



AN ISO 9001 : 2015 CERTIFIED COMPANY

Detailed project report

Sample edition

Projections from FY 2027-28

Project report

E Waste Recycling

Installed capacity 5.4 MT per day

Sector Recycling

Total project cost ₹656.10 lakh

Illustrative sample
Figures are representative

E Waste Recycling
5.4 MT per day

Project at a glance

Product	E Waste Recycling	Sector	Recycling
Installed capacity	5.4 MT per day	Annual capacity	1,782 MT per year
Selling price (ex-GST)	₹75,600 per MT	Working days	330 a year
Manpower	52 people	Plant and machinery	₹301.72 lakh
Total project cost	₹656.10 lakh	Promoter's contribution	₹164.02 lakh (25%)
Term loan	₹492.08 lakh (75%)	Cash credit limit	₹93.37 lakh
Revenue, Year 3	₹943.03 lakh at 70%	Net profit, Year 3	₹106.77 lakh
Return on investment	16.3% a year	Break-even, Year 3	43.7% of capacity
Average DSCR	1.51	Payback period	4.3 years

This is an illustrative sample. Its figures are generated from industry-typical ratios to show the format and depth of an NPCS project report. They are not taken from any NPCS report or any real project, and should not be used for investment or lending decisions.

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1 Introduction

The project modelled here is a unit producing e waste recycling in the recycling sector, sized at 5.4 MT per day. Working 330 days a year, the plant can turn out 1,782 MT per year at full capacity. The product's applications range from metal refiners to scrap traders.

Each section follows the layout of a bank-format project report: project cost, means of finance, working capital, profitability, cash flow, balance sheet, debt service and break-even. In Year 3, running at 70% of capacity, the model unit sells ₹943.03 lakh worth of e waste recycling and keeps ₹106.77 lakh as net profit.

2 Uses and applications

Demand for the product comes mainly from the following uses:

- Metal refiners
- Plastic recyclers
- Electronics brands under producer responsibility
- Scrap traders

3 Market potential

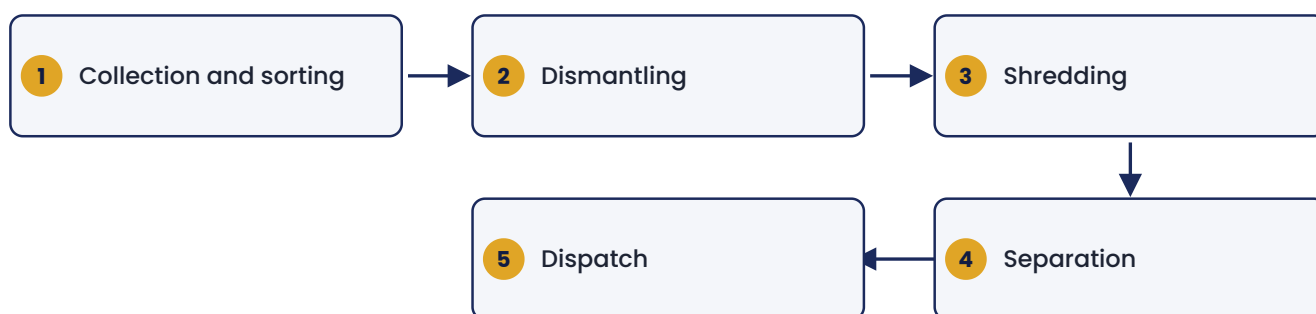
Electronics producers must meet yearly recycling targets under the E-Waste (Management) Rules, 2022, and they do it by buying EPR certificates that only registered recyclers can generate on the CPCB portal. A registered unit therefore earns from two streams: sale of recovered copper, aluminium, iron, plastics and circuit board fractions, and EPR certificates backed by verified end products. Capacity use depends on steady feedstock from bulk consumers, aggregators and producer take-back channels more than on the machines.

Sales are typically made to copper and aluminium refiners and smelters, precious metal refiners buying circuit board fractions, registered plastic recyclers, steel melters and scrap processors, and electronics producers buying EPR certificates.

Because demand and competition vary from one district to the next, the market section of a full report is prepared for the promoter's chosen location, with a list of existing manufacturers.

4 Manufacturing process

The plant converts raw materials into finished e waste recycling in five steps, shown in the flow chart and described below.



Process flow for e waste recycling

- 1 Collection and sorting.** E-waste is received, weighed and sorted.
- 2 Dismantling.** Items are taken apart and hazardous parts removed.
- 3 Shredding.** Boards and casings are shredded.
- 4 Separation.** Metals and plastics are separated by magnets and eddy current.
- 5 Dispatch.** Recovered metals and plastics are sold to recyclers.

5 Raw materials

The plant uses collected e-waste and chemicals and consumables. Raw material purchases in Year 3 are estimated at ₹414.31 lakh, which is 43.9% of sales. The split by material is shown below.

Raw material	Share of cost	Year 3 cost (₹ lakh)
Collected e-waste	85.0%	352.16
Chemicals and consumables	15.0%	62.15
Total raw materials	100.0%	414.31

6 Plant and machinery

Plant and machinery accounts for ₹301.72 lakh of the project cost. The shredder takes the largest share, and the other items and their indicative costs are listed below.

Machinery and equipment	Indicative cost (₹ lakh)
Manual dismantling stations	36.21
Shredder	75.43
Magnetic and eddy current separators	75.43
Granulator	45.26
Dust collection system	39.22
Weighbridge	30.17
Total plant and machinery	301.72

7 Land, building and utilities

The model includes land and site development of ₹90.46 lakh and building and civil works of ₹161.48 lakh, covering the production shed, raw material and finished goods stores, and an office. Other fixed assets such as electrification, furniture, laboratory equipment and a DG set add ₹32.92 lakh.

Power and fuel cost ₹99.89 lakh in Year 3, about 10.6% of sales. Water is needed for cleaning, domestic use and, where the process calls for it, production.

8 Manpower

Staffing for the model unit is 52 people, at a Year 1 cost of ₹96.96 lakh. Wages are escalated by 5% each year in the projections.

Category	Number	Monthly wage (₹)	Annual cost (₹ lakh)
Management, supervision and administration	8	27,000	25.92
Skilled workers and operators	18	17,000	36.72
Semi-skilled and unskilled workers	26	11,000	34.32
Total (Year 1)	52		96.96

9 Licences and approvals

The main registrations and approvals for a unit like this are listed below. They differ from state to state, so check the current requirements with the relevant departments.

- Udyam (MSME) registration
- GST registration
- Consent to establish and consent to operate from the State Pollution Control Board
- Factory licence or registration under the applicable labour law, where the workforce threshold applies
- Fire safety NOC, where required
- Trade licence from the local body
- Registration as an e-waste recycler on the CPCB EPR portal under the E-Waste (Management) Rules, 2022
- Authorisation under the Hazardous and Other Wastes Rules, 2016 from the State Pollution Control Board

10 Project cost and means of finance

The total cost of the project is ₹656.10 lakh. Fixed assets account for ₹609.74 lakh, and the balance covers preliminary and pre-operative expenses and the promoter's margin money for working capital. A contingency of 5% is provided on building and machinery.

Cost of project	₹ lakh
Land and site development	90.46
Building and civil works	161.48
Plant and machinery	301.72
Other fixed assets (electrification, furniture, lab equipment, DG set)	32.92
Contingencies	23.16
Preliminary and pre-operative expenses	15.24
Margin money for working capital	31.12
Total cost of project	656.10

Means of finance

The promoter contributes ₹164.02 lakh (25% of project cost) and a term loan funds the remaining ₹492.08 lakh. Working capital is supported by a cash credit limit of ₹93.37 lakh.

Source of funds	₹ lakh
Promoter's contribution (25%)	164.02
Term loan from bank (75%)	492.08
Total means of finance	656.10
<i>Cash credit limit for working capital (separate)</i>	<i>93.37</i>

11 Working capital

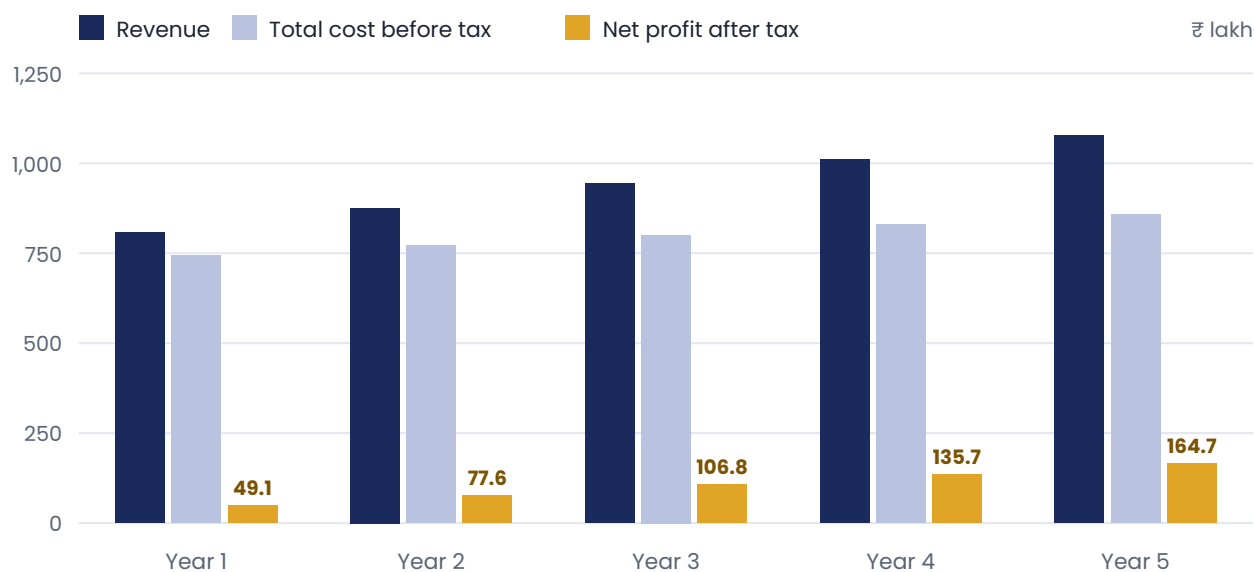
Working capital is worked out from holding periods: 30 days of raw material, 15 days of finished goods and 45 days of credit to customers, less 30 days of credit from suppliers. In Year 1 the requirement is ₹124.49 lakh. The bank funds ₹93.37 lakh through cash credit and the promoter's margin covers ₹31.12 lakh.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Raw material stock (30 days)	29.19	31.62	34.05	36.48	38.92
Work in progress (2 days)	2.95	3.17	3.40	3.63	3.87
Finished goods (15 days)	22.99	24.75	26.53	28.32	30.12
Trade receivables (45 days)	99.66	107.96	116.26	124.57	132.87
Total current assets	154.79	167.50	180.24	193.00	205.78
Less: trade creditors (30 days)	30.30	32.83	35.35	37.87	40.40
Working capital requirement	124.49	134.67	144.89	155.13	165.38

12 Projected profitability

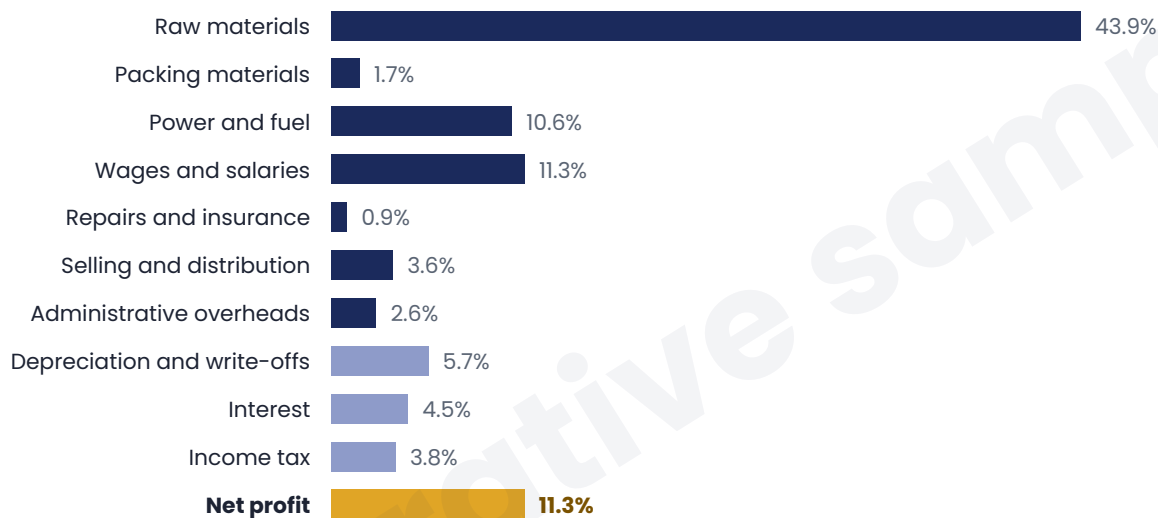
The unit is profitable from the first year, with a net profit of ₹49.06 lakh on sales of ₹808.32 lakh. By Year 5 sales reach ₹1,077.75 lakh and net profit ₹164.65 lakh, giving an average net margin of 11% across the projection.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Capacity utilisation (%)	60%	65%	70%	75%	80%
Revenue from operations	808.32	875.67	943.03	1,010.39	1,077.75
Raw materials consumed	355.13	384.72	414.31	443.90	473.50
Packing materials	13.53	14.66	15.79	16.91	18.04
Power and fuel	85.62	92.75	99.89	107.02	114.16
Wages and salaries	96.96	101.81	106.90	112.24	117.86
Repairs and maintenance	6.03	6.34	6.65	6.99	7.33
Insurance	2.08	2.08	2.08	2.08	2.08
Cost of production	559.35	602.36	645.62	689.14	732.97
Gross profit	248.97	273.31	297.41	321.25	344.78
Selling and distribution expenses	29.16	31.59	34.02	36.45	38.89
Administrative overheads	22.58	23.71	24.89	26.14	27.44
Operating profit (EBITDA)	197.23	218.01	238.50	258.66	278.45
Depreciation	67.77	58.61	50.74	43.94	38.09
Preliminary expenses written off	3.05	3.05	3.05	3.05	3.04
Interest on term loan	50.72	42.56	32.08	20.44	7.52
Interest on cash credit	10.27	10.27	10.27	10.27	10.27
Profit before tax	65.42	103.52	142.36	180.96	219.53
Income tax	16.36	25.88	35.59	45.24	54.88
Profit after tax	49.06	77.64	106.77	135.72	164.65



Revenue, total cost before tax and net profit after tax, ₹ lakh

Where each rupee of sales goes in Year 3



Each cost head as a percentage of Year 3 sales

13 Cash flow statement

The cash flow statement sets out the sources and uses of funds year by year. The unit stays cash positive throughout and closes Year 5 with a cash balance of ₹275.26 lakh after meeting the loan repayments due.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Sources of funds					
Promoter's contribution	164.02	–	–	–	–
Term loan from bank	492.08	–	–	–	–
Cash credit (working capital) from bank	93.37	–	–	–	–
Net profit after tax	49.06	77.64	106.77	135.72	164.65
Depreciation	67.77	58.61	50.74	43.94	38.09
Preliminary expenses written off	3.05	3.05	3.05	3.05	3.04
Increase in trade creditors	30.30	2.53	2.52	2.52	2.53
Total sources	899.65	141.83	163.08	185.23	208.31
Application of funds					
Fixed assets	609.74	–	–	–	–
Preliminary and pre-operative expenses	15.24	–	–	–	–
Increase in inventories	55.13	4.41	4.44	4.45	4.48
Increase in trade receivables	99.66	8.30	8.30	8.31	8.30
Repayment of term loan	43.96	95.12	105.60	117.24	130.16
Drawings	–	–	–	–	–
Total application	823.73	107.83	118.34	130.00	142.94
Net cash flow	75.92	34.00	44.74	55.23	65.37
Opening cash balance	–	75.92	109.92	154.66	209.89
Closing cash balance	75.92	109.92	154.66	209.89	275.26

14 Projected balance sheet

The projected balance sheet balances in every year. Net worth grows from ₹200.89 lakh at the end of Year 1 to ₹697.86 lakh at the end of Year 5, while the term loan outstanding falls from ₹448.12 lakh to nil.

As at year end (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Liabilities					
Promoter's capital	164.02	164.02	164.02	164.02	164.02
Reserves and surplus	49.06	126.70	233.47	369.19	533.84
Term loan	448.12	353.00	247.40	130.16	–
Cash credit from bank	93.37	93.37	93.37	93.37	93.37
Trade creditors	30.30	32.83	35.35	37.87	40.40
Total liabilities	784.87	769.92	773.61	794.61	831.63
Assets					
Gross fixed assets	609.74	609.74	609.74	609.74	609.74
Less: accumulated depreciation	(67.77)	(126.38)	(177.12)	(221.06)	(259.15)
Net fixed assets	541.97	483.36	432.62	388.68	350.59
Preliminary expenses not written off	12.19	9.14	6.09	3.04	–
Inventories	55.13	59.54	63.98	68.43	72.91
Trade receivables	99.66	107.96	116.26	124.57	132.87
Cash and bank balance	75.92	109.92	154.66	209.89	275.26
Total assets	784.87	769.92	773.61	794.61	831.63

15 Depreciation

Fixed assets are depreciated on the written-down value method, at 15% a year for plant and machinery, 10% for building and 10% for other assets. Land carries no depreciation.

Preliminary and pre-operative expenses are written off in equal parts over five years.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Building and civil works (cost ₹169.55 lakh, 10% WDV)					
Opening written-down value	169.55	152.59	137.33	123.60	111.24
Depreciation	16.96	15.26	13.73	12.36	11.12
Closing written-down value	152.59	137.33	123.60	111.24	100.12
Plant and machinery (cost ₹316.81 lakh, 15% WDV)					
Opening written-down value	316.81	269.29	228.90	194.56	165.38
Depreciation	47.52	40.39	34.34	29.18	24.81
Closing written-down value	269.29	228.90	194.56	165.38	140.57
Other fixed assets (cost ₹32.92 lakh, 10% WDV)					
Opening written-down value	32.92	29.63	26.67	24.00	21.60
Depreciation	3.29	2.96	2.67	2.40	2.16
Closing written-down value	29.63	26.67	24.00	21.60	19.44
Total depreciation	67.77	58.61	50.74	43.94	38.09
Preliminary expenses written off	3.05	3.05	3.05	3.05	3.04

16 Term loan repayment

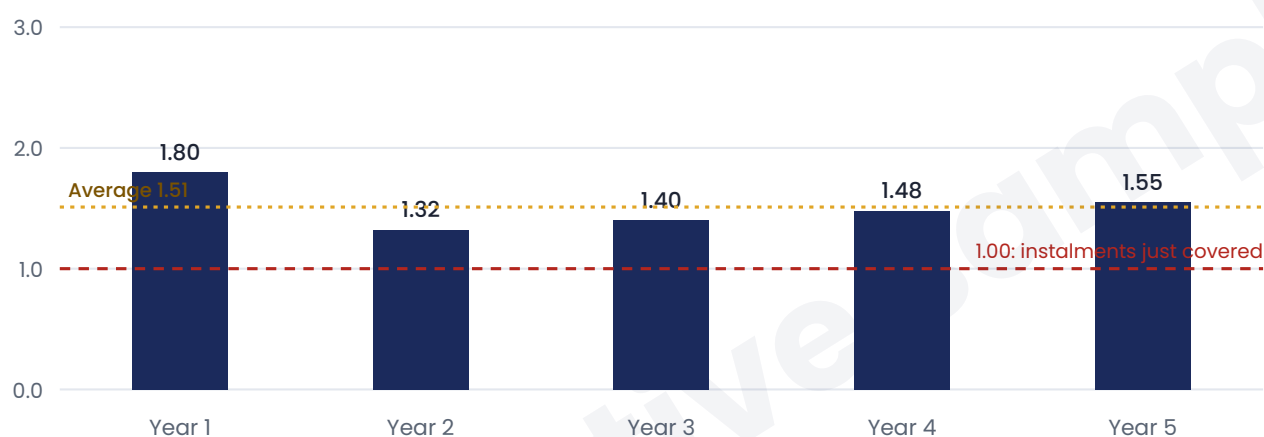
Repayment of the ₹492.08 lakh term loan starts after a moratorium of 6 months, during which interest at 10.5% is serviced. The loan is then cleared in 54 EMIs of ₹11,47,343 each, and the annexure gives the monthly schedule.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Opening balance	492.08	448.12	353.00	247.40	130.16
Interest	50.72	42.56	32.08	20.44	7.52
Principal repaid	43.96	95.12	105.60	117.24	130.16
Closing balance	448.12	353.00	247.40	130.16	—

17 Debt service coverage

Cash available for debt service covers the term loan instalments 1.51 times on average, and never less than 1.32 times (Year 2).

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Net profit after tax	49.06	77.64	106.77	135.72	164.65
Depreciation and write-offs	70.82	61.66	53.79	46.99	41.13
Interest on term loan	50.72	42.56	32.08	20.44	7.52
Total available for debt service (A)	170.60	181.86	192.64	203.15	213.30
Principal repayment	43.96	95.12	105.60	117.24	130.16
Interest on term loan	50.72	42.56	32.08	20.44	7.52
Total debt service (B)	94.68	137.68	137.68	137.68	137.68
DSCR (A / B)	1.80	1.32	1.40	1.48	1.55

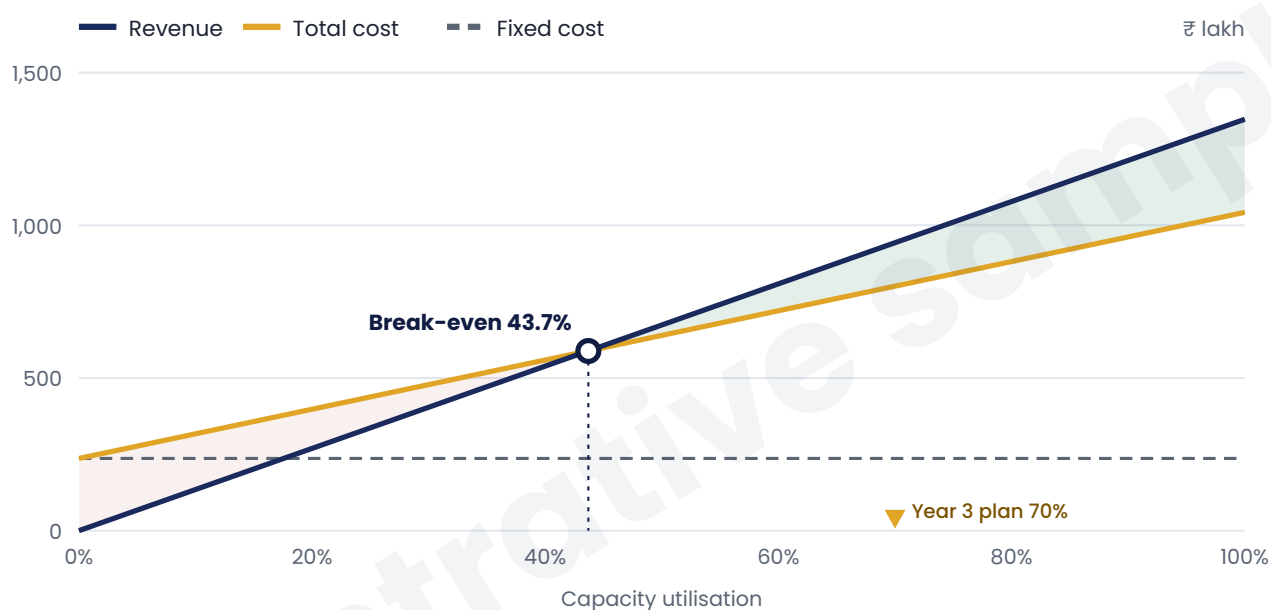


DSCR by year. A ratio above 1.00 means cash accruals cover the term loan instalments.

18 Break-even analysis

The break-even point in Year 3 is 43.7% of installed capacity. Below that level the unit would not cover its fixed costs, interest and depreciation; above it, each additional unit sold adds to profit. Cash break-even is lower, at 33.8%.

Particulars (₹ lakh)	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Revenue from operations	808.32	875.67	943.03	1,010.39	1,077.75
Variable costs	483.44	523.72	564.01	604.28	644.59
Contribution	324.88	351.95	379.02	406.11	433.16
Fixed costs (incl. depreciation and interest)	259.46	248.43	236.66	225.15	213.63
Break-even as % of installed capacity	47.9	45.9	43.7	41.6	39.5
Cash break-even as % of installed capacity	34.8	34.5	33.8	32.9	31.9
Break-even sales	645.55	618.11	588.83	560.17	531.54



Break-even chart at Year 3 prices and costs, scaled to full capacity. Shaded areas show the loss zone (left) and profit zone (right).

19 Financial ratios

Liquidity and leverage improve over the projection. The current ratio stays at or above 1.87, while debt-equity drops from 2.23 to zero as the term loan is repaid.

Ratio	Year 1 FY 2027-28	Year 2 FY 2028-29	Year 3 FY 2029-30	Year 4 FY 2030-31	Year 5 FY 2031-32
Current ratio	1.87	2.20	2.60	3.07	3.60
Quick ratio	1.42	1.73	2.10	2.55	3.05
Debt-equity ratio (term loan / net worth)	2.23	1.25	0.63	0.25	0.00
Total outside liabilities / net worth	2.85	1.70	0.96	0.49	0.19
Interest coverage ratio	2.07	2.96	4.36	6.89	13.34
DSCR	1.80	1.32	1.40	1.48	1.55
Gross profit margin (%)	30.8	31.2	31.5	31.8	32.0
Operating profit (EBITDA) margin (%)	24.4	24.9	25.3	25.6	25.8
Net profit margin (%)	6.1	8.9	11.3	13.4	15.3
Return on capital employed (%)	17.0	21.5	25.2	28.1	30.0
Break-even (% of installed capacity)	47.9	45.9	43.7	41.6	39.5

20 Key assumptions

- Commercial production starts in April 2027, and all assets are in use from the first year.
- Capacity utilisation of 60% in Year 1, rising to 80% by Year 5, over 330 working days a year.
- Selling price of ₹75,600 per MT, excluding GST, held constant through the projection.
- Raw materials at 43.9% of sales, packing materials at 1.7%, power and fuel at 10.6%, and selling and distribution at 3.6%.
- Wages and salaries rise by 5% a year; repairs and administrative overheads rise by 5% a year.
- Working capital based on 30 days of raw material, 2 days of work in progress, 15 days of finished goods and 45 days of receivables, less 30 days of creditors.
- Term loan at 10.5% interest with a 6-month moratorium and 54 monthly instalments; cash credit at 11% on 75% of the working capital requirement.
- Depreciation on the written-down value method at Income Tax Act rates; income tax at a flat 25% of profit for simplicity.
- Contingency of 5% on building and machinery; preliminary and pre-operative expenses written off over five years.
- All amounts in ₹ lakh unless stated otherwise, excluding GST.

21 Conclusion

On these illustrative assumptions, an e waste recycling unit of 5.4 MT per day costs ₹656.10 lakh to set up, earns an average return of 16.3% on that investment and pays back in about 4.3 years. An average DSCR of 1.51 and break-even at 43.7% of capacity point to a project that can carry its bank debt. Actual figures depend on the location, the machinery chosen, input prices and the promoter's plans, which is why a full report is prepared for each project.

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A Annexure: monthly loan repayment schedule

Term loan of ₹492.08 lakh at 10.5% a year. Amounts in ₹ lakh.

No.	Month	Opening balance	Interest	Principal	Instalment	Closing balance
1	Apr 2027	492.08	4.31	–	4.31	492.08
2	May 2027	492.08	4.31	–	4.31	492.08
3	Jun 2027	492.08	4.31	–	4.31	492.08
4	Jul 2027	492.08	4.31	–	4.31	492.08
5	Aug 2027	492.08	4.31	–	4.31	492.08
6	Sep 2027	492.08	4.31	–	4.31	492.08
7	Oct 2027	492.08	4.31	7.17	11.47	484.91
8	Nov 2027	484.91	4.24	7.23	11.47	477.68
9	Dec 2027	477.68	4.18	7.29	11.47	470.39
10	Jan 2028	470.39	4.12	7.36	11.47	463.03
11	Feb 2028	463.03	4.05	7.42	11.47	455.61
12	Mar 2028	455.61	3.99	7.49	11.47	448.12
13	Apr 2028	448.12	3.92	7.55	11.47	440.57
14	May 2028	440.57	3.85	7.62	11.47	432.95
15	Jun 2028	432.95	3.79	7.69	11.47	425.27
16	Jul 2028	425.27	3.72	7.75	11.47	417.51
17	Aug 2028	417.51	3.65	7.82	11.47	409.69
18	Sep 2028	409.69	3.58	7.89	11.47	401.80
19	Oct 2028	401.80	3.52	7.96	11.47	393.85
20	Nov 2028	393.85	3.45	8.03	11.47	385.82
21	Dec 2028	385.82	3.38	8.10	11.47	377.72
22	Jan 2029	377.72	3.31	8.17	11.47	369.55
23	Feb 2029	369.55	3.23	8.24	11.47	361.31
24	Mar 2029	361.31	3.16	8.31	11.47	353.00
25	Apr 2029	353.00	3.09	8.38	11.47	344.62
26	May 2029	344.62	3.02	8.46	11.47	336.16
27	Jun 2029	336.16	2.94	8.53	11.47	327.63
28	Jul 2029	327.63	2.87	8.61	11.47	319.02
29	Aug 2029	319.02	2.79	8.68	11.47	310.34
30	Sep 2029	310.34	2.72	8.76	11.47	301.58
31	Oct 2029	301.58	2.64	8.83	11.47	292.75
32	Nov 2029	292.75	2.56	8.91	11.47	283.83
33	Dec 2029	283.83	2.48	8.99	11.47	274.84
34	Jan 2030	274.84	2.40	9.07	11.47	265.78
35	Feb 2030	265.78	2.33	9.15	11.47	256.63
36	Mar 2030	256.63	2.25	9.23	11.47	247.40
37	Apr 2030	247.40	2.16	9.31	11.47	238.09
38	May 2030	238.09	2.08	9.39	11.47	228.70
39	Jun 2030	228.70	2.00	9.47	11.47	219.23

No.	Month	Opening balance	Interest	Principal	Instalment	Closing balance
40	Jul 2030	219.23	1.92	9.56	11.47	209.67
41	Aug 2030	209.67	1.83	9.64	11.47	200.03
42	Sep 2030	200.03	1.75	9.72	11.47	190.31
43	Oct 2030	190.31	1.67	9.81	11.47	180.50
44	Nov 2030	180.50	1.58	9.89	11.47	170.61
45	Dec 2030	170.61	1.49	9.98	11.47	160.63
46	Jan 2031	160.63	1.41	10.07	11.47	150.56
47	Feb 2031	150.56	1.32	10.16	11.47	140.41
48	Mar 2031	140.41	1.23	10.24	11.47	130.16
49	Apr 2031	130.16	1.14	10.33	11.47	119.83
50	May 2031	119.83	1.05	10.42	11.47	109.40
51	Jun 2031	109.40	0.96	10.52	11.47	98.88
52	Jul 2031	98.88	0.87	10.61	11.47	88.28
53	Aug 2031	88.28	0.77	10.70	11.47	77.58
54	Sep 2031	77.58	0.68	10.79	11.47	66.78
55	Oct 2031	66.78	0.58	10.89	11.47	55.89
56	Nov 2031	55.89	0.49	10.98	11.47	44.91
57	Dec 2031	44.91	0.39	11.08	11.47	33.83
58	Jan 2032	33.83	0.30	11.18	11.47	22.65
59	Feb 2032	22.65	0.20	11.28	11.47	11.37
60	Mar 2032	11.37	0.10	11.37	11.47	–