
Investment Opportunities Map

Jordan Investment Board

Metal Caps Project

Pharmaceutical Sector

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May 26th, 2005



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The Project at a Glance

Project Name	Metal caps
Project Production Capacity	90 tons / year
Manpower	10
Total Investment Cost	US\$ 311,000
Initial Working Capital	US\$ 70,000
Internal Rate of Return (IRR)	28.4 %
Breakeven Point	31 % of Production Capacity

Metal Caps Project

1. Introduction

1.1 Product Uses and Description

Glass bottles are used by pharmaceutical industries for packaging products in the forms of liquid, suspension and powder. Closures of glass bottles are mostly metal caps, while plastic caps are also used.

The quality of metal caps is an important factor in drug packaging to insure that the composition or activity of the packaged drug is not effected .The cap should also open smoothly.

In general, metal caps are made of high quality aluminum, with diameters ranging between 22-28 mm depending on the bottle size. The average weight of the metal cap is about 2gm.

In addition to the pharmaceutical industry, large quantities of metal caps are widely used by other industries using glass bottles for filling products, such as soft drink, juice and liquor industries.

1.2 Potential Consumers:

1. Pharmaceutical manufacturing companies.
2. Soft drink, juice and liquor producers.
3. Export markets.

2. Market Aspects

2.1 Trade Balance

In the absence of exports and re-exports, the total annual imports represent the domestic market size of metal caps.

External trade statistics (table 1) indicates that the average annual imports of metal stoppers, caps and lids over the years 1999 – 2003 was 570 tons (US\$ 2.3 million in value) .

Table (1)
Imports of Metal stoppers, caps and lids.

Year	1000 US\$	Tons
1999	1188	599
2000	1530	453
2001	5472	1130
2002	3121	625
2003	86	41
Average	2279	570

Source: Department of Statistics.

2.2 Estimated Local Demand

As indicated earlier, local demand for metal caps comes from the pharmaceutical and bottled products industries.

Table (2) shows the results of a field survey concerning the average annual consumption of glass bottles by the Jordanian pharmaceutical manufacturing companies during 2003 & 2004.

Table (2)
Consumption of Glass Bottles
(Pharmaceutical Industry's Average for 2003 & 2004)

Bottle Size	100 ml	125 ml	150 ml	Up to - 200 ml	Total
Million Units	2.52	4.75	1.31	0.99	9.57

The average total current consumption of glass bottles is about 9.6 million units/year, which generates demand for approximately the same number of metal caps.

2.3 Forecasted Future Demand

During the last five years, consumption of pharmaceutical products in Jordan increased by an annual average rate of 7 %. Based on this rate, the local demand for metal caps could be projected to become 20.2 million units in the year 2015, which is equivalent to about 40 tons of metal caps.

Table (3)
Forecasted Future Demand

Year	2005	2010	2015
Million Units	10.3	14.4	20.2

However, the current demand for metal caps by the pharmaceutical manufacturers is 19 tons, representing only 3 % of the total domestic demand size on metal caps, stoppers and lids.

2.4 Imports & Competition

In the absence of local production, the main source of competition is imports. Currently, imports come from Saudi Arabia, Italy and Turkey.

2.5 Project Capacity

The proposed project annual capacity is 100 tons, based on 8 working hours/day and 300 working days per year.

The project's production is expected to progress as in table (4)

Table (4)
Production Size Development

Year	Capacity Utilization	ton
1	50 %	50
2	70 %	70
3+	90 %	90

2.6 Projected Sales Revenues

Pharmaceutical companies are currently purchasing metal caps at an average price of US\$ 1.2 / 100 units, equivalent to US\$ 6,000 / ton.

The project's metal caps proposed sales price is US\$ 0.9 per 100 units (about US\$ 4500/ton).

Consequently, the projected revenues of the project are shown in table (5)

**Table (5)
Projected Sales Revenues**

Year	1	2	3
US\$	225,000	315,000	405,000

3. Technical Aspects

3.1 Project Location

The project will mainly serve the pharmaceutical manufacturers, soft drink, juice and liquor producers. These targeted clients are mostly located in the middle province of Jordan. Therefore, it is proposed to locate the project in one of the industrial cities in the middle province of Jordan..

3.2 Manpower

**Table (6)
Manpower Requirements**

Job	Required No.
General Manager	1
Administrative Clerk	2
Technician	2
Laborer	5
Total	10

The total annual salaries and wages of the above employees (including fringe benefits), in addition to overhead and administrative expenses are estimated at US\$ 65 thousands.

3.3 Land & Buildings

Table (7)
Land and Buildings Cost

Item	Area m ²	Cost US\$
Land (Industrial cities)	1000	28,000
Buildings	500	70,000

3.4 Raw Materials

Metal caps are made of thin aluminum or tin sheets imported as rolls .Aluminum rolls' major sources are Bahrain , India and Australia .The average current import price of aluminum sheets is US\$ 2100/ton on C & F basis .

3.5 Technology

A main source of machinery and equipment for the project is Russia.

4. Financial Aspects

Basic Assumptions

The financial analysis and indicators are based on the following assumptions:

1. Project operational life is 10 years.
2. Internal Rate of Return (IRR) is calculated at 100% equity ratio.
3. Income tax is calculated at 15% on net taxable income.
4. Net Present Value (NPV) is calculated at 12% discounted annual rate.
5. Initial working capital is based on the operating expenses needed for three months.
6. Operating expenses comprise raw materials, labor cost and overheads, utilities and other expenses.
7. Pre -operating expenses consist of studies fees, capital issue, licensing, training, trial operations and other similar expenses.

4.1 Project Investment Cost

Table (8)
Total Investment Cost

Item	US\$
Land	28,000
Buildings	70,000
Machinery & Equipment	90,000
Transport means	15,000
Sub- Total (Fixed Assets)	203,000
Contingency (10%)	20,000
Pre – Operating Expenses	18,000
Initial Working Capital	70,000
Total Investment Cost	311,000

4.2 Financial Indicators

- ROI = 27.8 %
- IRR = 28.4%
- NPV = 261 Thousand US\$
- BEP = 31 % of Production Capacity
- Payback Period = 4 Years.