PROJECT REPORT

Of

CIGARETTE WASTE PLASTIC PELLETS

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding cigarette waste plastic pellets Manufacturing unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

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PROJECT AT GLANCE

1	**Name of Proprietor/Director**	XXXXXXXX	
2	**Firm Name**	XXXXXXXX	
3	**Registered Address**	XXXXXXXX	
4	**Nature of Activity**	XXXXXXXX	
5	**Category of Applicant**	XXXXXXXX	
6	**Location of Unit**	XXXXXXXX	
7	**Cost of Project**	16.18	Rs. In Lakhs
8	**Means of Finance**		
i)	**Own Contribution**	1.62	Rs. In Lakhs
ii)	**Term Loan**	9.97	Rs. In Lakhs
iii)	**Working Capital**	4.59	Rs. In Lakhs
9	**Debt Service Coverage Ratio**	3.92	
10	**Break Even Point**	38%	
11	**Power Requiremnet**	15	KW
12	**Employment**	10	Persons
13	**Major Raw Materials**	Cigarette butts and biodegradable chemicals	

14 Details of Cost of Project & Means of Finance

Cost of Project **Amount in Lacs**

Particulars	**Amount**
Land and building	Owned/Leased
Plant & Machinery	9.58
Furniture & Fixture	-
Other Misc Assets	1.50
Working Capital Requirement	5.10
Total	**16.18**

Means of Finance

Particulars	**Amount**
Own Contribution	1.62
Term Loan	9.97
Working capital Loan	4.59
Total	**16.18**

1. INTRODUCTION

Every year, trillions of cigarette butts end up in the environment, where they leech nicotine and heavy metals before decomposing into microplastic pollution. Every year, around 6.5 trillio n cigarettes are purchased by smokers all over the world. Every day, that's 18 billion. When a cigarette is smoked, the majority of the guts and paper wrapping dissolve, but not everything is burned. There are billions of cigarette filters—also known as butts or ends—left over, with just about a third of them ending up in the trash. The rest are thrown into the street or out a window carelessly. Because cigarette butts, which are typically thrown on the ground or into common trash, may include cigarette pollutants and chemicals created during combustion, they have been identified as harmful residues. As a result, pollutants in cigarette butts can be washed into surface water by rain, polluting the ecosystem. All leftovers must be disposed of in an environmenta l ly acceptable manner in Brazil, according to the National Policy on Solid Waste. Despite the fact that cigarette butts are not specifically listed in the law, they may be regarded as hazardous waste due to their features. Alkaline pulping was used to develop a cellulose pulp production process from cigarette butts at the University of Brasilia. This method is given as an alternative to a more environmentally responsible final disposal of the residue. A dark liquor is produced throughout the procedure, which was discovered to contain lignin, carbonyls, metals, nicotine, and particular tobacco nitrosamines.

Every year, around 100 billion cigarette butts are discarded in India's landfills. The cigarette filter is constructed of cellulose acetate, a type of non-biodegradable plastic that takes over ten years to totally degrade. As a result, cigarette waste is not only harmful to one's health but also to the environment. When cigarette trash is collected, it is separated: the tobacco that is typically left behind, as well as the paper that covers the cigarette butt, are degraded and used to produce manure, while the filter is recycled through a treatment process. In this process one reuses and reprocesses hard-to-recycle waste, of Cigarette Waste Brigade program, which diverts cigarette butts—along with plastic and foil cigarette packaging—from landfills and uses them to make pallets for industrial shipping. One of the most prevalent methods of developing a regulated and effective plastic recycling process is pelletizing plastic. Recycling operations can be cumbersome and time - consuming. There are several steps of sorting that must be completed. It's a huge problem to turn waste plastic into a feedstock for fresh manufacture. Plastic must be of a homogeneo us composition and size to be used as a feedstock in most manufacturing processes.

2. PRODUCT DESCRIPTION

2.1 PRODUCT USES

These pellets are created from a variety of coloured Polypropylene materials and have a medium density. These, like mixed HDPE pellets, have a wide range of uses, including decking, piping, buckets, plastic furniture, containers, and more.

2.2 MANUFACTURING PROCESS

The paper wrapping of a cigarette burns and disintegrates after use, but the filters, sometimes known as stubs or butts, are discarded on the streets. Only about a third makes it to the trash can, according to reports. Upcycle everything that's left over after a cigarette is smoked to make goods ranging from pillows to soft toys. The group also employs a lot of people as a result of its long-term initiatives. This process can be broken down into the following steps:

- **Raw Material collection-** At first collect cigarette waste from the streets, offices and other places collected in Vbins and in turn ensure the vendors a rate of Rs 250 for a kilo of cigarette butts.

- **Segregation-** The waste, mainly ash, tobacco, paper and the filter, is then separated manually. The paper and tobacco are converted into manure and the filters are treated and then made into cushions, toys and mosquito repellents. The procured cigarette butts are separated into three categories i.e. cellulose acetate, paper covering and leftover tobacco manually with necessary precautionary measures like gloves, masks and thread cutters in place for the workers.
- **Shredding-** The cellulose acetate is shredded by an industrial shredder.
- **Treating-** The shredded cellulose is then treated using a biodegradable chemical composition for 24- 36 hours.
- **Drying-** The cleaned cellulose is then dried for further process.
- **Extrusion-** The filter, which is made of a white synthetic fiber called cellulose acetate, is thoroughly cleaned, melted, and pelletized using a method called extrusion.

 Packaging- The cellulose acetate pellets are then combined with other plastics, such as polyethylene or polypropylene, and used for new plastic products such as ashtrays, shipping pallets, or plastic lumber. Hence, the pellets are packed and supplied for further usage.

3. PROJECT COMPONENTS

3.1 Land & Building

The land required for this manufacturing unit will be approx. around 1500 square feet. Land Purchase and Building Civil Work Cost have not been considered as part of the cost of project. It is expected that the premises will be on rental and approximate rentals assumed of the same will be Rs.25,000 per month.

- Workshop Area- This area includes the setup and foundation space for all equipment's, work floor area, etc. Total workshop area is approx.800 Sqft.
- Inventory Area- This area includes the storage space for all the raw materials and finished goods. Total inventory area is approx. 400 Sqft.
- Office Area – This space includes staff working region, their accommodation space. Total workshop area is approx. 200 Sqft. This may be considered above the ground floor.
- Parking Space, Electric Mounting Space, and Others. This could be approx. 100 Sqft.
-

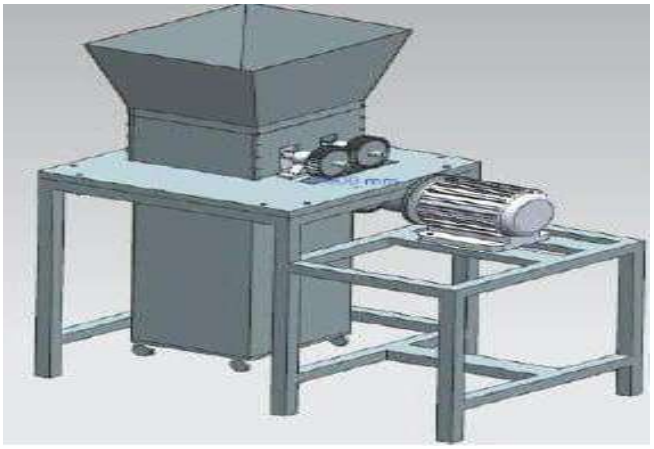
Land and building requirement may vary depending on the size of project.

3.2 Plant & Machinery

- **Fiber Cleaning Machine:** It is the initial stage of processing fibre and it removes wastesseparately and pure fibres are used for next process.

- **Centrifugal Dryer:** A centrifugal dryer is used to remove excess water, oils, rinses or paints from the processed workpieces.

- **Shredder Machine:** A shredder is a machine that facilitates the shredding of articles into small pieces so that they are useless and unreadable.



- **Pelletizing Extruder:** Pelletizing Extruders can be outfitted with almost any die set up, including pellet die, and can be used for high volume production up to 30 tons per hour.

Additional Machinery:

- **Weighing machine**
- **Conveyors**

Machine	Quantity	Price
Fiber Cleaning Machine	1	85,000
Centrifugal Dryer	1	1,50,000
Shredder Machine	1	2,23,000
Pelletizing Extruder	1	5,00,000
TOTAL		**9,58,000**

Note: Total Machinery cost shall be Rs 9.58 lakhs (Approx.) including GST and Transportation Cost.

4 LICENSE & APPROVALS

Basic registration required in this project:

- MSME Udyam registration
- GST registration
- NOC for fire safety board
- NOC from Pollution Control Board
- Trade License
- Factory License (Optional)
- Import/Export License (Optional)
- Choice of a Brand Name of the product and secure the name with Trademark if required.

6.3 Projected Profitability

PROJECTED PROFITABILITY STATEMENT					(in Lacs)
PARTICULARS	**1st year**	**2nd year**	**3rd year**	**4th year**	**5th year**
Capacity Utilisation %	**55%**	**60%**	**65%**	**70%**	**75%**
SALES					
Gross Sale					
Plastic Pellets	60.33	70.71	80.35	90.57	102.44
By Product	0.18	0.22	0.23	0.25	0.27
Total	**60.51**	**70.93**	**80.59**	**90.82**	**102.71**
COST OF SALES					
Raw Material Consumed	31.68	36.29	41.18	46.37	51.84
Electricity Expenses	1.58	1.73	1.87	2.02	2.16
Depreciation	1.66	1.41	1.20	1.02	0.87
Wages & labour	8.28	9.11	10.20	11.43	13.14
Repair & maintenance	1.21	1.42	1.61	1.82	2.05
Packaging	1.39	2.13	2.74	3.18	3.59
Cost of Production	45.81	52.08	58.81	65.82	73.66
Add: Opening Stock	-	1.07	1.22	1.37	1.54
Less: Closing Stock	1.07	1.22	1.37	1.54	1.72
Cost of Sales	44.74	51.94	58.65	65.66	73.47
GROSS PROFIT	**15.77**	**18.99**	**21.93**	**25.16**	**29.24**
	26.07%	**26.77%**	**27.22%**	**27.70%**	**28.47%**
Salary to Staff	4.38	5.04	5.64	6.21	7.32
Interest on Term Loan	0.98	0.86	0.62	0.38	0.13
Interest on working Capital	0.51	0.51	0.51	0.51	0.51
Rent	3.00	3.45	3.97	4.56	5.25
Selling & Administrative Exp.	1.82	2.13	2.42	2.72	3.08
TOTAL	**10.68**	**11.98**	**13.15**	**14.37**	**16.29**
NET PROFIT	5.09	7.01	8.78	10.79	12.95
	8.42%	**9.88%**	**10.90%**	**11.88%**	**12.61%**
Taxation	0.02	0.42	0.79	0.56	1.23
PROFIT (After Tax)	5.07	6.59	8.00	10.23	11.72

6.4 Projected Balance Sheet

PROJECTED BALANCE SHEET					**(in Lacs)**
PARTICULARS	**1st year**	**2nd year**	**3rd year**	**4th year**	**5th year**
Liabilities					
Capital					
Opening balance		3.29	4.48	6.28	8.20
Add:- Own Capital	1.62				
Add:- Retained Profit	5.07	6.59	8.00	10.23	11.72
Less:- Drawings	3.40	5.40	6.20	8.30	9.40
Closing Balance	**3.29**	**4.48**	**6.28**	**8.20**	**10.52**
Term Loan	8.86	6.65	4.43	2.22	-
Working Capital Limit	4.59	4.59	4.59	4.59	4.59
Sundry Creditors	1.06	1.21	1.37	1.55	1.73
Provisions & Other Liability	0.40	0.48	0.58	0.80	0.96
TOTAL :	**18.20**	**17.41**	**17.25**	**17.36**	**17.80**
Assets					
Fixed Assets (Gross)	11.08	11.08	11.08	11.08	11.08
Gross Dep.	1.66	3.07	4.28	5.30	6.16
Net Fixed Assets	**9.42**	**8.01**	**6.80**	**5.78**	**4.92**
Current Assets					
Sundry Debtors	4.03	4.73	5.37	6.05	6.85
Stock in Hand	2.12	2.42	2.75	3.08	3.45
Cash and Bank	0.13	0.15	0.13	0.14	0.19
Loans & Advances /Other Current Assets	2.50	2.10	2.20	2.30	2.40
TOTAL :	**18.20**	**17.41**	**17.25**	**17.36**	**17.80**

6.5 Projected Cash Flow Statement

PROJECTED CASH FLOW STATEMENT					**(in Lacs)**
PARTICULARS	**1st year**	**2nd year**	**3rd year**	**4th year**	**5th year**
SOURCES OF FUND					
Own Margin	1.62				
Net Profit	5.09	7.01	8.78	10.79	12.95
Depreciation & Exp. W/off	1.66	1.41	1.20	1.02	0.87
Increase in Cash Credit	4.59	-	-	-	-
Increase In Term Loan	9.97	-	-	-	-
Increase in Creditors	1.06	0.15	0.16	0.17	0.18
Increase in Provisions & Oth labilities	0.40	0.08	0.10	0.22	0.16
	-				
TOTAL :	**24.39**	**8.65**	**10.24**	**12.20**	**14.16**
APPLICATION OF FUND					
Increase in Fixed Assets	11.08				
Increase in Stock	2.12	0.30	0.32	0.34	0.37
Increase in Debtors	4.03	0.69	0.64	0.68	0.79
Repayment of Term Loan	1.11	2.22	2.22	2.22	2.22
Loans & Advances /Other Current Assets	2.50	- 0.40	0.10	0.10	0.10
Drawings	3.40	5.40	6.20	8.30	9.40
Taxation	0.02	0.42	0.79	0.56	1.23
TOTAL :	**24.27**	**8.63**	**10.27**	**12.19**	**14.11**
Opening Cash & Bank Balance	-	0.13	0.15	0.13	0.14
Add : Surplus	0.13	0.03	(0.02)	0.01	0.05
Closing Cash & Bank Balance	**0.13**	**0.15**	**0.13**	**0.14**	**0.19**

6.6 DSCR

CALCULATION OF D.S.C.R					
PARTICULARS	**1st year**	**2nd year**	**3rd year**	**4th year**	**5th year**
CASH ACCRUALS	6.74	8.00	9.20	11.25	12.58
Interest on Term Loan	0.98	0.86	0.62	0.38	0.13
Total	7.72	8.87	9.82	11.63	12.72
REPAYMENT					
Instalment of Term Loan	1.11	2.22	2.22	2.22	2.22
Interest on Term Loan	0.98	0.86	0.62	0.38	0.13
Total	2.09	3.08	2.84	2.59	2.35
DEBT SERVICE COVERAGE RATIO	**3.70**	**2.88**	**3.46**	**4.49**	**5.42**
AVERAGE D.S.C.R.					**3.92**

6.14 Repayment schedule

REPAYMENT SCHEDULE OF TERM LOAN							
					Interest		11.00%
Year	**Particulars**	**Amount**	**Addition**	**Total**	**Interest**	**Repayment**	**Closing Balance**
1st	Opening Balance						
	1st month	-	9.97	9.97	-	-	9.97
	2nd month	9.97	-	9.97	0.09	-	9.97
	3rd month	9.97	-	9.97	0.09	-	9.97
	4th month	9.97	-	9.97	0.09		9.97
	5th month	9.97	-	9.97	0.09		9.97
	6th month	9.97	-	9.97	0.09		9.97
	7th month	9.97	-	9.97	0.09	0.18	9.79
	8th month	9.79	-	9.79	0.09	0.18	9.60
	9th month	9.60	-	9.60	0.09	0.18	9.42
	10th month	9.42	-	9.42	0.09	0.18	9.23
	11th month	9.23	-	9.23	0.08	0.18	9.05
	12th month	9.05	-	9.05	0.08	0.18	8.86
					0.98	**1.11**	
2nd	Opening Balance						
	1st month	8.86	-	8.86	0.08	0.18	8.68
	2nd month	8.68	-	8.68	0.08	0.18	8.49
	3rd month	8.49	-	8.49	0.08	0.18	8.31
	4th month	8.31	-	8.31	0.08	0.18	8.13
	5th month	8.13	-	8.13	0.07	0.18	7.94
	6th month	7.94	-	7.94	0.07	0.18	7.76

	7th month	7.76	-	7.76	0.07	0.18	7.57
	8th month	7.57	-	7.57	0.07	0.18	7.39
	9th month	7.39	-	7.39	0.07	0.18	7.20
	10th month	7.20	-	7.20	0.07	0.18	7.02
	11th month	7.02	-	7.02	0.06	0.18	6.83
	12th month	6.83	-	6.83	0.06	0.18	6.65
					0.86	**2.22**	
3rd	Opening Balance						
	1st month	6.65	-	6.65	0.06	0.18	6.46
	2nd month	6.46	-	6.46	0.06	0.18	6.28
	3rd month	6.28	-	6.28	0.06	0.18	6.09
	4th month	6.09	-	6.09	0.06	0.18	5.91
	5th month	5.91	-	5.91	0.05	0.18	5.72
	6th month	5.72	-	5.72	0.05	0.18	5.54
	7th month	5.54	-	5.54	0.05	0.18	5.36
	8th month	5.36	-	5.36	0.05	0.18	5.17
	9th month	5.17	-	5.17	0.05	0.18	4.99
	10th month	4.99	-	4.99	0.05	0.18	4.80
	11th month	4.80	-	4.80	0.04	0.18	4.62
	12th month	4.62	-	4.62	0.04	0.18	4.43
					0.62	**2.22**	
4th	Opening Balance						
	1st month	4.43	-	4.43	0.04	0.18	4.25
	2nd month	4.25	-	4.25	0.04	0.18	4.06
	3rd month	4.06	-	4.06	0.04	0.18	3.88

	4th month	3.88	-	3.88	0.04	0.18	3.69
	5th month	3.69	-	3.69	0.03	0.18	3.51
	6th month	3.51	-	3.51	0.03	0.18	3.32
	7th month	3.32	-	3.32	0.03	0.18	3.14
	8th month	3.14	-	3.14	0.03	0.18	2.95
	9th month	2.95	-	2.95	0.03	0.18	2.77
	10th month	2.77	-	2.77	0.03	0.18	2.59
	11th month	2.59	-	2.59	0.02	0.18	2.40
	12th month	2.40	-	2.40	0.02	0.18	2.22
					0.38	**2.22**	
5th	Opening Balance						
	1st month	2.22	-	2.22	0.02	0.18	2.03
	2nd month	2.03	-	2.03	0.02	0.18	1.85
	3rd month	1.85	-	1.85	0.02	0.18	1.66
	4th month	1.66	-	1.66	0.02	0.18	1.48
	5th month	1.48	-	1.48	0.01	0.18	1.29
	6th month	1.29	-	1.29	0.01	0.18	1.11
	7th month	1.11	-	1.11	0.01	0.18	0.92
	8th month	0.92	-	0.92	0.01	0.18	0.74
	9th month	0.74	-	0.74	0.01	0.18	0.55
	10th month	0.55	-	0.55	0.01	0.18	0.37
	11th month	0.37	-	0.37	0.00	0.18	0.18
	12th month	0.18	-	0.18	0.00	0.18	-
					0.13	**2.22**	
	DOOR TO DOOR	60	MONTHS				
	MORATORIUM PERIOD	6	MONTHS				
	REPAYMENT PERIOD	54	MONTHS				

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