Financial assessment of policies to tackle plastic pollution in Guinea-Bissau

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Common Seas

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GOVERNO DA GUINÉ BISSAU
MINISTÉRIO DO AMBIENTE, BIODIVERSIDADE E AÇÃO CLIMÁTICA

List of Acronyms

Acronym	Meaning
AAAC	Competent Environmental Assessment Authority (Guinea-Bissau)
AFD	Agence Française de Développement
CAPEX	Capital Expenditure
CEPF	Critical Ecosystem Partnership Fund
CMB	Câmara Municipal de Bissau
CO_2e	Carbon Dioxide Equivalent
DFI	Development Finance Institution
DRS	Deposit Return Scheme
EPR	Extended Producer Responsibility
EU	European Union
FTE	Full-Time Equivalent
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GNI	Gross National Income
IBRD	International Bank for Reconstruction and Development
IFI	International Financial Institution
IUCN	International Union for Conservation of Nature
LDCF	Least Developed Countries Fund (GEF)
MAAC	Ministry of Environment and Climate Action (Guinea-Bissau)
MSW	Municipal Solid Waste
NAP	National Action Plan
NDC	Nationally Determined Contribution
NGO	Non-Governmental Organisation
ODA	Official Development Assistance
ODF	Official Development Finance
OPEX	Operational Expenditure

ORRAA	Ocean Risk and Resilience Action Alliance
PET	Polyethylene Terephthalate
PPP	Public–Private Partnership
PRO	Producer Responsibility Organisation
rPET	Recycled Polyethylene Terephthalate
SBE	Sustainable Blue Economies Programme
SDG	Sustainable Development Goal
SPV	Special Purpose Vehicle
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USD	United States Dollar
UV	Ultraviolet
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

Contents

Executive Summary

In 2025, Guinea-Bissau developed its National Action Plan (NAP) to Tackle Plastic Pollution through a partnership between the Ministry of Environment and Climate Action (MAAC) and Common Seas, supported by the UK Government's Sustainable Blue Economies (SBE) programme. The NAP sets out a ten-year roadmap to reduce plastic pollution and identifies a series of policies, including such measures as introducing refill and reuse systems, and expanding waste collection and recycling, that together could cut plastic pollution in Guinea-Bissau by 79% within ten years, equivalent to roughly 9,750 tonnes per annum by 2035.

This report, developed by Common Seas, provides additional support to the Government of Guinea-Bissau in initiating the NAP's implementation phase. It provides a financial assessment to clarify the scale and nature of investment required to implement selected interventions and to identify feasible financing pathways aligned with the country's fiscal and institutional realities.

Designed to inform the prioritisation of policies and early-stage financing discussions, the analysis combines two complementary components. First, a structured costing assessment estimates capital expenditures (CAPEX), operational expenditures (OPEX), and annualised lifecycle costs for selected interventions. Second, a financial mapping exercise was undertaken to review potential funding sources, including official development assistance, multilateral environmental funds, philanthropic finance, private investment and fiscal instruments.

Cost estimates are based on desk research, stakeholder consultation, contextual adjustments for Guinea-Bissau, and available budget data. Where relevant, the assessment considers pollution-reduction potential, employment impacts, and cost per tonne of plastic pollution abated to support comparisons between interventions.

The identified financing sources have been assessed for their suitability across three cost categories: enabling measures (policy, regulation, capacity building), capital investment, and ongoing operational expenditure. This approach recognises that capital investments without secured operational financing often fail to deliver sustained impact.

A summary of the study findings is provided in Table 1 below.

Table E.1: Cost summary and funding sources (as of 2035)

Policy*	Annualised costs	Plastic pollution reduction	Potential sources of funding[1]	Priority policy (Y/N)
1.1 Borehole water refill system	6,000,000	270	• African Water Facility • GEF Least Developed Countries Fund (LDCF)	Yes
1.2 Water kiosks	375,000	307		Yes
2.1 Enhanced plastic bag ban	548,000	806	• GEF Least Developed Countries Fund (LDCF)	Yes
3.1 Deposit return scheme	1,393,000	1,033	• GEF Small Grants Programme • Ocean Innovation Challenge - UNDP	No

3.2 Improved waste disposal practices	3,946,000	2,327	• Blue Action Fund • Conservation International • Critical Ecosystem Partnership Fund (CEPF) • GEF Small Grants Programme • African Development Bank Group	Yes
3.3 & 3.6: Expanding solid waste collection and improving collection standards	11,450,000	999		Yes
3.8: Phased ban of open burning	136,000	773	• Africa NDC Hub • Circulate Capital Ocean Fund	Yes
3.9: Extended Producer Responsibility	524,000	1,675		No

*The numbering of policies listed follows those used in the National Action Plan [t]This is not an exhaustive list of funding sources; for more details, see section 3, Financial Mapping

It is important to recognise two primary constraints that face Guinea-Bissau in this context: limited institutional capacity to coordinate delivery across agencies and minimal access to finance to operationalise these policies. These challenges are compounded by a tenuous fiscal position and by Guinea-Bissau's status as a least-developed country, with minimal infrastructure and heavy reliance on development finance. Encouraging private-sector investment in new services and infrastructure is likely to be challenging due to significant risks and an unstable investment environment. Until robust institutions have been established, the implementation of policies and interventions to tackle plastic pollution will likely depend on development aid and philanthropic funding.

The primary focus of the policy interventions presented in the NAP is the potential level of plastic pollution reduction. Yet while plastic pollution is a critical environmental issue, policies such as providing sanitary drinking water (for which less than a quarter of the population has access) address more fundamental developmental priorities. Similarly, waste collection and reduced open burning have massive health benefits, particularly in combating endemic diseases in Guinea-Bissau, many of which are leading causes of death, including lower respiratory disease, malaria, and diarrheal diseases.

As such, our analysis combines a review of costs, feasibility, potential funding opportunities, the plastic pollution-reduction potential of each policy, and the potential to address SDGs and Guinea-Bissau's developmental needs. Our analysis suggests that the following policies should be prioritised and could be funded by the following sources:

- Policy 1.2: The provision of sanitary water through water kiosks. This policy would bring about enormous public health benefits due to the lack of safe drinking water provided in Guinea-Bissau. It would also considerably reduce the use of single-use water sachets and bottles – the largest sources of plastic pollution in the country. The most suitable sources of funding for this policy are the African Development Bank Group and the African Water Facility.
- Policy 3.3: Expanding formal waste collection services has the potential to give rise to significant public health gains, and a massive reduction in waste leaking into waterways. The funding sources we have identified as particularly relevant to

this policy include the Global Environment Facility's Least Developed Countries Fund (LDCF) and the African Development Bank.

- Policy 3.8: Phasing out open burning. Again, the primary benefits relate to public health, given the prevalence of waste burning and its link to respiratory infections, which are endemic in Guinea-Bissau. It would also bring about a considerable reduction in greenhouse gases emitted. The most eligible funding sources we identified are the Africa Climate Change Fund and the Circulate Capital Ocean Fund.

Introduction

Background and context

The National Action Plan to tackle plastic pollution in Guinea-Bissau (2025), co-developed by Common Seas and the Ministry of Environment and Climate Action (MAAC), identifies three interlinked system-change strategies to reduce annual plastic pollution entering waterways by approximately 79% within ten years, equivalent to roughly 9,750 tonnes.

Limited institutional capacity to coordinate delivery across agencies, and minimal financial resources to operationalise the proposed interventions, have been identified by MAAC as two core constraints to shift from strategy development to implementation readiness.

In response, additional support was secured and was focused on:

- Participatory prioritisation of NAP interventions in consultation with government partners and regional stakeholders;
- Development of high-level costing assessments to clarify the scale, distribution, and timing of financial requirements;
- A structured financial mapping exercise to identify potential funding sources, eligibility conditions, risks, and sequencing considerations; and
- Engagement with national stakeholders to review and validate financing assumptions and findings.

This report emerges from the progression of the partnership between Common Seas and MAAC. It represents a practical step in translating the NAP's strategic framework into a finance-oriented implementation pathway, clarifying both the scale of investment required and the potential mechanisms for mobilising it.

Financing shortfall

Guinea-Bissau faces particularly acute financing challenges. With the 17th lowest gross domestic product (GDP) per capita, estimated at USD 962, Guinea-Bissau is a highly indebted country with limited fiscal capacity, with development assistance accounting for more than 10% of gross national income (GNI). The country is characterised by a markedly low official tax take of just 8% of GDP, compared to a regional average of around 13% and an EU average of 40.4%, as well as one of the lowest levels of public and private investment spending in Africa. Reported tax revenue was estimated at just over USD 200 million in 2023 (World Bank, 2026), underscoring that large-scale interventions will need to rely heavily on grants, Official Development Assistance (ODA) and philanthropic funding.

According to the baseline assessment presented in the National Action Plan, the scale of the waste management challenge in Guinea-Bissau is substantial. In 2024, Guinea-Bissau generated an estimated 30,400 tonnes of plastic waste, with less than 15% formally collected. The majority of waste is mismanaged, contributing to environmental leakage, open burning, and adverse public health impacts.

Addressing these challenges requires investments that extend beyond plastic alone. Waste collection vehicles, landfill infrastructure, and regulatory systems improve the

management of broader municipal solid waste streams, beyond plastics. The transformation required, therefore, represents both an environmental priority and reform of public services.

Hence, without a structured financing pathway and without strengthening institutional capacity to access and manage funds, the NAP risks remaining a strategic document rather than a delivery roadmap. The availability of finance, therefore, represents the critical bridge between planning and implementation.

The scale and nature of financing required

Implementing the priority interventions identified in the Report requires financing across three interlinked categories:

1. **Enabling measures** – policy development, regulatory drafting, institutional strengthening and capacity building.
2. **Transition and capital investment (CAPEX)** – infrastructure development, equipment procurement, and costs required to set up these systems.
3. **Ongoing operational expenditure (OPEX)** – ongoing service delivery, maintenance, monitoring, enforcement, and system management costs.

Experience from comparable contexts shows that capital investments without secured operational financing often fail to deliver sustained impact. A durable implementation pathway must therefore match financing instruments to the expected timeline for incurring costs to ensure long-term sustainability.

Scope

The Report serves as a basis for decision-making and engagement with potential funders. It is intended to:

- To present comparable annualised lifecycle cost estimates and key impact metrics, including pollution reduction, employment, and SDG contributions for selected NAP interventions.
- To clarify the distribution of financial responsibilities across central government, local authorities, businesses, and households, highlighting affordability and political economy considerations.
- To identify viable financing pathways aligned with intervention type and cost category (enabling, capital, operational), reflecting Guinea-Bissau's fiscal realities and institutional capacity.
- To provide a structured foundation for prioritisation, phased implementation planning, and engagement with development and investment partners.

This analysis combines two complementary components:

1. **Financial assessment (costing analysis):** Annualised lifecycle cost estimates (CAPEX and OPEX) based on implementation in the Guinea-Bissau context, alongside indicative pollution reduction impacts, and employment generated.
2. **Financial mapping:** A structured review of potential sources of finance, including Official Development Assistance (ODA), multilateral environmental funds, philanthropic finance, private finance, domestic revenue instruments, and their suitability for different policy types and cost categories.

This report is not intended to serve as a detailed feasibility study or procurement-ready budget proposal. Cost estimates are indicative and designed to inform prioritisation, early-stage financing discussions, and implementation pathways. Further technical validation would be required prior to procurement or detailed investment planning.

Similarly, the financial mapping presented in the report is not exhaustive, and while the identified funding sources are likely to remain eligible over the medium term, they will need to be updated periodically to reflect changes in the funding landscape. The

availability of finance is intended to provide a basis for prioritising policies and progressing discussions with potential funders and partners. More detailed business case development will be needed as subsequent steps.

Policies assessed

This study assesses selected policy interventions identified in the NAP. While aligned with the NAP's strategic framework, interventions are grouped here by their financing and system characteristics to facilitate clearer comparison.

The policies assessed include:

Provision of sanitary drinking water (policies 1.1 and 1.2)

- Potable water supply through borehole development;
- Refillable water container systems using a hub-and-spoke distribution model.

Upstream measures (policy 2.1)

- Enhanced plastic bag ban, including strengthened enforcement and promotion of alternatives.

Strengthening waste management (policies 3.2, 3.3 and 3.4)

- Expansion of municipal solid waste collection (increase from 15% to 50% coverage);
- Improved waste disposal through development of a sanitary landfill (semi-aerobic Fukuoka method);
- A phased ban on open burning, supported by enforcement and behavioural change measures.

Circularity and financing instruments (policies 3.1 and 3.9)

- Deposit Return Scheme (DRS) for PET containers;
- Extended Producer Responsibility (EPR) for plastic packaging;
- A plastic import tax as a potential funding instrument.

Several interventions interact and reinforce one another. For example, reductions in open burning depend on expanded waste collection, while DRS and EPR mechanisms influence the same material streams addressed by refill systems. These system-level interactions are considered in the comparative analysis.

Approach

Costing assessment methodology:

The financial assessment applies a structured cost-modelling framework to estimate capital expenditure (CAPEX), operating expenditure (OPEX), and annualised lifecycle costs for each selected intervention. The analysis also considers pollution reduction potential, employment impacts, and indicative feasibility. Where appropriate, the cost per tonne of plastic pollution abated is presented as a comparative metric. It is important to note that several infrastructure-focused interventions, particularly waste collection and landfill development, address broader municipal solid waste challenges in addition to plastic pollution specifically.

For further details on the costing methodology used, see the more detailed cost assessment methodology here.

Financial mapping methodology:

A structured desk-based review was undertaken to identify potential financing sources suitable for the interventions assessed. Funding sources were categorised as:

- Official development finance (including multilateral and bilateral funds);
- Philanthropic finance;
- Private finance;
- Domestic public revenues and fiscal instruments;
- Extended Producer Responsibility mechanisms.

Each source was assessed for its suitability in supporting enabling measures, capital investment, and operational expenditure.

1. Cost assessment

This section presents a costing assessment for a selection of high-impact policies identified in the NAP. This includes upstream, midstream and downstream measures with estimates of their capital expenditure (CAPEX), operational expenditure (OPEX) over the policy lifetime.

Summary of cost estimates and pollution reduction potential

A summary of the cost estimates and their potential for reducing plastic pollution is presented in Table 1.

All cost estimates are provided in real USD, as of 1 Jan 2025. The impacts presented in Table 1 reflect the annualised life-cycle cost of each policy intervention, that is, the average capital expenditure per policy as of 2035. This approach has been adopted to enable comparison across interventions that incur costs and deliver benefits over significantly different timelines.

Accordingly, costs, pollution reductions, and positive externalities are assessed under a scenario in which all proposed policies are implemented in line with the NAP and reach full operational maturity by 2035. This common year enabled a direct comparison of the plastic pollution-reduction potential of the proposed interventions with their associated costs.

Table 1: Summary of costs and impacts for policies assessed under the National Action Plan to Tackle Plastic Pollution in Guinea-Bissau (as of 2035)

Policy	Annualised cost (USD)	Pollution reduction (tonnes per annum)	Cost of plastic abatement (USD/tonne)	Employment impacts (full-time equivalent jobs, FTE)
1.1 Borehole water refill system	6,000,000	270	22,222	-
1.2 Water refill kiosks	375,000	307*	N/A	240
2.1 Enhanced plastic bag ban	548,000	806	680	12
3.1 Deposit return scheme	1,393,000	1,033	2,535	-
3.2 Improved waste disposal practices	3,946,000	2,327	1,695	34.4
3.3 & 3.6 Expanding solid waste collection and improving collection standards	11,450,000	999	11,461	675
3.8 Phased ban of open burning	340,000	773**	176	218

Policy	Annualised cost (USD)	Pollution reduction (tonnes per annum)	Cost of plastic abatement (USD/tonne)	Employment impacts (full-time equivalent jobs, FTE)
3.9 Extended Producer Responsibility	524,000	1,675	313	-

*Relates to the reduction in plastic generated rather than the reduction in plastic pollution
**The reduction in open burning is largely attributed to the expansion of formal waste collection services and associated behavioural changes.

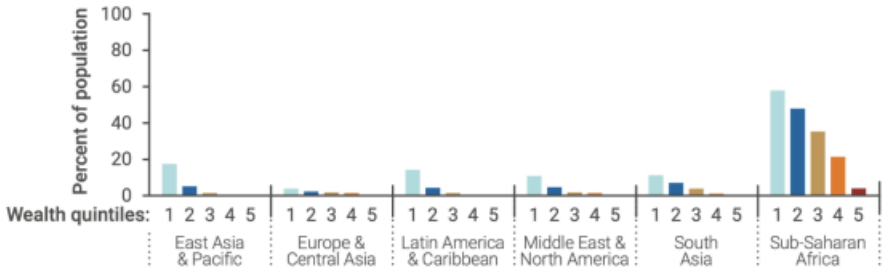
Sanitary water supply (Policies 1.1 and 1.2)

Overview

The lack of access to safe drinking water remains one of the most pressing public health challenges across Sub-Saharan Africa (see Exhibit 1). In Guinea-Bissau, only around 24% of the population has access to safely managed drinking water (WASH WHO, 2024). In both urban and rural areas, water supplied through mains, public fountains and wells is frequently contaminated due to deteriorated infrastructure, intermittent service provision and widespread pollution from unmanaged solid waste and inadequate sanitation systems.

As a result, drinking water is often unsafe, exposing households to pathogens and chemical contaminants. Families that can afford it rely on sachet or bottled water, which can account for up to 10% of total household expenditure. In contrast, poorer households are often forced to consume unsafe water, reinforcing health and economic inequalities.

Chart 1: Share of population without access to basic drinking water (WHO, 2022)



These conditions underpin the widespread incidence of water-borne diseases. In particular, diarrhoeal illness, identified by the WHO as the seventh leading cause of premature mortality in low-income countries, is estimated to cause approximately 815 deaths per year in Guinea-Bissau (WHO, 2022).

Access to safe drinking water is recognised as a fundamental human right by the United Nations and is explicitly targeted under SDG 6.1. The two policies outlined represent two alternative approaches to address the lack of a sanitary water supply. Local NGO's such as ACRA have developed projects to support access to safe drinking water and accessible sanitation.

The consumption of water containers is projected to generate 25,000 tonnes of waste over the coming decade, with water sachets and beverage bottles the largest contributors to plastic pollution.

When clean drinking water is not easily accessible, the responsibility falls disproportionately on younger women, thereby considerably shortening the time available for other household tasks, leisure activities, and time with family. For children, water collection can take away time from attending school altogether.

Two options have been considered in estimating the cost of providing sanitary water:

1. Policy 1.1. Installation of new water-supply boreholes to draw water from underground aquifers.
2. Policy 1.2. The distribution of water via a 'hub and spoke' system of kiosks selling water using refillable containers.

Borehole water refill system

Overview

Underground aquifers have been identified as a key solution for providing safe drinking water across Western Africa, and the drilling of new boreholes has been cited as an effective approach to address the widespread lack of access to water in Guinea-Bissau. Aquifers can provide a reliable water source, especially during dry months, avoiding the need to store large volumes or develop piping or canals for distribution. However, many aquifers in Guinea-Bissau are polluted and contain high levels of iron, rendering the water undrinkable. As such, water treatment is also necessary to make it suitable for drinking.

The cost of borehole drilling, along with pumps and storage tanks, varies widely depending on numerous factors, including local hydrogeology, rainfall, demand, storage capacity, and operation and maintenance costs. The cost estimate presented here should be considered an indicative estimate and is based on values provided by the World Bank (Hutton & Mili, 2016). We note that the cost of this policy could vary widely and should be investigated further, which necessitates a local, context-specific feasibility study.

Table 2: Costs and impacts of sanitary water supply - borehole supply (as of 2035)

Who bears the cost?	Annualised cost (USD)	Pollution reduction (tonnes per annum)	Cost per tonne of pollution abated (USD)	CAPEX vs OPEX
Government/ODA	6,000,000	270	22,222	63%
Business	-			
Households	-			

Cost summary

- For the purposes of this cost estimate, it is assumed that sufficient new borehole capacity would be installed to achieve the NAP's target of reducing sachet and beverage bottle consumption by 12.5% (i.e. access to sufficient borehole water would be provided to replace the need for 12.5% of the packaged water currently consumed in Guinea-Bissau).
- The cost estimate for this policy assumes the use of solar-powered borehole pumps and treatment equipment to provide the necessary hygiene and chlorination to make the water safe to drink.

- Three main factors determine the cost of drilling a new water supply borehole: 1) the direct capital cost of the construction equipment (the drill rig, tools and rig transport including, if necessary, the equipment's shipping costs to Guinea-Bissau, as well as import taxes and finance charges); 2) the material or construction supply costs, such as well lining materials, cement, drilling mud, gravel pack, fuel, lubricants, and maintenance, all needed to be calculated on a per-borehole basis; 3) labour costs for the construction crew, along with varying overheads.
- Finally, to ensure ease of access and all-day access, a solar pump and storage for the water will need to be provided. Despite the higher initial capital cost of a solar pump, varying comparison studies indicate a lower overall lifetime cost than other means, such as a diesel pump.
- Operational costs of the new boreholes will be centred around replacement parts for each borehole, the cost of labour and training to carry out repairs, and wages for an attendant to collect water fees, along with possible chlorination of the water to ensure its usability.

Considerations

In large parts of Guinea-Bissau, water is contaminated with iron and manganese. Treatment plants in operation chlorinate water to address iron and manganese contamination. In addition, many boreholes become dysfunctional with an average functionality of 57-84% (Tincani, 2015).

Trust in public water sources is low, and consumer attitudes are difficult to shift. Even if boreholes can provide safe drinking water, this measure will be effective only if coupled with an extensive public education campaign convincing the public that such water is safe to drink (Wardrop et al, 2017).

Given the prohibitive cost of boring, high maintenance costs and breakdown rates, as well as public concerns about drinking from boreholes, an alternative approach to providing sanitary water has been considered below.

Water refill kiosks

Overview

This policy involves developing a hub-and-spoke model in which water is drawn and treated at a treatment facility, bottled in reusable containers, and sold at kiosks across the country. The water is obtained by drawing water from surface water sources or boring into groundwater or aquifers. It is then sanitised for consumption and distributed in large quantities in the aforementioned kiosks. using large reusable water containers. It has been successfully implemented in several developing countries through public-private hub-and-spoke models. This policy variant costs the provision of water refill points for 10% of Guinea-Bissau's population across both urban and rural areas.

*Table 3: Costs and impacts of water kiosks (as of 2035)**

Who bears the cost?	Annualised cost (USD)	Reduction in single-use plastics generated (tonnes)	Jobs (FTE)	CAPEX vs OPEX
ODA	205,000			

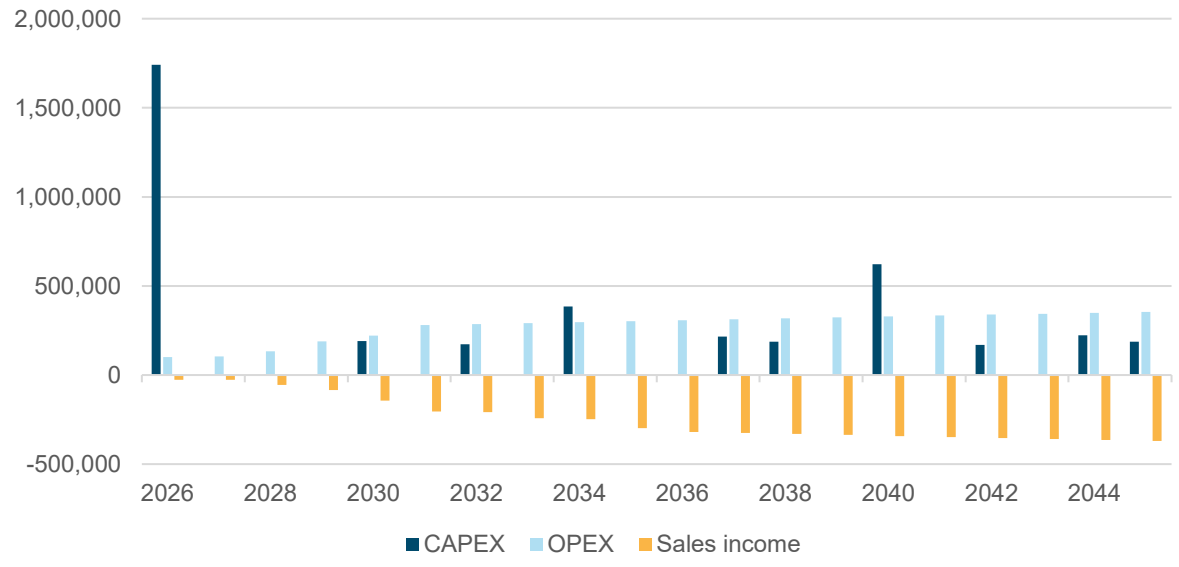
Business	276,000*	307	240	43%
Households	(106,000)			

*Cost of gross operating expenditures

Cost summary

- The largest capital costs relate to the site selection and construction of a water treatment facility and drilling for groundwater access. This also includes building kiosks to sell water containers and purchasing filtering and bottling machinery, as well as bottles and bottling equipment. The funding for which is usually subsidised by ODA or obtained from philanthropic sources.
- Operating costs stem from the delivery of the water from the production facility to the kiosks, electricity, maintenance and the monitoring of the water quality.
- At kiosks, labour is the primary cost, with staff required to sell and collect the empty containers and ensure that the containers are washed.
- Despite being seen as affordable due to their low unit price, 1001Fontaine's operating model ensures that households purchasing water sachets typically pay considerably more per litre than the cost of water from community kiosks or refill systems.
- There exist examples in which, beyond the initial capital expenditures, operating costs have been covered by revenues from kiosk operators. This is shown in Chart 2, the following 1001Fontaines public-private partnership hub-and-spoke model.
- However, financial self-sufficiency takes time and requires public buy-in and relies on successful market penetration. The distance

Chart 2: Indicative timeline of costs incurred and kiosk operator sales revenue for a successfully implemented water refill scheme (USD)



Case Study: 1001Fountaines self-sufficient refillable water containers

In 2004, 1001 Fontaines was founded after a French and Cambodian engineer met and found common ground in the unsettling quote that in Cambodia, “we drink 90 of our diseases”. They created a French NGO to scale a “water kiosk” model: small local enterprises or kiosks which sell water in refillable 20-litre bottles.

1001Fontaines operates by pumping water from nearby sources, such as ponds, rivers, or groundwater. The water is then decanted, filtered, and disinfected using a UV-based sterilisation process. Water quality is checked each month and aligned with WHO standards.

The purified water is filled into sanitised, reusable 20-litre jugs. The jugs are then delivered directly to customers in rural areas or sold through points of sale in urban areas. Empty jugs are collected, cleaned, and reused.
The foundation operates differently between urban and rural areas, as shown in Figure 2.

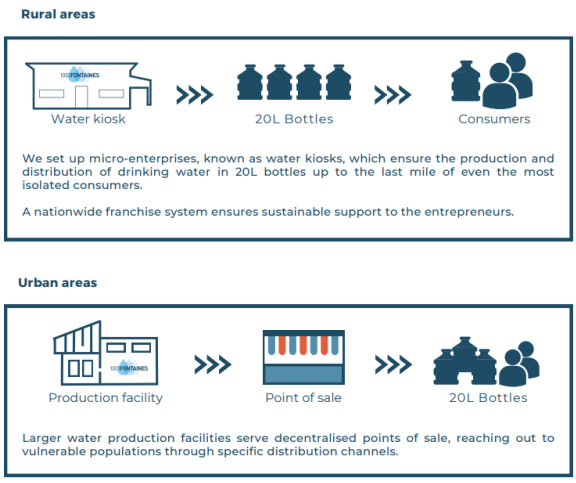


Exhibit 3: Dispersal of water by 1001Fontaines

Fontaines1001 notes that 78% of their kiosks in Cambodia have reached financial sustainability, whereby sales fully cover operating expenditures, and public-private partnerships have emerged, enabling the model to be financially self-sufficient in covering operating costs and going some way towards repaying capital costs.
Each kiosk creates 3 jobs, serves up to 10,000 potential consumers and saves 60 tonnes of CO2 every year.

Each Production facility kiosk requires a relatively modest capital injection of around 80,000, after which it often becomes financially self-sufficient and, in some cases, can repay the initial capital expenditures.

Context and benefits

Given fiscal and capacity constraints across much of the Global South, universal access to piped, safely managed drinking water is unlikely to be a reality for decades. While SDG 6.1 sets a target of universal access by 2030, the UN has acknowledged that *“the world is not on track to achieve universal access to safely managed drinking water services”* under current trajectories. In fact, in Sub-Saharan Africa, this has regressed

since 2000 (World Bank, 2024). In this context, reusable water containers provided from kiosks offer a pragmatic interim solution for a safe water supply.

This policy would build upon the existing bottled and sachet water supply chains, be less polluting (albeit to a lesser extent than other water supply measures), and be far less capital-intensive than the infrastructure required to provide piped or potable groundwater.

Several other providers operate similar models, such as Jibu and Safe Water Network in Ghana. It is worth noting that, with regard to clean drinking water, when the health costs avoided are considered, improved drinking water interventions are highly cost-beneficial, with benefit–cost ratios commonly exceeding 5:1, even before accounting for environmental externalities.

It is also worth noting that consumers much prefer drinking bottled water over piped water or that sourced from wells and fountains – even if proven to be safe, and thus would require less behavioural change as noted in Wardrop et al (2017), which shows that 12.9% of households with sanitary indoor piped water consumed a large amount of packaged water.

Such schemes also function particularly well as a means of supplying the rural and peri-urban population with safe drinking water, whose supply is often most precarious.

While refillable bottled water systems often use heavy PET bottles, such schemes still generate far less plastic than sachet and bottle consumption (given the bottles are returned and have a long enough lifespan), with the Fontaine1001 example in Madagascar saving 14 tonnes of plastic per year under the noted assumptions.

A number of providers have noted an inherent need for political and economic stability to achieve financial sustainability. Fontaines1001 failed in Myanmar due to political instability and has faced challenges in rural Madagascar, including theft and bottles not being returned.

Enhanced plastic bag ban (Policy 2.1)

Overview

Guinea-Bissau consumes more than 2,000 tonnes of plastic bags per year, and over the next decade, an estimated 7,100 tonnes of plastic bags are projected to leak into the environment if current practices persist.

In 2013, the Government of Guinea-Bissau introduced a ban on the sale, manufacture, and import of single-use plastic bags. However, as has been the case with many similar bans in low- and middle-income countries, implementation has been largely ineffective. While the regulation permits the use of plastic bags for essential applications, including medical, agricultural, and military purposes, as well as waste collection and the packaging of water and other liquids, enforcement has been limited. Key barriers include the high cost and limited availability of affordable alternatives, as well as resistance from consumers and retailers.

This policy proposes an enhanced plastic bag ban centred on strengthened public awareness and behaviour change campaigns, more robust enforcement, and the identification and promotion of affordable reusable alternatives. The core elements required to make the enhanced ban effective are outlined below.

Table 4: Costs and impacts of the enhanced plastic bag ban (as of 2035)

Who bears the cost?	Annual cost (USD)	Pollution reduction (tonnes per annum)	Cost per tonne of pollution abated (USD)	Jobs (FTE)	Reduction in GHG emissions (tonnes CO_2e)	CAPEX vs OPEX
Government/ODA	531,000	806	681	12	1,531 *	30%
Business	7,000					
Households	11,000					

*The reduction in GHG emissions presented does not include the emissions associated with the production of plastic bag alternatives

Cost summary

- Relaunching and strengthening a plastic bag ban has the potential to be a highly cost-effective approach to reducing plastic generated, pollution and GHG emissions. However, experience with similar bans across the region indicates that they are often ineffective due to weak enforcement and limited public buy-in.
- Enforcement requires sustained investment in municipal inspection capacity and the development and implementation of local by-laws. Cost components include training inspectors, conducting periodic site visits, and issuing fines for non-compliance.
- The drafting of legislation and technical guidelines represents a one-off cost, primarily supported by central government and development partners. This includes legal drafting, consultation workshops, and the production of clear guidance materials for households, retailers and municipalities.
- Community engagement, particularly in informal settlements, is a critical component of effective delivery. Costs include working with neighbourhood associations and community leaders to support behavioural change and promote compliance.
- This policy has also incorporated the costs associated with promoting affordable reusable alternatives, such as bags produced from downcycled rice sacks and other locally available materials. This is reflected in the costs borne by households and businesses.
- Overall, costs are modest relative to other interventions, as expenditures are primarily associated with regulatory development, public awareness, and ongoing enforcement rather than capital-intensive infrastructure.

Context and co-benefits

As noted in the AFRIPAC Plastic Policy Effectiveness Assessment, the success of plastic bag bans depends primarily on the quality of their implementation rather than on their legal design alone. A limited set of clear enabling conditions typically underpins effective bans.

Strong political commitment and sustained leadership are required to maintain enforcement over time, particularly in the face of resistance from affected stakeholders. Early and continuous stakeholder engagement with retailers, importers, municipalities, and informal-sector actors supports compliance and reduces implementation risks.

Rwanda's plastic bag ban is frequently cited as a successful example, driven in part by high penalties for non-compliance and consistent enforcement.

Public awareness and consumer education are critical to normalising behaviour change and ensuring that households understand what is prohibited, why the policy exists, and how to adapt. AFRIPAC also identifies monitoring and enforcement as decisive factors: visible inspections, border controls, and municipal-level enforcement underpin credibility and compliance. Finally, bans must be designed to avoid disproportionate impacts on low-income consumers and to prevent substitution towards alternative products with equal or greater environmental footprints.

Deposit return scheme (Policy 3.1)

Overview

Guinea-Bissau consumes more than 37,000 tonnes of PET bottles each year. Despite a considerable recovery rate by the informal sector, it is commonplace for households to reuse containers to store products such as cashew juice and wine. It is expected that the policy outlines the cost of a Deposit Return Scheme with a fee as small as just XOF 25, which could divert 1,000 tonnes of plastic pollution from Guinea-Bissau's environment between 2026 and 2035. The DRS would also target water bottles, which account for around 15% of water containers. It would work in tandem with Sanitary water supply measures and EPR, targeting the same product, potentially offsetting the effect of this policy if water refill points were widely adopted.

The DRS would be centred around returns at community redemption points, including markets and stores. There is a raft of examples across the region in which, despite low municipal and technological capacity, deposit return schemes of this nature have been successful.

At present, Guinea-Bissau has a limited local recycling industry. Despite being collected by the informal sector, PET is rarely washed or baled, although some flaking occurs, and the material is sold to Senegal, which has become a regional recycling hub. Low rPET prices and transport costs, without baling or flaking, make the financial feasibility of sending recycled materials to Senegal challenging.

In the absence of collectivisation, waste pickers have limited bargaining power, earning on average just one-third of the minimum wage (LVIA, 2015). They face severe health hazards, particularly at the dumpsites. In Guinea-Bissau, it is disproportionately women who collect plastic, with the lowest residual value. A deposit return scheme could provide them with a more stable income stream.

Table 5: Costs and impacts of a Deposit Return Scheme (as of 2035)

Who bears the cost?	Annualised cost (USD)	Pollution reduction (tonnes in 2035)	Cost per tonne of pollution abated	Jobs (FTE)	CAPEX vs OPEX
Government/ODA	-	1,033	2,535	20	15%
Business	557,000				
Households*	836,000				

*Assumes a 50% pass through rate

Cost Summary

- Stakeholder mapping, training and technical support are a crucial element to bolster support for the scheme
- The primary capital expenditures involve site development and the building of collection points, which would involve a range of bins for different material types.
- Another would be the purchase of weighing equipment, compactor and balers to assist in exporting recycled materials.
- Operating expenditures will relate to operating staff, transport costs and sorting of plastics.

Context and benefits

Given the high level of reuse, it is important to identify the most commonly reused items (e.g. large, durable bottles) and allow long enough return windows (e.g. 6-12 months) so the bottles can be reused a few times before being returned.

The collection points scheme would cover PET bottles and should also incorporate aluminium, which would initially be needed to subsidise the development of the recycling sector in Guinea-Bissau.

The glut of polymer supply globally and the corresponding low prices of virgin PET going forward will be a further challenge to the scheme. Prices of rPET are low, and regulations requiring minimum recycled packaging are the sole tailwind for the price of recyclates. Further, it is unlikely that PET originating in Guinea-Bissau will be able to be sold as food-grade, which will further affect profitability.

An increase in fees for local feedstock, particularly if incorporated with an EPR, could bring about considerable economic benefits and the establishment of a local independent recycling industry.

Improved waste disposal practices (Policy 3.2)

Overview

Under this policy, costs have been estimated for developing a new landfill site using the semi-aerobic Fukuoka method. The Safim dumpsite, located on the outskirts of Bissau, is currently the city's primary waste disposal site. The site is connected to the springs of the Safim River and the Río Mansôa, which flows into the Atlantic Ocean. As a result, the existing dumpsite poses a significant environmental hazard, with leachate contaminating groundwater and an estimated 13,000 tonnes of waste leaking into the aquatic environment as of 2024.

In addition, the lack of safe disposal systems for hazardous and medical waste, combined with the practice of on-site open burning, poses serious health risks to waste pickers and surrounding communities (WHO, 2025).

At present, the United Nations Development Programme (UNDP) is implementing a Health Equity and Sanitation Project in Guinea-Bissau. Running from April 2025 to March 2026, the project aims to strengthen health system resilience, improve access to essential healthcare services, enhance waste management and sanitation practices, and support local economic development. While this initiative addresses some immediate

needs, stakeholders consistently note that substantially greater investment will be required to resolve the structural deficiencies in Guinea-Bissau's waste disposal system.

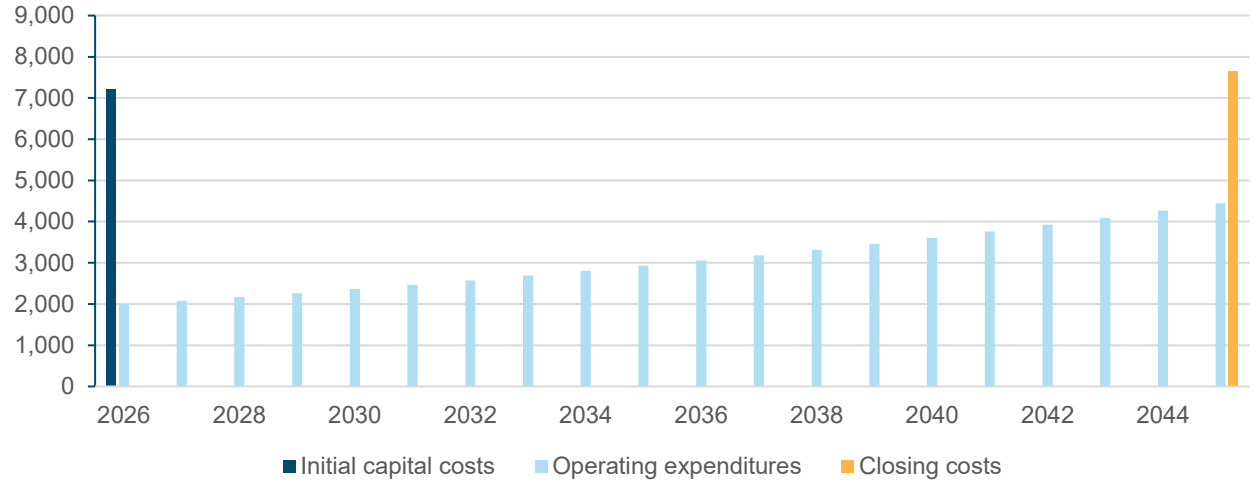
Table 6: Costs and impacts of improved waste disposal practices (as of 2035)

Who bears the cost?	Annualised cost (USD)	Pollution reduction (tonnes per annum)	Cost per tonne of pollution reduced (USD)	Jobs (FTE)	CAPEX vs OPEX
Government/ODA	3,946,000	2,327	1,696	35	14%

Cost summary

- The development of a new landfill site is highly capital-intensive. Capital expenditures span site identification and planning activities, including geotechnical and hydrogeological assessment of soil stability, groundwater depth, flood risk and proximity to sensitive ecosystems and communities.
- Land acquisition and preparatory works typically include land purchase, fencing, access road construction, and land clearing. Engineered landfill cells and semi-aerobic infrastructure require excavation, base lining, gravel and aeration layers, perforated horizontal pipes, vertical gas vents and slope reinforcement.
- Leachate and wastewater management requires collection ponds, pumps, constructed wetlands or treatment lagoons, groundwater monitoring wells and water quality testing equipment.
- Facilities and operational infrastructure generally comprise a weighbridge, entrance gatehouse, tipping platform, workshops, machinery storage areas, and basic office and sanitation facilities for staff.
- Machinery, maintenance and contingency costs include the purchase or leasing of compactors and excavators, fuel, repairs, which is equivalent to 10–15% of total capital costs.
- Operating expenditures are driven primarily by machinery operations, staffing, and the provision of daily soil cover, which together account for the largest share of ongoing costs. Additional operating costs include utilities, leachate monitoring and analysis, routine maintenance, and other site-level expenses necessary to ensure regulatory compliance and safe operations.
- The sanitary closure of the landfill is also a very considerable cost, comprising 11% of the total.

Chart 3: Indicative timeline of costs incurred for the development and operation of a new landfill



Context and co-benefits

Upgrading Guinea-Bissau's waste disposal system to a Fukuoka-style landfill would deliver substantial environmental, public health, and social benefits while addressing the long-standing risks associated with open dumping. Historically, municipal solid waste from Bissau was disposed of at the Antula dumpsite, which has since been closed. Disposal has since shifted to the Safim site, operated by the Bissau City Council. Both sites have posed serious environmental and health hazards due to uncontrolled dumping, open burning, methane emissions, and their proximity to rivers, groundwater, and coastal ecosystems.

A Fukuoka-style landfill would significantly improve current conditions. Its semi-aerobic operation can reduce methane generation by up to 50% compared to fully anaerobic dumpsites, thereby lowering greenhouse gas emissions, odour, and fire risk. Faster waste stabilisation allows cells to be capped and managed sooner, improving site safety and reducing the likelihood of slope failure and uncontrolled burning. Improved leachate management would substantially reduce risks to groundwater, rivers, and downstream coastal and estuarine ecosystems, benefiting nearby communities and fisheries by reducing contamination.

The upgrade should explicitly incorporate social-inclusion measures for informal waste pickers who depend on the site for their livelihoods. Such measures may include fencing and controlled access to improve safety; health insurance coverage; training and capacity-building; and the formal integration of waste pickers into recycling and material recovery activities. These initiatives can improve incomes, reduce vulnerability, and help ensure that children attend school rather than working on the dumpsite.

Nearby residents would benefit from reduced smoke, odour, and fire risk, although temporary construction-related noise and traffic impacts are likely. Landfill workers and contractors would gain safer working conditions and new employment opportunities, while households, schools and the health sector would see fewer waste-related illnesses. A tipping fee could be considered as a financing mechanism to shift costs to waste generators; however, such a fee would need to be carefully designed to avoid discouraging proper disposal or increasing illegal dumping.

Overall, the upgrade offers strong public health, environmental, and climate benefits, provided that distributional impacts are carefully managed and vulnerable groups, particularly informal waste pickers, are actively protected and included.

Expanding the provision of waste collection and improving collection standards (policies 3.3 and 3.6)

Overview

This intervention expands municipal solid waste collection from 15% to 50% of total municipal solid waste generated. The design and costing of the intervention reflect Guinea-Bissau's urban context and current waste management practices.

Given that approximately 45% of Guinea-Bissau's population resides in the capital, Bissau, and that per capita waste generation in the city is significantly higher than in other areas. The expansion of collection services is Bissau-centric. It is assumed that 70% of the increase in waste collection capacity will occur within Bissau, with the remaining 30% implemented outside the capital.

The costs presented in Table 2 represent the incremental costs required to achieve 50% waste collection coverage by 2035 and do not include existing waste collection expenditure.

Table 7: Costs and impacts of expanding the provision of waste collection

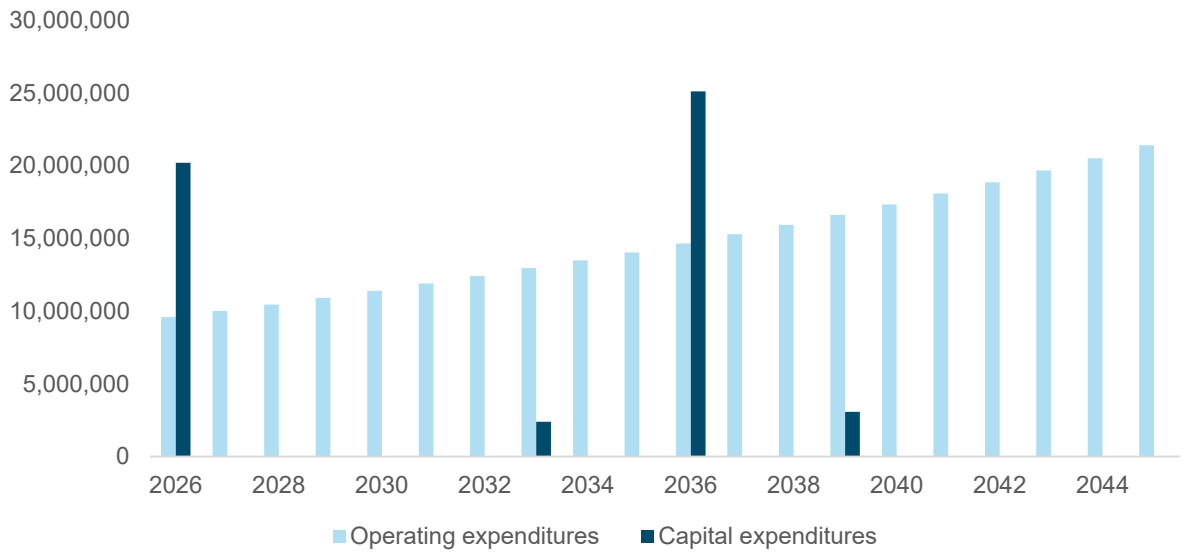
Who bears the cost?	Annualised cost as of 2035 (USD)	Pollution reduction (tonnes per annum)	Cost per tonne of pollution reduced (USD)	Jobs (FTE)	CAPEX vs OPEX
Government/ODA	8,537,000	999	11,461	675	43%
Business	1,878,000				
Households	1,035,000				

Assumptions

- The Municipality of Bissau (Câmara Municipal de Bissau, CMB), which is responsible for waste collection services in the city, currently has only 8 of its 17 collection vehicles and tractors in working order, with a further 9 vehicles being rented. Thus, procuring a large number of waste-collection vehicles, bulldozers, and pushers is the primary capital investment under this policy.
- Additional capital expenditures include the development of operational depots, the rehabilitation and repair of collection equipment, and the construction of basic community-level collection points.
- Capital expenditures account for approximately 16% of total costs (see Chart 1). The costs of replacing vehicles and bins are assumed to recur every 7 and 10 years, respectively.
- Further capital outlays associated with procurement coordination, operator training, and the establishment of systems for monitoring, planning, and data collection. This costing assumes that the municipality will operate MSW collection with minimal outsourcing.

- Operational expenditures are primarily labour, fuel, and vehicle maintenance costs. These are highly sensitive to route density, haul distances, and the reliability of access to spare parts and fuel, which are the primary components of operating costs.
- The policy assumes that waste collection will continue to be centred around community collection points. While the procurement of tipper trucks is expected to improve productivity, waste collection is assumed to remain relatively labour-intensive. Although some larger trucks and loaders will be purchased, the narrow, congested, and often poorly maintained streets of Bissau necessitate the continued use of smaller vehicles and labour-intensive collection methods to accommodate local access constraints.
- The sanitation tax in Bissau is the sole mechanism for funding waste collection services. However, fewer than 30,000 households in a city of nearly 700,000 residents are estimated to pay the charge. The analysis assumes that households will contribute to financing through increased enforcement of the tax. These fees should be designed with due regard to Guinea-Bissau's high poverty levels, with higher-income households and commercial enterprises contributing a proportionately larger share. Revenues generated through the sanitation component of the tax should be hypothecated and transferred directly to the CMB's waste collection services budget.

Chart 3: Indicative timeline of costs incurred for the expansion of waste collection



Context and co-benefits

Despite rapid population growth in Bissau, the waste collection budget of the Câmara Municipal de Bissau (CMB) declined by 28.4% between 2014 and 2023. In 2023, the budget for waste collection in Bissau was just $434,034. This contraction has contributed to significant deficiencies in waste management services, with reports indicating that some community collection points have not been emptied for several years. The absence of reliable and regular waste collection services underpins the widespread prevalence of open burning, littering, and illegal dumping across the city.

In addition, waste management in Bissau is governed by an outdated legal framework. The *Código de Posturas* (City Code, Portaria Nº 1998 of 8 August 1968), which regulates

waste management, dates from the colonial era and has not been substantively updated since its adoption. As a result, it provides limited guidance and enforcement capacity for addressing contemporary waste management and plastic pollution challenges.

Strengthening waste collection would yield a range of broader benefits. Littered, dumped, and openly burnt plastic accounts for 91% of plastic pollution in Guinea-Bissau. Expanding collection coverage would sharply curtail these practices. Less open burning would also reduce GHG emissions, as outlined in the phased ban of open burning.

This intervention would also improve public health outcomes by preventing waste from accumulating in drains, public spaces, and waterlogged areas. Such conditions provide breeding grounds for mosquitoes, flies, and rodents, the key vectors of malaria, dengue, cholera, and other endemic diseases in Guinea-Bissau. These outcomes directly support the Sustainable Development Goals (SDGs) 3 and 11.

Phased ban of open burning (Policy 3.8)

Overview

The lack of adequate waste collection services is the primary driver of the widespread open burning of waste across many low- and middle-income countries. In Guinea-Bissau, approximately 47% of municipal solid waste is disposed of through open burning, amounting to more than 200,000 tonnes in 2024.

The phased ban will be implemented incrementally and will be driven primarily by the expansion of formal waste collection services under Policy 1. However, complementary measures are essential to ensure effectiveness, including public awareness and behaviour change initiatives, strengthened enforcement, and the development of appropriate legal and regulatory frameworks. As such, the costs associated with this policy include public awareness campaigns about the health impacts, many of which are unknown to those who practice open burning, as well as policy enforcement and legislative drafting.

Table 8: Costs and impacts of the phased ban on open burning (as of 2035)

Who bears the cost?	Annual cost (USD)	Pollution reduction (tonnes per annum)	Cost per tonne abatement (USD)	Jobs (FTE)	Reduction in GHG emissions (tonnes CO_2e)	CAPEX vs OPEX
Government/ODA	129,000	773	176	20	6,417	37%
Business						
Households	7,000					

Cost summary

- As noted above, the reduction in open burning is driven primarily by expanded waste collection services.
- The majority of costs relate to policy design, communications and enforcement. These include a nationwide public awareness campaign highlighting the health and environmental impacts of open burning, as well as the preparation and dissemination of guidance materials for municipalities.

- Enforcement requires modest but sustained investment in municipal inspection capacity and the development and implementation of local by-laws. Cost components include training municipal inspectors, conducting periodic site visits, and integrating open-burning compliance checks into existing municipal sanitation routines.
- The drafting of legislation and technical guidelines represents a one-off cost, primarily supported by central government and development partners. This includes legal drafting, stakeholder consultations, and the production of clear guidance to enable municipalities to establish and enforce local regulations.
- Community engagement, particularly in informal settlements, is critical to effective implementation. Costs include working with neighbourhood associations, community leaders, and civil society organisations to support behavioural change.
- Households and businesses that contravene the ban are assumed to incur fines as deterrents, which are reflected as costs to those actors in Table 4.

Context and co-benefits

The primary benefit of phasing out open burning is improved public health (WHO, 2025). The open burning of municipal waste has been directly linked to upper and lower respiratory diseases (Igibah et al, 2019). Globally, the World Health Organisation estimates that open burning of municipal waste contributes to up to one million deaths per year.

Burning waste releases a range of harmful pollutants, including toxic chemicals, fine particulate matter, and black carbon. Exposure to smoke from open burning has been associated with respiratory and cardiovascular diseases, as well as developmental impacts in children, conditions that are already widespread in Guinea-Bissau. Lower respiratory infections are the second leading cause of death in the country and are closely linked to smoke exposure from open burning practices.

Phasing out of open burning also delivers meaningful climate benefits. In Guinea-Bissau, household waste burning is estimated to account for nearly 2% of the country's total GHG emissions (excluding land-use change emissions). Reducing these emissions contributes directly to national and global climate mitigation objectives.

Public education is critical to the success of this policy. The long-term consequences of open burning, which are often misunderstood by the public, support compliance with such bans. Evidence from other contexts shows that even where formal waste collection services exist, some households continue to burn waste, highlighting the importance of sustained community education and engagement alongside enforcement.

Extended Producer Responsibility (Policy 3.9)

Overview

This policy examines the costs and revenues of implementing Extended Producer Responsibility (EPR) for plastic packaging in Guinea-Bissau. EPR is a policy that shifts responsibility for the end-of-life management of products onto producers. It is increasingly seen as a key mechanism to fund waste management outcomes.

Though historically more common in high-income countries, EPR is now increasingly being adopted in low- and middle-income countries. Packaging producers also support EPR as a means to level the playing field and provide regulatory and market certainty.

Table 9: Costs and impacts of an EPR Scheme (as of 2035)

Who bears the cost?	Annualised cost (USD)	Pollution reduction (tonnes in 2035)	Cost per tonne of pollution abated	CAPEX vs OPEX
Government	(663,000)	1,675	313	
Business	653,000			
Households*	534,000			

*Assumes 50% pass through to consumers

Cost summary

- The primary one-off costs relate to policy and legal drafting, setting the scope of the packaging materials covered, baseline drafting, along with the fees charged. These represent a small share of the total costs.
- Capital expenditures will also involve setting up a Producer Responsibility Organisation (PRO)- an authorized, often non-profit, entity established by producers to collectively manage their legal EPR obligations for end-of-life products- to implement the EPR scheme. The PRO will be responsible for compliance, monitoring, auditing and the development of a reporting system.
- Operating expenditures relate to the cost of the PRO operation, including labour costs, administration and compliance checks.
- The key drivers of costs will be related to the stage in the supply chain at which the fee is charged, the complexity of the rules, etc. However, for this policy we are considering only plastic packaging.
- As is standard practice, the PRO will take an administrative fee, which we have assumed to be 20%. The PRO would then spend this on maintaining the scheme.

Context and benefits

The fee revenue would be hypothecated to cover the cost of increased waste collection, disposal, and recycling. This would provide a desperately needed dedicated revenue stream to Guinea-Bissau's waste disposal budgets, which have fallen over the last decade.

While there is some degree of competition among final retailers, Guinea-Bissau's upstream consumer supply chains are concentrated, suggesting some degree of cost pass-through to consumers (as highlighted in Table 8). The introduction of EPR would, however, reduce the costs borne by the government and households for waste collection and disposal, while also upgrading recycling capacity.

Being a small market which imports 67% of food and consumer goods will also give it minimal bargaining power. As outlined in Common Seas Regional EPR Research and Vision Papers, forming a multilateral EPR scheme with neighbouring countries could provide Guinea-Bissau with the bargaining power and economies of scale to achieve more environmentally sound outcomes.

In a country with a large shadow economy, such as Guinea-Bissau, stringent and extensive enforcement will be required. However, enforcement alone will not be sufficient. The design of the EPR system must also prioritise the integration of the informal sector, which currently plays a central role in waste collection, sorting, and

recycling. Informal waste workers often provide the only functioning recycling services in urban and peri-urban areas, yet operate without formal recognition, stable incomes, or occupational protections.

Integrating informal actors into the EPR framework—through registration, capacity-building, access to equipment, fair compensation mechanisms, and inclusion in Producer Responsibility Organisation (PRO) structures—can significantly improve collection rates while safeguarding livelihoods. Formalisation pathways should be gradual and incentive-based, avoiding punitive approaches that risk displacing vulnerable workers. By embedding informal sector participation within the EPR scheme, Guinea-Bissau can strengthen material recovery, enhance traceability, and ensure that the transition to a more circular waste economy is both socially inclusive and economically efficient.

3. Financial Mapping

Context

As presented in the cost assessment section above, achieving the systemic change needed to implement the measures from the National Action Plan and tackle plastic pollution at scale will take time and require considerable funding. Funding will be needed to test and develop new systems, to invest in new infrastructure and public services, and to sustainably finance the ongoing operation of these sources. A study by The Circulate Initiative (2024) indicates that measures to eliminate plastic pollution could cost approximately 0.5% of global GDP. This is likely to be higher in low- and middle-income countries due to their less developed waste management systems, larger infrastructure deficits, and tighter financing and governance constraints, which require more investment to expand collection, sorting, recycling, and safe disposal.

The OECD reports that implementing measures to reduce plastic pollution by 80% by 2040, will cost approximately 0.5% of global GDP. This will be considerably higher for developing countries due to the uneven impacts of plastic pollution. At a global level, it is expected to deliver 700,000 additional jobs and USD 1.3 trillion savings in direct public and private costs between 2021 and 2040 along with massive improvements to human health and the environment.

Types of financing required

The financing required to support this transition can be described in terms of three main elements:

- Support for **enabling measures** that are needed to create the necessary conditions for systemic change. This includes developing legislative frameworks and regulatory changes (e.g. bans on specific problematic plastic products), economic instruments to create the necessary economic conditions to incentivise systemic change (e.g. taxes and levies on single-use plastic products), and capacity building and awareness-raising efforts needed to establish the necessary knowledge and technical capabillities. It will also require the right institutions to be established to provide the necessary governance arrangements, responsibilities and accountabilities.
- **Capital investment** in the new infrastructure and systems that will be needed to reduce plastic pollution and enable the circular use of materials. These transition costs will vary significantly depending upon the system in question. For example, establishing effective waste collection, recycling and treatment infrastructure will require substantial investment in new facilities, vehicles and equipment. This element also includes the investment needed to pilot and test new types of systems (e.g. reuse systems to replace single-use products).
- **On-going operational costs** associated with new systems, such as waste and recycling costs, product return systems and on-going regulatory and monitoring costs. Planning for ongoing operational costs is a key element to ensuring that any new system is sustainable. There are numerous examples of new infrastructure funded by the central government and development finance falling into disuse due to a lack of ongoing operational funding from local government (REF: Bridging the Gap in SWM).

Table 10: Examples of different types of funding needed to implement a selection of policies for tackling plastic pollution

Enabling measures	Capital investment (transition costs)	On-going operational costs
• Capacity building $$ • Regulations (product bans) $ • Economic mechanisms (DRS, EPR levies on products) $ • Awareness-raising and behaviour change campaigns $$	• Demonstration and pilot projects $$ • New downstream infrastructure and services. (improved waste collection and recycling) $$$ • New upstream infrastructure and services (refill and reuse, new materials, etc) $$$	• Regulation and enforcement $$ • Waste and recycling operations $$$ • Upstream operations • Education and communication $$ • Monitoring and evaluation $

Who bears the cost?

These different costs will fall upon different actors and parts of society. For example, the costs of developing, implementing and enforcing new regulations will fall upon the government. New regulations may also affect business and consumers – business may lose revenue or incur costs due to the need to change their products or business models and consumers may incur costs (or savings) due to changes in the availability of certain products in the market (for example, a switch from single-use plastic carrier bags to reusable bags). In broad terms, the different actors can be considered in terms of:

- **Central government** – policy development, regulatory and enforcement costs, and also support for capital investment in new infrastructure and services (e.g. waste management facilities).
- **Local government** – some regulatory and enforcement costs, and waste and recycling investment and operational costs.
- **Business** - adapting to new regulatory requirements and the effect of economic instruments aimed at reducing plastic pollution.
- **Consumers** – costs and potentially savings associated with the availability of different products and services in the market, and also the costs associated with waste and recycling.

In middle- and high-income countries, the incidence of these costs is less important because they represent a small share of total consumer spending. Coupled with this, larger jurisdictions often tend to have more market players, meaning businesses are less likely to fully pass these costs on to consumers.

Yet in a small LDC such as Guinea-Bissau, the burden of these costs is of critical consideration. Attention needs to be paid to ensure that low-income consumers are not unjustly the hardest hit by these measures. Increases in the costs of essential products are likely to impact the poorest in society. For example, in the case of a DRS, low-income households spend up to 10% of their household budget on water, far less than middle-income households with access to piped water and larger incomes.

Furthermore, Guinea-Bissau's large informal sector, which plays a fundamental role in material recovery, is likely to be affected by these policies. Changes to products and delivery systems (for example, switching from single-use plastic sachets to providing

water to centralised refillable systems will likely reduce the opportunity for informal street vendors to sell these products, thereby removing a key source of income). Where possible, the implementation of these policies should be designed to incorporate the informal sector to ensure a just transition.

Table 2 summarises which actors are likely to bear the costs (and accrue any potential savings) associated with key policies to tackle plastic pollution.

Table 11: Key actors and their potential cost burden under different policies and interventions

Actor	Potential costs (and savings)	Examples
Central government	• Developing new policy and regulation feasibility studies, drafting policies and legislative instruments • Enforcement of new regulations • Providing funding for new infrastructure and systems • Supporting capacity building and the development of the necessary technical expertise • Efforts to public awareness and promote behaviour change (e.g. communication campaigns)	• Establishing a waste infrastructure development fund to help local and authorities and the private sector develop new waste and recycling infrastructure. • Running a national public awareness campaign to reduce littering. • Conducting policy impact assessments and designing new legislative instruments.
Local government	• Local regulation and enforcement • Funding new infrastructure and systems, typically waste and recycling infrastructure). • On-going operational costs for waste and recycling services. • Efforts to raise public awareness and promote behaviour change (e.g. communication campaigns). • Potential operational cost savings due to reduce litter and waste.	• Investment in new waste and recycling infrastructure. • Running a local behaviour change campaign to encourage recycling. • On-going waste and recycling system operational costs. • Supporting local initiatives to promote repair and reuse (e.g. small grants to support 'Repair Cafes').
Business	• Regulatory compliance costs • Adapting business models to a changing regulatory and economic system	• Paying taxes and levies on single use products. • Complying with Extended Producer Responsibility (EPR) regulations, including paying relevant fees.
Consumers	• Changes in costs and availability of products on the market	• On-going waste management costs will need to be funded by

Actor	Potential costs (and savings)	Examples
	• Waste and recycling user fees	direct user fees and/or tax revenues. • Products may become more expensive if producers pass on the cost of EPR fees to consumers.

Sources and mechanisms of finance

The different potential sources of funding and finance for implementing the measures to tackle plastic pollution can be considered in terms of public funding and private funding:

- Public finance
    - Local and national government budgets
    - Development finance institutions and agencies (national, bilateral, multilateral)
    - Multi-lateral environmental funds
- Private finance
    - Philanthropic and corporate foundations
    - Institutional investors
    - Asset managers
    - Commercial banks
    - Corporations
    - Entrepreneur support organisations
    - Individuals and family offices

There are any different mechanisms for channelling this funding towards implementation (see figure 1).

Core financial instruments can be used to fund policies and interventions. Debt financing, including concessional and commercial loans, can support capital-intensive infrastructure such as waste collection systems and landfill development, though repayment obligations require predictable revenue streams or fiscal backing. Equity investment may be appropriate for commercially viable enterprises, such as recycling or refill businesses, where investors share in financial returns and risk. Grants remain essential for enabling measures, particularly in low-income contexts where revenue generation is limited.

Thematic bonds - including green, blue, social, and sustainability bonds - enable governments or institutions to raise capital specifically for environmental and social investments. Mezzanine finance provides hybrid capital that bridges debt and equity, often used to de-risk projects and crowd in senior lenders. Microfinance can support small-scale entrepreneurs and community-level waste collection or recycling initiatives, strengthening inclusive participation in circular systems.

Box 1: Example - IBRD plastic waste reduction bond

*The **International Bank for Reconstruction and Development (IBRD)**—the lending arm of the **World Bank**—issued a **$100 million Plastic Waste Reduction-Linked Bond in January 2024** as an innovative "outcome bond" designed to mobilize private capital to address global plastic pollution. The seven-year bond is **principal-protected**, meaning investors receive their full principal at maturity, while returns are partly linked to environmental outcomes. Specifically, investor coupons combine a fixed interest payment with additional payments tied to the generation of **plastic waste collection credits, plastic recycling credits, and voluntary carbon units** created by plastic waste management projects. These credits are expected to be generated by projects in **Ghana and Indonesia** that collect, recycle, and prevent plastic from entering oceans and natural ecosystems.*

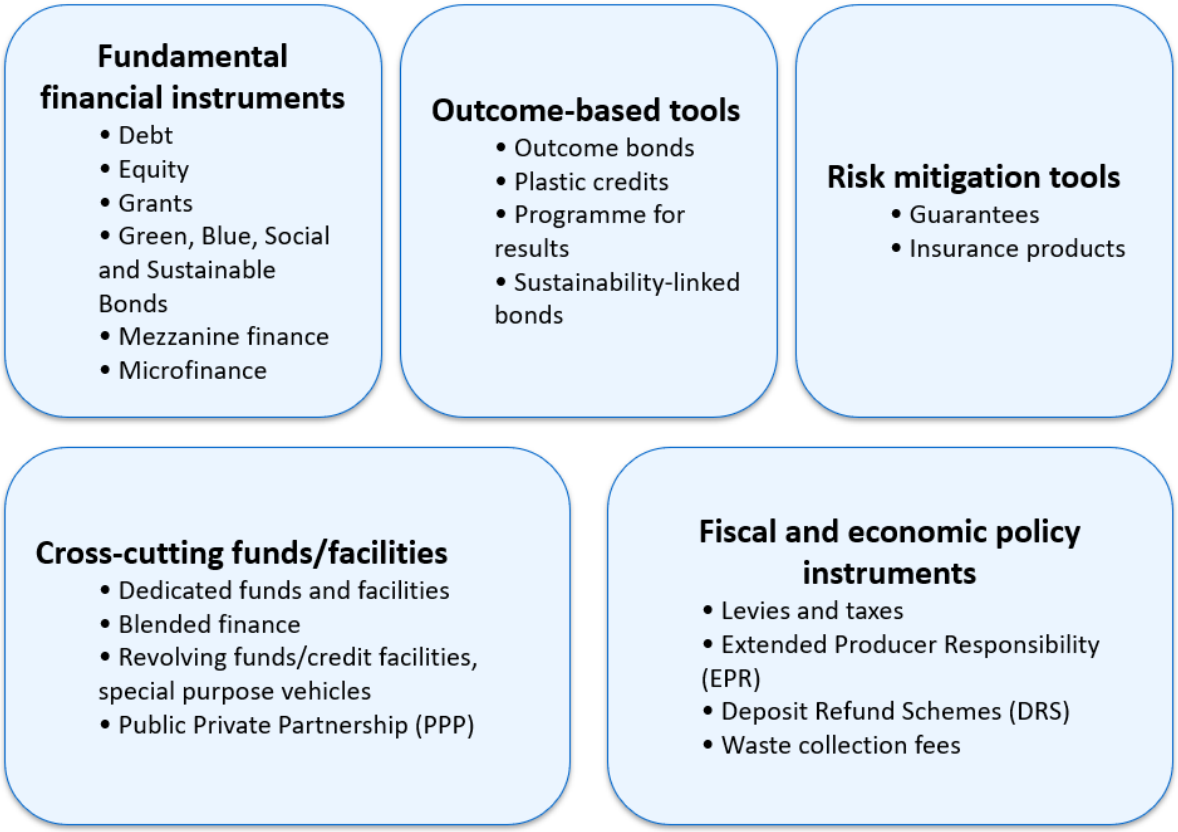
Outcome-based instruments link financing to verified environmental or social results. Outcome bonds mobilise upfront capital from investors, with repayment contingent on the achievement of agreed performance targets, such as increased collection rates or reduced leakage. Plastic credits create tradable certificates linked to verified waste collection or recycling outcomes, enabling corporate actors to finance recovery activities. Programme-for-Results mechanisms tie disbursements from development partners directly to measurable delivery milestones.

Risk mitigation tools play a critical role in attracting private and commercial finance to waste and circular economy projects. Guarantees—whether partial credit or partial risk guarantees—reduce lender exposure to default or political risk, lowering the cost of capital. Insurance products can protect against operational, environmental, or revenue risks, improving the bankability of infrastructure and service delivery investments in higher-risk markets.

Dedicated environmental funds and thematic facilities can aggregate and channel capital toward priority interventions, often combining grant and concessional resources. Blended finance structures strategically combine public, philanthropic, and private capital to de-risk investments and mobilise additional funding. Revolving funds and credit facilities enable capital to be redeployed as loans are repaid, supporting long-term sustainability. Special Purpose Vehicles (SPVs) can ring-fence project financing and manage cash flows transparently. Public–Private Partnerships (PPPs) allocate responsibilities and risks between government and private operators, potentially improving efficiency and mobilising private sector expertise for infrastructure delivery and service provision.

Governments themselves can mobilise domestic resources and influence market behaviour through fiscal tools. Environmental levies and plastic taxes can both discourage high-leakage materials and generate earmarked revenue for waste management improvements. Extended Producer Responsibility (EPR) schemes shift the financial and operational burden of post-consumer waste onto producers and importers, creating sustained funding streams while incentivising eco-design. Deposit Refund Schemes (DRS) place a refundable deposit on beverage containers, encouraging high return rates and improving material recovery. Waste collection fees, when structured equitably and transparently, can contribute to the long-term operational sustainability of municipal waste services.

Figure 1 – Summary of Financing Mechanisms



Source: based on UNEP (2024) How large is the challenge? Ad hoc intersessional open-ended working group 1 – Finance.

The suitability of the many different potential sources depends upon the intervention or policy which it is intended to support, the type of finance needed (i.e. enabling, capital or operational finance) and the context. Funding sources and mechanisms that typically suit enabling and capital finance needs are different to those that could support the on-going operation and maintenance of policies and measures. Whilst many of the sources and mechanisms described above could be used to finance enabling measures (e.g. policy design, technical assistance) and investment in new infrastructure and systems, sustaining on-going costs is likely to be dependent upon fiscal and economic policy instruments such as levies, taxes or more sophisticated economic policy instruments such as Extended Producer Responsibility (EPR). For example, development finance grants may be needed to pilot an intervention focused on implementing a refillable water supply system (to replace reliance on single use beverage bottles). This could be scaled using a combination of development finance loans and private investment. Once scaled, the system would then rely on direct user fees to fund on-going operation. This process may well take many years and there are likely to be successes and failures along the way.

The proposed Global Plastics Treaty, currently under negotiation among UN Member States, is intended to establish a legally binding international framework to end plastic pollution. A central and hotly contested element of the negotiations concerns the creation of a dedicated financial mechanism to support treaty implementation. The most ambitious advocates for the mechanism aim to finance, including waste management, infrastructure development, and addressing legacy plastics, with particular emphasis on

supporting developing countries. If established, it could help close the financing gap for plastic pollution by providing additional and more predictable funding streams. Several options are being considered for the structure of the mechanism, including using existing financial channels such as the Global Environment Facility trust fund or creating a new standalone fund. Proposed revenue sources include instruments such as a global fee on virgin plastic polymer production, extended producer responsibility contributions, and voluntary financial commitments from industry.

The suitability of different sources and mechanisms to Guinea Bissau

Guinea Bissau is heavily dependent upon development finance assistance. Development assistance accounts for more than 10% of gross national income. As such, access to private finance sources to implement policies is likely to be limited, particularly given the typical risks associated with investing in downstream infrastructure (e.g. waste management systems) and the uncertainties and nascent nature of many upstream solutions (e.g. refill). As such, at this time, funding to implement policies is likely to be largely limited to development finance and philanthropic sources.

A second key challenge exists in terms of the potential to establish sustainable revenues to sustain the on-going operational costs of new policies. The typical mechanisms used to establish these revenues are direct user charges (e.g. charges on households for waste management services), taxes and levies, or mechanisms such as DRS and EPR. These are challenging mechanisms to apply in high and middle income contexts so it is likely to be very challenging to implement these mechanisms in the short term given the likely effect these measures would have on household income, particularly for the poorer in society.

Overall, accessing private finance to invest in new infrastructure and systems and establishing sustainable revenues to fund on-going operations is likely to be a long-term endeavour; one that is intrinsically linked to Guinea Bissau's economic growth. It will be essential to create the necessary enabling conditions first in the form if effective institutions, an appropriate legislative framework supported by effective regulation and monitoring and sufficient local technical capacity.

Identifying potential sources of finance

Approach

A detailed desk-based review was undertaken to identify the potential sources of finance to support designing, implementing and sustaining the interventions and policies identified by the NAP. The review was split into two parts.

Firstly, a search of key funding databases to identify potential funding sources for supporting the enabling and capital investment needs of the policies in the National Action Plan. The focus was on official development finance and philanthropic sources, given the poor private investment context of Guinea Bissau – it is unlikely that conventional 'for profit' private sector finance will invest in the country at this time – but some impact investment funds were included in the review for illustration. In summary, potential sources were considered in terms of the following main types:

- Multilateral official development finance
- Bilateral official development finance
- Philanthropy

- Impact investment
- Public private partnerships

The key databases and information sources reviewed included:

- Biofin Finance Resources for Biodiversity
- Commonwealth Bue Charter Ocean Funders Database[1]
- Common Seas' in-house tool, 'Fundraising Scout'
- UNEP (2024) *Overview of existing funding currently available for addressing plastic pollution through international funding arrangements (updated for the fourth session of the intergovernmental negotiating committee)*

Each funding source identified by the review was considered in terms of its applicability and suitability to support implementation of the three strategies identified in the NAP for Guinea-Bissau. Each funding source identified was also assessed in terms of its potential 'strength' using information available from the information source. This was done to help triage potential funding sources, with the aim of prioritising a small selection of sources with the most potential.

The following scoring system was used: score 1) evidence from funder of strong alignment with NAP strategies and policies (e.g. funder is actively seeking to fund projects that match those in the NAP); score 2) evidence of some alignment with the strategies and policies in the NAP or with the general theme of plastic pollution reduction; score 3) little evidence of alignment with the strategies and policies in the NAP. Note that the review only sought to identify potential funding opportunities that had an environmental or pollution prevention remit. Wider sources (e.g. those focusing on education or health were not included in the review).

Secondly, an assessment of the suitability of different potential mechanisms for funding the ongoing cost of different policies (for example, via fees or levies). Clearly, establishing these mechanisms requires effective institutions, clear governance arrangements and an effective legislative framework. These enabling conditions would need to be established first.

Note that the review was not exhaustive. It was intended to identify key potential funding sources for each key policy/intervention as a starting point for more detailed analysis and assessment. To secure funding from these sources, it will be important to engage with them to understand their priorities, assess feasibility, and develop detailed business cases and funding applications.

For a full set of the most relevant funding sources identified in our desk study review, see Annex 2. Details of the review, along with the most relevant funds, are presented in this annex.

Means of sustainably financing operating expenditures

Establishing a sustainable means of financing the policies outlined in the NAP will require ongoing funding rather than one-off grants or transfers. There are several key sources of revenue that could potentially be used to sustain both operational and maintenance costs (see Table 12).

[1] https://oceanfund-bluecharter.thecommonwealth.org/

Waste collection fees

Waste collection fees provide a simple basis for funding on-going waste management and recycling costs. It is a mechanism that has been applied relatively successfully in other West African nations. In Guinea-Bissau, the biggest challenges associated with this approach are affordability to households, the feasibility of collection and public acceptability, particularly in a context where service coverage is limited and uneven. User fee collection in a cash-based urban economy can be hard to administer. Waste management responsibility sits largely with the Câmara Municipal de Bissau, but collection capacity is low and concentrated in central areas, with peripheral neighbourhoods often underserved. Introducing or increasing user fees when service reliability is weak risks low compliance and political pushback. However, fees can become feasible as part of a sequenced reform: starting with commercial premises or higher-service zones, ring-fence revenues for visible service improvements, and progressively expand billing as collection performance improves.

Taxes

Tax revenues are a potential key source of funding for on-going waste management costs. However, Guinea Bissau's tax revenue is very low, at about 8% of GDP. As such, tax revenues are already extremely stretched and are unlikely to be sufficient to support waste management operations in the short term.

Levies

Levies, such as a fee charged in single use items, has been used in many contexts globally. For example, charging a levy on single use plastic bags has been demonstrated to drive down the use of these items in several countries. The levies generated can also be used to fund associated environmental initiatives. It is essential that, where levies are applied in this way affordable alternative products are available. This is particularly important in Guinea Bissau where even small levies applied to products are likely to affect household income levels.

Deposit Return Scheme

A DRS can be highly effective for beverage containers because it creates a direct incentive for consumers to return containers and can reduce litter and leakage. However, but it requires strong operational logistics and there are risks that the additional costs to producers are passed through to consumers, increasing prices. Core challenges include setting up redemption points, managing storage and transport, ensuring fraud controls, and establishing a reliable system operator and counting/auditing processes—requirements that can be difficult where collection systems and downstream treatment are limited. In the context Guinea Bissau, DRS is likely to be appropriate as a medium term mechanism for establishing the return and recycling of plastic beverage bottles.

Extended Producer Responsibility

EPR can, in principle, shift a meaningful share of system costs from government to producers and importers and create sustained funding for waste collection and recycling. However, it is a complex economic instrument requiring a clear legal framework, a producer registry, reporting systems, enforcement capacity, and governance structures (often via a producer responsibility organisation) to collect fees and disburse funds transparently.

EPR has been established in Europe for over two decades and has been increasingly adopted globally, albeit typically in high and upper middle income country contexts where the necessary capacities and legal frameworks exist. EPR is specifically cited in the draft

International Legally Binding Agreement on Plastic Pollution so it is feasible that it will become adopted as a common framework for generating financial flows to support waste and recycling operations. In the context of Guinea Bissau, EPR is considered a long-term strategy that will only be possible to implement once effective structures are in place.

Plastic credits

Plastic credits can unlock private finance for collection and recycling by establishing a system whereby companies purchase credits to support plastic recycling and/or ffset their own plastic footprint. verified outcomes above a baseline, but credibility and governance are the central challenges. There is significant scrutiny around additionality, verification, and the risk that credits become greenwashing rather than driving systemic change, especially where monitoring capacity is limited and where credits could divert attention from upstream reduction. Standards such as Verra's Plastic Waste Reduction Standard rely on independent auditing and baselines to issue credits, which can create a viable results-based revenue stream for projects. However, in Guinea-Bissau, plastic credits may be feasible as a *supplementary* funding source for well-defined, auditable interventions (e.g., organised collection with clear chain-of-custody), but they are unlikely to substitute for core public finance, EPR-type revenues, or long-term OPEX funding.

Plastic import tax

A plastic import tax would serve a similar purpose to an EPR scheme, namely, shifting the burden of waste disposal onto producers. Yet it would be levied higher up the plastics supply chain at the point of import, and would likely be less differentiated between plastic types. Given that a great deal of Guinea-Bissau's taxes are levied on imports, this may be an effective way of raising desperately needed tax revenue to fund waste disposal. By levying the fee on importers, it also means a smaller tax base with less administrative complexity.

Ghana has implemented such a tax, but it has not been successful. Compliance is likely to be a significant issue, particularly in developing countries. The size of developing countries' shadow economies (estimated at an average of 40% of GDP, nearly three times that of high-income countries) suggests that compliance with national taxes would be significantly more challenging than under a Fee. The Ghanese Government has found that 70% of actors in the plastics value chain are informal and has reported that only a fraction of its excise duty on plastics has been collected since its introduction in 2014.

Table 12: Summary of mechanisms for supporting on-going costs

Mechanism	Relevant strategy	Benefits	Challenges
Waste collection fees	3	• Relatively simple to administer • Widely applied elsewhere in West Africa • If applied effectively, householders experience the direct benefit of the fee	• Affordability • Fee collection • Households will expect to see service improvement when they pay
Taxes	1, 2, 3	• Well-established mechanism. • Can be administered locally or centrally. • Has the potential, depending on affordability, to raise large levels of revenue.	• Affordability • Lack of ring fencing means taxes are diverted for other purposes and do not support plastic pollution mitigation • Tax take in Guinea Bissau is very low.
Levies	1, 2	• If applied appropriately, very effective at driving down consumption of single use items. • Revenues can be used to support related, community environmental initiatives.	• Affordability. • Their success requires that affordable alternative products are available.
Deposit Return Scheme	3	• Can be very effective at encouraging high levels of container return. • Transparent system. • Well-established globally with demonstrated effectiveness.	• Costs of operating the DRS can be passed through to consumers, raising prices.
Extended Producer Responsibility	3	• If well-designed, can provide effective revenue stream to support waste and recycling.	• Complex mechanism that requires effective legal framework, capacities and monitoring.
Plastic credits	3	• Relatively simple system to provide addition revenues from businesses wishing to offset their plastic waste generation. • Can help create employment opportunities for plastic waste collectors.	• Questions round additionality. • Effective verification needed to validate collections. • Concerns over greenwashing. • Introduction of plastic credits can destabilise existing informal waste recycling collection systems.

Mechanism	Relevant strategy	Benefits	Challenges
Plastic import tax	3	• Can be integrated into existing customs and excise revenue collection systems. • Places the burden on the producer/importer.	• Can increase consumer prices. • Challenges over collecting revenues and allocating to intended purpose.

Notes:
Strategy 1: Tackling single use plastic bottles and sachets
Strategy 2: Upstream measures to reduce consumption
Strategy 3: Downstream measures to improve waste management and recycling

4. Recommendation

In this report, we have analysed the costs required to implement eight of the policies outlined in the NAP, across various stages of the plastics value chain, from upstream reduction measures to improvements in waste collection and disposal. Each of these policies has a distinct cost profile and will require different types and scales of financing. Section 2 details the estimated cost breakdown and timeline for a selection of key policies identified in the NAP, along with the expected incidence of these costs among governments, businesses, and households.

The primary focus of the policy interventions presented in the NAP is the potential level of plastic pollution reduction. In reality, many of these measures address more urgent development priorities. While plastic pollution is a critical environmental issue, many of these policies, such as providing sanitary drinking water (for which less than a quarter of the population has access), address fundamental development priorities. Similarly, waste collection and reduced open burning have significant benefits for public health outcomes, particularly in addressing endemic diseases in Guinea-Bissau, many of which are leading causes of death, such as lower respiratory disease, malaria, and diarrheal diseases.

As such, we recommend prioritising the policies that are feasible in the short term in terms of financing and implementation, those with significant pollution-reduction potential, and those that align with Guinea-Bissau's developmental needs, SDGs, and development plans.

Table 15 compares cost estimates for selected policies with potential funding sources identified and provides a recommendation on priority policies according to the criteria outlined above.

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Table 13: Matching needs against sources

Policy	Annualised cost (2035)	Feasibility (1 low – 3 high)	Most relevant funding sources	Short-term or long-term priority	Comments
Strategy 1					
Sanitary water supply – potable borehole supply (Policy 1.1)	6,000,000[2]	2	• African Development Bank9n • African Water Facility • Blue Action Fund • GEF Least Developed Countries Fund (LDCF)	Long term (1.2 is likely a more feasible policy)	Access to safe drinking water is recognised as a fundamental human right by the UN and is targeted under SDG 6.1. In Guinea-Bissau, fewer than 25% of the population has reliable access to safe drinking water, which is a leading cause of death, particularly among infants. Improved water access can increase school attendance, as children often miss school to collect water. Guinea-Bissau currently lacks the institutional capacity to develop and maintain boreholes; many become dysfunctional or contaminated, and groundwater frequently requires treatment due to iron and manganese. Even when technically safe, public trust in borehole water is low, requiring extensive public education and behaviour-change campaigns for any solution to be effective (Wardrop et al., 2017). Some borehole or refill models elsewhere have shown financial sustainability, but achieving continuity and maintenance remains a key challenge in this context. Reducing reliance on sachet and bottled water can lead to significant household cost savings, as families can spend up to 10% of their income on purchased drinking water.
Water kiosks (Policy 1.2)	375,000[3]	3		Short term	This policy would support and enhance the existing water supply network (rather than replacing it).

[2] Large variability in costs – requires technical engineering understanding and knowledge of local hydrogeology
[3] High degree of uncertainty and minimal breakdown of cost components

					The hub-and-spoke kiosk model is a source of robust employment. Financial self-sufficiency has been achieved in 78% percent of Cambodia's kiosks.
Strategy 2					
Plastic bag ban (Policy 2.1)	548,000	2	• 11th Hour Racing • GEF Small Grants Programme	Short term	The enhanced plastic bag ban is highly cost-effective, but similar bans in the region have struggled due to weak enforcement and limited public buy-in. Affordable alternatives must be available; otherwise, costs may fall disproportionately on low-income households. While plastic bag bans have shown success in high-income countries, in Sub-Saharan Africa they have generally been ineffective, with Rwanda standing out as a rare success due to strict enforcement and heavy penalties.
Strategy 3					
Deposit Return Scheme (Policy 3.1)	1,393,000	1	• 11th Hour Racing • Circulate Capital Ocean Fund	Short term	A Deposit Return Scheme would be very challenging to implement in the near term due to limited governance and institutional capacity, as well as a large informal sector that currently collects PET mainly for reuse. Feedstock is often contaminated, and the absence of a local recycling industry, compactors, and bailers necessitates expensive shipping to Senegal, which is not feasible due to the cost of shipping and the lack of food-grade recylates and the low value of rPET.
Improved waste disposal: construction of a sanitary (Fukuoka) landfill (Policy 3.2)	3,946,000	2	• African Development Bank Group • Blue Action Fund • Blue Nature Alliance	Short term	The Safim dumpsite, is an environmental and health hazard. Located on the outskirts of Bissau, it is currently the capital's sole waste disposal site. The site is connected to the springs of the Safim River and the Río Mansôa, which is the primary source of pollution to the Bijagós Archipelago, the newly inscribed UNESCO World Heritage site.

			• Conservation International • Critical Ecosystem Partnership Fund (CEPF) • Packard Foundation		
Expanding the provision of solid waste collection (Policy 3.3, 3.4, 3.6)	11,450,092	2		Short term	Aligns with development priorities. Has the largest reduction in pollution and will bring about significant public health benefits. Most pertinent to SDGs 3 and 11.
Phasing out of open burning (Policy 3.8)	136,000 (Implementation requires the expansion of waste collection services)	2	• Africa Climate Change Fund • Africa NDC Hub	Short term	It will likely be difficult to eradicate open burning entirely. Particularly in rural areas with limited or no formal waste collection. However, significant public health and environmental gains would be made in areas where it is banned. This policy is contingent on the success and coverage of the waste collection rollout. For successful adoption, educational and awareness campaigns will be required.
Extended Producer Responsibility (Policy 3.9)	525,000	1	• Ocean Innovation Challenge	Long term	Implementing an EPR scheme is unlikely to be feasible in the near term due to local capacity constraints

5. Conclusion and next steps

Implementing the proposed policies to tackle plastic pollution in Guinea-Bissau will require significant and sustained investment and strengthened institutional capacity. As highlighted throughout this report, Guinea-Bissau remains a challenging investment environment: institutions are fragile, technical capacity is limited, and access to domestic finance is limited. As a result, the successful delivery of NAP policies will, at least in the near term, depend heavily on development finance and philanthropic support.

A central finding of this assessment is the importance of first establishing the enabling environment—the governance structures, legislative frameworks, and technical capabilities needed to plan, finance, and operate these interventions. Development partners such as the World Bank, UNDP, UN-Habitat and local organisations such as Acra are already active in building these foundations, and continued alignment with these efforts will be essential.

Given these contextual constraints, priority should be placed on interventions that both significantly reduce plastic pollution and advance Guinea-Bissau's core development goals, including public health, environmental protection, and resilient service delivery. Based on this assessment, the following policies should be prioritised for further development and early-stage financing:

- Policy 1.1/1.2 – Sanitary water supply. A hub-and-spoke refillable water system offers a practical approach to reducing dependence on single-use sachets and bottles while delivering major public health benefits. It also builds on existing water supply systems and can create stable local employment and financial self sufficiency. Several funders have been identified as strong candidates to support piloting this model.
- Policy 3.2 – Expanding waste collection. Although costly, this intervention delivers the largest reduction in plastic leakage and the most significant co-benefits for public health and the urban environment. With multiple development partners already active in strengthening solid waste management, this policy represents a cornerstone of any credible implementation plan. A key challenge moving forward will be identifying sustainable long-term revenue to maintain operations.
- Policy 3.8 – Phasing out open burning. This policy is relatively low cost but has substantial health and environmental benefits, particularly in reducing respiratory illnesses and greenhouse gas emissions. Successful delivery requires public awareness efforts and enforcement mechanisms, and its impact will be strongly linked to the expansion of waste collection services under Policy 3.2.

Taken together, these priority interventions form a coherent and sequenced pathway: improving access to safe water, expanding waste collection, and reducing harmful disposal practices. Each contributes both to plastic pollution reduction and to Guinea-Bissau's broader development obligations, including commitments linked to the SDGs and national planning documents such as the Bissau Municipal Solid Waste Management Plan and the Bissau Sustainable Development Plan 2030.

Recommended Next Steps

To progress these priorities, the following steps are recommended:

1. Conduct detailed feasibility assessments for all priority policies to refine designs, cost profiles, and operational requirements.
2. Engage development funders—starting with those identified through the financial mapping exercise—to establish alignment, understand funding windows, and co-develop project concepts.
3. Develop outline business cases and funding proposals for the priority interventions, building a clear narrative around co-benefits, feasibility, and expected impact.
4. Further strengthen institutional and legislative foundations, particularly those required for effective waste management, enforcement, and oversight.
5. Continue stakeholder engagement, ensuring government ownership, cross-ministerial coordination, and the meaningful inclusion of informal-sector workers and community actors.

The analysis presented in this report marks the beginning of an iterative process. As further evidence is gathered, feasibility studies completed, and funders engaged, Guinea-Bissau will be able to build a robust, phased, and financially viable implementation pathway—one capable of delivering significant plastic pollution reductions while supporting the country's urgent development priorities.

Annex 1 – methodology and limitations

Methodology

The process of developing the evidence-based costing assessments outlined in this report began with extensive desk-based research and consultations with local stakeholders and policy experts to determine the most appropriate form these interventions should take in the context of Guinea-Bissau. Building on this, we then developed an estimate of the cost per tonne of implementing each policy option, based on their scale and design, while aligning these with the modelling parameters used in the NAPs. A wide range of studies was reviewed to identify the most suitable approach for implementing the policy in the context of Guinea-Bissau and to provide cost-per-tonne estimates. Further attention was paid to best practices for developing waste management and achieving economies of scale in comparable country contexts.

In particular, we sought to draw on studies that provided cost breakdowns rather than just headline estimates. This enabled adjustments to policy parameters that are fundamental to cost estimation and the components driving overall costs. Cost components were further classified into tradable and non-tradable inputs[4] to account for cross-country differences in wage-price indices, purchasing power, supply chains, and market structures.

For a detailed cost-benefit analysis, further consultations with experts in Guinea-Bissau, as well as with specialists on the proposed policy interventions, should take place. While substantial research and consultation have informed this study, the resulting estimates are not intended to replace detailed feasibility studies or to serve as budget-ready costings.

This report represents the first phase of an iterative process, during which these estimates should be further validated and refined through engagement with local stakeholders and policy experts. The refined costings should provide a foundation for mobilising Official Development Assistance (ODA) and philanthropic funding where feasible, for leveraging private sector investment and capacity.

Limitations

The primary data limitation is the lack of reliable, country-specific costing data from Guinea-Bissau itself. Available data on waste generation and flows are particularly limited.

The second key limitation relates to the fact that many of the intervention designs underpinning these cost estimates have, to date, been applied primarily in middle-income country contexts, with limited application and demonstration in low-income settings. Differences in institutional capacity, governance arrangements, and service delivery conditions, as well as constraints related to supply-chain reliability, introduce additional uncertainty into the cost estimates.

While gross domestic product (GDP) and purchasing power parity (PPP) levels in Guinea-Bissau are substantially lower than in countries in the Global North, capital

[4] Tradeable inputs are those which can be traded and thus imported, while non-tradeable inputs are those which must be produced and consumed locally

goods and services can be comparatively expensive, as most equipment, materials, and technical input must be imported.

Annex 2 – Funding sources

Funding source	Type of fund	Grant	Debt	Impact	Equity	Technical	Other	Strength	S 1	S 2	S 3	Notes
GEF Least Developed Countries Fund (LDCF)	Multilateral ODF	Y						**1**	X	X	X	Funds climate adaptation in LDCs; has financed water access and resilience measures that support Strategy 1 and reduce reliance on sachets/bottles.
GEF Small Grants Programme	Multilateral ODF	Y						**1**		X	X	Community-level grants for biodiversity and sustainable development. Making it a good fit for local waste management pilots, behaviour change and informal sector support.
Africa Climate Change Fund	Multilateral ODF	Y						1			X	Most recent call indicates a focus on waste management, so assumed to be more relevant to downstream policies (i.e. enhanced waste collection, etc).
Africa NDC Hub	Multilateral ODF					Y		1		X	X	A focus on waste management.
African Development Bank Group	Multilateral ODF	Y	Y				Y	**1**	X		X	Provides finance and technical assistance for water, waste and infrastructure projects in Africa. Directly supports potable water access (Strategy 1) and waste management upgrades (Strategy 3).
African Water Facility	Multilateral ODF	Y						**1**	X		X	Mandate to finance water access and infrastructure with potable water expansion and refill schemes being central NAP measures.
Agence Française de Développement (AFD)	Bilateral ODF	Y	Y					**1**	X		X	AFD funds water, sanitation, solid waste and biodiversity projects in francophone Africa thus being directly relevant to potable water, collection and disposal upgrades.
Circulate Capital Ocean Fund	Private finance		Y		Y			**1**		X	X	Specifically created to finance circular economy and waste management solutions in emerging markets.
Conservation International	Non-profit	Y				Y		**1**	X		X	Active in coastal and marine conservation and community programmes. Strong match for protecting coastal systems from plastic pollution and community engagement.
Critical Ecosystem Partnership Fund (CEPF)	Non-profit	Y						**1**	X			Funds biodiversity conservation in priority ecosystems; Bijagós mangroves/archipelago protections and related pollution reduction are well aligned with CEPF's objectives.

Funding source	Type of fund	Grant	Debt	Impact	Equity	Technical	Other	Strength	S 1	S 2	S 3	Notes
Ocean Innovation Challenge	Non-profit		Y		Y			**1**			X	Designed to accelerate ocean-tech solutions, often including plastics interception and circular solutions. This makes it directly relevant to marine plastic reduction.
Blue Action Fund	Philanthropic	Y	Y					**1**	X		X	Targets marine biodiversity and coastal communities in developing countries; supports protection/restoration of coastal ecosystems, which are key NAP outcomes.
Blue Nature Alliance	Philanthropic	Y						**1**	X		X	Large-scale financing for ocean protection and coastal ecosystem conservation. This aligns with protecting mangroves/archipelagos and reducing marine plastic impacts.
11th Hour Racing	Philanthropic	Y						**1**	X	X	X	Comprises three focus areas: Clean technologies & best practice; ecosystem restoration; ocean literacy and stewardship. The first one aligns with the full range of policies for Guinea-Bissau.
Packard Foundation	Philanthropic	Y						**1**	X	X		Longstanding funder of marine conservation and ocean policy (including plastic pollution initiatives), strongly aligned with NAP marine and ecosystem protection goals.
Climate Investment Fund (CIF)	Multilateral ODF		Y					**2**	X	X		See above — can finance adaptation and infrastructure relevant to NAP objectives, but not specifically plastics.
Strategic Climate Fund (CIF)	Multilateral ODF	Y	Y					**2**	X	X		CIF windows support climate resilience and adaptation investments; potable water and resilient waste infrastructure may fit, but plastics are not an explicit central focus.
Mitigation Action Facility	Multilateral ODF	Y						**2**		X	X	Typically climate change mitigation focused. May fund projects that reduce GHGs from waste or support low-carbon alternatives, but alignment with plastics-specific measures varies.
British International Investment (BII)	Bilateral ODF		Y		Y			**2**	X		X	DFI that invests in projects across Africa; could support financially viable waste or water infrastructure but is more selective with projects like levy/EPR policy work being less typical.

Funding source	Type of fund	Grant	Debt	Impact	Equity	Technical	Other	Strength	S 1	S 2	S 3	Notes
Netherlands Development Finance Company (FMO) – FMO Blended Finance	Bilateral ODF	Y	Y					**2**		X	X	Provides blended finance to private sector projects in emerging markets; could back commercial waste/water infrastructure but usually requires bankable returns.
Ashden	Non-profit	Y						**2**		X	X	Focuses on clean energy and sustainable livelihoods; could support waste-to-energy alternatives or community enterprise components, but not a core plastics/waste collector fund.
Aga Khan Agency for Habitat	Philanthropic	Y						**2**	X			Works on resilient settlements, WASH and solid-waste related interventions therefore relevant to improved water access and community waste management, however does not directly finance or offer grants often therefore significance is reduced.
Aga Khan Agency for Microfinance	Philanthropic		Y				Y	**2**		X	X	Microfinance can enable local enterprises (e.g., waste pickup, recycling MSMEs, refill station entrepreneurs) — potential local financing route but not a direct grant source for policy or infrastructure.
Aga Khan Development Network	Philanthropic	Y						**2**		X		Broad development remit (health, livelihoods, infrastructure); could support integrated projects (community waste management, water) but not specialised plastics funding.
Aga Khan Foundation	Philanthropic	Y						**2**	X			Funds WASH programs that can support NAP objectives (water access, community engagement). Therefore a viable but not guaranteed match.
Arcadia Fund	Philanthropic	Y						**2**	X			Funds environment, cultural heritage and open data; can fund conservation and community projects that tangentially support NAP aims (biodiversity, mangrove protection). possible but not specific to plastics.
Bertarelli Foundation	Philanthropic	Y						**2**	X			Strong marine/biodiversity focus; could fund marine-protection measures and conservation work that complements Strategy 1 & 3, though less focused on waste-management infrastructure.

Funding source	Type of fund	Grant	Debt	Impact	Equity	Technical	Other	Strength	S 1	S 2	S 3	Notes
Bloomberg Philanthropies	Philanthropic	Y						**2**	X	X		Funds city programs, environment and data-driven initiatives; could support urban waste interventions or policy/behaviour projects but is not specifically a plastics fund for SIDS.
Blue Nature Capital	Private finance	Y						**2**	X			Private capital focused on ocean-positive investments; potential for financing sustainable blue economy projects linked to NAP goals though commercial returns necessary.
BNP Paribas – Sustainability Window	Private finance	Y						**2**		X	X	Large bank with sustainability financing windows; possible source for infrastructure or blended finance for waste/water projects but typically requires larger-scale, bankable projects.
Calvert Impact Capital	Private finance		Y		Y		Y	**2**		X	X	Invests in impact enterprises and funds; could back social enterprises (recycling, collection) or local MSMEs aligned to NAP but less likely to fund national policy or infrastructure directly.
Eco.Business	Private finance	Y	Y					**2**		X	X	Provides financing support to businesses with a sustainability focus in emerging markets. Therefore, it could support waste-management businesses or small recycling enterprises.
Encourage Capital	Private finance		Y					**2**			X	Impact investor that backs early-growth climate/impact businesses; may support circular economy enterprises that map to NAP downstream solutions.
Outcomes Accelerator	Public-private partnership	Y	Y					**2**		X	X	Supports outcomes-based financing and blended deals for conservation and resilience.
Global Innovation Fund	Non-profit	Y	Y		Y			**2**	X	X		Funds early-stage, scalable innovations addressing development challenges. Could be a good potential to fund pilots (refill stations, collection tech) but competitive and innovation-focused.
OPEC Fund	Non-profit	Y					Y	**2**		X	X	Development finance institution that funds infrastructure and social projects in developing countries. Has potential to finance water or waste infrastructure but not specifically plastics-focused.

Funding source	Type of fund	Grant	Debt	Impact	Equity	Technical	Other	Strength	S 1	S 2	S 3	Notes
Ocean Risk and Resilience Action Alliance (ORRAA)	Private finance				Y			**2**	X			Focuses on risk mitigation and resilience for ocean economies; relevant to coastal adaptation and ecosystem protection.
Pegasus Capital	Private finance	Y						**2**		X	X	Private investor that provides finance to sustainable businesses; could finance circular economy enterprises, but is not a dedicated plastics fund.
Calouste Gulbenkian Foundation	Philanthropic	Y						**2**	X			Supports environment and cultural projects internationally; could be a potential source for education, community or conservation elements of the NAP.
Paul M. Angell Family Foundation	Philanthropic	Y						**2**	X			Funds climate, environmental and social programmes; may support pilot projects or community initiatives relevant to the NAP.
MacArthur Foundation	Philanthropic	Y						**2**	X	X	X	Major funder of environment and systems change; could support policy, research and systemic financing but proposals need to match foundation priorities.
The Lawrence Foundation	Philanthropic	Y	Y		Y			**2**			X	Climate and gender lens. Potential to support 'enhanced waste collection' if it includes composting, to reduce organic waste to landfill and empower waste pickers, many of whom are women.
Equator Initiative (UNDP)	Multilateral ODF				Y			**3**	X		X	Supports community-led solutions to biodiversity and sustainable development; well-suited for funding community waste management and inclusive informal sector integration.
Annenberg Foundation	Philanthropic	Y						**3**				Primarily US-focused philanthropic work in media, education and arts; limited thematic overlap with plastic lifecycle interventions in Guinea-Bissau.
The Lever for Change	Philanthropic	Y						**3**	X	X	X	Makes large philanthropic awards addressing systemic problems; could fund policy change, EPR design or scaling interventions, but typically seeks big, measurable outcomes.

About Common Seas

Common Seas is a social enterprise that drives systemic change, creating partnerships to design and deliver resources and solutions that stop the flow of plastic pollution.
Our programmes are centred on:

- Leading policy changes through partnerships with governments, providing technical expertise and convening the right stakeholders for action.
- Commissioning research and raising awareness of the human health impacts of plastics to inspire and motivate change.
- Empowering and equipping children through their schools, to stop the flow of plastic pollution.

We work with countries that are most affected by plastic, particularly SIDS and developing coastal economies, supporting a just transition to a future freed from plastic pollution.

To find our more, please visit: **www.commonseas.com**

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For more information, please visit: sbe-platform.org.uk/about#sbe-programme

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