



B U S I N E S S P L A N · I N D I A

Recycling Plant (Plastic/Paper/Metal)

Material recovery and reprocessing into recycled resin, with EPR certificate generation

ENVIRONMENT

AISEVAK.IN · BY ABL DIGITAL TECHNOLOGIES

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This document is confidential and prepared for planning purposes. All financial figures are illustrative model assumptions for an Indian MSME context and must be validated against live quotes, local rates and professional advice before any investment or borrowing decision.

1. Executive Summary

This plan sets out a **Recycling Plant** in India — a plastics-focused material recovery and reprocessing facility producing **recycled granules (rPP, rHDPE, rLDPE), rPET flakes and fibre-grade output**, together with **EPR certificate generation, toll processing for brand owners and by-product sales**, from purchased post-consumer and post-industrial feedstock.

The most important thing to understand about this business, and the reason it is deliberately contrasted with the waste-collection plan in this vertical: a recycling plant is a manufacturing business dressed as an environmental one. A waste-management firm is *paid* to take material — the gate fee is contracted, and recovered material is upside on top of it. A recycler has no such cushion: it **buys its raw material and sells its output, and both are commodities it does not price**. It is therefore **long the spread and can be squeezed from either end** — feedstock competition bids input costs up, and a fall in crude makes virgin polymer cheap enough to undercut the output. Understanding this correctly is the difference between a recycling plan and a recycling fantasy.

What changes that picture materially is Extended Producer Responsibility — and this plan is explicit about how much it matters. Under the Plastic Waste Management Rules and the EPR framework, brand owners and producers must ensure that specified quantities of plastic are recycled, and **a registered recycler can generate EPR certificates that producers buy to discharge those obligations**. That income is *independent of material prices*. In this model it reaches **₹2.1 crore by Year 3 — against a net profit of ₹1.25 crore**. Stated plainly: **EPR certificate income exceeds the entire net profit, and without it the plant loses money**. That is not a criticism of the model; it is the honest structure of plastics recycling in India today, and it means **CPCB registration as a recycler is not a compliance formality but the single most valuable asset the business will hold**.

This plan models a recycling plant requiring **₹5.6 crore** (₹1.9 crore promoter + ₹2.65 crore term loan + ₹1.05 crore working-capital finance), moving from **₹12 crore revenue and a ₹59 lakh loss** in Year 1 to **₹23 crore revenue and ₹1.25 crore profit** by Year 3, processing roughly 17,000 tonnes annually. (*Recycling; throughput × spread + EPR certificates, feedstock- & yield-driven — figures illustrative.*)

2. Business Description, Vision & Legal Structure

Concept: A plastics recycling plant - sorting, washing, extrusion and pelletising of post-consumer and post-industrial plastic waste into saleable recycled resin, with rPET processing, EPR certificate generation and toll processing.

Vision: To produce recycled material a converter will specify by choice rather than by obligation.

Mission: Buy feedstock intelligently, process it cleanly, hold specification consistently, and treat our effluent as seriously as our output.

Legal structure options

- **Private Limited** — effectively required: CPCB recycler registration, EPR certificate generation, term lending and brand-owner contracting all presume an audited company with traceable operations.
- **LLP** — not advisable given EPR registration requirements and the scale of term borrowing.

Regulatory anchor — registration is the revenue, not merely the permission. The plant requires **SPCB consent to establish and operate**, and — critically — **registration as a recycler with the CPCB under the Plastic Waste Management Rules and EPR framework**, which is what allows EPR certificates to be generated and sold. Registration

carries traceability obligations: quantities received, processed and sold must be recorded and filed on the EPR portal, and **false or inflated reporting is a serious matter that can end both the registration and the certificate revenue that depends on it**. Add **Hazardous & Other Wastes authorisation** where applicable, effluent consent and — because plastic washing generates significant contaminated wastewater — a properly sized **ETP with water recycling**, which is a substantial capital and operating cost rather than a nominal one. Output going into **food-contact applications requires a distinct and considerably harder route**, involving FSSAI and BIS clearance for food-grade recycled PET; a plant should not represent ordinary rPET as food-grade. Factory licence, fire NOC, electrical load sanction and Legal Metrology weighbridge calibration complete the picture.

3. Promoter & Ownership

Led by a promoter with plastics processing, recycling or polymer-trading background. The two competences that decide profitability are *feedstock procurement* — buying the right material at the right price from a fragmented and largely informal supply base — and *yield management*, since the gap between tonnes bought and tonnes sold is where the margin quietly disappears. The team is operations-heavy with a substantial sorting workforce and a dedicated procurement function. Feedstock access, yield, output consistency & EPR compliance are the differentiators. Ownership, equity & any partner are editable inputs.

4. Market Analysis — India

Demand is driven by EPR obligations on brand owners, corporate recycled-content commitments, packaging and consumer-goods growth, and the cost advantage of recycled resin when virgin prices are firm. Supply is driven by waste generation and the collection network. Demand is regulation-, brand-commitment- & price-driven. The market rewards consistent specification, reliable volume & valid EPR documentation; it is **commodity-priced, feedstock-competitive & increasingly compliance-shaped**.

Demand drivers

- **EPR obligations** requiring producers to ensure recycling of specified quantities — the single largest structural driver.
- **Mandated recycled content** in specified packaging categories, creating demand for material that meets specification rather than merely existing.
- **Corporate sustainability commitments** by brand owners, often ahead of regulatory minimums.
- **Virgin polymer price levels** — recycled resin competes directly, so its demand strengthens when crude and virgin prices are firm.
- **Packaging and consumer-goods growth** expanding both the waste stream and the offtake market.

Market sizing (illustrative framing)

Layer	Definition	Indicative scale
TAM	Indian plastics recycling & recycled resin consumption	Large, EPR-expanding
SAM	Regional feedstock catchment & addressable converters	Serviceable
SOM (Yr 1–3)	Tonnage processed & EPR certificates generated	Scaling with capacity

Target segments

- Plastic converters — moulders, film and pipe extruders — buying recycled resin.

- **Brand owners and producers with EPR obligations** purchasing certificates and recycled content.
- Textile and fibre manufacturers for rPET flake offtake.
- Packaging companies with recycled-content commitments.
- Waste aggregators and collection firms as feedstock suppliers rather than customers.

5. Competition & Competitive Advantage

Landscape: numerous small unorganised recyclers operating with minimal compliance, a growing set of organised registered recyclers, imported recycled material where permitted, and — most fundamentally — **virgin polymer itself, which is the real competitor**. The unorganised segment competes on cost by avoiding effluent treatment and statutory compliance, which is precisely the cost the compliant plant must carry.

The business's edge

- **CPCB registration and EPR certificate capability** — a revenue line unregistered competitors cannot access, and increasingly a requirement for brand-owner supply.
- **Specification consistency** — converters can only substitute recycled for virgin if melt flow, colour and contamination are predictable batch to batch.
- **Traceability** — documented chain from feedstock to output, which brand owners need for their own compliance reporting.
- **Genuine effluent management** — an operating ETP, which is both a licence condition and a defence against the enforcement risk that periodically closes unorganised competitors.
- **Feedstock relationships** — reliable supply from aggregators and collection firms, secured before capacity is committed.

6. Products & Revenue Model

Revenue line	Model	Basis
Recycled granules (rPP, rHDPE, rLDPE)	Per tonne, priced against virgin	Core volume (~55%)
rPET flakes & fibre-grade output	Per tonne	Second stream
EPR certificate income	Per tonne registered & certified	Price-independent (~9%)
Toll processing for brand owners	Conversion charge per tonne	No feedstock risk
By-products, rejects & mixed-scrap sales	Per tonne	Yield recovery

Revenue is **throughput × output price**, but profit is **throughput × spread** — and the spread is set by two markets the plant does not control. **Recycled resin is priced at a discount to virgin polymer**, so when crude falls and virgin gets cheap, the recycled price must fall with it while feedstock costs may not. **Toll processing and EPR certificates are the two lines immune to this:** toll work earns a conversion charge on someone else's material, and EPR certificates are priced by compliance demand rather than by commodity markets. Growing both is the most effective de-risking available to a recycler, and it is why this model holds them at roughly 14% of revenue combined.

7. Go-to-Market — Feedstock & Offtake

A recycler must build both sides, and the input side is the harder one.

Securing feedstock

- **Aggregator and collection-firm relationships** with agreed quality specifications and, where possible, volume commitments.
- **Direct arrangements with bulk generators** and industrial post-industrial scrap producers, which yield cleaner material.
- **Payment reliability** — the informal supply base sells to whoever pays immediately and without dispute, and this matters more than price by a small margin.
- **Quality-based pricing** that rewards better-sorted material rather than paying a flat rate for whatever arrives.

Winning offtake

- **Converter relationships** built on specification consistency and trial batches.
- **Brand-owner contracts** combining recycled content with EPR certificates — the most valuable customer type.
- **Toll processing arrangements** that use capacity without feedstock exposure.

Sales approach

Secure feedstock supply before committing capacity, since an idle line is the most expensive thing in this business → build converter relationships through consistent specification rather than price → pursue brand-owner contracts where recycled content and EPR certificates can be sold together, which commands better realisation than either alone → grow toll processing as ballast. **The discipline that matters: never buy feedstock speculatively on a price view.** A recycler holding a large inventory of expensive flake when virgin prices fall has taken a position it cannot hedge, and the loss is realised on every tonne processed thereafter.

8. Operations Plan (sorting, washing, extrusion)

- **Feedstock receipt:** weighbridge, quality assessment and grading, contamination assessment, rejection or price adjustment at gate rather than after processing.
- **Sorting:** manual and mechanical separation by polymer and colour, removal of contaminants, labels and non-target material — labour-intensive and directly determinative of output quality.
- **Washing:** hot and cold wash lines, friction washing, float-sink separation, drying — the stage that generates the effluent load and consumes the water.
- **Extrusion & pelletising:** melt filtration, degassing, pelletising, with screen changes and filter management as recurring consumable cost.
- **Quality control:** melt flow index, moisture, contamination, colour and mechanical properties; retained samples and batch records for traceability.
- **Effluent & residue:** ETP operation with water recycling to reduce fresh-water draw, sludge disposal to authorised handlers, and rejects channelled appropriately rather than dumped.

Processing cycle

Stage	Activity	Metric
Procure	Feedstock buying & grading	Landed feedstock cost per tonne
Receive	Weighing & quality assessment	Contamination % at gate
Sort	Polymer & colour separation	Sorting cost per tonne
Wash	Cleaning & drying	Water & effluent per tonne

Extrude	Melt, filter, pelletise	Yield % (output ÷ input)
Sell	Despatch & EPR filing	Realisation per tonne / certificates issued

Yield is where recycling margins are actually lost, and it is systematically under-modelled. A tonne of purchased feedstock does not become a tonne of saleable pellet. Moisture, dirt, labels, non-target polymer, wash losses and extrusion rejects all take their share, and **an input-to-output yield in the region of 70-80% is normal rather than pessimistic** for post-consumer material. That means the effective cost of a tonne of output is materially higher than the purchase price of a tonne of feedstock — and a plan that models feedstock cost per tonne of *input* while pricing output per tonne of *product* will overstate margin by a wide margin. **Every percentage point of yield improvement is worth more than an equivalent improvement in purchase price**, because it applies to material already bought and processed.

9. Regulatory, Licences & Compliance (India)

- **CPCB recycler registration** under the Plastic Waste Management Rules and EPR framework — **the gate that enables EPR certificate generation, and therefore the most commercially valuable approval the plant holds**.
- **EPR portal reporting:** quantities received, processed and sold must be recorded and filed with traceability; **inflated or false reporting risks the registration and the entire certificate revenue stream**, and is treated seriously by the regulator.
- **SPCB consent to establish and operate; Hazardous & Other Wastes authorisation** where applicable for sludge and contaminated residues.
- **Effluent:** plastic washing generates significant contaminated wastewater — a properly sized **ETP with water recycling** is a licence condition and a real capital and operating cost, not a formality.
- **Food-contact applications:** a separate and considerably harder route requiring FSSAI and BIS clearance for food-grade recycled PET — **ordinary rPET must not be represented as food-grade**.
- **Plant:** factory licence, fire NOC, electrical load sanction, weighbridge calibration under Legal Metrology.
- **Labour:** PF, ESI and minimum wages for a large sorting workforce; PPE and occupational health for material handlers.

10. Organisation & Manpower Plan

Role	Yr 1	Yr 2	Yr 3
Promoter / managing director	1	1	2
Plant operators & line staff	42	62	82
Sorters	28	42	56
Maintenance & utilities	8	12	16
Feedstock procurement	5	8	11
QC & laboratory	5	8	10
Admin, accounts & credit	5	8	10
Sales & marketing	4	7	9
EHS & compliance (incl. EPR reporting)	3	5	6

Total	101	153	202
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The **feedstock procurement function is staffed as a discipline in its own right**. In a business where raw material is 59–61% of revenue and supply is fragmented and informal, procurement capability is worth more than any efficiency elsewhere in the plant.

11. Implementation Timeline & Milestones

Phase	Timeline	Milestone
Approvals & build	Month 0–10	SPCB consent, CPCB recycler registration , plant erection, ETP, power sanction
Ramp	Month 10–12+	Feedstock chain & converter trials; ₹12cr revenue, ₹59L loss
Grow	Year 2	Yield & utilisation improve, EPR contracts; ₹17.5cr, ₹34L profit
Scale	Year 3	₹23cr revenue, ₹1.25cr profit; ~17,000 tonnes processed

12. Financial Plan (Illustrative)

All figures are illustrative model assumptions for an Indian context, shown so the promoter can replace them with live rates. They are not projections of guaranteed results. **Read this on spread per tonne and yield, not on turnover** — revenue moves with polymer prices while earnings move with the spread. Throughput, yield, feedstock cost, EPR realisation & toll share are the levers.

12.1 Project cost & means of finance

Capital requirement	₹
Plant & machinery (sorting, washing line, extruder, pelletiser)	1,95,00,000
Land, building & civil works	1,10,00,000
Working capital (feedstock, WIP, finished goods & receivables)	1,05,00,000
ETP / effluent treatment & water recycling	70,00,000
Utilities, power infrastructure & DG	40,00,000
Baling, material handling & weighbridge	25,00,000
Consents, CPCB/EPR registration, lab & QC setup	10,00,000
Preliminary & pre-operative	5,00,000
Total project cost	5,60,00,000
Term loan	2,65,00,000
Promoter contribution	1,90,00,000
Working-capital finance	1,05,00,000

12.2 Projected Profit & Loss (3 years)

Particulars	Year 1	Year 2	Year 3
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Recycled granules (rPP, rHDPE, rLDPE)	6,60,00,000	9,60,00,000	12,60,00,000
rPET flakes & fibre-grade output	2,95,00,000	4,35,00,000	5,70,00,000
EPR certificate income	1,05,00,000	1,55,00,000	2,10,00,000
Toll processing for brand owners	80,00,000	1,15,00,000	1,50,00,000
By-products, rejects & mixed-scrap sales	60,00,000	85,00,000	1,10,00,000
Total revenue	12,00,00,000	17,50,00,000	23,00,00,000
Feedstock purchase (baled/sorted waste plastic)	7,32,00,000	10,50,00,000	13,57,00,000
Depreciation, interest & other	1,05,00,000	1,10,00,000	1,14,00,000
Power, fuel & utilities	96,00,000	1,32,00,000	1,70,00,000
Direct labour & plant operations	72,00,000	92,00,000	1,16,00,000
Salaries (technical, QC, procurement, sales, admin)	64,00,000	82,00,000	1,04,00,000
Freight, packing & selling	52,00,000	72,00,000	92,00,000
Effluent treatment, water & environmental compliance	44,00,000	56,00,000	68,00,000
Repairs, maintenance & spares	42,00,000	52,00,000	64,00,000
Overheads, insurance & other	32,00,000	42,00,000	54,00,000
Bad debts & credit losses	20,00,000	28,00,000	36,00,000
Total expenses	12,59,00,000	17,16,00,000	21,75,00,000
Net profit / (loss) before tax	(59,00,000)	34,00,000	1,25,00,000
Net margin	(4.9%)	1.9%	5.4%
Feedstock as % of revenue	61.0%	60.0%	59.0%
EPR + toll share of revenue	15.4%	15.4%	15.7%
Tonnage processed (approx.)	~9,000	~13,000	~17,000

12.3 Unit economics & break-even

- **EPR certificate income exceeds the entire net profit** — ₹2.1 crore against ₹1.25 crore in Year 3. Removing it turns a profitable plant into a loss-making one. **This is the honest structure of Indian plastics recycling today**, and it means registration status and compliant reporting are not administrative matters but the foundation of the business case.
- **Spread, not turnover, is the measure:** feedstock is 59–61% of revenue and both input and output are commodity-priced, so revenue can rise on polymer prices while earnings fall. Budgets and performance review must work in rupees of spread per tonne processed.
- **Yield is the hidden margin:** at 70–80% input-to-output, the true cost per tonne of saleable product is well above the feedstock purchase price. A point of yield gain is worth more than a point off the buying price because it applies to material already handled.
- **Toll processing carries no feedstock risk** and, with EPR, forms the ~15% of revenue that is insulated from commodity movement — the most valuable share to grow deliberately.

- **Break-even:** reached in Year 2 as throughput and yield build. Margins expand with yield, EPR realisation and toll share rather than with output pricing, which the virgin market caps.

12.4 Projected Cash Flow — Year 1 (quarterly, illustrative)

Particulars (₹)	Q1	Q2	Q3	Q4
Opening balance	1,05,00,000	65,00,000	35,00,000	15,00,000
Collections	2,45,00,000	2,75,00,000	2,90,00,000	3,05,00,000
Feedstock, power, wages, ETP, overheads & loan servicing	2,85,00,000	3,05,00,000	3,10,00,000	2,95,00,000
Closing balance	65,00,000	35,00,000	15,00,000	25,00,000

The cash cycle is squeezed from both directions, and the direction most operators underestimate is the supply side. Feedstock suppliers are largely informal — aggregators and scrap dealers who expect payment on delivery or within days, because that is how the entire waste supply chain works and because they will simply sell to the next buyer otherwise. Converters, meanwhile, are formal industrial customers paying at 45–60 days. **The plant therefore pays cash for its largest cost and waits two months for its revenue.** Two further pressures: **a rising polymer market increases the working-capital requirement at unchanged volume**, since the same tonnage costs more to buy; and **EPR certificate income, though valuable, is realised on its own timetable** and should not be assumed as near-term liquidity. The facility must be revolving, sized against feedstock prices rather than tonnage, and reviewed as polymer markets move.

12.5 Key Performance Indicators to Monitor

- **Economics: spread per tonne processed;** feedstock cost per tonne landed; realisation per tonne of output; recycled-to-virgin price ratio.
- **Yield & quality: input-to-output yield %;** contamination at gate; melt-flow and spec consistency; batch rejection rate; screen-change frequency.
- **Compliance: EPR certificates generated vs. processed tonnage;** portal filing accuracy and timeliness; effluent parameters within consent; registration currency.
- **Capacity & cash:** plant utilisation; toll share of throughput; feedstock inventory days; receivable days; power cost per tonne.

13. Funding Requirement & Bankability

Total ask: **₹2.65 crore term loan plus ₹1.05 crore working-capital finance** against ₹1.9 crore promoter contribution. Plant, land, building and ETP provide conventional security, and MSME, environment-sector and recycling-specific schemes are relevant. Four points deserve directness with a lender. **This is a commodity processor, not a service business** — it is exposed at both ends and should be assessed on spread per tonne rather than on revenue growth. **EPR certificate income is load-bearing:** at ₹2.1 crore against ₹1.25 crore of Year-3 profit, the business case depends on it, so **CPCB registration status and accurate portal reporting are credit-relevant facts rather than compliance details**. **Working capital must be sized against feedstock prices, not tonnage**, since a firm polymer market raises the requirement at constant volume — and the supply base is paid in cash while customers pay in two months. And **Year 1's ₹59 lakh loss is a ramp effect** combining building yield, building throughput and full depreciation from commissioning; utilisation and yield resolve it rather than pricing.

13.1 Funding utilisation

Use of funds	₹	% of total
Plant & machinery (sorting, washing line, extruder, pelletiser)	1,95,00,000	34.8%
Land, building & civil works	1,10,00,000	19.6%
Working capital (feedstock, WIP, finished goods & receivables)	1,05,00,000	18.8%
ETP / effluent treatment & water recycling	70,00,000	12.5%
Utilities, power infrastructure & DG	40,00,000	7.1%
Baling, material handling & weighbridge	25,00,000	4.5%
Consents, CPCB/EPR registration, lab & QC setup	10,00,000	1.8%
Preliminary & pre-operative	5,00,000	0.9%
Total	5,60,00,000	100%

14. Risk Analysis & Mitigation

Risk	Mitigation
Virgin polymer price fall compressing the spread	Grow toll processing and EPR share as commodity-immune revenue; avoid speculative feedstock inventory; quality-based feedstock pricing; contracts with price-linkage where achievable; stress-test debt service at low virgin prices
Loss of CPCB registration or EPR reporting failure	Accurate traceable records of received, processed and sold quantities; timely portal filing; never inflate reported quantities — the registration is the business case, and false reporting ends both
Feedstock scarcity or price competition	Multiple aggregator relationships; prompt payment as the primary supplier-retention tool; direct bulk-generator and post-industrial tie-ups; quality-based pricing; secure supply before committing capacity
Yield shortfall	Grading and rejection at gate rather than after processing; sorting discipline; melt filtration management; track yield per batch and per supplier; price feedstock on delivered yield rather than gross weight
Effluent non-compliance or ETP failure	Adequately sized ETP with margin, water recycling, continuous monitoring, sludge to authorised disposal — closure orders are issued and are commercially fatal
Specification inconsistency losing converters	QC discipline, retained samples, batch traceability, change notification to customers, consistent feedstock grades for consistent output
Cash squeeze from cash-out supply and credit-out sales	Revolving facility sized to feedstock prices; disciplined inventory days; receivable limits; toll processing to reduce feedstock funding
Unorganised competitors avoiding compliance cost	Compete on registration, EPR capability, traceability and consistency, which unregistered operators cannot offer to brand owners
Misrepresenting output as food-grade	Do not represent ordinary rPET as food-grade; pursue FSSAI/BIS food-contact clearance as a separate deliberate project if that market is targeted
Power cost and interruption	Load optimisation, power-factor correction, DG backup, energy cost per tonne tracked as a KPI

15. SWOT Analysis

Strengths EPR certificate income is regulation-driven and commodity-immune; CPCB registration is a genuine barrier against unorganised competitors; brand-owner demand for traceable recycled content is growing; toll processing adds risk-free capacity utilisation; tangible financeable plant; high asset turn typical of conversion.	Weaknesses Exposed at both ends with no fee cushion ; thin net margins; yield loss under-modelled by the industry; cash paid to informal suppliers against credit sales; heavy effluent compliance cost; dependent on EPR income for profitability.
Opportunities Mandated recycled-content requirements expanding demand; brand-owner sustainability commitments ahead of regulation; food-grade rPET as a separate higher-value project; toll partnerships with producers; multi-polymer expansion; formalisation squeezing unorganised competitors.	Threats Virgin polymer price collapse; EPR policy or pricing changes altering certificate value; feedstock competition bidding input costs up; enforcement tightening on effluent raising cost; imported recycled material; converter resistance to recycled content on quality grounds.

16. Recommended AiSevak Tools for This Business

This recycling plant would use AiSevak's Environment vertical tools in operations:

- **Economics: spread-per-tonne modelling**, feedstock landed-cost tracking, recycled-to-virgin price-ratio monitoring, toll-vs-own-feedstock mix.
- **Yield: input-to-output yield by batch and by supplier**, contamination-at-gate scoring, rejection and screen-change tracking.
- **Compliance: EPR certificates generated vs. processed tonnage**, portal filing calendar and accuracy checks, effluent-parameter and consent-condition logging.
- **Finance**: feedstock inventory days vs. polymer price, receivable ageing, working-capital-vs-price review (with Finance vertical).
- **Practice**: Business Plan, break-even and conversion-economics tools to model the plant.

17. Key Assumptions & Notes

- Recycling plant (plastics focus): sorting, washing, extrusion and pelletising of post-consumer/post-industrial plastic into rPP/rHDPE/rLDPE granules and rPET flakes, plus EPR certificates, toll processing and by-products; revenue = throughput × output price, profit = throughput × SPREAD.
- **A MANUFACTURING BUSINESS DRESSED AS AN ENVIRONMENTAL ONE — the deliberate contrast with waste-management-firm.** A collection firm is PAID to take material (contracted gate fee, recovery is upside); a recycler **BUYS its raw material and SELLS its output, both commodities it does not price.** It is **long the spread and can be squeezed from EITHER end** — feedstock competition bids input up, a crude fall makes virgin cheap enough to undercut output. **Understanding this correctly is the difference between a recycling plan and a recycling fantasy.**
- **EPR CERTIFICATE INCOME EXCEEDS THE ENTIRE NET PROFIT — ₹2.1cr against ₹1.25cr in Y3.** Remove it and the plant **LOSES** money. That is not a criticism of the model but **the honest structure of Indian plastics recycling today**, and it means **CPCB recycler registration is not a compliance formality but the single most valuable asset the business holds** — with the corollary that **inflated or false EPR portal reporting ends both the**

registration and the revenue that depends on it.

- **YIELD is where recycling margins are actually lost and it is systematically under-modelled** — a tonne of feedstock does NOT become a tonne of pellet; moisture, dirt, labels, non-target polymer, wash losses and extrusion rejects all take a share, and **70-80% input-to-output is NORMAL, not pessimistic**, for post-consumer material. **A plan modelling feedstock cost per tonne of INPUT while pricing output per tonne of PRODUCT will overstate margin by a wide margin.** A point of yield is worth more than a point off purchase price because it applies to material already bought and handled — so price feedstock on DELIVERED YIELD, not gross weight.
- **Read on SPREAD PER TONNE, not turnover** — revenue can rise on polymer prices while earnings fall. **Toll processing (no feedstock risk) + EPR (priced by compliance demand, not commodity markets) together ≈15% of revenue are the commodity-immune share** and the most valuable to grow. **Never buy feedstock speculatively on a price view** — a recycler holding expensive flake when virgin falls has taken a position it cannot hedge, realised as a loss on every tonne processed thereafter.
- **Cash squeezed from BOTH directions, and the supply side is the one operators underestimate: feedstock suppliers are largely INFORMAL aggregators expecting payment on delivery or within days** (that is how the waste chain works, and they will sell to the next buyer otherwise) **while converters are formal industrial customers at 45-60 days — so the plant pays CASH for its largest cost and waits two months for revenue**. A rising polymer market raises the WC requirement at unchanged volume → size the facility against feedstock PRICES, not tonnage. EPR income is realised on its own timetable and should not be assumed as near-term liquidity.
- Plastic washing generates significant contaminated effluent — a properly sized **ETP with water recycling is a real capital and operating cost** (12.5% of project cost), and it is exactly the cost unorganised competitors avoid. **Food-contact rPET is a SEPARATE and considerably harder route** (FSSAI + BIS clearance) — ordinary rPET must NOT be represented as food-grade. Feedstock procurement staffed as a discipline in its own right, since RM is ~60% of revenue from a fragmented informal base. ₹5.6cr, ~9,000→17,000 t/yr, rev 12→23cr. Figures illustrative, exclude GST.

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