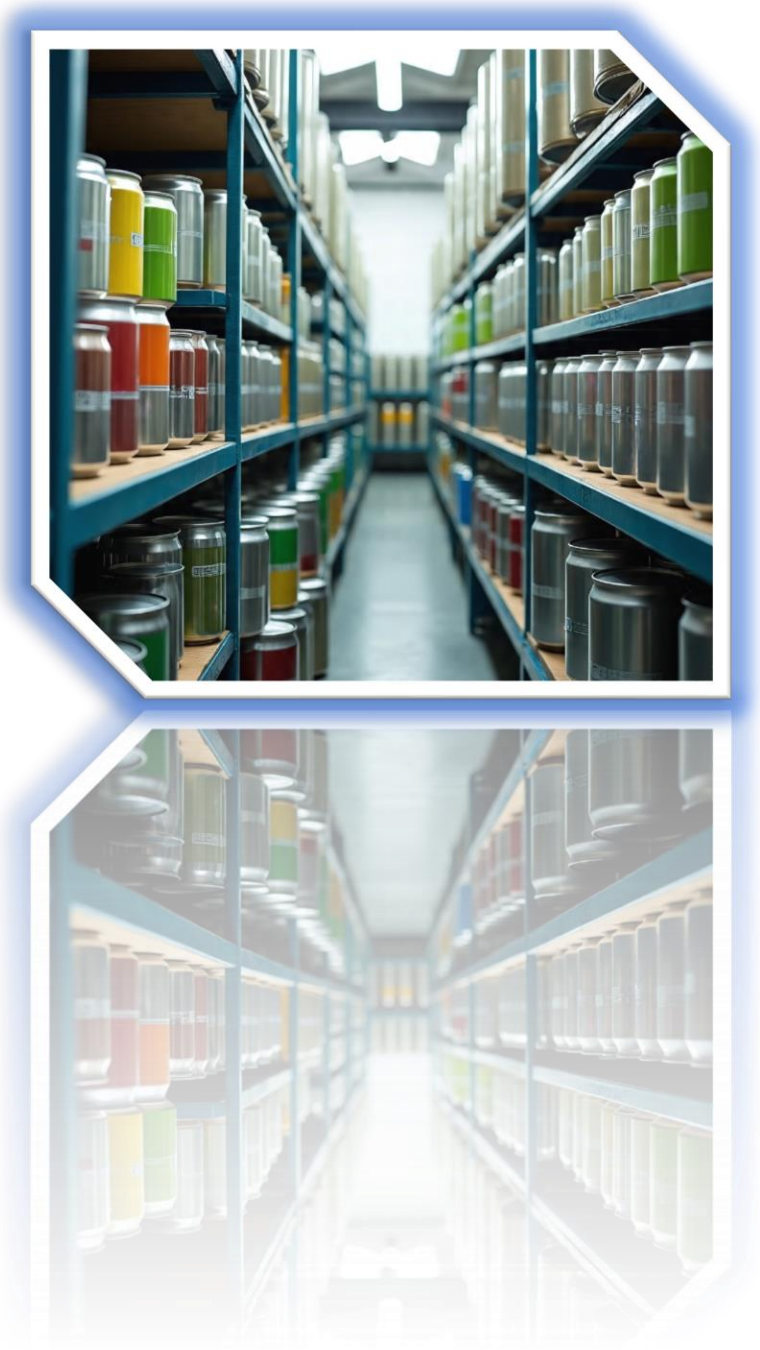
Sustainable Can Manufacturing Unit



Sustainable Can Manufacturing Unit

1. Introduction

The proposed project aims to establish a sustainable can manufacturing unit in Uttarakhand, focusing on the production of eco-friendly metal cans for food, beverages, cosmetics, paints, and other industrial uses. This unit will use recyclable materials like aluminium and tin-plated steel, incorporate energy-efficient machinery, and follow green manufacturing practices. The project is conceived to meet the growing demand for sustainable packaging solutions while generating local employment and reducing environmental footprint.

Uttarakhand has a strategic advantage for such a unit as it is located near major consumer goods markets in North India while having access to industrial clusters in SIDCUL and other regions. The state also offers several incentives under its MSME and industrial policies, making it an ideal location for setting up this kind of manufacturing activity. This project will promote circular economy principles by focusing on reuse and recyclability.

Such a venture will directly contribute to reducing single-use plastics and promoting responsible packaging practices. It will create an alternative supply source for regional beverage, dairy, and processed food units that currently depend on suppliers from other states, thus strengthening the local manufacturing ecosystem.

2. Industry Overview

The global metal can industry is witnessing steady growth driven by increasing demand for safe, durable, and recyclable packaging materials. With rising environmental concerns and government regulations against plastic packaging, metal cans have emerged as a sustainable alternative. Aluminium cans are especially popular due to their high recyclability and low energy requirement for remelting, while tinplate cans are widely used in the food industry.

In India, the metal can packaging industry is valued at over INR 15,000 crore and is projected to grow at a CAGR of 7-9% in the coming years. Growth is being driven by rising consumption of canned beverages, processed foods, and personal care products. Many large FMCG and beverage companies are shifting towards sustainable packaging to meet ESG commitments, creating strong demand for metal cans.

Uttarakhand, with its growing base of food processing, dairy, pharmaceutical, and ayurvedic product manufacturing units, offers a promising market. Currently, most cans used in the state are sourced from faraway states like Maharashtra and Gujarat, adding to logistics cost and carbon emissions, which creates an opportunity for local manufacturing.

3. Products and Application

The unit will manufacture aluminium and tinplate cans of various shapes and sizes, along with matching lids and closures. Product lines will include beverage cans, food storage cans, paint and chemical cans, and cosmetic or personal care product cans. Customisable designs, embossing, and eco-friendly coating options will be provided to serve different industries.

These cans will be used in packaging carbonated drinks, fruit juices, beer, dairy products, ghee, ready-to-eat meals, spices, herbal powders, paints, lubricants, and ointments. Being non-reactive and tamper-resistant, they are suitable for storing a wide range of consumables and industrial products. They are lightweight yet durable, reducing breakage losses during transport.

Future diversification can include manufacturing easy-open ends, aerosol cans, and reusable stainless steel containers for premium sustainable packaging segments. This will enhance revenue and market coverage.

4. Desired Qualification

The enterprise can be promoted by individuals having experience or educational background in mechanical engineering, industrial production, packaging technology, or general manufacturing. While formal technical degrees are not mandatory, prior exposure to manufacturing or packaging operations will be an advantage.

Entrepreneurs should have basic knowledge of quality control, supply chain management, and safety standards for food-contact packaging materials. Understanding sustainability norms and extended producer responsibility regulations will help in marketing to eco-conscious clients.

Skilled technical staff, engineers, and machine operators will be needed, and the promoter should be able to organise training and adopt lean manufacturing techniques to ensure efficiency and cost competitiveness.

5. Business Outlook and Trend

The business outlook for sustainable metal cans is highly positive as industries are under pressure to adopt recyclable and low-carbon packaging. Consumers are also showing a preference for environmentally responsible brands. This shift is expected to drive long-term growth and profitability for such units.

The trend of lightweighting aluminium cans, using water-based coatings, and developing reusable premium containers is gaining ground. E-commerce growth and increasing processed food consumption are also expanding the packaging market. Corporate ESG mandates are pushing large buyers to prioritise sustainable packaging vendors.

Uttarakhand is witnessing increasing establishment of beverage, dairy, herbal, and processed food units, which will drive local demand for metal cans. This assures strong growth prospects for a well-managed unit.

6. Market Potential and Market Issues

Potential customers will include beverage companies, dairy cooperatives, food processors, ayurvedic manufacturers, pharmaceutical companies, cosmetic brands, and paint industries. The state's proximity to major consumption centres like Delhi NCR further expands the market reach.

Market challenges include high capital investment for machinery, price fluctuations in aluminium and tinplate, and competition from established suppliers. Achieving consistent quality and meeting food-grade safety standards will be crucial for market acceptance.

Building customer trust, maintaining reliable delivery schedules, and offering competitive pricing while ensuring sustainability credentials will be key strategies to overcome these challenges.

7. Raw Material and Infrastructure

Key raw materials will include aluminium sheets/coils, tin-plated steel sheets, lacquer coatings, printing inks, and sealing compounds. These can be sourced from suppliers in Haridwar, Rudrapur, and nearby industrial hubs in Delhi NCR. Scrap aluminium can also be recycled as part of the raw material strategy.

The unit will require around 5000 sq. ft. of built-up space including production area, sheet storage, tool room, quality lab, office, and finished goods warehouse. It will require 50 HP power load, 24x7 water supply, proper ventilation, and pollution control arrangements.

Rainwater harvesting, rooftop solar panels, and efficient lighting will be incorporated to make the unit resource-efficient and sustainable.

8. Operational Flow and Flow Chart

The operations will start with procurement and inspection of raw material sheets and coils. These will be fed into can body making machines for cutting, rolling, welding, and flanging. Ends will be manufactured separately and attached after filling trials.

Cans will be printed, lacquered, baked, and quality tested for leakage and strength. Approved cans will be packed and dispatched to clients. Scrap will be collected separately and sent to recyclers, ensuring circular material use.

A digital production management system will track material movement, production metrics, and quality control to ensure efficiency and transparency.

Flow Chart:

Raw Material Procurement
↓
Cutting, Rolling and Welding of Can Bodies
↓
Seaming and Flanging
↓
Printing, Lacquering and Baking
↓
Leakage and Strength Testing
↓
Packing and Dispatch
↓
Scrap Recovery and Recycling

9. Target Beneficiaries

The unit will benefit local industries by providing faster, cost-effective, and sustainable packaging. Food and beverage manufacturers will save logistics costs and lead time. Local farmers indirectly benefit as food processing expands due to better packaging availability.

The venture will create employment for local youth as machine operators, technicians, supervisors, and logistics staff. Women can be engaged in inspection, packing, and administrative roles, promoting inclusive development.

The state will benefit from improved manufacturing base, increased tax revenues, and reduced import of packaging materials from other states, thereby strengthening its self-reliance.

10. Suitable Locations

Suitable locations include SIDCUL industrial areas in Haridwar, Pantnagar, and Sitarganj, as well as industrial estates in Dehradun and Rudrapur. These areas have good road connectivity, power supply, and access to skilled workforce.

Proximity to major FMCG, beverage, and food processing units in Uttarakhand and nearby states will reduce logistics cost and improve turnaround time. Industrial incentives and land availability are additional advantages in these zones.

Setting up within an industrial area also simplifies approvals from pollution control, factory licensing, and power utilities.

11. Manpower Requirement

Around 35 people will be needed initially including plant manager, engineers, quality supervisors, machine operators, helpers, packers, and administrative staff. Skilled machine operators will be trained in sheet handling, welding, printing, and lacquering.

Periodic refresher training and safety drills will be conducted to maintain efficiency and safety. Collaboration with local ITIs and polytechnics can ensure a steady supply of trained manpower.

Gradually, as production scales, the workforce can be expanded to include design and R&D teams for customised products.

12. Implementation Schedule

Activity	Timeline (Months)
DPR preparation and clearances	0–2
Site selection and land development	2–4
Building construction	3–6
Machinery procurement and installation	4–7
Recruitment and training	5–7
Trial production and quality checks	7–8
Commercial production launch	8–9

13. Estimated Project Cost

Cost Head	Amount (INR)
Land and building	25,00,000
Machinery and equipment	40,00,000
Raw material and initial inventory	8,00,000
Power and utilities setup	3,00,000
Training and skill development	2,00,000
Salaries and wages (first year)	10,00,000
Marketing and branding	3,00,000
Contingencies	4,00,000
Total Estimated Cost	95,00,000

14. Means of Finance

Funding can be arranged with 25% promoter equity and 60% term loan from banks or SIDBI. The remaining 15% can be availed as capital subsidy under the Uttarakhand MSME Policy and Credit Linked Capital Subsidy Scheme. Working capital limits can be availed through cash credit.

Investors focusing on sustainable manufacturing may be approached. Tie-ups with buyers for advance orders can also support working capital requirements.

Maintaining proper documentation and quality certifications will help in availing finance and government incentives.

15. Revenue Streams

Revenue will come primarily from the sale of aluminium and tinplate cans to various industries. Offering customised printing and branding services will add to revenue. Supplying lids and closures as ancillary products will also bring income.

Sale of scrap aluminium and steel to recyclers will generate additional revenue. Providing design consultancy and packaging development services for clients can be another revenue stream.

Long-term supply contracts with FMCG and beverage companies can ensure stable recurring revenues.

16. Profitability Streams

Profitability will improve through economies of scale, reduction in per-unit fixed cost, and efficient scrap recovery. Offering premium printed cans at higher margins will boost profits.

Energy-efficient machinery and local raw material sourcing will reduce production costs. Automation in welding and lacquering will increase productivity and reduce wastage.

Reputation as a sustainable local supplier will support price premiums and long-term contracts, improving profitability.

17. Break-even Analysis

Parameter	Estimate
Total project cost	95,00,000
Average monthly sales	10,00,000
Average monthly expenses	6,00,000
Monthly net surplus	4,00,000
Break-even period	24–26 months

18. Marketing Strategies

Marketing will focus on building the brand as a sustainable local packaging partner. Direct marketing to food and beverage companies, dairy units, and ayurvedic product manufacturers will be done. Participation in trade fairs and packaging expos will build visibility.

Digital marketing through a professional website, LinkedIn, and B2B platforms like IndiaMART will be used. Sustainability certifications and EPR compliance will be highlighted in all marketing materials.

Long-term supply contracts, volume discounts, and just-in-time delivery options will help win large customers.

19. Machinery Required and Vendors

Machinery	Quantity	Purpose	Suggested Vendors (Uttarakhand)
Can body making machine (welding & flanging)	2	Forming can bodies	Haridwar SIDCUL industrial vendors
Sheet cutting and slitting machine	1	Cutting raw material sheets	Rudrapur machine suppliers
Printing and lacquering line	1	Printing and coating cans	Selaqui industrial area vendors
Curing/baking oven	1	Curing lacquered surfaces	Dehradun industrial suppliers
Leakage testing and QC equipment	2 sets	Quality control	Pantnagar suppliers
Scrap baling machine	1	Recycling of leftover sheets	Haridwar MSME vendors
Material handling equipment (cranes, pallets)	4 sets	Internal logistics	Rudrapur equipment dealers

20. Environmental Benefits

The unit will reduce plastic packaging waste by supplying recyclable metal cans. Aluminium cans can be recycled endlessly with minimal energy, thus lowering carbon emissions. Using water-based coatings and energy-efficient ovens will further reduce the carbon footprint.

Rainwater harvesting, solar panels, and waste segregation will make the operations eco-friendly. Scrap will be fully recycled, ensuring zero waste manufacturing.

Local manufacturing will reduce transportation emissions from importing cans from distant states, further enhancing sustainability benefits.

21. Future Opportunities

Future opportunities include expanding capacity, adding aerosol and easy-open cans, and exporting to nearby hill states and Nepal. Collaboration with large beverage and FMCG companies can bring assured bulk orders.

Setting up an in-house recycling unit to reuse post-consumer cans can create a closed-loop system and open access to green financing. Premium designer metal containers for luxury brands can be developed as a high-margin niche.

Over time, the unit can become a leading sustainable packaging supplier from Uttarakhand, creating employment, reducing plastic use, and contributing to the circular economy.

Disclaimer

Only a few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not imply any recommendation.