

DETAILED PROJECT REPORT

Ambravik Cold Chain (fictional)

5,000 MT multi-commodity cold storage with rooftop solar

Economic feasibility, financial projections and lender analysis

Item	Detail
Promoter	Ambravik Cold Chain Pvt. Ltd. (fictional company)
Location	Example agri-cluster, India (fictional; no real site)
Prepared for	Term-lender appraisal and private investor review (sample format)
Total project cost	Rs 771.95 lakh
Means of finance	Term loan Rs 463.17 lakh; promoter equity Rs 308.78 lakh
Units	Rs lakh unless stated (1 lakh = Rs 1,00,000)

Sample written for portfolio purposes; not client work. EXAMPLE DATA: the company, site and every figure are invented for a fictional project.

Every figure in this report is read directly from the accompanying Excel model after it is recalculated; the model's integrity checks status is: ALL CHECKS OK.

1. Executive summary

Ambravik Cold Chain Pvt. Ltd. (fictional company) proposes a 5,000 MT multi-commodity cold storage with rooftop solar. The total project cost is Rs 771.95 lakh, funded by a term loan of Rs 463.17 lakh and promoter equity of Rs 308.78 lakh (debt : equity 1.50x).

At the base-case assumptions the project earns a project IRR of 14.96% against a discount rate of 11%, giving a project NPV of Rs 163.08 lakh and a benefit-cost ratio of 1.22x. Equity IRR is 20.88%. The minimum DSCR over the loan tenure is 1.32x (average 2.01x) against a lender minimum of 1.30x. Simple payback is 5.7 years from the start of operations.

Key indicator	Value
Total project cost (Rs lakh)	771.95
Term loan (Rs lakh)	463.17
Promoter equity (Rs lakh)	308.78
Debt : equity	1.50x
Project IRR	14.96%
Project NPV (Rs lakh)	163.08
Equity IRR	20.88%
Equity NPV (Rs lakh)	129.69
Benefit-cost ratio	1.22x
Minimum DSCR	1.32x
Average DSCR	2.01x
Simple payback (years)	5.7
Discounted payback (years)	8.7
Break-even utilisation, representative year	45.05%
Cash break-even utilisation, representative year	52.57%

2. Project background

Ambravik Cold Chain Pvt. Ltd. is a fictional company created for this sample. In the example, it plans a 5,000 MT multi-commodity cold storage in an agri-cluster, renting chamber space to farmers, traders and food processors on a per-tonne basis, with handling and sorting offered as ancillary services.

The example plant uses insulated panel chambers with multi-temperature zones, a refrigeration plant with standby capacity, a DG set for power back-up and a rooftop solar plant that offsets part of the grid power bill.

The promoter's premise in this example is that local growers lose value when produce must be sold at harvest, and that rentable storage lets them hold stock and sell later. In a real DPR this section would cite the client's market study, catchment survey and letters of intent; none are invented here.

Installed capacity: 5,000 MT. Operating horizon modelled: Years 1-10 after a construction year (Year 0).

3. Cost of project and means of finance

Cost of project	Rs lakh
Land and site development	40.00
Building and civil works	230.00
Refrigeration plant and machinery	250.00
Insulated panels, doors and racking	95.00
Electricals, DG set and fire safety	48.00
Rooftop solar plant	36.00
Contingency	32.95
Preliminary and pre-operative expenses	22.00
Total capital cost	753.95
Margin money / initial cash reserve	18.00
Total project cost	771.95

Means of finance	Rs lakh
Term loan	463.17
Promoter equity	308.78
Total means of finance	771.95

Term loan terms: interest 10.50% a year on the opening balance; moratorium of 2 years from the start of operations; then 7 equal annual principal instalments.

4. Key assumptions

All assumptions below are EXAMPLE DATA for a fictional project and sit on the Inputs sheet of the model; changing them there updates every schedule.

Assumption	Unit	Value
Contingency (on building, plant and equipment)	%	5%
Term loan share of project cost	%	60%
Term loan interest rate (annual)	%	10.5%
Repayment moratorium after start of operations	years	2
Repayment period after moratorium (equal instalments)	years	7
Installed storage capacity	MT	5,000
Average storage rent (all commodities, per MT per year)	Rs per MT	Rs 6,000
Annual rent escalation	%	4%
Ancillary income (handling, sorting) as % of rent	%	10%
Grid power cost per MT stored per year (Year 1)	Rs per MT	Rs 950
Annual power tariff escalation	%	5%
Share of power cost offset by rooftop solar	%	18%
Consumables and packing as % of revenue	%	3%
Salaries and wages (Year 1)	Rs lakh	32.00
Annual salary escalation	%	6%
Repairs and maintenance as % of plant and equipment cost	%	1.5%
Insurance as % of building, plant and equipment cost	%	0.4%
Administration and marketing (Year 1)	Rs lakh	9.00
Annual admin cost escalation	%	5%
Building life (straight line)	years	30
Plant and equipment life (straight line)	years	15
Pre-operative expenses written off over	years	5
Income tax rate (flat, losses carried forward)	%	25.17%
Receivable days (on revenue)	days	45
Payable days (on operating costs)	days	30
Discount rate for project NPV	%	11%
Cost of equity for equity NPV	%	14%
Residual value at end of Year 10 (% of net fixed assets)	%	50%
Lender minimum DSCR (covenant test)	x	1.30x
Representative year for break-even analysis	year no.	4

Capacity utilisation	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Utilisation	55%	65%	75%	80%	80%	82%	82%	82%	82%	82%

5. Financial projections (Rs lakh)

5.1 Projected profit and loss

Line item	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Utilisation	55%	65%	75%	80%	80%	82%	82%	82%	82%	82%
Total revenue	181.50	223.08	267.70	296.96	308.84	329.23	342.40	356.09	370.33	385.15
Operating costs	77.07	85.85	95.32	102.71	107.68	114.15	119.73	125.61	131.80	138.33
EBITDA	104.43	137.23	172.38	194.25	201.16	215.07	222.67	230.48	238.53	246.82
EBITDA margin	57.5%	61.5%	64.4%	65.4%	65.1%	65.3%	65.0%	64.7%	64.4%	64.1%
Depreciation and amortisation	42.48	42.48	42.48	42.48	42.48	38.08	38.08	38.08	38.08	38.08
Interest	48.63	48.63	48.63	41.69	34.74	27.79	20.84	13.90	6.95	0.00
Profit before tax	13.32	46.12	81.26	110.08	123.94	149.20	163.74	178.51	193.51	208.74
Income tax	3.35	11.61	20.45	27.71	31.20	37.55	41.21	44.93	48.71	52.54
Profit after tax	9.96	34.51	60.81	82.38	92.75	111.65	122.53	133.58	144.80	156.20

5.2 Projected cash flow

Line item	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Cash flow from operations	0.00	36.40	72.59	98.57	121.86	134.17	147.75	159.44	170.45	181.63	192.99
Capital expenditure	-753.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity infused	308.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Term loan drawn	463.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Term loan repaid	0.00	0.00	0.00	-66.17	-66.17	-66.17	-66.17	-66.17	-66.17	-66.17	0.00
Net change in cash	18.00	36.40	72.59	32.40	55.69	68.00	81.58	93.28	104.29	115.47	192.99
Closing cash	18.00	54.40	126.99	159.39	215.08	283.08	364.66	457.94	562.22	677.69	870.68

5.3 Projected balance sheet

Line item	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Net fixed assets	753.95	711.47	668.99	626.51	584.03	541.55	503.47	465.39	427.31	389.23	351.15
Trade receivables	0.00	22.38	27.50	33.00	36.61	38.08	40.59	42.21	43.90	45.66	47.48
Cash and bank	18.00	54.40	126.99	159.39	215.08	283.08	364.66	457.94	562.22	677.69	870.68
Total assets	771.95	788.25	823.48	818.90	835.72	862.71	908.72	965.54	1,033.44	1,112.58	1,269.31
Share capital	308.78	308.78	308.78	308.78	308.78	308.78	308.78	308.78	308.78	308.78	308.78
Retained earnings	0.00	9.96	44.48	105.29	187.66	280.41	392.06	514.59	648.17	792.97	949.16
Term loan	463.17	463.17	463.17	397.00	330.84	264.67	198.50	132.33	66.17	0.00	0.00
Trade payables	0.00	6.33	7.06	7.83	8.44	8.85	9.38	9.84	10.32	10.83	11.37
Total equity and liabilities	771.95	788.25	823.48	818.90	835.72	862.71	908.72	965.54	1,033.44	1,112.58	1,269.31
Difference (must be nil)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

6. Cost-benefit analysis, returns and debt service

Project cash flows are EBITDA less tax on EBIT and working-capital changes, after the capital cost of Rs 753.95 lakh in Year 0. Year 10 adds a residual value of 50% of net fixed assets plus recovery of working capital. Discounted at 11%, the present value of inflows exceeds outflows by Rs 163.08 lakh (benefit-cost ratio 1.22x).

Return measure	Value
Project IRR	14.96%
Project NPV (Rs lakh)	163.08
Benefit-cost ratio	1.22x
Equity IRR	20.88%
Equity NPV at cost of equity 14% (Rs lakh)	129.69
Simple payback (years)	5.7
Discounted payback (years)	8.7

6.1 Term loan schedule

Line item	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Opening balance	463.17	463.17	463.17	397.00	330.84	264.67	198.50	132.33	66.17	0.00
Interest	48.63	48.63	48.63	41.69	34.74	27.79	20.84	13.90	6.95	0.00
Principal repayment	0.00	0.00	66.17	66.17	66.17	66.17	66.17	66.17	66.17	0.00
Closing balance	463.17	463.17	397.00	330.84	264.67	198.50	132.33	66.17	0.00	0.00

Debt service	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
Cash available (PAT + D&A + interest)	101.08	125.62	151.92	166.54	169.96	177.52	181.45	185.55	189.83
Debt service (interest + principal)	48.63	48.63	114.80	107.85	100.90	93.96	87.01	80.06	73.11
DSCR	2.08x	2.58x	1.32x	1.54x	1.68x	1.89x	2.09x	2.32x	2.60x

Minimum DSCR 1.32x; average DSCR 2.01x.

Break-even: in the representative year (Year 4) the project covers fixed costs, depreciation and interest at 45.05% utilisation, and covers fixed costs plus full debt service in cash at 52.57%, against planned utilisation of 80%.

Break-even utilisation	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Accounting break-even	50.3%	49.2%	48.2%	45.1%	42.1%	38.1%	35.6%	33.3%	31.1%	29.2%
Cash break-even	35.2%	34.7%	56.0%	52.6%	49.4%	46.4%	43.6%	40.9%	38.5%	19.5%

7. Sensitivity analysis

Each case re-runs the full model with the change shown (changes are set on the Inputs sheet).

Case	Project IRR	NPV (Rs lakh)	Equity IRR	Min DSCR	Avg DSCR	Payback (yrs)
Base case	14.96%	163.08	20.88%	1.32x	2.01x	5.7
Rent -10%	12.05%	41.91	15.33%	1.15x	1.74x	6.5
Utilisation -10 points	11.56%	22.29	14.33%	1.13x	1.70x	6.6
Operating costs +10%	13.88%	117.61	18.81%	1.26x	1.91x	6.0
Capital cost +10%	13.16%	95.91	17.51%	1.22x	1.85x	6.2
Interest rate +2 points	14.96%	163.08	19.40%	1.24x	1.88x	5.7
Combined: rent -10%, costs +10%, capex +10%	9.34%	-70.75	10.22%	1.04x	1.50x	7.3

The weakest case for lenders is "Combined: rent -10%, costs +10%, capex +10%", with a minimum DSCR of 1.04x and a project IRR of 9.34%.

8. Risks and mitigation

Risk	Mitigation
Lower utilisation than planned	Gradual ramp-up built into the utilisation assumptions; break-even utilisation shown in Section 6; tie-ups with traders and processors before commissioning; lower-utilisation case tested in Section 7.
Rent pressure from competing stores	Lower-rent case tested in Section 7; ancillary services add income beyond rent; multi-commodity chambers widen the customer base.
Power cost increases or outages	Power tariff escalation built into costs; rooftop solar offset; DG back-up; higher operating cost case tested.
Capital cost overrun or delay	Contingency included in the project cost; fixed-price contracts for major equipment; higher capital cost case tested.
Interest rate rise	Higher interest rate case tested; DSCR shown for every year of the loan.
Equipment breakdown and stock loss	Maintenance budgeted every year; insurance on building and plant; standby compressors.

9. Feasibility conclusion

- Project IRR of 14.96% is above the 11% discount rate and project NPV is positive at Rs 163.08 lakh.
- Minimum DSCR of 1.32x meets the lender minimum of 1.30x.
- In the weakest case ("Combined: rent -10%, costs +10%, capex +10%") the minimum DSCR falls to 1.04x, below the lender minimum but above 1.00x, so debt is still serviced from operating cash; this case should be discussed with the lender.
- Closing cash stays positive in every year of the base case.
- On these figures the project is economically feasible and bankable at the stated assumptions. The conclusion depends on the assumptions in Section 4, which must be confirmed against the promoter's data.

Appendix: model integrity checks

Model status: ALL CHECKS OK. Checks run on every year: balance sheet balances, closing cash ties to the cash flow, the loan balance ties to drawdowns less repayments, retained earnings equal cumulative profit, sources equal uses, and the sensitivity engine's base case equals the main model.

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