

Pre-Feasibility Study

PET Bottles Crushing Unit



Small and Medium Enterprises Development Authority

Ministry of Industries & Production

Government of Pakistan

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June, 2019

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1 DISCLAIMER

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Document Control

Document No.	PREF-NO: 01
Revision	01
Prepared by	SMEDA-Balochistan
Revision Date	June, 2019
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2 EXECUTIVE SUMMARY

The PET Bottles Crushing Plant is proposed to be established as a plastic bottles crushing facility at a location where utilities especially electricity, infrastructure and other provisions essential for the production process are conveniently available. Suburbs around the cities like Karachi, Hyderabad, Lahore, Faisalabad, Gujranwala, Multan, Rawalpindi, Quetta, Peshawar etc. are suitable locations to setup the project. The proposed project is assumed to crush abandoned plastic bottles.

The machine would have a production capacity of 1,080 tonnes per year at 100% capacity utilization. But initially at the capacity of 80% the machine will generate 864 tonnes in the first year with 5% capacity utilization growth rate annually.

The total cost estimates are Rs. 10,503,915/- for this project. Out of which total capital costs are Rs. 9,539,387/- and total working capital would be Rs. 964,528/-

The most significant considerations and equally important factors for success of the project include the selection of appropriate plant & equipment because the more efficient plant & equipment means low input and high output. Same way, relevant management experience is required to run the business smoothly. Power / energy mix, marketing efficiency and linkages are equally important factors to successfully run the business.

3 INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with an objective to provide fresh impetus to the economy through development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out 'sectoral research' to identify policy, access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives.

Preparation and dissemination of prefeasibility studies in key areas of investment has been a successful hallmark of SME facilitation by SMEDA.

Concurrent to the prefeasibility studies, a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of experts and consultants and delivery of need based capacity building programs of different types in addition to business guidance through help desk services.

4 PURPOSE OF THE DOCUMENT

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document/study covers various aspects of project concept development, start-up, and production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in PET bottles crushing units by providing them with a general understanding of the business with the intention of supporting potential investors in crucial investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business set-up and it's successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later on, which form basis of any Investment Decision.

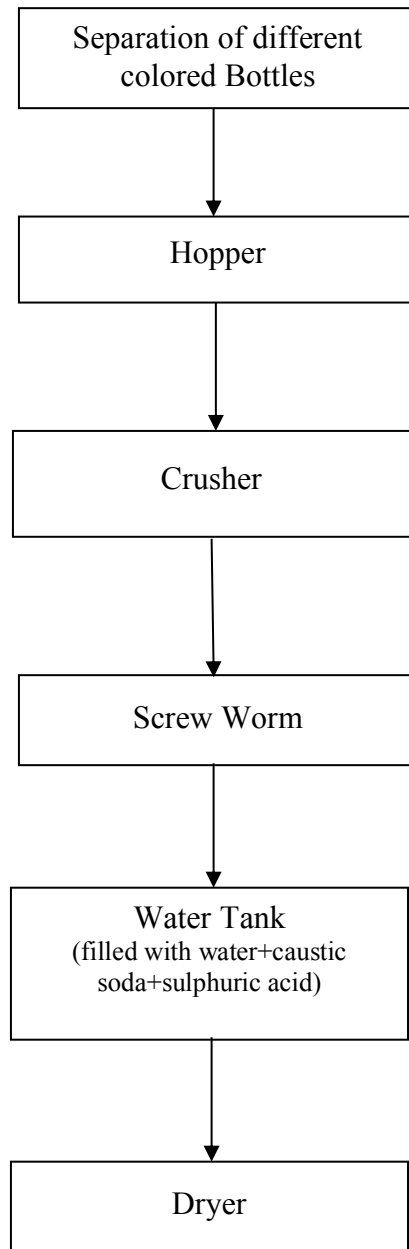
5 BRIEF DESCRIPTION OF PROJECT & PRODUCT

There are many different types of plastic and have different use of plastic in our everyday life, which has made it an integral component in almost everything. Plastic is used in everyday items like ballpoint pen, buckets, containers, glasses, water pipes, plastic bags, bottles etc. The proposed facility is to use abandoned plastic bottles for production of up to 500 kg/hr crushed plastic components. The unit is proposed to be established as a manufacturing facility at a location where utilities, infrastructure and other provisions essential for the production process are conveniently available such as Suburbs around the cities like Karachi, Hyderabad, Lahore, Faisalabad, Gujranwala, Multan, Rawalpindi, Quetta, Peshawar etc. are suitable locations to setup the project. The project is assumed to be operated 8 hours a day. The setup would have an installed capacity to crush 864 tonnes of plastic bottles at 80% capacity utilization in the first year.

The business will be setup in a premises having covered area of 23,100 sq.ft.

- **Technology:** On the technology front, local machines have dominated the Pakistani production industry since long. These machines are time tested. Easy availability of machine parts and abundant technicians makes Pakistani machinery the first choice for the entrepreneurs. New Pakistani machines are easily available in the local market.
- **Location:** Outskirts around the cities like Karachi, Hyderabad, Lahore, Faisalabad, Gujranwala, Multan, Rawalpindi, Quetta, and Peshawar etc. are suitable locations to setup the project.
- **Product:** The plant will crush PET bottles and produce 500kg/hr of crushed plastic components.
- **Employment Generation:** The proposed project will provide direct employment to 13 people.

5.1 Production Process Flow



5.1.1 Bottles separation:

It is the first step to be taken as PET bottles from the market are abandon bottles of different colors and bought specifically as per the weight. 5 labors are to be engaged for this separation process.

5.1.2 Hopper

It is a funnel-shaped opening mouth of the machine, where separated bottles are to be dumped-in. This has to be a manual process, so a machine operator has to take care of this phase.

5.1.3 Crusher

Down from the hopper, a crusher is attached. This is the main component of this machine as this part is responsible for crushing the bottles into small pieces. Several blades move while cutting the bottle into crushed pieces.

5.1.4 Scew Worm

This is a spiral-shaped tunnel like component, whose purpose is to transport the crushed product into a water tank.

5.1.5 Water Tank

This tank is filled with water, caustic soda and sulphuric acid. Crushed components from screw worms fall into this tank for proper washing of the pieces.

5.1.6 Dryer

At the end of this machine a dryer is attached. Washed components from the water tank could be wet, so dryer will dry the pieces and throw them out of the machine to be picked up by a labor.

5.2 Installed And Operational Capacities

The machine would have an installed capacity to crush 500kg/hr of PET bottles into a crushed plastic product. The project is assumed to start initially with 80% capacity utilization to produce 864 tonnes of crushed plastic in first year with 8 hours of operation a day (single shift).

At 95% capacity utilization, the production breakdown of the product is shown in the table below:

Table 5.2: Production Capacity

Unit	Per Day	Per Month	Per Year
Production	4000 kg	90,000 kg	1,080,000 kg
Hours	8	180	2,160

6 CRITICAL FACTORS

The main critical success factors that affect the decision to invest in the proposed business setup are:

- Selection of appropriate plant and equipment
- Relevant management experience
- Power / Energy mix
- Marketing efficiency
- Linkages

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

It is recommended that the company should be located where utilities especially electricity, infrastructure and other provisions essential for the production process are conveniently available. Suburbs around the metropolitan cities like Karachi, Hyderabad, Lahore, Faisalabad, Gujranwala, Multan, Rawalpindi, Quetta, Peshawar etc. are suitable locations to setup the project.

8 PROJECT COST SUMMARY

8.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of 850 tonnes in the year one. The capacity utilization during year one is worked out at 80 % with 5 % increase in subsequent years up to the maximum capacity utilization of 95%

The following table shows internal rate of return, payback period and net present value of the proposed venture.

Table 1: Project Economics

Description	Details
Internal Rate of Return (IRR)	32%
Payback Period (yrs.)	4.94
Net Present Value (Rs.)	16,125,008

8.2 Project Financing

Following table provides details of the equity required and variables related to bank loan;

Table 2: Project Financing

Description	Details
Total Equity (50%)	Rs. 5,251,958
Bank Loan (50%)	Rs. 5,251,958
Markup to the Borrower (%age / annum)	16 %
Tenure of the Loan (Years)	4.94

8.3 Project Cost

Following fixed and working capital requirements have been identified for operations of the proposed business.

Table 3: Project Cost

Description	Amount Rs.
Capital Cost	
Plant and Machinery	3,400,000
Furniture & Fixture	2,40,000
Building/Infrastructure	3,870,000
Land	1,255,555
Office Equipment	73,500

Pre-operating Cost	700,332
Total Capital Cost	9,539,387
Working Capital	
Equipment spare part inventory	25,488
Raw Material Inventory	269,040
Upfront insurance payment	170,000
Cash	5,00,000
Total Working Capital	964,528
Total Project Cost	10,503,915

8.4 Space Requirement

The space requirement for the proposed PET bottles crushing plant is estimated considering various facilities including land purchasing, management cabin, workshop area, storage, etc. Details of space requirement and cost related to land & building is given below;

Table 4: Space Requirement

Description	Estimated Area (Sq ft)	Unit Cost (Rs.)	Total Cost (Rs.)
Management Cabin	400	-	-
Factory	2000	-	-
Store	500	-	-
Cafeteria	200	-	-
Pavement/driveway	10,000	-	-
Ground	10,000	-	-
Total civil works	23,100	-	3,870,000
Land requirement	-	-	1,255,555
Total space requirement	-	-	5,125,555

8.5 Machinery and Equipment

The machine selected for this project would have an installed capacity to crush 500 kg/hr of PET bottles into a crushed plastic product. The project is assumed to start initially with 80% capacity utilization to produce 864 tonnes of crushed plastic in first year with 8 hours of operations in a day. A transformer of 50KV will be required to run the machinery smoothly.

Plant, machinery and equipment for the proposed project are stated below.

Table 5: Machinery & Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
PET bottle crushing plant with blower	1	30,00,000	30,00,000
Transformer (50KV)	1	400,000	400,000
Total	2	3,400,000	3,400,000

8.6 Raw Material Requirement

The raw material required for the production process is abundant plastic bottles from the metropolitan cities like Karachi, Hyderabad, Lahore, Faisalabad, Gujranwala, Multan, Rawalpindi, Quetta, Peshawar etc. So, outskirts around these cities would be suitable location for this project.

Rs.269,040/- to be reserved to purchase raw material from the market for processing.

8.7 Furniture & Fixtures Requirement

Details of the furniture and fixture required for the project are given below;

Table 6: Furniture & Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Furniture (Tables/chairs)	1	-	60,000
Carpeting	400	300	120,000
Air Conditioners (1.5 ton)	1	60,000	60,000

Total	-	-	240,000
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8.8 Office Equipment Requirement

Following office equipment will be required for a PET bottles crushing unit;

Table 7: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Desktop Computers	1	50,000	50,000
Printer	1	20,000	20,000
Telephone Sets	1	3,500	3,500
Total	3	73,500	73,500

8.9 Human Resource Requirement

In order to run operations of a PET bottles crushing unit smoothly, details of human resources required along with number of employees and monthly salary are recommended as under;

Table 8: Human Resource Requirement

Description	No. of Employees	Monthly Salary per person (Rs.)
CEO/Owner	1	70,000
Operations Manager	1	35,000
Marketing Manager	1	35,000
Accounts and Admin Officer	1	20,000
Machine Operator	1	22,000
Labor (material separation)	5	18,000
Office boy	1	18,000
Guard	2	18,000
Total	13	326,000

8.10 Utilities and Other Costs

An essential cost to be borne by the project is the cost of electricity. The electricity expenses are estimated to be around Rs. 380,483/- per year.

8.11 Revenue Generation

Based on the capacity utilization of 80%, sales revenue during the first year of operations is estimated as under;

Table 9: Revenue Generation – Year 1

# of Units produced	Units available for Sale	Sales price/unit	Sales Revenue
864	850	50,000	42,480,000

9 CONTACT DETAILS

In order to facilitate potential investors, contact details of private sector Service Providers relevant to the proposed project is given as below;

9.1 Machinery Suppliers

Name of Suppliers	Address	Phone	E-mail	Website
1. Tariq Khan	Multan	0300-8633874	-	-
2. SAMA Engineering	Sama House, 2-A 1/32 Nazimabad #2, Karachi	021-36602467 36603311	info@samaengineering.com	www.samaengineering.com

10 USEFUL WEB LINKS

Small & Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
Government of Pakistan	www.pakistan.gov.pk
Ministry of Industries & Production	www.moip.gov.pk
Government of Punjab	www.punjab.gov.pk
Government of Sindh	www.sindh.gov.pk
Government of Khyber Pakhtunkhwa	www.khyberpakhtunkhwa.gov.pk
Government of Balochistan	www.balochistan.gov.pk
Government of Gilgit Baltistan	www.gilgitbaltistan.gov.pk
Government of Azad Jamu Kashmir	www.ajk.gov.pk
Trade Development Authority of Pakistan (TDAP)	www.tdap.gov.pk
Security Commission of Pakistan (SECP)	www.secp.gov.pk
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	www.fpcci.com.pk
Punjab Small Industries Corporation	www.psic.gop.pk
Sindh Small Industries Corporation	www.ssic.gos.pk

11 ANNEXURES

11.1 Income Statement

Statement Summaries										SMEDA
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Rs. in actuals Year 10
Revenue	42,480,000	50,440,500	58,751,550	68,220,405	75,108,330	82,619,163	90,881,079	99,969,187	109,966,106	120,962,717
Cost of goods sold	37,684,480	42,825,447	47,753,424	53,097,608	56,090,392	59,212,541	62,522,317	66,032,230	69,755,724	73,707,259
Gross Profit	4,795,520	7,615,053	10,998,126	15,122,797	19,017,938	23,406,622	28,358,762	33,936,958	40,210,382	47,255,457
<i>General administration & selling expenses</i>										
Administration expense	2,645,040	2,902,565	3,185,163	3,495,275	3,835,579	4,209,017	4,618,813	5,068,507	5,561,984	6,103,506
Rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	-	-	-	-	-	-	-	-	-	-
Travelling & Comm. expense (phone, fax, etc.)	51,360	56,360	61,848	67,869	74,477	81,728	89,686	98,418	108,000	118,515
Office vehicles running expense	-	-	-	-	-	-	-	-	-	-
Office expenses (stationary, etc.)	25,680	28,180	30,924	33,935	37,239	40,864	44,843	49,209	54,000	59,257
Promotional expense	424,800	504,405	587,516	682,204	751,083	826,192	908,811	999,692	1,099,661	1,209,627
Insurance expense	170,000	153,000	136,000	119,000	102,000	85,000	68,000	51,000	34,000	17,000
Professional fees (legal, audit, etc.)	212,400	252,203	293,758	341,102	375,542	413,096	454,405	499,846	549,831	604,814
Depreciation expense	564,850	564,850	564,850	564,850	564,850	564,850	564,850	564,850	564,850	564,850
Amortization expense	140,066	140,066	140,066	140,066	140,066	-	-	-	-	-
Property tax expense	-	-	-	-	-	-	-	-	-	-
Miscellaneous expense	1,274,400	1,513,215	1,762,547	2,046,612	2,253,250	2,478,575	2,726,432	2,999,076	3,298,983	3,628,881
Subtotal	5,508,596	6,114,844	6,762,670	7,490,913	8,134,087	8,699,322	9,475,840	10,330,597	11,271,308	12,306,451
Operating Income	(713,076)	1,500,209	4,235,455	7,631,884	10,883,851	14,707,300	18,882,922	23,606,361	28,939,074	34,949,006
Other income	25,000	-	-	33,805	117,109	289,308	545,421	825,511	1,134,421	1,520,660
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	(688,076)	1,500,209	4,235,455	7,665,690	11,000,960	14,996,608	19,428,343	24,431,872	30,073,495	36,469,666
Interest expense	1,078,344	1,172,228	799,872	397,395	200,925	-	-	-	-	-
Earnings Before Tax	(1,766,421)	327,981	3,435,583	7,268,294	10,800,034	14,996,608	19,428,343	24,431,872	30,073,495	36,469,666
Tax	-	-	639,086	2,325,854	3,456,011	4,798,915	6,217,070	7,818,199	9,623,518	11,670,293
NET PROFIT/(LOSS) AFTER TAX	(1,766,421)	327,981	2,796,497	4,942,440	7,344,023	10,197,694	13,211,273	16,613,673	20,449,977	24,799,373
Balance brought forward		(1,766,421)	(1,438,440)	1,358,057	3,150,249	5,247,136	7,722,415	10,466,844	13,540,258	16,995,118
Total profit available for appropriation	(1,766,421)	(1,438,440)	1,358,057	6,300,497	10,494,272	15,444,830	20,933,688	27,080,517	33,990,235	41,794,491
Dividend	-	-	-	3,150,249	5,247,136	7,722,415	10,466,844	13,540,258	16,995,118	20,897,245
Balance carried forward	(1,766,421)	(1,438,440)	1,358,057	3,150,249	5,247,136	7,722,415	10,466,844	13,540,258	16,995,118	20,897,245

11.2 Balance Sheet

Statement Summaries											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Rs. in actuals										
Assets											
<i>Current assets</i>											
Cash & Bank	500,000	-	-	-	676,107	1,666,066	4,120,104	6,788,313	9,721,901	12,966,527	17,446,667
Accounts receivable	-	3,491,507	3,818,651	4,487,345	5,218,026	5,890,222	6,481,952	7,130,147	7,843,162	8,627,478	9,490,226
Finished goods inventory	-	638,720	714,458	796,628	885,737	934,840	986,876	1,042,039	1,100,537	1,162,595	1,228,454
Equipment spare part inventory	25,488	30,333	35,411	41,212	45,476	50,137	55,276	60,942	67,189	74,076	-
Raw material inventory	269,040	320,183	373,786	435,015	480,025	529,228	583,474	643,280	709,216	781,911	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	170,000	153,000	136,000	119,000	102,000	85,000	68,000	51,000	34,000	17,000	-
Total Current Assets	964,528	4,633,742	5,078,306	5,879,200	7,407,371	9,155,493	12,295,682	15,715,720	19,476,005	23,629,586	28,165,347
<i>Fixed assets</i>											
Land	1,255,555	1,255,555	1,255,555	1,255,555	1,255,555	1,255,555	1,255,555	1,255,555	1,255,555	1,255,555	1,255,555
Building/Infrastructure	3,870,000	3,676,500	3,483,000	3,289,500	3,096,000	2,902,500	2,709,000	2,515,500	2,322,000	2,128,500	1,935,000
Machinery & equipment	3,400,000	3,060,000	2,720,000	2,380,000	2,040,000	1,700,000	1,360,000	1,020,000	680,000	340,000	-
Furniture & fixtures	240,000	216,000	192,000	168,000	144,000	120,000	96,000	72,000	48,000	24,000	-
Office vehicles	-	-	-	-	-	-	-	-	-	-	-
Office equipment	73,500	66,150	58,800	51,450	44,100	36,750	29,400	22,050	14,700	7,350	-
Total Fixed Assets	8,839,055	8,274,205	7,709,355	7,144,505	6,579,655	6,014,805	5,449,955	4,885,105	4,320,255	3,755,405	3,190,555
<i>Intangible assets</i>											
Pre-operation costs	700,332	560,265	420,199	280,133	140,066	-	-	-	-	-	-
Legal, licensing, & training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	700,332	560,265	420,199	280,133	140,066	-	-	-	-	-	-
TOTAL ASSETS	10,503,915	13,468,213	13,207,861	13,303,838	14,127,093	15,170,298	17,745,637	20,600,826	23,796,260	27,384,992	31,355,902
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable	-	2,808,049	3,183,683	3,541,447	3,925,103	4,127,204	4,336,065	4,555,624	4,786,444	5,029,116	5,206,700
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	3,098,492	2,939,052	270,019	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	5,906,541	6,122,735	3,811,467	3,925,103	4,127,204	4,336,065	4,555,624	4,786,444	5,029,116	5,206,700
<i>Other liabilities</i>											
Lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	-	-	544,000	544,000	544,000	435,200	326,400	217,600	108,800	-
Long term debt	5,251,958	4,076,135	3,271,608	2,338,356	1,255,784	-	-	-	-	-	-
Total Long Term Liabilities	5,251,958	4,076,135	3,271,608	2,882,356	1,799,784	544,000	435,200	326,400	217,600	108,800	-
<i>Shareholders' equity</i>											
Paid-up capital	5,251,958	5,251,958	5,251,958	5,251,958	5,251,958	5,251,958	5,251,958	5,251,958	5,251,958	5,251,958	5,251,958
Retained earnings	-	(1,766,421)	(1,438,440)	1,358,057	3,150,249	5,247,136	7,722,415	10,466,844	13,540,258	16,995,118	20,897,245
Total Equity	5,251,958	3,485,537	3,813,518	6,610,015	8,402,206	10,499,094	12,974,372	15,718,802	18,792,216	22,247,075	26,149,203
TOTAL CAPITAL AND LIABILITY	10,503,915	13,468,213	13,207,861	13,303,838	14,127,093	15,170,298	17,745,637	20,600,826	23,796,260	27,384,992	31,355,902
<i>Note: Total assets value will differ from project cost due to first installment of leases paid at the start of year 0</i>											

11.3 Cash Flow Statement

Statement Summaries											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Rs. in actuals Year 10
<i>Operating activities</i>											
Net profit	-	(1,766,421)	327,981	2,796,497	4,942,440	7,344,023	10,197,694	13,211,273	16,613,673	20,449,977	24,799,373
Add: depreciation expense	-	564,850	564,850	564,850	564,850	564,850	564,850	564,850	564,850	564,850	564,850
amortization expense	-	140,066	140,066	140,066	140,066	140,066	-	-	-	-	-
Deferred income tax	-	-	-	544,000	-	-	(108,800)	(108,800)	(108,800)	(108,800)	(108,800)
Accounts receivable	-	(3,491,507)	(327,144)	(668,694)	(730,681)	(672,196)	(591,730)	(648,195)	(713,015)	(784,316)	(862,748)
Finished good inventory	-	(638,720)	(75,738)	(82,170)	(89,109)	(49,103)	(52,036)	(55,163)	(58,499)	(62,058)	(65,859)
Equipment inventory	(25,488)	(4,845)	(5,078)	(5,801)	(4,264)	(4,661)	(5,139)	(5,666)	(6,247)	(6,887)	74,076
Raw material inventory	(269,040)	(51,143)	(53,604)	(61,229)	(45,010)	(49,203)	(54,246)	(59,806)	(65,936)	(72,695)	781,911
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(170,000)	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000	17,000
Accounts payable	-	2,808,049	375,634	357,765	383,656	202,101	208,860	219,559	230,820	242,672	177,583
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(464,528)	(2,422,670)	963,967	3,602,285	5,178,948	7,492,878	10,176,453	13,135,053	16,473,847	20,239,743	25,377,386
<i>Financing activities</i>											
Change in long term debt	5,251,958	(1,175,822)	(804,528)	(933,252)	(1,082,572)	(1,255,784)	-	-	-	-	-
Change in short term debt	-	3,098,492	(159,440)	(2,669,033)	(270,019)	-	-	-	-	-	-
Change in export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-	-	-
Change in lease financing	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	5,251,958	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financ	10,503,915	1,922,670	(963,967)	(3,602,285)	(1,352,592)	(1,255,784)	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(9,539,387)	-	-	-	-	-	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by invest	(9,539,387)	-	-	-	-	-	-	-	-	-	-
NET CASH	500,000	(500,000)	-	-	3,826,356	6,237,094	10,176,453	13,135,053	16,473,847	20,239,743	25,377,386
Cash balance brought forward	-	500,000	-	-	-	676,107	1,666,066	4,120,104	6,788,313	9,721,901	12,966,527
Cash available for appropriation	500,000	-	-	-	3,826,356	6,913,202	11,842,519	17,255,157	23,262,159	29,961,644	38,343,912
Dividend	-	-	-	-	3,150,249	5,247,136	7,722,415	10,466,844	13,540,258	16,995,118	20,897,245
Cash carried forward	500,000	-	-	-	676,107	1,666,066	4,120,104	6,788,313	9,721,901	12,966,527	17,446,667

12 KEY ASSUMPTIONS

12.1 Economy Related Assumptions

Description	Details
Inflation rate	10%
Wage rate growth	10%
Electricity growth rate	10%

12.2 Production Assumptions

Description	Details
Maximum attainable capacity in percentage	95%
Capacity utilization (1 st year) in percentage	80%
Production capacity in units (80% in first year)	864 tonnes
Production capacity utilization growth rate	5%
Sales price growth rate in percentage	10%

12.3 Revenue Assumptions

Description	Details
Production capacity	95%
Sales price per unit in year 1	50,000/tonne
Maximum capacity utilization	95%

12.4 Financial Assumptions

Description	Details
Debt	50%
Equity	50%
Return on Equity	16%