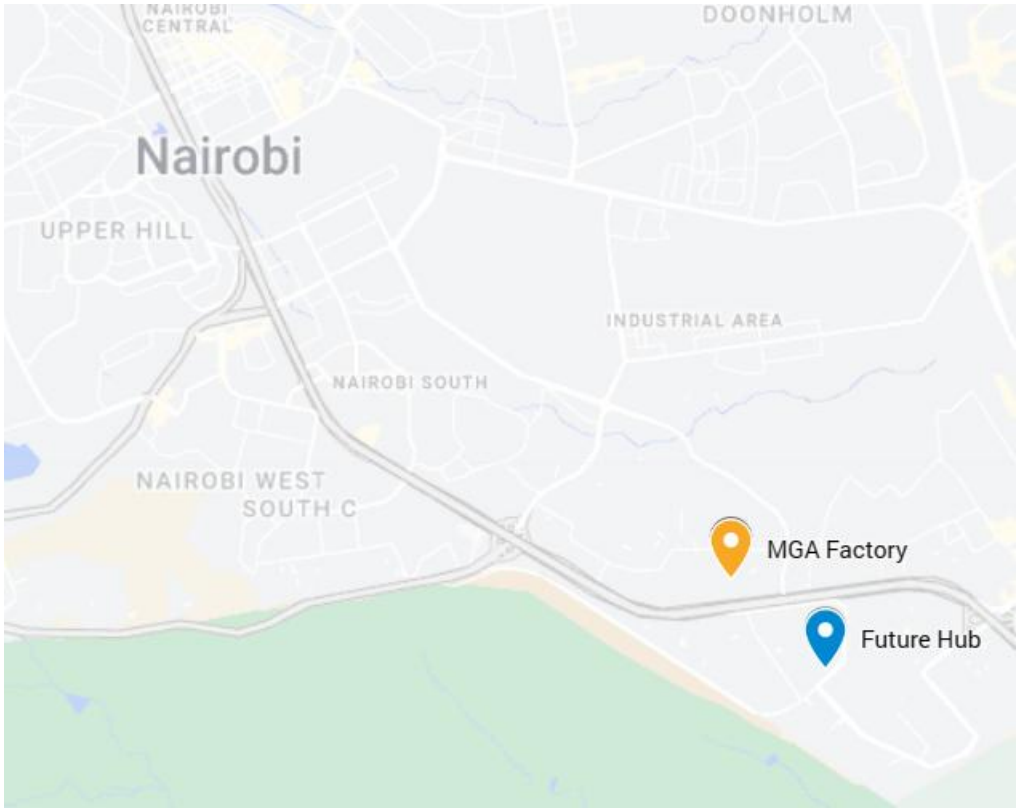

Figure 14: Location of the factory and future location of the Nairobi Hub

1.12 Conditions Prior to Project Initiation

1.12.1 General Conditions

The baseline scenario is the same as the general conditions existing prior to the project initiation. Please refer to Section 3.5 (Plastic Waste Collection and/or Recycling Baseline Scenario) below.

1.12.2 Social and Environmental Conditions

Environmental impact:

According to the Duke Nicholas Institute for environmental policy solutions[6], 92% of plastic waste is mismanaged in Kenya – representing a total of 465,000 tonnes per year. Even though plastic waste generated is low in Kenya compared to the world average, it is projected to increase: by 2060, plastic generation will be 1.9 million metric tonnes per year.

In rural areas, waste management infrastructures are missing. There is no minimal recovery and no collection services, resulting in around 37,000 tonnes of plastic waste leaking into the ocean every year[7]. Plastic waste flows into waterways, endangering aquatic biodiversity and releasing harmful chemicals into the surrounding soil, which can then seep into groundwater or other surrounding water sources, and the larger ecosystem. This can cause a range of potentially harmful effects on the species that drink the water.[8]



Figure 15: Plastic waste stuck in waterways near Nairobi, Kenya

[6] Duke Nicholas Institute (Feb 2022) – Plastic Pollution Policy Country Profile: Kenya

[7] Duke Nicholas Institute (Feb 2022) – Plastic Pollution Policy Country Profile: Kenya

[8] African Wildlife Foundation (2023) – Choked rivers: The cost of inaction on plastic pollution in Kenya

Collected plastic waste in urban areas are mostly put in unsanitary landfills or dumpsites. They do not include proper ecological precautionary measures such as wastewater treatment or landfill sealing. Nairobi's Dandora dump site is one of the largest in Africa. It covers approximately 30 acres and is the destination of about 850 tonnes of solid waste generated daily by the city.[9]



Figure 16: Burning plastic waste in Dandora dumpsite, causing air pollution near a waste picker

Open burning of mismanaged plastic waste in Kenya poses significant risk for human health, due to the release of noxious chemical substances such as dioxin and particulate matters. It also directly contributes to climate change.

Mismanagement of plastic waste also impacts animals – and therefore the whole food chain. A study by the National Environment Management Authority (NEMA) in 2018 found that 50% of livestock slaughtered in Nairobi's abattoirs had plastics in their stomach[10].

Social impact:

Kenyan informal waste sector is responsible for most of the waste management activities in the country. Informal waste pickers are collecting recyclable materials mainly from homes, businesses, or illegal dumpsites. They then sell the plastic waste to trading points for recycling – at a price that fluctuates a lot. As their revenue streams are not guaranteed, many waste pickers live in informal settlements or are homeless. They usually do not have the necessary equipment for collecting plastic waste from toxic dumpsites – and are therefore exposed to toxic chemicals. Studies have shown that serious illnesses like diarrhoea, malaria and infections of respiratory system have also been associated with populations living near dumpsites[11].

[9] UNEP (2018) – Smoking Nairobi landfill jeopardizes schoolchildren's future

[10] NEMA (2018) – The prevalence of plastic bag waste in the rumen of slaughtered livestock at three abattoirs in Nairobi Metropolis, Kenya and implications on livestock health

[11] IPEN (2021) - The Toxic Plastic Waste Trade - a Case Study of Muoroto Slum in Mombasa, Kenya



Figure 17: Informal settlement of waste pickers in Nairobi, Kenya

1.13 Compliance with Laws, Statutes and Other Regulatory Frameworks (3.1.3)

The project operates in compliance with local laws and regulations applicable within Kenya. The table below[12] lists the identified relevant laws, statutes, and regulations, along with a demonstration of project compliance.

Table 3: list and description of local laws and regulations applicable within Kenya

Regulation name	Relevant information or sections	Demonstration of Project Compliance
Constitution of Kenya, 2010	"We, the people of Kenya, respectful of the environment, which is our heritage, and determined to sustain it for the benefit of future generations…" Article 42 guarantees every person in Kenya the right to a clean and healthy environment	The project is cleaning the environment thanks to its plastic collection and recycling activities.
Environmental Management and Coordination Act (EMCA) of 1999 (last revised in 2018)	Kenya's overarching framework environmental law. Although it makes no express reference plastics or plastic waste, it has general provisions for measures to ensure sound management of waste.	The project is implementing measures to ensure sound management of plastic waste.

[12] NEMA (March 2023) – Plastics Pollution Control: Kenya's experience ; WWF (2022) – Extended Producer Responsibility for single-use plastics and packaging waste streams: an assessment for Kenya

The National Environment Policy 2013	• Development of an integrated national waste management strategy • Promotion of the use of economic incentives to manage waste • Promotion for the establishment of facilities and incentives for cleaner production, waste recovery, recycling, and reuse.	The project promotes the use of economic incentives to manage waste thanks to its loyalty program
The National Solid Waste Management Strategy 2015 (NEMA)	• The most recent government action establishing a common platform for action between stakeholders to systematically improve waste management. • The long-term goal of the strategy is to achieve, by 2030, at least 80 per cent waste recovery (for recycling) and 20 per cent disposal of inert materials in a sanitary landfill.	The project is approved by NEMA. The project regularly meets with NEMA for helping the establishment of the long-term goal waste recovery strategy.
Gazette Notice No. 2334 of 2017 (NEMA)	Ban on manufacture and use of plastic carrier bags and flat bags used for domestic and commercial packaging.	The waste pickers empowered by the project find and collect many discarded plastic bags or single-use plastic items, bringing them for recycling.
Gazette Notice No.4858 of 2019 (NEMA)	Ban of specific single-use plastic items, plastic bottles, straws, and related products within protected areas in the national parks, national reserves, conservation areas, and any other designated wildlife protected areas.	The project complies with the ban of those specific single-use plastic items.
National Sustainable Waste Management Policy of 2021	The goal is to help ensure that waste is collected, separated at the source, reused, and recycled and that the remaining waste stream is destined to a secure, sanitary landfill.	The plastic waste collected by the project is mostly sent to recycling.
Sustainable Waste Management Act of 2022	• Establishes the legal and institutional framework for the sustainable management of waste with the possibility of a mandatory EPR system • Emphasizes the establishment of Material Recovery Facilities across all counties to facilitate sustainable recycling and incorporation of the circular economy	The project is not involved in a mandatory EPR system. The project contributes to the settlement of Material Recovery Facilities across all counties.
National Marine litter Action Plan, 2021	Ensure how waste is properly managed so that it does not reach marine ecosystems that are a livelihood, especially to coast and lake region counties.	The project manages plastic waste properly, ensuring it is kept away from the environment.
Nairobi County Waste	Identification of waste management to be a function of the County Government and development of key	The project contributes to the development of key structures to

Management Action Plan, 2021	structures to ensure waste management is effective and efficient	ensure waste management efficiency.
The Mombasa County Solid Waste Management Act, 2021	The goal is to provide for the collection, treatment, transportation and disposal of solid waste.	The project collects, treats and transports plastic waste in the Mombasa County, bringing it to recycling in Nairobi.
Kenya Employment Act (2007)	Establishes fundamental rights and conditions of employment (e.g., contracts, wages, leave, termination), protects employees against unfair labor practices, and sets minimum standards for working conditions.	The project complies with those fundamental rights and conditions of employments, even trying to improve the standards for working conditions.
International Labour Organisation Regulations	Provide international standards to promote decent work, protect fundamental worker rights (e.g., freedom of association, elimination of forced or child labor), and guide fair and safe labor practices globally, which Kenya incorporates into its national laws.	The project promotes decent work and protects fundamental worker rights. MGA is continuously enhancing the daily lives of waste pickers and its direct employees through its Labor Policy.
Minimum Wages Order (2002)	Sets the minimum wage rates across various sectors and job categories to ensure that workers receive a baseline level of fair remuneration.	Waste workers are paid by the project at higher wages than the minimum wages.
Regulation of Wages (General) Order 1982	Prescribes general rules regarding wages, hours of work, overtime, rest periods, and related employment conditions, complementing the minimum wage standards and protecting employees' basic rights.	The project complies with all the general rules (wages, hours of work, overtime, rest periods…). They have all been audited by the VVB.
Labour Relations Act (2007)	Governs the relationship between employers and employees, particularly focusing on the formation and regulation of trade unions, collective bargaining, industrial action, and dispute resolution mechanisms.	MGA has set up dedicated processes and efforts for formation and regulation of trade unions, collective bargaining, industrial action, and dispute resolution.
Occupational Safety and Health Act, 2007	Aims to ensure a safe and healthy working environment by outlining employer responsibilities for hazard control, workplace inspections, health and safety committees, and employee training on safety practices.	MGA has established a detailed Health & Safety SOP. Safety trainings are regularly provided to the workers. A Health & Safety Committee is also implemented.
Work Injury Benefits Act, 2007	Provides a framework for compensating employees who suffer work-related injuries or diseases, detailing the process for reporting, assessing, and paying out injury benefits or medical costs.	All employees who suffer work-related injuries or diseases are compensated. MGA has established a dedicated procedure for ensuring their wellbeing and financial stability.

Even though laws on plastic waste management are quite numerous for the past two decades, they have been unable to properly ensure the managed collection and recycling of plastic waste throughout the country. Public literature shared in above section 1.12 and section 3.5 are showing figures from key reports produced by well-known organizations such as UNIDO, IUCN or WWF. Therefore, it can be acknowledged that the current situation of compliance rate in terms of collection and recycling of plastic waste is below 20% in Kenya.

There were no mandatory EPR system regulated at the start date of the project. However, it is worth noting that, through the Sustainable Waste Management Act 2022, the government plans to introduce the "polluter-pays" principle in the form of a mandatory EPR. According to a recent WWF report[13], the legal framework of EPR has not yet formally passed the required governmental approvals to come into force". Therefore, "it cannot currently be foreseen when and in what exact form the draft EPR regulations or other EPR-related legislation will come into force". Concrete next steps and a common understanding of how the components of an EPR scheme should be shaped has not been reached.

As the potential EPR regulation concerns producers only, we shall precise that MGA is not a producer but an independent private entity who is implementing this project activity on a voluntary basis. The impact of latest amendment bills and regulations would require monitoring and evaluation on annual basis, and it will take time and efforts to achieve the objective of the laws. Thus, the project activity will provide strength in achieving the overall objective of the latest regulations.

1.14 Additional Information Relevant to the Project

Commercially Sensitive Information (3.2.2)

All commercially sensitive information, such as contracts and agreements, have not been attached in the public version of the project description. These will be provided during the time of validation and verification assessments.

Further Information

[13] WWF (2022) – Extended Producer Responsibility for single-use plastics and packaging waste streams: an assessment for Kenya

Not applicable.

2 STAKEHOLDER ENGAGEMENT AND SAFEGUARDS

2.1 Stakeholder Engagement (3.13)

2.1.1 Stakeholder Identification (3.13.1)

Stakeholders are any individuals, companies, organizations or government entities who either impact or are impacted upon by MGA activities at any stage in the process during its lifespan, from the collection to the sales of the recycled products. MGA pays particular attention to its relationships with each stakeholder group.

Thanks to its strong on-ground presence, MGA has put in place locally appropriate methods to identify all stakeholder groups. The most common identification process is by word-of-mouth, through well-established relationships with key local partners. More specifically, MGA pays particular attention to informal waste workers and was able to identify them thanks to its partnerships with local community groups and NGOs. More formal stakeholder groups have been contacted by email, WhatsApp and calls, or have been met during business events.

Since the beginning of the project in 2020, MGA has established a holistic stakeholder engagement procedure that allows for stakeholder identification, engagement, and reporting.

The step-by-step process is as follows:

- A Target stakeholder group is identified (sourcing agent, sales partners, vendors, governance body…) by one of the communication channels (word-of-mouth, business meetings, event, emails, website…)
- The stakeholder group is investigated, and all the various types of stakeholders within this group are listed. For example, the stakeholder group “Informal suppliers” is composed of the stakeholders “Waste Pickers”, “Medium suppliers”, “Big Suppliers”…
- A responsible person from MGA is assigned to each identified stakeholder. This person is responsible for defining the engagement strategy and the most suitable communication channel to be used (physical visits, phone calls, events…). This person is also collecting each stakeholder’s information to ensure that the stakeholder is fully compliant with the laws and regulations (ID cards, driver licences…).
- Finally, a frequency of contact is defined for ensuring the dialogue is continuously ongoing, enabling the collection of regular feedback.

In addition to the global stakeholder engagement procedure, for any transaction received or paid by MGA, MGA has a dedicated onboarding process and uses a "Know Your Customer (KYC)" tool to check stakeholders' reputation and validate the transaction.

The reporting document for the stakeholder engagement procedure has been shared with the auditor.

2.1.2 Stakeholder Description (3.13.2 – 3.13.3)

The most relevant stakeholder groups identified for the project are:

Table 4: List and description of the most relevant stakeholder groups identified for the project

Stakeholder group	Description
Informal Suppliers	MGA works with a large network of informal waste workers which are employed to collect plastic waste in exchange for a remuneration. This mainly concerns the informal waste workers and waste aggregators paid for collecting waste and bringing it to aggregation hubs. The project buys plastic waste from the Informal Suppliers. The project pays particular attention to this Stakeholder group as it includes marginalized communities. MGA has established a dedicated loyalty program for providing a better remuneration, enhanced PPE equipments, trainings, and foods during tea parties. MGA has also created the "Support a Waste Picker Program" to help finance health checks and medics for the waste picker community. **Communication chanels:** physical visits, informal discussions **Local Stakeholder Consultation:** at the factory in Nairobi and during dedicated Tea Parties at each Collection Hub
Consumer Ecosystem	MGA collects available plastic waste which correspond to local commercial entities and households (buy-back centres). **Communication chanels:** physical visits, WhatsApp **Local Stakeholder Consultation:** at the factory in Nairobi
Local authorities	MGA is in discussion with any relevant local authority, such as the Nairobi City County for building permits, the National Environmental Management Authority (NEMA) for the license to operate, or the Occupational Safety and Health Services of the Republic of Kenya for registering the workplace. MGA is also in active discussion with the National Environmental Management Authority (NEMA) on Waste Management regulation, for better defining waste management operations in the country. **Communication chanels:** face to face meetings, online meetings, emails, WhatsApp, events **Local Stakeholder Consultation:** at the factory in Nairobi and during online meetings

Local communities	MGA is present in multiple geographical areas within Kenya and has established strong links with local communities to gather their opinions and feedback on the project. **Communication chanels:** physical visits, WhatsApp, informal discussions **Local Stakeholder Consultation:** at the factory in Nairobi and during dedicated Tea Parties at each Collection Hub
Local NGOs	MGA partners with local NGOs on different subjects: • Along with Challenge Fund for Youth Employment to provide sustainable income and jobs for youth. • Along with the Danish Refugee Council to provide a sustainable income for refugees while having a positive impact on the environment. **Communication channels:** physical visits, face to face meetings, online meetings, emails, WhatsApp **Local Stakeholder Consultation:** at the factory in Nairobi and during dedicated Tea Parties at each Collection Hub
Small-scale informal recyclers	The informal recycling sector comprises all kinds of unregistered workers engaged in the collection, recovery, and recycling of waste. The industry is typically characterized by small-scale and unregulated recycling activities, providing a source of income for poor and marginalized workers. However, it is increasingly recognized as consisting of entrepreneurs and established micro-businesses that are highly skilled in their occupations. Informal recycling workers constitute a particularly vulnerable livelihood group. Socio-economic precarity, a negative perception of its work, and marginalization tend to be particularly acute at the lower levels of the informal recycling ecosystem. Informal waste pickers, collectors, and sorters are exposed to occupational health hazards when working without adequate training or access to safety equipment. Women and children are particularly vulnerable, as they are overrepresented in labour-intensive, low-earning, and hazardous occupations. Beyond addressing the structural vulnerabilities of informal recycling workers and efforts to integrate them into public and/or private waste management systems, MGA has considered the larger informal recycling ecosystem, including material flows, informal supply chains, and complex trade relations both within and between informal and formal waste management actors. **Communication channels:** physical visits, face to face meetings, online meetings, emails, WhatsApp **Local Stakeholder Consultation:** direct interview
Kenya National Waste Pickers Welfare Association	MGA is working with the Kenya National Waste Pickers Welfare Association to ensure waste pickers get fair prices (through collective bargaining), enjoy human rights as they source and

	deliver plastic, and receive empowerment throughout their interactions with MGA. **Communication chanels:** physical visits, online meetings, WhatsApp, informal discussions **Local Stakeholder Consultation:** at the factory in Nairobi
Kenya Association of Waste Recyclers (KAWR)	This association represents various stakeholders involved in Kenya's recycling industry, including informal and formal recyclers. While KAWR is acknowledged as an important entity in the waste management ecosystem, MGA does not directly collaborate with the association. The association is considered as an independent interested stakeholder group as per the methodology and has been consulted. **Communication channels:** online meetings, face to face meetings, emails, WhatsApp **Local Stakeholder Consultation:** direct interview
Direct employees	MGA employs the local population in its sorting and recycling facilities. **Communication channels:** face to face meetings **Local Stakeholder Consultation:** at the factory in Nairobi
Main Plastic Producers	MGA collaborates with a vast network of plastic producers who purchase MGA's recycled plastic flakes and pellets to manufacture products which displace the use of virgin plastic. Thanks to strong quality commitments and a dedicated Customer Satisfaction process, MGA has been able to secure long-term contracts with Main Plastic Producers. The secured revenues from recycled plastic purchases enable MGA to provide a fair pricing system to the informal waste pickers. Therefore, Main Plastic Producers stakeholder group is relevant to project design. The detailed list of MGA partners has been shared with the VVB at the time of Validation. **Communication channels:** face to face meetings, online meetings, events, emails, WhatsApp **Local Stakeholder Consultation:** in Nairobi and online

As mentioned in the table above, special attention has been given to identification of marginalized or vulnerable groups, such as informal waste workers or local communities such as the Kenya National Waste Pickers Welfare Association. Interview with the Association at the time of validation has proven the social positive impact of MGA on the most vulnerable communities implied in the plastic waste management sector. MGA's project centres on empowering waste pickers through transparent and fair pricing systems, promoting safe and ethical practices, and fostering responsible sourcing throughout the waste value chain. These principles are essential to ensure long-term sustainability and social impact, particularly for marginalized groups such as

waste pickers, as shown by the strong collaboration with the Kenya National Waste Pickers Welfare Association.

MGA has also identified the Association of Waste Recyclers (KAWR) as an independent group of interested stakeholders. The Association represents various stakeholders in Kenya's recycling industry, including informal and formal recyclers. While KAWR is acknowledged as an important entity in the waste management ecosystem, MGA does not directly collaborate with any of its stakeholders. Direct relevance of the Association to this project was assessed based on the alignment of the project's goals with stakeholder practices. An independent interview of the association has been led by the VVB with one of their representatives to collect their feedback.

MGA is open to collaborating with individual KAWR members who are committed to fostering an exploitation-free waste value chain and embracing responsible sourcing practices in the future. This position reflects MGA's goal of fostering inclusivity while upholding ethical standards, ensuring that the project remains consistent with its mission to promote social and environmental responsibility within Kenya's recycling industry.

MGA has also led dedicated Pricing surveys and Waste Pickers surveys to assess the fairness of its pricing system for the waste pickers communities. The results concluded that the project activities did not eliminate income generating activities of any entities. This has not generated any direct loss of employment from aggregators businesses. As a result of the project activity, income-generating activities are maximized, and economic growth is prioritized to the extent possible for the most vulnerable workers. Most indirect and direct workers of MGA have increased their income for a similar knowledge, skills and working hours.

The fair pricing system and loyalty program established by MGA generates new income for waste pickers, that are willing to engage into a long-term collaboration with MGA by registering into the system. MGA is a nationally recognized business that has helped create an important number of direct and indirect jobs. Since its inception, MGA is working with more than 9,670 suppliers that are registered into the system and benefiting from a more structured and fair pricing system, being adequately remunerated. 182 direct jobs have also been created, for the workforce working at the various collection hubs, for the transportation of waste, or for running the recycling factory.

All the surveys and proof of evidence have been provided to the VVB at the time of Validation.

2.1.3 Stakeholder Consultation (3.13.4 – 3.13.8)

Stakeholder groups identified in Section 2.1.2 have been and will continue to be notified of the development of MGA's project. For the marginalized and vulnerable stakeholder groups such as informal waste pickers, MGA's team develops close relationship with regular contact to collect feedback and to answer any concerns or questions.

A stakeholder consultation meeting was conducted in Nairobi on March 6, 2024 in line with the requirement of Plastic Waste Reduction Standard. All stakeholder groups have been informed at least two weeks in advance through the regular communication channels. Please refer to Table

4 in Section 2.1.2 for the communication channels used for each stakeholder group. The Stakeholder's consultation process included face-to-face meetings with all the stakeholder groups identified in Section 2.1.2. All stakeholder groups were represented at the Local Stakeholder Consultation, including local authorities, local communities and employees. Representatives from each Collection Hub were attending the first Consultation. Other smaller Local Stakeholder Consultations then took place in each Collection Hub, during which Tea Parties were used by the Hub Managers to explain the project to the waste pickers and collect their feedbacks. Through the Tea Parties shown in Figure 22 below, Local Stakeholder Consultations took place in each Collection Hub: MGA factory, Eldoret, Bamburi, Bombolulu, and Malindi. As such, each county had its own stakeholder engagement requirements for its community initiatives, and it turned out those became the prerequisite of the project. In fact, this has been a continuous consultation process, during which vulnerable communities such as informal waste pickers from various counties are able to influence project design by providing feedback to the Hub Managers, that reports it to MGA'global management team. In each county, the project is directly working with the local government to comply with all the requirements in place and to gain their support in the fight against plastic pollution.

Feedback & Grievance redress procedure has been communicated, with the one-pager printed in each collection hub. Printed and translated versions have been provided to each Collection Hub, and made available to all the stakeholders.The agenda of the Local Stakeholder Consultation was as per below:

Time	Activity	Facilitator
2 pm – 2:15 pm	Arrival and registration Stakeholder identification and presentation of the meeting's participants	Removall Plastic MGA
2:15 pm – 2:30 pm	Presentation of the project	MGA
2:30 pm – 2:45 pm	Presentation of the Verra Plastic Credit Certification Program and the state of progress with MGA	Removall Plastic
2:45 pm – 3:15 pm	Exchanges and feedbacks	Removall Plastic MGA
3:15 pm – 3:30 pm	Presentation of the access to the project's information and the continued consultation process	Removall Plastic

Figure 18: Agenda of the Local Stakeholder Consultation

During the stakeholder consultation meeting, the project's collection and recycling instances as well as the plastic credit certification process were described to all the stakeholders. The incoming Validation Audit was also mentioned, as well as the detailed Feedback & Grievance Redress procedure associated with the project. The various stakeholder groups were informed

about potential cost, risks and benefits of the project. As an example, the potential benefits of the plastic credit program mentioned during the Local Stakeholder Consultation were:

- Recycle a larger variety of plastic types and a greater quantity: buying more plastics to the waste pickers, hire new employees, strengthen partnerships with manufacturers
- Provide a more stable price for plastic waste sourcing, ensuring more regular income for waste pickers
- Expand project's infrastructure, requiring greater spaces leased to landlords, therefore generating more revenues for them.

There was a dedicated time for exchanges, allowing all the stakeholders to ask their questions and to provide feedback, as referenced in the meeting minutes shared with the auditor. Stakeholders have been informed of the importance of such feedback discussions, as it is an integral part of project design.

Since the beginning of project's activities back in 2020, stakeholder conversations have been placed at the core of the project's design. MGA has tried various operating models with the various stakeholders before reaching the current one. Stakeholders were implied in all market research done and were consulted for any expansion projects. As part of MGA's stakeholder engagement procedure, stakeholders have been informed that they can use their regular communication channel for providing additional feedback even after the Local Stakeholder Consultation. MGA has put in place a continuous improvement process for collecting feedback from the ground. As an example, for the Consumer Ecosystem stakeholders' group, MGA has recently launched consumer satisfaction surveys. MGA also has several continuous engagements with the government, to be updated of any potential new regulations that would require a change in project's design.

Even though almost all the stakeholders are English-speaking, all the information has been translated into local language. A translated version of the Local Stakeholder Consultation support has been shared, as well as a one-pager summary mentioning the Feedback & Grievance redress procedure.

The presentation, the one-pager summary, the meeting minutes with the questions and their answers as well as the signature sheet have been shared with the auditor.



Figure 19: pictures of the Local Stakeholder Consultation

In addition to that specific Local Stakeholder Consultation meeting, it is important to note that consultations were regularly held to discuss with the different stakeholders group impacting or impacted by MGA's project during various events since 2020. The biggest event organized was to officiate the partnership between MGA and the NGO Danish Refugee Council. It gathered aggregators, waste pickers, NGO's staff and MGA's staff.



Figure 20: launch of the Danish Refugee Council – MGA partnership

MGA also had impactful exchanges on the project with local communities on the World Environment Day where a community cleaning was organized.



Figure 21: Community cleaning on the World Envionment Day

Marginalized and vulnerable stakeholders, such as waste pickers, are the priority beneficiaries of the project. This is why MGA organizes regular “Tea Parties” in all Trading Points (TPs) which invites all regular waste pickers. They are offered a balance diet meal or food items to take home to their families and it is the place to have open discussions about any expectations, doubts or queries about the project.



Figure 22: Tea Party at Saika Collection Centre

Special attention is paid to optimizing benefits for any marginalized and/or vulnerable groups, as shown by the various actions led by MGA for the waste picker community.

Stakeholders have also helped MGA design and iterate their program. As an example, the Danish Refugee Council and Africa Inland Child & Community Agency For Development (AICCAD) helped MGA map stakeholders for their child referral pathway to keep children from plastic waste collection.

MGA’s team in charge of collecting the available plastic waste comes directly to the supplier’s premises which is a privileged timeslot to discuss about their collaboration and gather their feedback on the project.

Finally, MGA keeps a close relationship with the plastic manufacturers buying its recycled plastic products. The project installed a dedicated hotline for plastic manufacturers to share feedback on their experience and on the project in general. MGA also participates in events when collaborating with specific partners which also are dedicated times to discuss about the project.



Figure 23: Collaboration between MGA and Total Energies on a new recycled lube oil packaging

MGA also uses an advisory board which includes stakeholder representation and in which workers have the opportunity to elect members.

Stakeholder groups are also informed about the requirements and processes of Verra's Plastic Waste Reduction Standard and the generation of Plastic Credits. A dedicated stakeholder consultation will be held before the validation audit.

2.1.4 Free, Prior and Informed Consent (3.13.6)

MGA workers are willingly working with MGA. No property rights are impacted by any of MGA's collection and recycling instances. The factory is located in the industrial area, and the Collection Hubs are businesses with proper lease agreement.

Stakeholders' free, prior, and informed consent is part of MGA's Stakeholder Engagement procedure. As part of this procedure, each stakeholder group is defined, an engagement strategy is implemented, with a dedicated tool, frequency and responsible person. The *Free, Prior & Informed Consent* from each stakeholder is recorded in MGA's Clerk App of Excel Tracking file prior to engaging with them. The Local Stakeholder Consultation was also a useful way to verify it directly:they have been reminded of their rights and each stakeholder confirmed its free, prior and informed consent on the project.

Consent has been given by the county offices as authorization for collection activities to be carried out within each county, with legal authorization licenses provided by the county's local governments. Evidence has been provided to the VVB.

No people have been displaced because of the project.

The documented procedure is mentioned in the *MGA Stakeholder Engagement Tracker* shared with the auditor.

2.1.5 Continued Consultation and Adaptive Management (3.13.9)

Continued Consultation and Adaptive Management are managed by MGA's stakeholder engagement procedure described in Section 2.1.1. The consultation process has been tailored to each stakeholder group with communication channels by call, email, whatsapp or word-of-mouth. In-person stakeholder consultation meetings are completed with more regular internal and external communication.

Following the first consultation with all stakeholders at the beginning of the project, such consultations are and will be repeated frequently in order to gather the updated opinions of each stakeholder. Each stakeholder group is consulted on the plastic credit project at least quarterly, and even more frequently for some of them. As an example, MGA has introduced regular briefing of casuals during "Toolbox" meetings (daily meetings before every shift) and leverages "Tea Parties" organized at every Trading Point once a week to collect feedback from waste pickers. The MGA Sourcing Coordinator is then in charge of communicating all the feedback to the management team, for it to contribute to project design.

In case of future addition of a new instance to the project, a first consultation similar to the one organized will be held.

MGA's internal processes for Stakeholder Engagement, together with indicators reporting, allow to follow and track stakeholder's input on an ongoing basis and adapt management accordingly.

Generally-speaking, the certification communication plan allows for stakeholder groups to provide feedback and express their degree of involvement in the project. Each milestone of the certification process is also communicated to all stakeholders through the various communication chanels.

Since the beginning of project's activities back in 2020, stakeholder conversations have been placed at the core of the project's design. MGA has tried various operating models with the various stakeholders before reaching the current one. Stakeholders were implied in all market research done and were consulted for any expansion projects. As part of MGA's stakeholder engagement procedure, stakeholders have been informed that they can use their regular communication channel for providing additional feedback even after the Local Stakeholder Consultation. MGA has put in place a continuous improvement process for collecting feedback from the ground, that allows MGA to operate with an adaptative management framework. As an example, for the Consumer Ecosystem stakeholders' group, MGA has recently launched consumer satisfaction surveys. MGA also has several continuous engagements with the government, to be updated of any potential new regulations that would require a change in project's design.

2.1.6 Anti-Discrimination (3.13.10)

MGA do not encourage any discrimination in any location or infrastructure associated with project activities. MGA and Removall both have internal organizational anti-discrimination policies (MGA's Employee handbook and Removall's Diversity Charter and Code of Ethics) that ensure there is no discrimination in the workplace and frequent training is provided to all workers to establish the same. MGA advisory board sets specific, measurable diversity improvement goals. In addition, MGA has 50+% of management positions fulfilled by women. The MGA Employee handbook will be shared with the auditor during the validation audit of the project.

2.1.7 Feedback and Grievance Redress Procedure (3.13.11)

The Feedback and Grievance Redress procedure is explained in the Local Stakeholder Consultation support. The support has been presented during the meeting and shared to all the stakeholders afterwards, with clear identification of the main points of contact.

Once the point of contact receives a Feedback or Grievance submission, per any communication chanel dedicated to each stakeholder group, the point of contact acknowledges receipt and record it into a Grievance Register. Then is determined the severity of the feedback/grievance, it is categorised and prioritised based on urgency. A dedicated Committee investigates the complaint, which can involve interviews, document reviews, or site visits. The Committee then decides on the outcome of the required corrective action. The complainant is informed of the decision and any next steps. The grievance is closed once corrective actions are implemented and verified. The outcome is documented, and the Grievance Register is updated.

A one-pager has also been translated into Swahili (local language), printed and shared to the stakeholders, resuming the main information from the Local Stakeholder Consultation and the main contact for the Feedback and Grievance Redress procedure.

About the plastic credit certification process, MGA has introduced briefing of casuals during Toolbox meetings (daily meetings before every shift), during which MGA employees car report their feedback or grievance directly to their site manager. MGA has also engaged with the external hotline service SPEAKOUT since 2022 for providing an independent feedback and grievance redress procedure to its stakeholders.

In addition to the official procedure, regular communication is maintained by MGA to provide constant feedback to the project proponents. Internal communication goes through emails to discuss meetings details, WhatsApp messaging for general information on operations and with other departments and telephone calls for more urgent matters. External communication goes through phone calls for supplier-customers relations, Bulk SMS for all suppliers and verbal communication thanks to MGA's coordinators when suppliers are not well acquainted with the language or technology.

MGA endeavours to answer any feedback received.

2.1.8 Feedback and Grievance Redress Procedure Accessibility (3.13.12)

MGA's contact information is publicly available on its website and MGA's coordinators strengthen the feedback and grievance procedure by maintaining regular communication with all stakeholders through phone, email, WhatsApp, Bulk SMS and verbal communication.

Stakeholders have been made aware of the existence of the feedback and grievance redress procedure during the Local Stakeholder Consultation, and during the regular meetings as part of the Stakeholder engagement procedure. The one-pager poster mentioning the Feedback & Grievance Redress Procedure has been translated into Swahili (local language) and is available in printed version at each Collection Instances and at the Recycling Instance. All stakeholders know how to use the procedure for making feedback or a grievance, by contacting the designated point of contact within MGA.

2.1.9 Stakeholder Access to Project Documentation (3.13.13)

All relevant documents submitted to Verra are available on the Verra Registry. The project proponents have also provided project documentation to all stakeholders through the regular communication channels.

During the Local Stakeholder Consultation held on March 6, 2024, the 30-day public comment period was still ongoing at the time of the Local Stakeholder Consultation. It has been mentioned and explained to all the participants, and Verra Project ID has been communicated. Even though most of the stakeholders are English-speaking, the Local Stakeholder Consultation support and the one-pager poster on plastic credit project have been translated into Swahili (local language) and shared to the various stakeholders by email, as well as printed and distributed at each collection site. A full version of the Project Description Document is also in the process of being translated.

For illiterate stakeholders, the Local Stakeholder Consultation and the regular meetings are used for providing information on the project. The contact is continuously established for ensuring that they are aware of the project and of the possibility to provide feedback at any time.

2.1.10 Information to Stakeholders on Validation and Verification Process (3.13.14)

Information regarding the validation and verification process are communicated to the shareholders well in advance, through the regular communication channels specific to each stakeholder group (word-of-mouth, business meetings, event, emails, website…).

Before each site visit audit, the site managers are verbally informed at least two weeks in advance, as soon as MGA gets confirmation from the auditor. An official email notice is then sent to the site managers, at least a week in advance, and the site managers are responsible for

informing their employees and stakeholders implied. Finally, a reminder is sent the day prior to the site visit, with the contact of the auditor and any other participant of the site visit.

For each site visit audit, MGA makes representants of various stakeholder groups available for facilitating the schedule of the assessor. Those stakeholder groups are officially informed at least a week in advance, and verbally informed as soon as possible.

In case of future addition of a new instance, information about the validation and verification process shall be shared with stakeholders during the initial consultation process. Stakeholders will also be informed of any probable site visits at well in advance and MGA's representatives will be available to facilitate on-site communication.

2.2 Public Comments (3.13.15 – 3.13.18)

The 30-day public comment period took place from February 14,2024 to March 15, 2024.

During the 30-day public comment period, two comments were received. The comments, together with the answers from MGA and Removall, are shown below. The answers demonstrate the irrelevance of the two comments.

Comment 1

Submitted by: Richard Kainika
Organization: Kenya Association of Waste Recyclers
Country: Kenya
Comment:
Lack of additionality

- Both PET plastic bottles as well as HDPE blow & PP injection containers have a recycling rate well above 20%. Based on industry estimates recycling rates for these fractions are in the range of 40-60%.

- Many public studies, unfortunately, do not always go to the required granularity by plastic type. However, various studies do confirm the high recycling rates. See for example page 36 and 42 of this UNIDO report (since the publishing of this report additional companies have opened, further increasing the recycling rate): https://www.unido.org/sites/default/files/files/2022- 01/Plastic_value_chain_in_Kenya.pdf

- Producer Responsibility Organizations (PROs) in Kenya, like KEPRO, have established different subsidy rates for different plastic materials based on their current level of recycling in their EPR fee guides. Both PET bottles and HDPE blow as well as PP injection receive the lowest subsidies due to their high recycling rates.

- Mr. Green Africa already pays 20% more than competing waste recyclers for its materials. This shows that the materials are not additional.

Mister Green Africa & Removall answer:

Since the crediting start date of the project in July 2020, the plastic types recycled by Mister Green Africa do not have recycling rates above 20% in the geographical areas of the

project. Please refer to section 3.5 and section 3.6 of the Project Description Documentation for more information.

The studies mentioned by the stakeholder globally lack precise figures. A WWF study "Extended Producer Responsibility for single-use plastics and packaging waste streams: an assessment for Kenya" conducted in 2022 had an estimated PET generation nearly 3 times more important than the one mentioned. Other recent references come to the same conclusion with recycling rates far below 20% such as the "Plastic Pollution Policy Country Profile: Kenya" by the Duke Nicholas Institute with an estimated overall 8% recycling rate (section 1.12.2 of the Project Description Documentation).

EPR regulation is still under development in Kenya, therefore there is currently a lack of plastic collection and recycling infrastructures and a lack of reliable data on the overall plastic recycling sector in the country. In addition, there is no correlation between the monthly EPR fees for different plastic materials from the KEPRO's subsidy rates and the recycling rates in the project geographical area.

Since the beginning of the project in 2020, MGA puts a lot of effort into the empowerment of its 2,500 informal waste pickers and 120 employees, as demonstrated by its fair compensation policy which is one of the solution to provide better living conditions to the vulnerable stakeholders of that sector, as well as the numerous social campaigns put in place (e.g., "support a waste picker" health program, loyalty program, safety trainings…). Please refer to section 2.3 of the Project Description Documentation for more information.

Comment 2

Submitted by: Richard Kainika
Organization: Kenya Association of Waste Recyclers
Country: Kenya
Comment:
Negative impact on the recycling space in Kenya

- Already in today's market Mr. Green Africa is known to be paying higher prices than other recyclers, thereby threatening the livelihoods of their competitors, majorly the small-scale informal recyclers, this is attributed to its plastics collection and recycling partnerships with some multinational brands. It is common knowledge within the informal recyclers fraternity that MGA targets to wipe them all from business, as their representative and servant I feel it important for MGA to engage the collection market more sustainably in line with the UNEA call to a just transition for the informal players, leaving no one behind

- Receiving plastic credits would only aggravate this situation, leading to a large-scale shutdown of many recyclers in Kenya.

Mister Green Africa & Removall answer:

MGA's project cannot either be described as going against "a just transition for the informal players", where its core principles and engagements are to better remunerate the waste pickers (section 1.12.2 of the PDD) and to set-up strong social co-benefits for the informal waste sector (section 2.3 of the PDD) which desperately needs it. MGA has a key role in promoting fair compensation for waste pickers, thereby empowering them to enhance their collection capabilities and access to a reliable market.

MGA's project of collection and recycling of plastic waste in Kenya - where 92% of plastic waste is mismanaged - cannot be described as having "negative impact on the recycling space" or "threatening the livelihoods of their competitors". As detailed in section 1.12 and 3.5 of the PDD, plastic waste pollution remains a major problem in the country, and we should do nothing but to encourage as many actors as possible to get involved. Since the beginning of activities in 2020, MGA has proven that it has the capacity to scale-up for being one of the key barriers against plastic pollution in Kenya.

Plastic credit finance granted to MGA's project will be used to scale-up its collection and recycling activities (addressing new plastic types, expand geographical coverage, establish new factories…) and to maintain the strong co-benefits for the informal waste sector resulting in improved environmental and social conditions for Kenya.

2.3 Safeguards (3.14)

2.3.1 Health and Safety (3.14.2 – 3.14.3)

The collection and recycling of plastic waste poses health and safety risks for all workers involved in the activity and especially to the waste pickers and to the employees of the processing and recycling facility. During collection activity, potential injuries related to lifting containers and road accidents are unintended safety risks identified, while during the handling and processing of the waste stream, potential hazards identified are sharp and contaminated material handling. At the factory, other risks have been identified such as chemical hazards, machinery and equipment hazards, fire and explosion hazards, and exposure to dust and fumes.

To mitigate those risks, the employees of the processing and recycling facility are reminded of safe working practices and trainings (e.g. emergency shut offs) at every manufacturing meeting and are provided with adapted PPE gear (such as clothing, eye, and foot protection). Waste pickers are also provided with adapted PPE gear and trainings (at least twice a year) which encompasses physical risks of their collection activity but also on additional subjects such as gender violence to ensure them with a safe working environment. MGA has established a dedicated Standard of Procedure for PPE issuance and return. PPE equipment stock and usage is tracked at each collection hub and in the factory.

A worker health and safety committee help monitor and advise on health and safety programs. In addition to the remuneration in exchange of plastic waste from waste pickers, a loyalty program has been created by MGA which allows them to earn additional benefits (balanced diet meal, food items, better PPEs…). MGA also has a crowdfunded yearly health program called "*Support a waste worker"* which donates health checks and individual counseling to waste workers directly in a chosen TP (Trading Point) during Health Events. Above 95% of MGA's workers are covered by a health insurance.

Finally, MGA has tested the emission of its boiler in a study conducted by an accredited Kenyan laboratory which concluded that the requirements of the air quality (EMC regulation of 2014) were fully met. MGA also monitors its indoor air quality to avoid "Sick Building Syndrome".

2.3.2 Labor (3.14.4 – 3.14.8)

The project complies with all relevant labour and human rights laws of the host country and strict measures are in place to ensure compliance with all applicable laws governing the project:

Table 5 : List of laws and regulations covering workers' rights in Kenya

List of laws and regulations
Kenya Employment Act (2007)
International Labour Organisation Regulations
Minimum Wages Order (2002)
Regulation of Wages (General) Order 1982
Labour Relations Act (2007)
Occupational Safety and Health Act, 2007
Work Injury Benefits Act, 2007

The workers engaged in this project are adequately compensated for their work and they are not mandated to work in conditions that would compromise their health or safety. MGA's activities do not involve any child or forced labour. Trainings provided for waste pickers include the subject of child and forced labour prohibition.

Marginalized and vulnerable stakeholders, such as waste pickers, are the priority beneficiaries of the additional income generated by the project helping them to improve their livelihood. As a result of project activities, the number of MGA direct employees and sourcing partners is significantly growing, resulting in various job creations throughout the host country.

The project does not lead to the elimination of income-generating activities. There is no loss of employment as a result of the project activity, and it is not creating an alternative activity destroying jobs. On the contrary, MGA is creating a huge number of employment opportunities throughout Kenya, and is looking to hire more employees for its incoming sorting facility.

2.3.3 Energy Efficiency and Greenhouse Gases (3.14.9 – 3.14.13)

The main sources of (GHG) emissions of such collection and recycling projects are the energy consumption of the machinery used in the recycling facility and all transportation involved in the project. While the project does not actively measure energy consumption or (GHG) emissions yet, MGA endeavors to make active efforts to enhance energy efficiency and reduce (GHG) emissions activities.

MGA conducted an energy audit in December 2021. Thanks to that, MGA was able to implement various energy saving measures such as changing lights to LED, install new industrial equipment or optimize the Operation and Maintenance procedure. All changes have been quantified in terms of estimated GHG emissions reductions.

An important GHG emissions reductions factor is optimizing vehicle capacity for material delivery, aiming to improve their efficiency. To do so, MGA commits to crush and bale material to optimize vehicles loadings. MGA has also recently bought new electrical forklifts to replace the Diesel ones, reducing its total GHG emissions.

Another important point is that while the machinery used during the recycling process consumes a lot of energy, the recycling process results in overall reduction in (GHG) emissions.

The recycled plastic produced displaces the use of virgin plastic, meaning that plastic products will be produced with recycled plastic instead of virgin plastic. As GHG emission factors of mechanically recycled plastics are lower than virgin plastics' ones, this results in lower GHG emissions globally. MGA's recycling activity is also a synonym of better management practices as it avoids plastic waste openly burnt or landfilled. Additionally, the plant runs purely on electricity received from the main substation – and around 90% of the Kenyan electricity, used in the project's recycling facilities, is renewable.

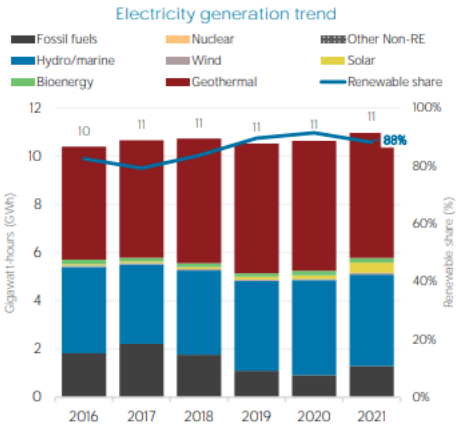

Figure 24: Kenyan electricity generation figures by sources[14]

2.3.4 Condition of Natural Resources (3.14.14 – 3.14.15)

Air quality:

Around 42% of plastic waste is openly burnt in Kenya[15]. MGA's project collects and recycles plastic waste which helps to reduce the amount of plastic waste openly burnt and therefore improving air quality. MGA also tested the emission of its boiler in a study conducted by an accredited Kenyan laboratory which concluded that the requirements of the air quality (EMC regulation of 2014) were fully met.

Water quantity and quality:

[14] IRENA (2023) – Energy profile Kenya

[15] WWF (2022) – Extended Producer Responsibility for single-use plastics and packaging waste streams: an assessment for Kenya

MGA's project collects and recycles plastic waste which helps to reduce the amount of plastic waste in landfills or dumped into the environment, therefore reducing the pollution of chemicals and microplastics from plastic waste into water bodies. In addition, MGA implements a dedicated manufacturing process to ensure effluent water treatment. The input of this process is the chemically polluted water from the recycling facility machineries (during the washing process specifically) which goes through flocculation, clarifier, and carbon filter to produce treated water to be reused. This extra process allows to reduce the quantity of polluted water therefore improving the quality of water overall. By recycling its own water, MGA lowers the total volume of raw water required for its industrial process.



Figure 25: Effluent water treatment installation located in the processing and recycling facility in Nairobi

Soil quality:

MGA's project collects and recycles plastic waste which helps to reduce the amount of plastic waste in landfills or dumped into the environment, therefore reducing the pollution of chemicals and microplastics from plastic waste into the soil.

Biodiversity and ecosystem health:

MGA's project collects and recycles plastic waste which helps to reduce the amount of plastic waste in landfills or dumped into the environment of which a significant part ends-up in waterbodies, resulting in an overall improvement of the marine ecosystem. In addition, MGA's

project activities do not take place in protected areas or impact threatened and endangered species.

2.3.5 Additional Impact Certifications (3.14.16)

MGA is the first African recycling company to be certified B-Corporation[16], since 2021. The B-Corporation certification assesses the sustainable, long-term social, environmental and economic impact of MGA's collection, recycling and sales activities. MGA received an overall B Impact Score of 80,9 which is highly above the median score for ordinary businesses of 50,9. Detailed scorecard is accessible on B-Corp website[17].

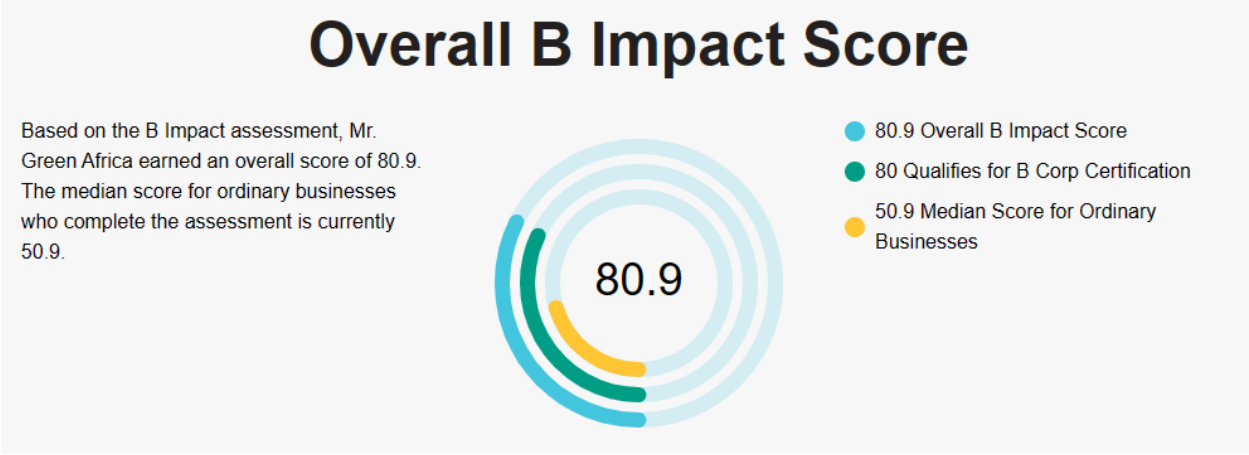

Figure 26: Mr. Green Africa scorecard available on B-corporation website

In addition, MGA has also passed REACH certification tests on its recycled plastics and is under validation for the ISO 5512-1 certification.

[16] Mister Green Africa (2021) – First recycling company in Africa to be Certified B Corporation

[17] B Lab Global Site (2021) – Mr. Green Africa

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology (3.1.2)

This project aims at following two methodologies as MGA is collecting and then recycling plastic waste:

- PWRM0001 Plastic Waste Collection Methodology, Version 1.1 (dated 30th June 2022)
- PWRM0002 Plastic Waste Recycling Methodology, Version 1.1 (dated 30th June 2022)

3.2 Applicability of Methodology

The project meets each of the applicability conditions specified in PWRM0001, as demonstrated in the table below:

Table 6: Justification of applicability conditions for collection methodology PWRM0001

Applicability condition	Justification
4.1	The plastic waste collection activities in the project are conducted by informal sector waste pickers, aggregators or community-based organizations which are then bought by the project proponents. Plastic collection can also be made at the various MGA's buy-back centres.
4.2	Each collection instance is a new activity carried out for the recycling of plastic waste in MGA recycling plant in Nairobi; this results in significant increases in the collection of plastic waste.
4.3	There are four different sources of plastic waste collected by MGA: environment, dumpsites, households and commercial entities (see Figure 28 in Section 3.3). Those collection sources are clearly identifiable and monitored with MGA's tracking system. As the collection rates are low in the geographical area of the project, it can be considered that the collected plastic waste would have ended up into the environment or openly burnt. This can be demonstrated by using the most recent and accurate data available, as described in the baseline scenario (Section 3.5).
4.4	The collected waste is pre-sorted at aggregation hubs and then sorted by type, weighed and transferred to the mechanical recycling facility in Nairobi, where it is processed into flakes and/or pellets and sold to plastic manufacturing facilities. Evidence has been provided to the VVB, such as sourcing SOP, Manufacturing SOP and Sales SOP, as well as delivery notes, receipts, and sales invoice. The VVB has also been given full access to MGA ERP System.
4.5	The dry weight of the final output of collected plastic waste that reaches to MGA recycling factory is directly measured and recorded.

	Evidence such as sales invoices generated by the project proponent are available.
4.6	The output of the collection activity is not used in any unauthorized, illegal or non-statutory activities within the project boundary. Payment invoices are recorded and used to verify that the collected waste goes to the recycling facilities.
4.7	The waste material collected in the project activity is taken to the mechanical recycling as the appropriate end destination throughout this methodology, where it is processed into flakes and/or pellets. Evidence has been provided to the VVB, such as sourcing SOP, Manufacturing SOP and Sales SOP, as well as delivery notes, receipts, and sales invoice. The VVB has also been given full access to MGA ERP System.
4.8	The availability of plastic waste is demonstrated by defining the baseline scenario (Section 3.5) and using the most recent publicly available data on plastic waste.
4.9	Plastic waste collection and recycling are negligible in scope due to a lack of formal waste collection services and coordinated government resources. As well as defined in the project eligibility, the plastic waste recovery is below 20%. Therefore, the project activities do not compete with other collection activities. Contrarily, it expands and enhances formal collection in cities and towns with low formal collection and high plastic leakage. Thanks to interviews with local partners, several new collection operations starting up in Kenya have been identified. However, they tend to be much smaller scale than the MGA project, and they have all struggled to achieve the necessary collection scale to be sustainable. MGA seems to be the only project able to operate at scale for both collection and recycling activity, with strong growth aspirations, making it the most important company to support for fighting against plastic pollution. Please refer to Section 3.5 for further information.
4.10	Plastic waste collected during the project activities are all taken to the mechanical recycling facility in Nairobi, which is an appropriate end-of-life. The project activities do not include dumping on open land, in water bodies and/or at dumpsites; open burning; or incineration without energy recovery. Contaminated plastic waste is either not accepted by the recycling facility or is stored for later disposal by the authorized agency as per the relevant regulations.
4.11	There is no transboundary movement of collected plastic waste between countries.

The project meets each of the applicability conditions specified in PWRM0002, as demonstrated in the table below:

Table 7: Justification of applicability conditions for recycling methodology PWRM0002

Applicability condition	Justification
4.1	The project involves the installation and operation of a new mechanical recycling facility for collected plastic waste. It also provides regular payments to waste pickers and waste aggregators, enhancing total sorting volumes. Finally, it enables to consistently purchase new equipment for enhancing recycling rates.

4.2	The plastic waste is collected from the environment: untreated landfills, open dumpsites, public areas, streets, near waterways, industries as well as through buyback centres as explained above in Section 1.10.
4.3	Project activities include mechanical recycling, the recycling instance being MGA's mechanical recycling factory in Nairobi. Project activities do not include chemical recycling.
4.4	The waste undergoes multiple stages of sorting from collection till processing. The initial sorting occurs mainly at the aggregation hubs. The waste received at the recycling facility is further sorted to ensure that only relevant plastic polymers are put through the recycling process, thus enabling increased plastic recovery efficiency.
4.5	Plastic waste intended for recycling is not mixed with hazardous materials or substances (e.g., coatings, adhesives, or colorants) that could become unsafe. Any plastic waste contains hazardous materials or substances, and must be treated following the relevant national, regional, and local regulations. Evidence has been provided to the VVB, such as sourcing SOP, Manufacturing SOP and Sales SOP, as well as delivery notes, receipts, and sales invoice. The VVB has also been given full access to MGA ERP System.
4.6	The different types of plastic are recycled separately, and the final output of the recycling facility is measured and recorded. The plastic, after being recycled into flakes and/or pellets, is placed into bags of different weights for sale to plastic manufacturers. Evidence has been provided to the VVB, such as sourcing SOP, Manufacturing SOP and Sales SOP, as well as delivery notes, receipts, and sales invoice. The VVB has also been given full access to MGA ERP System.
4.7	The quality of the recycled plastic waste allows it to be used as feedstock in the manufacture of recycled products, thereby displacing the use of virgin plastic. MGA has established a customer feedback procedure for permanently assess the quality of the produced recycled products compared to virgin plastic's performances. Credible evidence can be provided specifically on the sale of recycled plastic to plastic manufacturers. All sales receipts are processed and stored.
4.8	The availability of plastic waste is demonstrated by defining the baseline scenario (Section 3.5) and using the most recent publicly available data on plastic waste.
4.9	Project activities do not include any depolymerization of sorted plastic waste.
4.10	MGA does not divert plastic waste from any historically existing, legally recognized recycling activity. As defined in the project eligibility criteria for additionality (Section 3.6), the plastic waste recovery is below 20%. Therefore, the project activities do not compete with other collection activities. The availability of plastic waste is demonstrated by defining the baseline scenario and using the most recent publicly available data on plastic waste. Without the project activities, there would be mismanaged plastic waste, which would be at significant risk of entering the ocean.
4.11	Plastic waste that enters the project recycling facility but is not recycled or is lost during the recycling process (e.g., due to contamination) is managed in a way that does not include dumping on open land, in water bodies and/or at dumpsites;

	open burning; or incineration without energy recovery. Contaminated plastic waste is either not accepted by the recycling facilities or is stored for later disposal by the authorized agency as per the relevant regulations.
4.12	No plastic waste to be recycled in this project has been collected in or/and imported from other countries.

3.3 Project Boundary (3.8)

Table 8: Project boundary

Source		Material Type	End-of-Life	Explanation
Baseline	Unregulated disposal sites	HDPE	Continues to remain in the dumpsites, sometimes openly burnt and leaks into the environment	Minimal to no collection activities depending on region. Plastic waste is mainly found in the environment. In Kenya, the landfill is an unsanitary landfill. There is a chance of leakage of plastics back into the environment, and the incineration of waste is predominant in landfills, causing air pollution.
		PP		
		PET		
	Environment	HDPE	Continues to remain in the Environment or if cleaned up, is transported to a dumpsite.	
		PP		
		PET		
	Household & Commercial Entities	HDPE	Is thrown directly in the street or taken to the nearest dumpsite.	
		PP		
		PET		
Project	Unregulated disposal sites	HDPE	Recycled into feedstock such as pellets or flakes, etc.	Through mechanical recycling, it is made into flakes and/or pellets, and sold for manufacturing units. The plastics which are collected but not recycled are sent to the landfills.
		PP		
		PET		
	Environment	HDPE	Recycled into feedstock such as pellets or flakes, etc.	
		PP		
		PET		
	Household & Commercial Entities	HDPE	Recycled into feedstock such as pellets or flakes, etc.	
		PP		
		PET		

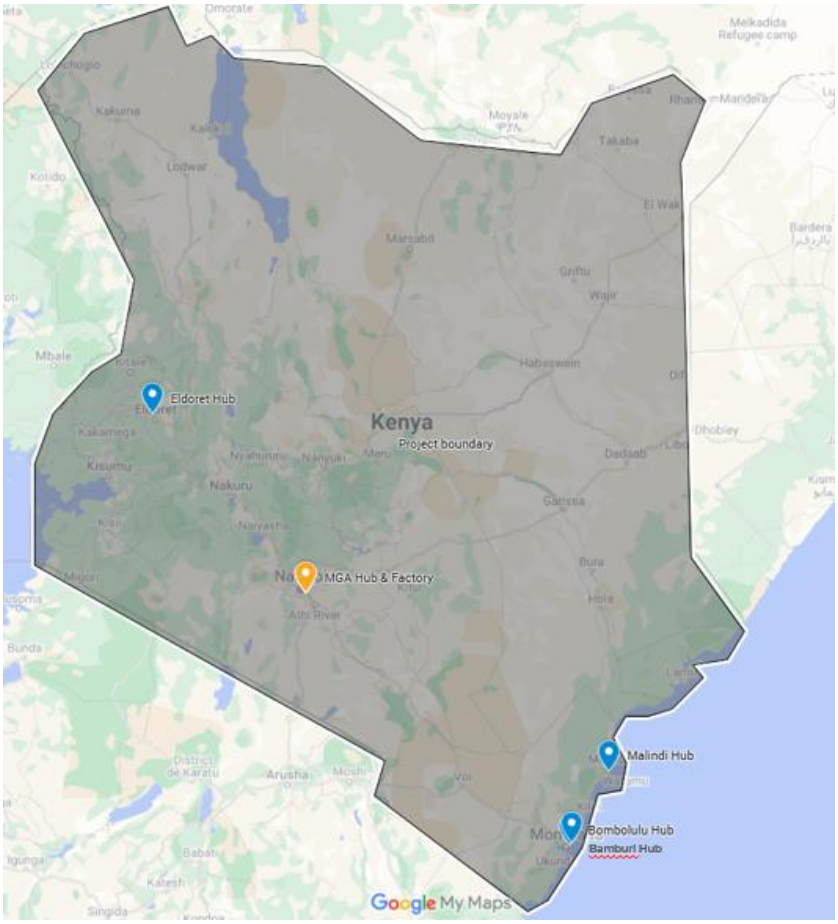

Figure 27 (a): Project Region and Project instances location

MGA Collection Hub is at MGA Factory. Therefore, they have the same location on the map.

Figure 27 (b) below shows more precise locations for the two Collection Hubs in Mombasa : Bombolulu Hub and Bamburi Hub.

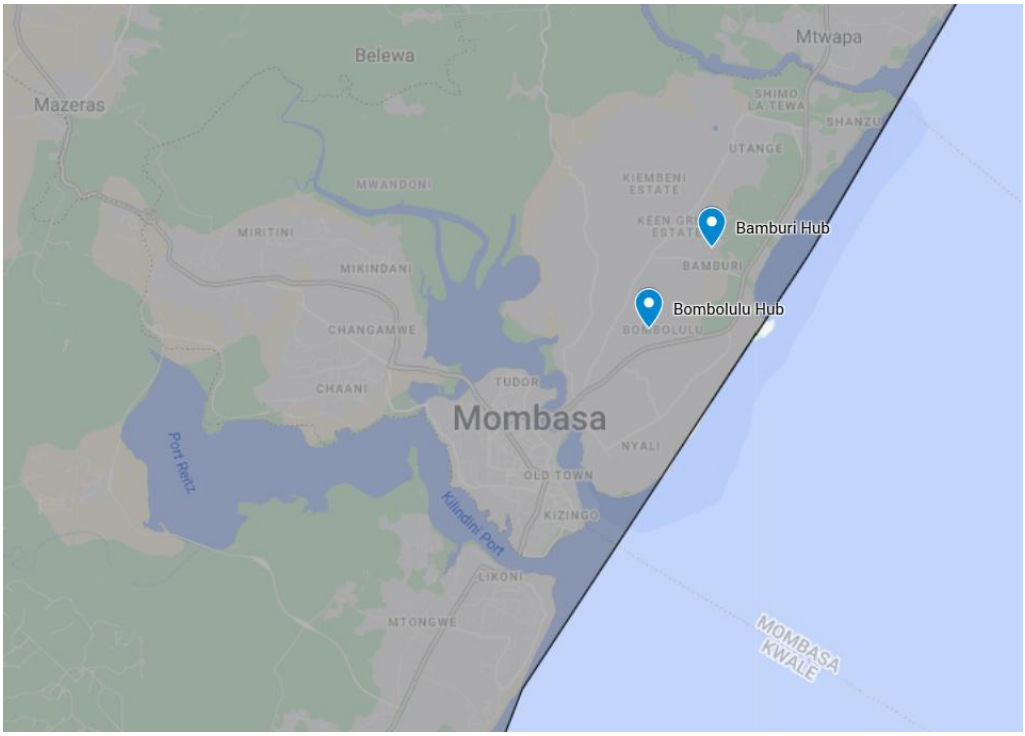

Figure 27 (b): Zoom on Project instances location in Mombasa

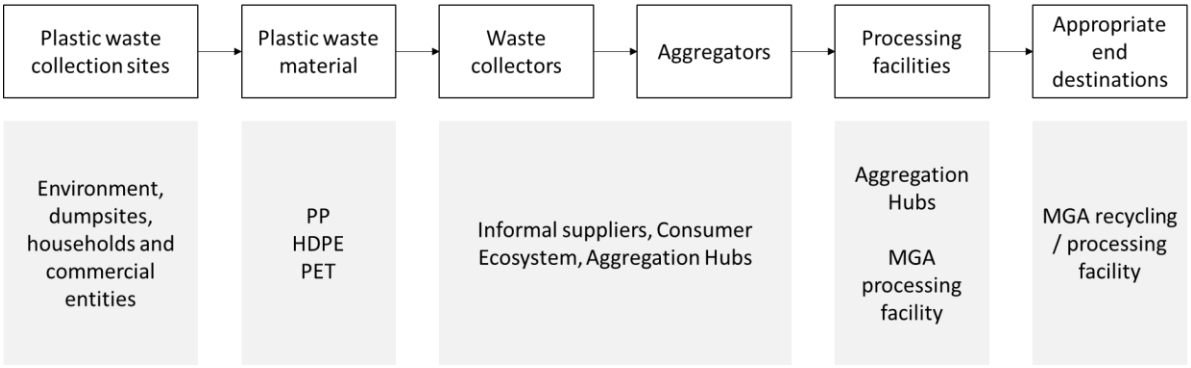

Figure 28: Project Boundary Diagram as per Plastic Waste Collection Methodology (PWRM0001)

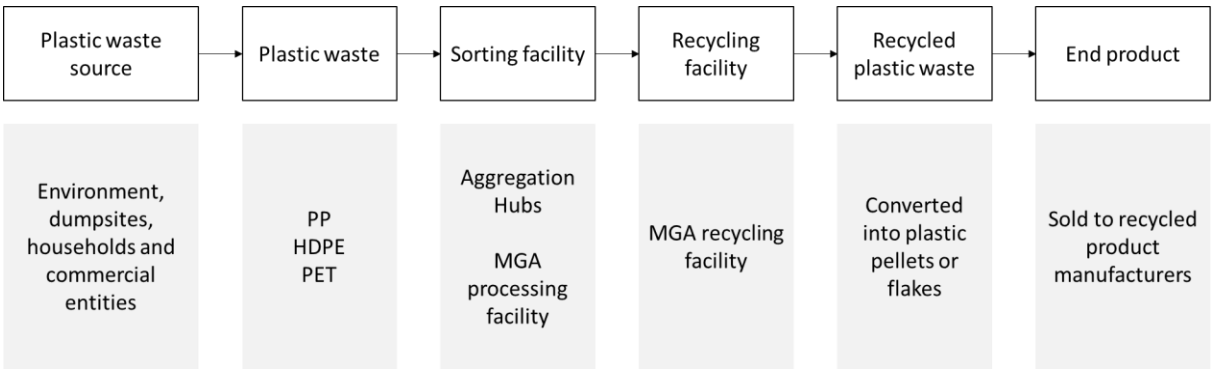

Figure 29: Project Boundary Diagram as per Plastic Waste Recycling Methodology (PWRM0002)

3.4 Project Region

The project operates in different locations of Kenya with all project instances located within the country's national boundary. More details are provided in the Section 1.11.

As a grouped project with multiple instances of multiple activities, all future instances will also be located within Kenya.

3.5 Plastic Waste Collection and/or Recycling Baseline Scenario (3.9)

Annual plastic waste generation G:

Kenya has an estimated population of 54.0 million people[18], following a regular demographic growth since the beginning of the century. The biggest city is Nairobi, with 4.6 million inhabitants. Since 2005, Nairobi has one of the highest African growth rates per annum, 75% of the urban population growth being absorbed by informal settlements[19]. Mombasa is the second biggest city with a population over one million – and it faces similar problems.

As Kenya does not have any petrochemical industries that produce virgin plastics, all virgin plastics are imported into the country – representing a total volume of 553,519 tonnes of plastics in 2020[20]. However, the full amount of plastic that becomes waste in Kenya is difficult to estimate. A recent study made by UNIDO[21] in 2021 has concluded that it lies within the approximate range of 500,000 to 1,300,000 tons per year. The most recent and accurate study, made by WWF[20] in 2022, states that 982,580 tonnes per year of plastic waste is now generated in Kenya.

Therefore:

Annual plastic waste generation G = 982,580 tons/year

[18] World Bank (2022) – Population, total - Kenya

[19] UN-Habitat (2005) – Kenya: Nairobi Urban Profile

[20] WWF (2022) – Extended Producer Responsibility for single-use plastics and packaging waste streams: an assessment for Kenya

[21] UNIDO (2021) – Study on plastic value chain in Kenya.

According to the study made by WWF in 2022, here are the collection and recycling rates per polymer type in Kenya:

CATEGORY	AMOUNT GENERATED (TONNES)	AMOUNT COLLECTED (TONNES)	% COLLECTED	AMOUNT RECYCLED (TONNES)	% RECYCLED
PET	85,781	29,165	34%	3,792	4.4%
PP	212,502	55,251	26%	2,763	1.3%
POLYESTER	220,301	50,669	23%	0	/
LDPE	103,327	37,198	36%	5,580	5.4%
HDPE	101,377	37,510	37%	7,127	7%
PS	9,748	1,755	18%	0	/
SYNTHETIC RUBBER	46,790	13,569	29%	1,086	2.3%
PVC	68,235	9,553	20%	96	0.1%
OTHER	134,520	30,940	23%	1,238	0.9%
TOTAL	**982,580**	**265,609**	**27%**	**21,679**	**2.2%**

Figure 30: Kenyan plastic waste management by polymer type (2022)[22]

Collection:

Even though some collection rates from this table are above 20% (PET rate : 34%, PP rate: 26%), it is important to precise that those collection rates also include plastics that are mismanaged, and are therefore not equivalent to the collection penetration rates as defined in Section 7 of Verra's *PWRM0001: Plastic waste collection methodology version 1.1.* In fact, according to that same study from WWF, *"Within the collected portion, mismanagement is also prevalent, as no landfill in Kenya operates according to sanitary standards; this leaves only the recycled and legally exported fractions out of this equation. Accordingly, 92% of all plastic waste can be considered mismanaged[…] The amount of plastic waste that is collected but not taken to designated municipal dumpsites – e.g. either burnt in the open or is taken to informal dumpsites – can be estimated to be around 240,000 tonnes per year. About 903,974 tonnes of plastic waste annually is mismanaged in Kenya and ends up in the environment in one form or another, based on the amount that is not collected or not properly disposed of".* This situation is mainly due to a lack of global waste management infrastructure, despite the recent country's economic development.

[22] WWF (2022) – Extended Producer Responsibility for single-use plastics and packaging waste streams: an assessment for Kenya

Based on this additional input:

Annual plastic waste collection C = 982,580 – 903,974 = 78,606 tons/year

Given such low volumes of collected plastic waste in Kenya, it is concluded that in the absence of this project, its collected volume would likely have remained in the environment, open-burned or disposed of in a dumpsite.

Recycling:

In the absence of the project, the plastic waste recycled by MGA would not have been recycled. This is the project's recycling baseline scenario.

This is justified by Figure 30:

- The annual total plastic waste recycled Is 21,679 tons/year
- Plastic recycling rates are below 7% for all plastic types in Kenya. Calculation per plastic type recycled by the project is made in section 3.6 Additionality.

Conclusion:

Even though there exists waste management laws and regulations, they are not properly enforced (see *section 1.13*). This results in an increasing role of the informal waste sector – ranging from waste pickers, collectors, sorters and recyclers. As they only focus on high-value plastics that are easy to recycle, low-value plastics are left behind. Low-value plastics account for non-recyclable plastics or recyclable plastics contaminated with other types of waste – which is often the case in dumpsites. This results in large amounts of plastic waste not addressed.

At the present, there is limited investment in plastic collection and recycling systems across the country. **Therefore, the baseline scenario for MGA is that in which, "without project implementation, the plastic waste would have remained in the environment, been disposed of by open burning, been incinerated without energy recovery and/or disposed of in a dumpsite and the plastic waste would not have been recycled" to replace the usage of virgin plastic.**

3.6 Additionality (3.10)

As the project both collects and recycles plastic waste, additionality is demonstrated below for both collection methodology PWRM0001 V1.1 and recycling methodology PWRM0002 V1.1.

a) **Demonstration of collection additionality through PWRM0001 V1.1:**

Step 1: Regulatory surplus:

As explained in section 1.13 above, there are no laws or regulations that enforce the collection of the relevant material type(s) or the laws or regulations are not systematically enforced, and non-compliance is widespread in the relevant country or region.

Step 2: Positive List:

The project does not meet any criteria under the positive list to be deemed automatically additional.

Step 3a: Penetration Rate

According to the Plastic Waste Collection Methodology, the penetration rate (percent) is the ratio between plastic waste collection (tonnes/year) and plastic waste production (tonnes/year) in the region.

$$Penetration\ Rate = \frac{Annual\ plastic\ waste\ collection\ C}{Annual\ plastic\ waste\ generation\ G} * 100$$

Calculations can be made based on *Figure 30* of Section 3.5:

- *Annual plastic waste generation G = 982,580 tons/year*
- *Annual plastic waste collection C = 78,606 tons/year*

Therefore:

$$Penetration\ Rate = \frac{78{,}606}{982{,}580} = 8\%$$

Therefore, the collection activity is additional.

b) **Demonstration of recycling additionality through PWRM0002 V1.1:**

Step 1: Regulatory surplus:

As explained in section 1.13 above, there are no laws or regulations that enforce the recycling of the relevant material type(s) or the laws or regulations are not systematically enforced, and non-compliance is widespread in the relevant country or region.

Step 2: Positive List:

The project does not meet any criteria under the positive list to be deemed automatically additional.

Step 3a: Penetration Rate

According to the Plastic Waste Recycling Methodology, the penetration rate (percent) is the ratio between plastic waste recycling capacity (tonnes/year) and plastic waste total generation (tonnes/year) in the region.

$$Penetration\ Rate = \frac{Annual\ total\ installed\ recycling\ capacity\ C}{Annual\ plastic\ waste\ generation\ G} * 100$$

There is limited available research on Kenya's plastic waste recycling capacity.

As the data on plastic waste recycling capacity is not readily available, independent market research has been done by interviewing industrial experts to estimate as precisely as possible the generation and recycling capacity of plastic waste for the material types focused on by MGA.

The most recent data points for the amount of plastic waste generated in Kenya comes from a WWF study led in 2022.[23] Here are the numbers used for calculation:

Category	Amount generated (tpa)
PET	85 781
HDPE	101 377
PP	212 502

To estimate the total installed recycling capacity in Kenya, twenty-four plastic recycling companies have been first identified. Twelve companies were then excluded from the scope of the study as they do not engage in the mechanical recycling of the plastic types relevant to this analysis — namely PET, HDPE, and PP — or because they operate on a very small scale, with recycling capacities below 100 tonnes per annum.

As per *PWRM0002_Plastic Waste Recycling Methodology v1.1, Section 7: Demonstration of Additionality, Step 3a: Project Method – Penetration Rate of Recycling Activities*, total recycling capacity of validated projects in the same geographical area has been excluded from the calculation of the penetration rate.

Thanks to direct interviews and calling sessions, the recycling capacity for each company as well as the plastic types addressed has been estimated. In cases where recycling capacity was

[23] wwfke.awsassets.panda.org/downloads/extended_producer_responsibility_report.pdf

expressed as a range, the maximum value was selected to adopt the most conservative approach.

The final calculation provides the following figures:

	PET (MT)	HDPE (MT)	PP (MT)
Maximum installed recycling capacity	**12 450**	**4 750**	**7 275**
Amount of waste generated	85 781	101 377	212 502
Recycling capacity rate	14,51%	4,69%	3,42%

Even under the most conservative scenario — considering the maximum installed capacities estimates — the nationwide recycling capacity for PET, HDPE, and PP remains well below 20%. This highlights a significant shortfall in Kenya's installed recycling infrastructure for these key plastic types. Mr. Green Africa stands out as one of the few actors with the capacity to address plastic pollution at a national scale.

Here are the results for each plastic type managed by the project:

$$Penetration\ Rate\ (PET) = \frac{12{,}450}{85{,}781} = 14.51\ \%$$

$$Penetration\ Rate\ (HDPE) = \frac{4{,}750}{101{,}377} = 4.69\ \%$$

$$Penetration\ Rate\ (HDPE) = \frac{7{,}275}{212{,}502} = 3.42\ \%$$

The Recycling Penetration Rate of Kenya is below 20% for each plastic types managed by the project. The project is therefore additional.

The independent survey report and its appendices have been submitted to the VVB at the time of validation.

3.7 Methodology Deviations (3.15)

There are no methodology deviations for this project.

4 ESTIMATED COLLECTED AND/OR RECYCLED PLASTIC WASTE

4.1 Baseline Collected and/or Recycled Plastic Waste

According to the Plastic Waste Collection Methodology PWRM0001 v1.1, baseline plastic waste is calculated as :

$$B_{collected,d,y} = \sum_{i=1}^{n} B_{collected,i,d,y}$$
$$(Equation\ 2)$$

Where*:*

$B_{collected,d,y}$ = Total baseline plastic collected and transferred to destination *d* in year *y* (tonnes), where *d* is an appropriate end destination

$\sum_{i=1}^{n} B_{collected,i,d,y}$ = Amount of plastic collected in the absence of the project activity and transferred to destination *d* in a year *y* (tonnes)

Since the collection of the plastic waste is a new activity that focuses on recovery of the uncollected or mismanaged plastic waste in all collection instances,

$$B_{collected,d,y} = 0$$

According to the Plastic Waste Recycling Methodology PWRM0002 v1.1, baseline plastic waste is calculated as :

$$B_{recycled,y} = \sum_{i=1}^{n} B_{p,recycled,i,y}\ X\ AF_i + \sum_{i=1}^{n} B_{dp,recycled,i,y}\ X\ MF$$
$$(Equation\ 2)$$

Where:

$B_{recycled,y}$= Baseline amount of recycled plastic waste in year *y* (tonnes)

$\sum_{i=1}^{n} B_{p,recycled,i,y}$= Baseline amount of recycled plastic waste of material type *i* in year *y* (tonnes) without depolymerisation

AF_i = Adjustment factor for non-composite materials = 1

$\sum_{i=1}^{n} B_{dp,recycled,i,y}$ = Baseline amount of recycled plastic waste in the form of depolymerized plastics from material type *i* in year *y* (tonnes) = 0

MF= Mass fraction of the output of the depolymerisation process used for plastic production

The baseline recycled plastic waste for material type *i* was determined as follows:

Since this is a new activity, the baseline is equal to 0 kg/year. Hence:

$$B_{recycled,y} = 0$$

4.2 Project Collected and/or Recycled Plastic Waste

According to the Plastic Waste Collection Methodology PWRM0001 v1.1, the project plastic waste collected is calculated as:

$$P_{collected,d,y} = \sum_{i=1}^{n} P_{collected,i,d,y}$$

$$(Equation\ 3)$$

Where:

$P_{collected,d,y}$ = Total plastic waste collected by the project activity and transferred to destination *d* in year *y* (tonnes), where *d* is an appropriate end destination

$P_{collected,i,d,y}$ = Amount of material type *i* collected by the project activity and transferred to destination *d* in year *y* (tonnes), where *d* is an appropriate end destination. Where material collected is not identified by type, this represents the total plastic waste collected by the project activity and transferred to destination *d* in year *y* (tonnes).

Following the requirements for the Plastic Waste Collection Methodology, total amount of plastic waste collected by project activity refers to the measured and recorded plastic waste (as defined in the monitoring plan), exiting the different sorting facilities.

According to the Plastic Waste Recycling Methodology PWRM0002 v1.1, the project plastic waste recycled is calculated as:

$$P_{recycled,y} = \sum_{i=1}^{n} P_{p,recycled,i,y}\ X\ AF_i + \sum_{i=1}^{n} P_{dp,recycled,i,y}\ X\ MF$$

$$(Equation\ 4)$$

Where:

$P_{recycled,y}$= Total amount of plastic waste recycled by the project activity in year *y* (tonnes)

$\sum_{i=1}^{n} P_{p,recycled,i,y}$= Amount of plastic waste of material type *i* recycled by the project activity in year *y* (tonnes) without depolymerisation

AF_i = Adjustment factor for non-composite materials. MGA recycles and counts only non-composite materials as there is a pre-sorting process. This means that Afi = 1 for recycling activities.

$P_{dp,recycled,i,y}$ = Amount of plastic waste in the form of depolymerized plastics of material type *i* recycled by the project activity in year *y* (tonnes) = 0

MF= Mass fraction of the output of the depolymerisation process used for plastic production

4.3 Net Collected and/or Recycled Plastic Waste

According to the Plastic Waste Collection Methodology PWRM0001 v1.1, the net plastic waste collected is the amount of plastic waste collected by the project activity that would not have been collected without project implementation.

Net plastic waste collection is calculated as follows in accordance with PWRM0001 v1.1, Section 8.3, Equation 4:

$$N_{collected,y} = \sum_{d=1}^{m} P_{collected,d,y} - B_{collected,d,y}$$

$$(Equation\ 4)$$

Where:

$N_{collected,y}$= *Net plastic waste collected in year y (tonnes)*

$B_{collected,d,y}$= *The baseline (ie the amount that would have been collected in the absence of the project) plastic waste collected in year y (tonnes)*

According to the Plastic Waste Recycling Methodology PWRM0002 v1.1, the net plastic waste recycled is the amount of plastic waste recycled by the project activity that would not have been recycled without project implementation.

Net plastic waste recycled is calculated as follows in accordance with PWRM0002 v1.1, Section 8.3, Equation 4:

$$N_{recycled,y} = P_{recycled,y} - B_{recycled,y}$$

$$(Equation\ 4)$$

Where:

$N_{recycled,y}$= *Net plastic waste recycled in year y (tonnes)*

$B_{recycled,y}$= *The baseline (ie the amount that would have been recycled in the absence of the project) plastic waste collected in year y (tonnes)*

MGA is collecting HDPE, PP and PET. Material type is identified and traced once the plastic reaches the pre-processing facility in Nairobi. Precise data of collected plastic waste per plastic type at collection instance level is not available.

According to *section 3.11* of the *Verra Plastic Waste Reduction Standard*, "where it is unreasonable to identify collected plastic waste by material type [...], the following categories must be used: rigid material, flexible material, composite material". MGA is only collecting and recycling rigid materials. Therefore, the figures provided in below collection tables only concern rigid materials in forms of HDPE, PP and PET.

Table 9: Annual net collected quantities (rigid plastics only), collection Instance 1 – Nairobi *(start date: 01/07/2020, end date: 30/06/2027)*

Year	Estimated baseline collected plastic waste (tons)	Estimated project collected plastic waste (tons)	Estimated net collected plastic waste (tons)
2020	0	570	570
2021	0	2586	2586
2022	0	3622	3622
2023	0	3546	3546
2024	0	5900	5900
2025	0	8429	8429
2026	0	12643	12643
2027 (until June 30th)		6322	6322
Total	0	43618	43618

Table 10: Annual net collected quantities (rigid plastics only), collection Instance 2 – Eldoret *(start date: 01/07/2020, end date: 30/06/2027)*

Year	Estimated baseline collected plastic waste (tons)	Estimated project collected plastic waste (tons)	Estimated net collected plastic waste (tons)
2020	0	0	0
2021	0	96	96
2022	0	360	360
2023	0	395	395
2024	0	657	657
2025	0	938	938
2026	0	1407	1407
2027 (until June 30th)	0	704	704
Total	0	4556	4556

Table 11: Annual net collected quantities (rigid plastics only), collection Instance 3 – Bamburi *(start date: 01/07/2020, end date: 30/06/2027)*

Year	Estimated baseline collected plastic waste (tons)	Estimated project collected plastic waste (tons)	Estimated net collected plastic waste (tons)
2020	0	0	0
2021	0	0	0
2022	0	1	1
2023	0	216	216
2024	0	360	360
2025	0	514	514
2026	0	771	771
2027 (until June 30th)	0	386	386
Total	0	2248	2248

Table 12: Annual net collected quantities (rigid plastics only), collection Instance 4 – Bombolulu *(start date: 01/07/2020, end date: 30/06/2027)*

Year	Estimated baseline collected plastic waste (tons)	Estimated project collected plastic waste (tons)	Estimated net collected plastic waste (tons)
2020	0	0	0
2021	0	0	0
2022	0	0	0
2023	0	589	589
2024	0	980	980
2025	0	1401	1401
2026	0	2101	2101
2027 (until June 30th)	0	1050	1050
Total	0	6122	6122

Table 13: Annual net collected quantities (rigid plastics only), collection Instance 5 – Malindi *(start date: 01/07/2020, end date: 30/06/2027)*

Year	Estimated baseline collected plastic waste (tons)	Estimated project collected plastic waste (tons)	Estimated net collected plastic waste (tons)
2020	0	0	0
2021	0	0	0
2022	0	0	0
2023	0	302	302
2024	0	503	503
2025	0	718	718
2026	0	1077	1077
2027 (until June 30th)		539	539
Total	0	3139	3139

Table 14: Annual net collected quantities (rigid plastics only) – Total *(start date: 01/07/2020, end date: 30/06/2027)*

Year	Estimated baseline collected plastic waste (tons)	Estimated project collected plastic waste (tons)	Estimated net collected plastic waste (tons)
2020	0	570	570
2021	0	2682	2682
2022	0	3983	3983
2023	0	5049	5049
2024	0	8400	8400
2025	0	12000	12000
2026	0	18000	18000
2027 (until June 30th)	0	9000	9000
Total	0	59684	59684

Table 15: Annual net recycled quantities, recycling Instance 1 – Nairobi *(start date: 01/07/2020, end date: 30/06/2027)*

Year	Estimated baseline recycled plastic waste (tons)	PET recycled (tons)	HDPE recycled (tons)	PP recycled (tons)	Estimated net recycled plastic waste (tonnes)
2020	0	0	230	230	460
2021	0	0	929	929	1858
2022	0	60	1150	1150	2360
2023	0	418	1496	1496	3410
2024	0	858	3071	3071	7000
2025	0	1226	4387	4387	10000
2026	0	1839	6581	6581	15000
2027 (until June 30th)	0	919	3290	3290	7500
Total	0	5320	21134	21134	47588

5 MONITORING

5.1 Data and Parameters Available at Validation (3.12)

For plastic waste collection:

Table 16: Project baseline collection parameter available at validation

Data / Parameter	$B_{collected,d,y}$
Unit	Tonnes/year
Description	Amount of plastic waste collected in the baseline and transferred to destination *d* in year *y*
Equation	PWRM0001, version 1.1.: Equation 2
Value	0
Source of data	Baseline analysis conducted in *Section 3.5* using publicly available studies conducted by qualified, independent third parties
Justification of choice of data or description of measurement methods and procedures applied	Baseline plastic waste collection is zero for new project activities
Purpose	Determination of baseline plastic waste collection for new activities
Comments	-

For plastic waste recycling:

Table 17: Project baseline recycling parameter available at validation

Data / Parameter	$B_{recycled,i,y}$
Unit	Tonnes/year
Description	Amount of material type *i* recycled in the baseline in year *y*
Equation	PWRM0002, version 1.1.: Equation 2
Value	0

Source of data	Baseline analysis conducted in *Section 3.5* using publicly available studies conducted by qualified, independent third parties
Justification of choice of data or description of measurement methods and procedures applied	Baseline plastic waste recycling is zero for new project activities
Purpose	Determination of baseline plastic waste recycling for new activities
Comments	-

5.2 Data and Parameters Monitored (3.12)

For plastic waste collection:

Table 18: Project collection parameter monitored

Data / Parameter	$P_{collected,d,y}$
Unit	Tonnes/year
Description	Amount of plastic waste collected by the project and transferred to destination *d* in year *y*
Equation	PWRM0001, version 1.1.: Equation 3
Source of data	Measurement on a dry basis at Collection Centres and Aggregation hubs as output of the sorting activity, and/or at the end destination.
Description of measurement methods and procedures applied	Measurement of collected plastic waste is carried out using weighing machines, and the data is documented in the MGA ERP system, with invoice records and receipts of payments, cross-checked by goods receipt notes issued by the end destination. Measurement is done at the collection site prior to sending the collected material to the end destination, as well as at the appropriate end destination.
Frequency of monitoring/recording	Recorded every time collected material is recovered and sent from the project site/facility to the appropriate end destination.
Quality Assurance/Quality	Hanging scales and weighbridges are regularly calibrated according to the equipment manufacturer's specifications or at least every three years

Control (QA/QC) procedures to be applied	Mandatory QC training and tests are done before starting to work for the responsible of data collection, in strict compliance with MGA's QC policies (e.g., pre-sorting policy…)
Purpose	Calculation of project collected plastic waste
Comments	-

For plastic waste recycling:

Table 19: Sorting output parameter monitored

Data / Parameter	Sorting output
Unit	Material type *i* Quantity (Tonnes/year)
Description	Quantity of sorted plastic waste of each material type *i* in year *y*.
Equation	-
Source of data	On-site measurement: measurement on a dry basis at Collection Centres and Aggregation hubs as output of the sorting activity (MGA EPR system/records)
Description of measurement methods and procedures applied	Measurement of each material type *I* with weighihg scales ater sorting plastic waste. It is carried out using weighing machines, and the data is documented in the MGA ERP system.
Frequency of monitoring/recording	Recorded at the time of sending each batch of sorted plastic waste from the sorting facility to the recycling facility
Quality Assurance/Quality Control (QA/QC) procedures to be applied	Hanging scales and weighbridges are regularly calibrated according to the equipment manufacturer's specifications or at least every three years Mandatory QC training and tests are done before starting to work for the responsible of data collection, in strict compliance with MGA's QC policies (e.g., pre-sorting policy…) When the sorting facility is separate from the recycling facility, the quantity of material type *I* is cross-checked with the sales receipt of sorted plastic waste of material type *I* sold to the recycling facility.
Purpose	Monitoring for compliance with Applicability Condition 4 in Section 4.

Comments	No hazardous materials are found during the sorting activity. The same can be confirmed during the site visit during the audit at the validation and verification stages.

Table 20: Recycling input parameter monitored

Data / Parameter	Recycling input
Unit	Dimensionless
Description	List of input materials (e.g., solvents, process fuels) to the recycling process. This includes the category of plastic waste of material type *i* and any other material(s) used in the recycling process in year *y*.
Equation	-
Source of data	On-site records (MGA ERP system/records) of material type and the quantity of plastic waste before entering the recycling facility. It can be used as a source of the recycling input.
Description of measurement methods and procedures applied	Measurement of sorted plastic waste is carried out using weighing machines before sending as a recycling input, and the data is documented in the MGA ERP system.
Frequency of monitoring/recording	Recorded prior to each batch of sorted plastic waste entering the recycling process.
Quality Assurance/Quality Control (QA/QC) procedures to be applied	Hanging scales and weighbridges are regularly calibrated according to the equipment manufacturer's specifications or at least every three years Mandatory QC training and tests are done before starting to work for the responsible of data collection, in strict compliance with MGA's QC policies (e.g., pre-sorting policy…) The same can be cross verified from the project reports and Quality control reports.
Purpose	Monitoring for compliance with Applicability Condition 5 in Section 4 of PWRP0002, v1.1
Comments	-

Table 21: Project recycling parameter monitored

Data / Parameter	$P_{recycled,i,y}$
Unit	Tonnes/year
Description	Amount of plastic waste of material type I recycled by the project activity in year *y (tonnes)*
Equation	PWRM0002, version 1.1.: Equation 3 Note that the project does not conduct polymerisation therefore $P_{recycled,i,y} = P_{p,\ recycled,i,y}$
Source of data	Direct measurement at project facility using weighing scales.
Description of measurement methods and procedures applied	Bags of processed flakes and pellets per material type *I* are sealed and weighted using weighing scales, after the final stage at the recycling facility. Byproducts are also weighed, analysed and recorded, for ensuring that Process Loss is below 1.5%. At the time of customer sale, bags of crushed/pelleted materials are reweighed and recorded to the waybill. All measurements are recorded into MGA ERP system. The process follows a detailed QC Sales Procedure. A Product Data Sheet and a Certificate of Analysis is created for each bag. The procedure is detailed in *MGA Sales Standard of Procedure* and *Manufacturing Process Manual* provided to the auditor as piece of evidence.
Frequency of monitoring/recording	Recorded at each batch of recycled plastic waste after recycling and prior to leaving the recycling facility, being sent to manufacturing facility or to other customers.
Quality Assurance/Quality Control (QA/QC) procedures to be applied	Hanging scales and weighbridges are regularly calibrated according to the equipment manufacturer's specifications or at least every three years Mandatory QC training and tests are done before starting to work for the responsible of data collection, in strict compliance with MGA's QC policies (e.g., pre-sorting policy…) Continuous inspection is operated on flakes and pellets that are produced. Production of by-products is weighed, analyzed and

	recorded to calculate Processing Loss rates and ensure that it is below 1.5% The procedure ensures the recycled plastic waste as being a suitable quality to replace virgin plastic, through laboratory testing and continuous inspection of hot-wasted flakes (size, cleanliness, contaminants…) and produced pellets (size, fines, tails, black spots…) The procedure is detailed in *MGA Manufacturing Process Manuel* provided to the auditor as piece of evidence. MGA has also implemented a dedicated hotline for customer complaints as part of its "Zero Tolerance to complaints" policy for ensuring customer satisfaction at all times. Each issue is recorded in the help desk log for future reference.
Purpose	Calculation of baseline recycled plastic waste Calculation of project recycled plastic waste Monitoring for compliance with Applicability Condition 7 in Section 4
Comments	Washed plastics are weighed after it has been dried. Only material types for which recycling activities are determined to be additional at validation are included for crediting.

Table 22: End destination of non-plastic waste from recycling facility parameter monitored

Data / Parameter	End destination of non-recycled plastic waste End destination of non-plastic waste from recycling facility
Unit	-
Description	End destination of plastic waste that enters the project recycling facility and is not recycled or is lost during the recycling process End destination of waste (other than non-recycled plastic) produced by the recycling activities of the facility. This includes any waste segregated at the sorting stage within the recycling facility that is not used as an input to the recycling activity and any waste coming out of the recycling process.
Equation	-
Source of data	Third-party evidence such as sales receipts and contractual agreements as well as data extracted from MGA's ERP system.
Description of measurement methods and procedures applied	-
Frequency of monitoring/recording	Recorded at each batch of recycled plastic waste after recycling. Yearly proof, and where the end destination changes.
Quality Assurance/Quality Control (QA/QC) procedures to be applied	N/A
Purpose	Monitoring for compliance with Applicability Condition 11 in Section 4
Comments	-

5.3 Monitoring Plan (3.12.3 – 3.12.5)

Robust data collection and monitoring procedures are followed to manage data and information throughout the project operations and to establish continuous flow of materials and chain of custody, whilst ensuring full traceability across the project's value chain. Detailed SOPs for Sourcing, Manufacturing and Sales are meticulously followed by all stakeholders involved in MGA's processes. They outline the detailed process, responsibilities and Quality Assurance/Quality Control (QA/QC) procedures. The following table describes more precisely the

method for measuring, recording, storing, aggregating and reporting data and parameters related to different aspects of the project.

Figure 33: Monitoring procedures in place at every step of the project

Project activity	Monitoring procedures in place
Collection and pre-processing	At each collection site, operations are overseen by a designated official responsible for acquiring plastic waste from various suppliers. This official conducts an initial quality check of the delivered materials to ensure compliance with predefined standards, utilizing a sorting table for this purpose. The total weight of the acceptable materials is determined in the presence of the supplier, using a precision scale, and the details are meticulously recorded in an organizational database. Transactions for the collected plastic are completed on-site, with immediate payment to the supplier, and any applicable reward points are also allocated as per the organization's incentive program. Both the official and their supporting personnel are required to undergo and pass a quality control training and evaluation before commencing their duties, ensuring a consistent standard of operation.
Processing and recycling	The manufacturing processes for converting plastic waste into flakes and pellets involve detailed planning and monitoring, with specific attention to the quality and type of input materials. These processes are carried out by trained staff who ensure that materials are sorted by type and colour, as required by the machinery. Continuous quality inspections are conducted on the output, and the weights of both the final products and any by-products are recorded to assess the efficiency of the processes and calculate any losses. The handling of chemicals, particularly in the washing stages, requires careful management to ensure environmental compliance, with a strong focus on the treatment of contaminated water. Maintenance of the machinery used in these processes is a critical task, carried out by a specialized team. This includes regular cleaning, lubrication, and inspections to prevent breakdowns and ensure that the equipment is always operational, supporting the overall efficiency of the recycling operation.
Sales	The management of sales operations and processes falls under the purview of the senior commercial leadership. In terms of customer data management, all potential and existing client information is meticulously recorded in a centralized customer relationship management (CRM) system, ensuring that every client is individually accounted for with their respective details. Regarding inventory and delivery, the organization's staff is responsible for forecasting demand and planning inventory to align client deliveries with available stock, ensuring efficient fulfilment of orders.