

COMPREHENSIVE PROJECT BUDGET REPORT

Project Title: Plastic Crusher & Recycling Plant

Project Cost: ₦20,000,000 (Twenty Million Naira Only)

Prepared For: NASENI (National Agency for Science and Engineering Infrastructure)

Prepared By: The Federal Polytechnic Waste Recycling Hub

Date: October 2025

1.0 OVERVIEW

This budget outlines the total estimated cost of establishing and operating a **Plastic Crusher and Recycling Plant** designed to process post-consumer plastic waste into reusable flakes/pellet. The total project cost of **₦20 million** covers equipment purchase, installation, training, site preparation, and initial operations.

The budget reflects a commitment to **local content**, **technology transfer**, and **sustainable operational capacity** — consistent with NASENI's industrialisation objectives.

2.0 SUMMARY OF BUDGET ALLOCATION

Budget Category	Amount (₦)	% of Total
A. Fixed Assets (Equipment & Machinery)	14,800,000	74%
B. Site & Infrastructure Development	1,200,000	6%
C. Working Capital (6 months)	2,000,000	10%
D. Training & Technology Transfer	800,000	4%
E. Project Management & Admin	700,000	3.5%
F. Contingency (5%)	500,000	2.5%

Budget Category	Amount (₦) % of Total
TOTAL PROJECT COST	₦20,000,000 100%

3.0 DETAILED CAPITAL EXPENDITURE (CAPEX)

A. EQUIPMENT & MACHINERY (₦14,800,000)

Item	Description/Function	Qty	Estimated Cost (₦)
1. Plastic Crusher Machine (1000 kg/hr)	For crushing PET, HDPE, LDPE waste into flakes	1	7,000,000
2. Plastic Washing Line (with friction washer)	Removes impurities and labels from crushed plastics	1	2,500,000
3. Plastic Dryer (spin or hot-air type)	Dries washed flakes to standard moisture content	1	1,500,000
4. Conveyor Belt & Sorting Table	Manual sorting and feeding into crusher	1	800,000
5. Power Generator (60 KVA)	Backup power source for plant operation	1	2,500,000
6. Weighing Scale (industrial grade)	For measuring waste and finished product	1	100,000
7. Packaging & Sealing Equipment	For bagging processed flakes (25–50 kg bags)	1	200,000
8. Workshop Tools & Spare Parts Kit	Basic tools for maintenance	Set	200,000
Subtotal (Equipment)			₦14,800,000

4.0 SITE AND INFRASTRUCTURE DEVELOPMENT (~~₦~~1,200,000)

Item	Description	Estimated Cost (₦)
Factory Space Rent (1 year)	400–500 sqm industrial space	900,000
Electrical Installation & Wiring	Power cabling, control panels	150,000
Plumbing & Water Connection	Water supply for washing line	100,000
Site Preparation & Layout	Minor construction, leveling, flooring	50,000
Subtotal (Infrastructure)		₦1,200,000

5.0 WORKING CAPITAL (~~₦~~2,000,000)

Funds required for initial operations until revenues begin to flow (first 3–6 months).

Item	Purpose	Amount (₦)
Raw Material Procurement	Waste plastic from collectors	600,000
Staff Salaries (first 2 months)	Pre-revenue phase salaries	900,000
Fuel & Power	Diesel and generator servicing	200,000
Logistics & Transportation	Collection and delivery	200,000
Consumables & Packaging	Bags, labels, cleaning chemicals	100,000
Subtotal (Working Capital)		₦2,000,000

6.0 TRAINING & TECHNOLOGY TRANSFER (₦800,000)

This component supports NASENI's focus on local capacity building and knowledge transfer.

Activity	Description	Estimated Cost (₦)
Staff Technical Training	Machine operation, maintenance & safety	300,000
Technology Transfer Support	Liaison with NASENI institute / technical consultant	200,000
Quality Control & Waste Sorting Training	Standards for recyclable flakes	150,000
Health, Safety & Environmental (HSE) Training	Compliance with NESREA & local laws	150,000
Subtotal (Training)		₦800,000

7.0 PROJECT MANAGEMENT & ADMINISTRATION (₦700,000)

Item	Description	Estimated Cost (₦)
Project Supervision & Coordination	Oversight, monitoring, reporting	250,000
Registration, Licensing & Permits	Environmental and business approvals	150,000
Accounting & Bookkeeping Setup	Software, setup of accounting records	100,000
Communication & Publicity	Branding, community engagement	100,000
Insurance Coverage (plant & staff)	Equipment and safety insurance	100,000
Subtotal (Admin)		₦700,000

8.0 CONTINGENCY (₦500,000)

A **5% contingency allowance** is provided to cover unforeseen price fluctuations, foreign exchange variance (for imported components), or installation issues.

Purpose	Amount (₦)
Unforeseen Costs / Price Variation	500,000
Subtotal (Contingency)	₦500,000

9.0 GRAND TOTAL

Category	Total (₦)
Fixed Assets & Equipment	14,800,000
Site & Infrastructure	1,200,000
Working Capital	2,000,000
Training & Technology Transfer	800,000
Project Admin & Management	700,000
Contingency	500,000
TOTAL PROJECT BUDGET	₦20,000,000

10.0 FINANCIAL JUSTIFICATION

- **Investment Amount:** ₦20,000,000
- **Projected Annual Revenue (Year 1):** ₦144,000,000
- **Operating Cost:** ₦34,360,000
- **Gross Profit (Year 1):** ₦109,640,000
- **Return on Investment (ROI):** $\approx 548\%$
- **Payback Period:** Within **12 months** of full operation

- **Breakeven Output:** ~132 tons (achieved in 3 months)

This indicates a **highly viable and sustainable project**, consistent with NASENI's **funding criteria for industrial projects** that combine profitability with environmental and social impact.

11.0 LOCAL CONTENT & VALUE CHAIN IMPACT

- At least **60% of components** (fabrication, assembly, and logistics) will be locally sourced.
- Local technicians will be trained under NASENI's technical supervision.
- Recycled flakes will serve as **raw material for local manufacturers**, reducing import dependency.
- Over **15 direct jobs** and **100+ indirect jobs** will be created through the waste-collection and logistics chain.

12.0 CONCLUSION

This ₦20 million budget is carefully structured to ensure optimal allocation of funds, cost efficiency, and sustainability. The project provides an excellent platform for NASENI to demonstrate effective **technology transfer, local production, and industrial capacity building** within Nigeria's recycling sector.

Partnership or co-funding with NASENI will enable the project to be commissioned within 12 months, achieve breakeven in the first year, and set a replicable model for circular-economy infrastructure nationwide.