PROJECT REPORT

Of

WOOD RECYCLING

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Wood Recycling**.

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 A GLANCE

1	Name of the Entreprenuer		xxxxxxxxxx	
2	Constitution (legal Status)		xxxxxxxxxx	
3	Father / Spouse Name		xxxxxxxxxxxx	
4	Unit Address	:	xxxxxxxxxxxxxxxxxxxxxxx	
			District : xxxxxxx	
			Pin: xxxxxxx	State: xxxxxxxxxx
			Mobile xxxxxxx	
5	Product and By Product	:	**RECYCLED WOOD**	
6	Name of the project / business activity proposed :		**WOOD RECYCLING UNIT**	
7	Cost of Project	:	Rs.38.67 Lakhs	
8	Means of Finance			
	Term Loan		Rs.28.8 Lakhs	
	Own Capital		Rs.3.87 Lakhs	
	Working Capital		Rs.6 Lakhs	
9	Debt Service Coverage Ratio	:	2.29	
10	Pay Back Period	:	5	Years
11	Project Implementation Period	:	5-6	Months
12	Break Even Point	:	33%	
13	Employment	:	9	Persons
14	Power Requirement	:	30.00	HP
15	Major Raw materials	:	Waste Wood, Consumables(Adhesive, nails,etc.)	
16	Estimated Annual Sales Turnover (Max Capacity)	:	159.03	Lakhs
17	Detailed Cost of Project & Means of Finance			

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Plant & Machinery	30.00
Furniture & Fixtures	2.00
Working Capital	6.67
Total	**38.67**

MEANS OF FINANCE

Particulars	Amount
Own Contribution	3.87
Working Capital(Finance)	6.00
Term Loan	28.80
Total	**38.67**

WOOD RECYLING

Introduction: Wood recycling or Timber recycling is the process of turning waste wood into usable products. Recycling timber is a practice that was popularized in the early 1990s as issues such as deforestation and climate change prompted both timber suppliers and consumers to turn to a more sustainable timber source. Recycling timber is environment friendly form of timber production and is very common in countries such as Australia and New Zealand where supplies of old wooden structures are plentiful. Timber can be chipped down into wood chips which can be used to power homes or power plants. In the landfill wood is a wasted resource. Wood can be reused as building material, recycled into mulch for landscaping or pulp for paper production and used beneficially as a fuel. Reusing and recycling wood reduces the need to cut down trees.

Uses & Market Potential: Wood can be reused as building material, recycled into mulch for landscaping or pulp for paper production and used beneficially as a fuel. Reusing and recycling wood reduces the need to cut down trees.

In terms of application, the global wood recycling market has been segmented into wood panels, energy generation, and others which include landscaping products, animal bedding, furniture, pulp, coal making, etc. Increasing demand for plywood globally, is

increasing the overall demand for recycled wood into wood panel manufacturing. Recyclable wood can come from numerous sources like construction waste, industrial waste, pallets, junk furniture, tree trimming, etc. More common woods are Oak, Cedar, Maple, Cherry, etc. These woods are ideal for manufacturing furniture and pallets. Pallet recycling is big business for many companies. Almost every truck freighted item in this country is shipped on a pallet; therefore the market for used pallets and pallet disposal is huge.

Raw material: Raw material that is used is waste Wood (Small Blocks, Chips, Saw Dust), and other consumables (Adhesives, Nails, etc.)
Average rate per (Kg) waste wood is Rs 2.5 to 5

Machinery Requirements: Following machinery are required for automatic wood recycling Unit:

1. Waste Separator
2. Shredder
3. Conveyor Belt
4. Grinder
5. Hopper
6. Compression Molding machine
7. Other equipments and hand tools

Average machine cost for wood recycling unit will be Rs 30 Lac (Approx)

Manufacturing Process: Wood recycling is the process by which clean waste wood, containing no contaminants or hazardous materials such as glue, lead paint, asbestos or creosote, are ground into chips and used to make new products.
Wood that is recycled is diverted from landfills, reducing the number of new landfill sites that must be created. The process is straightforward.
Load waste wood containing rock, soil or metal into the hopper allowing it to be moved by conveyor into the trommel screen where small pieces drop through and large pieces drop into a water bath.
Separate wood floating in the water bath using an upper conveyor belt partially positioned below the surface of the water. Transport the floating

wood by conveyor to the front of the classifier.
Move, by means of a lower conveyor, the heavier waterlogged wood and rock from the bottom of the wood bath and transport it to the rear of the classifier for disposal.
Pick up the wood from the front of the classifier using a front end loader.
Expose the wood to industrial magnets to separate any metal from the mix.
Move the material to the tub grinder, horizontal grinder or wood chipper.
Grind the wood into chips to be sold for use in particle board, chipboard, pulp and paper products, animal bedding, mulch, biomass fuel and compost.

Area: The industrial setup requires space for Inventory, workshop or manufacturing area, space for power supply utilities and auxiliary like Generator setup. Also some of the area of building is required for office staff facilities, documentation, office furniture, etc. Thus, the approximate total area required for complete industrial setup is 2500 to 3000Sqft.

Power Requirement: The power consumption required to run all the machinery could be approximated as 30 Hp

Manpower Requirement: There are requirement of skilled machine operators to run the machine set. Experience quality engineers are required for desired quality control. Some helpers are also required to transfer the material from one work station to other. Office staffs are required to maintain the documentation. The approximate manpower required is 9 including 1 Supervisor, 1 Plant operator, 2 unskilled worker, 1 Helper and 1 Security guard. 3 Skilled worker including Accountant, Manager and Sales person.

Bank Term Loan: Rate of Interest is assumed to be at 11%

Depreciation: Depreciation has been calculated as per the Provisions of Income Tax Act, 1961

Approvals & Registration Requirement:

Basic registration required in this project:

- GST Registration
- Udyog Aadhar Registration (Optional)
- Choice of a Brand Name of the product and secure the name with Trademark if require.
- NOC from State Pollution Control Board

Implementation Schedule:

S No.	Activity	Time required
1.	Acquisition of premises	1-2 Months
2.	Procurement & installation of Plant & Machinery	1-2 Months
3.	Arrangement of Finance	1.5-2 Months
4.	Requirement of required Manpower	1 Month
5.	Commercial Trial Runs	1 Month
	Total time Required (some activities shall run concurrently)	5-6 Months

FINANCIALS

PROJECTED BALANCE SHEET					
PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	4.39	9.41	15.51	22.10
Add: Additions	3.87	-	-	-	-
Add: Net Profit	3.03	8.02	12.10	16.59	20.38
Less: Drawings	2.50	3.00	6.00	10.00	13.00
Closing Balance	4.39	9.41	15.51	22.10	29.48
CC Limit	6.00	6.00	6.00	6.00	6.00
Term Loan	25.60	19.20	12.80	6.40	-
Sundry Creditors	1.50	1.98	2.59	3.20	3.86
TOTAL :	**37.49**	**36.59**	**36.90**	**37.70**	**39.34**
APPLICATION OF FUND					
Fixed Assets (Gross)	32.00	32.00	32.00	32.00	32.00
Gross Dep.	4.70	8.71	12.12	15.03	17.51
Net Fixed Assets	27.30	23.30	19.88	16.97	14.49
Current Assets					
Sundry Debtors	4.18	5.69	7.17	8.81	10.60
Stock in Hand	4.31	5.63	7.18	8.83	10.65
Cash and Bank	1.71	1.98	2.67	3.08	3.60
TOTAL :	**37.49**	**36.59**	**36.90**	**37.70**	**39.34**

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PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	62.70	85.41	107.55	132.09	159.03
Total (A)	**62.70**	**85.41**	**107.55**	**132.09**	**159.03**
B) COST OF SALES					
Raw Material Consumed	30.00	39.60	51.84	63.96	77.28
Elecricity Expenses	2.28	2.51	2.74	2.97	3.20
Repair & Maintenance	3.14	4.70	5.38	6.60	7.95
Labour & Wages	10.21	12.25	14.70	17.64	21.16
Depreciation	4.70	4.01	3.41	2.91	2.48
Cost of Production	50.32	63.06	78.07	94.08	112.07
Add: Opening Stock /WIP	-	2.81	3.65	4.59	5.64
Less: Closing Stock /WIP	2.81	3.65	4.59	5.64	6.78
Cost of Sales (B)	47.52	62.22	77.12	93.03	110.92
C) GROSS PROFIT (A-B)	15.18	23.19	30.43	39.06	48.11
	24.21%	**27.15%**	**28.29%**	**29.57%**	**30.25%**
D) Bank Interest (Term Loan)	3.12	2.55	1.85	1.14	0.44
ii) Interest On Working Capital	0.66	0.66	0.66	0.66	0.66
E) Salary to Staff	6.80	8.51	10.46	12.55	15.06
F) Selling & Adm Expenses Exp.	1.57	2.56	3.23	3.96	4.77
TOTAL (D+E)	**12.16**	**14.28**	**16.20**	**18.32**	**20.93**
H) NET PROFIT	3.03	8.91	14.23	20.74	27.17
	4.8%	**10.4%**	**13.2%**	**15.7%**	**17.1%**
I) Taxation	-	0.89	2.13	4.15	6.79
J) PROFIT (After Tax)	3.03	8.02	12.10	16.59	20.38

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	3.87	-			
Reserve & Surplus	3.03	8.91	14.23	20.74	27.17
Depriciation & Exp. W/off	4.70	4.01	3.41	2.91	2.48
Increase In Cash Credit	6.00				
Increase In Term Loan	28.80	-	-	-	-
Increase in Creditors	1.50	0.48	0.61	0.61	0.67
TOTAL :	**47.89**	**13.40**	**18.26**	**24.25**	**30.32**
APPLICATION OF FUND					
Increase in Fixed Assets	32.00	-	-	-	-
Increase in Stock	4.31	1.32	1.56	1.65	1.81
Increase in Debtors	4.18	1.51	1.48	1.64	1.80
Repayment of Term Loan	3.20	6.40	6.40	6.40	6.40
Taxation	-	0.89	2.13	4.15	6.79
Drawings	2.50	3.00	6.00	10.00	13.00
TOTAL :	**46.19**	**13.13**	**17.57**	**23.83**	**29.80**
Opening Cash & Bank Balance	-	1.71	1.98	2.67	3.08
Add : Surplus	1.71	0.27	0.69	0.42	0.52
Closing Cash & Bank Balance	**1.71**	**1.98**	**2.67**	**3.08**	**3.60**

COMPUTATION OF MAKING OF RECYCLED WOOD			
Item to be Manufactured Recycled Wood			
Manufacturing Capacity per day		8000	Kg
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		24,00,000	Kg
Total Production per Annum		24,00,000	Kg
Year		Capacity	RECYCLED WOOD
		Utilisation	
I		50%	12,00,000.00
II		55%	13,20,000.00
III		60%	14,40,000.00
IV		65%	15,60,000.00
V		70%	16,80,000.00

Raw Material Consumed	Capacity Utilisation	Rate per Kg	Amount (Rs.)
I	50%	2.50	30.00
II	55%	3.00	39.60
III	60%	3.60	51.84
IV	65%	4.10	63.96
V	70%	4.60	77.28

COMPUTATION OF SALE					
Particulars	**I**	**II**	**III**	**IV**	**V**
Op Stock	-	60,000.00	66,000.00	72,000.00	78,000.00
Production	12,00,000.00	13,20,000.00	14,40,000.00	15,60,000.00	16,80,000.00
	12,00,000.00	13,80,000.00	15,06,000.00	16,32,000.00	17,58,000.00
Less : Closing Stock(15 Days)	60,000.00	66,000.00	72,000.00	78,000.00	84,000.00
Net Sale	11,40,000.00	13,14,000.00	14,34,000.00	15,54,000.00	16,74,000.00
Sale Price per Kg	5.50	6.50	7.50	8.50	9.50
Sale (in Lacs)	**62.70**	**85.41**	**107.55**	**132.09**	**159.03**

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	I	II	III	IV	V
Finished Goods					
(15 Days requirement)	2.81	3.65	4.59	5.64	6.78
Raw Material					
(15 Days requirement)	1.50	1.98	2.59	3.20	3.86
Closing Stock	**4.31**	**5.63**	**7.18**	**8.83**	**10.65**

COMPUTATION OF WORKING CAPITAL REQUIREMENT			
Particulars	**Amount**	**Margin(10%)**	**Net Amount**
Stock in Hand	4.31		
Less:			
Sundry Creditors	1.50		
Paid Stock	**2.81**	**0.28**	**2.52**
Sundry Debtors	4.18	0.42	3.76
Working Capital Requirement			**6.29**
Margin			0.70
MPBF			**6.29**
Working Capital Demand			**6.00**

BREAK UP OF LABOUR				
Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Supervisor		25,000.00	1	25,000.00
Plant Operator		18,000.00	1	18,000.00
Unskilled Worker		12,000.00	2	24,000.00
Helper		8,000.00	1	8,000.00
Security Guard		6,000.00	1	6,000.00
				81,000.00
Add: 5% Fringe Benefit				4,050.00
Total Labour Cost Per Month				85,050.00
Total Labour Cost for the year (In Rs. Lakhs)			6	10.21

BREAK UP OF SALARY				
Particulars		Salary	No of	Total
		Per Month	Employees	Salary
Manager		20,000.00	1	20,000.00
Accountant cum store keeper		18,000.00	1	18,000.00
Sales		16,000.00	1	16,000.00
Total Salary Per Month				54,000.00
Add: 5% Fringe Benefit				2,700.00
Total Salary for the month				56,700.00
Total Salary for the year (In Rs. Lakhs)			3	6.80

COMPUTATION OF DEPRECIATION				
Description	Land	Plant & Machinery	Furniture	**TOTAL**
Rate of Depreciation		**15.00%**	**10.00%**	
Opening Balance	Leased	-	-	-
Addition	-	30.00	2.00	32.00
	-	30.00	2.00	32.00
		-	-	
TOTAL		30.00	2.00	32.00
Less : Depreciation	-	4.50	0.20	4.70
WDV at end of Ist year	-	25.50	1.80	27.30
Additions During The Year	-	-	-	-
	-	25.50	1.80	27.30
Less : Depreciation	-	3.83	0.18	4.01
WDV at end of IInd Year	-	21.68	1.62	23.30
Additions During The Year	-	-	-	-
	-	21.68	1.62	23.30
Less : Depreciation	-	3.25	0.16	3.41
WDV at end of IIIrd year	-	18.42	1.46	19.88
Additions During The Year	-	-	-	-
	-	18.42	1.46	19.88
Less : Depreciation	-	2.76	0.15	2.91
WDV at end of IV year	-	15.66	1.31	16.97
Additions During The Year	-	-	-	-
	-	15.66	1.31	16.97
Less : Depreciation	-	2.35	0.13	2.48
WDV at end of Vth year	-	13.31	1.18	14.49

REPAYMENT SCHEDULE OF TERM LOAN						11.0%	
Year	**Particulars**	**Amount**	**Addition**	**Total**	**Interest**	**Repayment**	**Cl Balance**
I	Opening Balance						
	Ist Quarter		28.80	28.80	0.79	-	28.80
	Iind Quarter	28.80	-	28.80	0.79	-	28.80
	IIIrd Quarter	28.80	-	28.80	0.79	1.60	27.20
	Ivth Quarter	27.20	-	27.20	0.75	1.60	25.60
					3.12	3.20	
II	Opening Balance						
	Ist Quarter	25.60	-	25.60	0.70	1.60	24.00
	Iind Quarter	24.00	-	24.00	0.66	1.60	22.40
	IIIrd Quarter	22.40	-	22.40	0.62	1.60	20.80
	Ivth Quarter	20.80		20.80	0.57	1.60	19.20
					2.55	6.40	
III	Opening Balance						
	Ist Quarter	19.20	-	19.20	0.53	1.60	17.60
	Iind Quarter	17.60	-	17.60	0.48	1.60	16.00
	IIIrd Quarter	16.00	-	16.00	0.44	1.60	14.40
	Ivth Quarter	14.40		14.40	0.40	1.60	12.80
					1.85	6.40	
IV	Opening Balance						
	Ist Quarter	12.80	-	12.80	0.35	1.60	11.20
	Iind Quarter	11.20	-	11.20	0.31	1.60	9.60
	IIIrd Quarter	9.60	-	9.60	0.26	1.60	8.00
	Ivth Quarter	8.00		8.00	0.22	1.60	6.40
					1.14	6.40	
V	Opening Balance						
	Ist Quarter	6.40	-	6.40	0.18	1.60	4.80
	Iind Quarter	4.80	-	4.80	0.13	1.60	3.20
	IIIrd Quarter	3.20	-	3.20	0.09	1.60	1.60
	Ivth Quarter	1.60		1.60	0.04	1.60	- 0.00
					0.44	6.40	

Door to Door Period	60	Months
Moratorium Period	6	Months
Repayment Period	54	Months

CALCULATION OF D.S.C.R					
PARTICULARS	**I**	**II**	**III**	**IV**	**V**
CASH ACCRUALS	7.73	12.02	15.51	19.50	22.86
Interest on Term Loan	3.12	2.55	1.85	1.14	0.44
Total	10.85	14.58	17.36	20.64	23.30
REPAYMENT					
Repayment of Term Loan	3.20	6.40	6.40	6.40	6.40
Interest on Term Loan	3.12	2.55	1.85	1.14	0.44
Total	6.32	8.95	8.25	7.54	6.84
DEBT SERVICE COVERAGE RATIO	**1.72**	**1.63**	**2.10**	**2.74**	**3.41**
AVERAGE D.S.C.R.			**2.29**		

COMPUTATION OF ELECTRICITY				
(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	30	
Load Factor			0.7460	
Electricity Charges		per unit	7.50	
Total Working Days			300	
Electricity Charges				4,02,840.00
Add : Minimim Charges (@ 10%)				
(B) DG set				
No. of Working Days			300	days
No of Working Hours			0.3	Hour per day
Total no of Hour			90	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			720	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			0.47	
Add : Lube Cost @15%			0.07	
Total			**0.54**	
Total cost of Power & Fuel at 100%				4.57
Year		**Capacity**		**Amount**
				(in Lacs)
I		50%		2.28
II		55%		2.51
III		60%		2.74
IV		65%		2.97
V		70%		3.20

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