Pre-feasibility Study

CALCIUM CARBONATE PRODUCTION UNIT

June 2020

"The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, andrevenues can change daily. For accurate financial calculations, utilize financial calculators on SMEDA's website and consult financial experts to stay current with market conditions."

Small and Medium Enterprises Development Authority
Ministry of Industries and Production
Government of Pakistan

Table of Contents

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This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data/information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant/technical expert before taking any decision to act upon the information.

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Document Control

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2 EXECUTIVE SUMMARY

Calcium Carbonate Production Unit is proposed to be located at Quetta, Loralai, Kohlu, Barkhan, Sibi, Dera Murad Jamali, Gilgit, Chitral, Peshawar, Lahore, Faisalabad, Lasbela, Hub, Karachi, Islamabad etc.

Product include **Calcium Carbonate Powder for Industrial and Commercial Use**

Capacity; Installed capacity **35,000 Tons** and initial utilization **21,000 Tons, 60%**

Total Cost Estimates is **Rs. 62,197,140** with fixed investment **Rs. 58,388,631 and** working capital **Rs. 3,808,509.**

Given the cost assumptions IRR and payback are **37 %** and **3.47 years** respectively

The most critical considerations or factors for success of the project are:

- Most significant consideration

  Recognizable deposits of Calcium Carbonate in the country.

  Availability of large variety of Calcium Carbonate mix.

  Availability of hard working & low-cost labor.

  Increasing inland trends towards use of Calcium Carbonate Powder.

  Large and established world markets.

  Improved technological changes available.

- Equally important factor

  Emphasizing on excellent services to its customers such as standardized products and timely order fulfillment.

  New machinery should be purchased in order to increase the efficiency and lower the maintenance cost.

  Refurbished standardized machinery is also recommended.

  Adapt to the rapid, social, economic and technological changes.

  Hiring of well-trained / experienced staff will add in the efficiency of the facility.

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 **Calcium Carbonate Production Unit** 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

This project envisages production of Calcium Carbonate Powder which is having a very bright prospect in industrial use. Calcium carbonate is largely employed in the pulp and paper industry. It can be used as a filler and pigment, making possible the production of a whiter, higher quality pigment than other minerals.

In the construction industry, calcium carbonate is used as a filler in concrete, increasing its durability and appearance and to purify metals for use in construction applications. It plays an important role in construction as an ingredient in cement.

Another application of calcium carbonate is in fertilizers to provide calcium to plants and pH stabilization of the soil. It is used in medicinal industries which manufacture antacids, tablets which are made of base materials etc.

Calcium carbonate can also be an additive to food products for livestock animals and humans and as a supplement in vitamins.

In water and sewer treatment plants, calcium carbonate is employed in the removal of acidity and impurities.

It is used as calcium supplements, manufacture of paints, paper, plastics, etc.

Calcium Carbonate industry is of particular relevance to Pakistan conditions, in view of the adequate availability of raw material namely Lime Stone and Calcite in the country and also the fact that the economic capacity of Calcium Carbonate and the project cost would not be high. This would make it possible to implement the project in medium scale sector.

With regard to the cost of production, fuel and energy factors are important and such energy factors have to be maintained at competitive level.

With regard to the quality of the product, international companies produce products in various grades catering to the requirements of individual user sector like PVC, Paper etc. Pakistani units are yet to make large number of grades of products, for meeting the specific requirements of end users.

In the case of cosmetic industry, there appears to be particular preference for micronized calcium carbonate, in view of its higher surface area.

5.1 Uses of Calcium Carbonate

As a filler in rigid and plasticized PVC to improve impact strength. As a filler in PVC footwear and cable compounds/cables to improve surface gloss and other physical properties.
In emulsion paints as a white pacifying agent. As an anti-settling agent in paints and printing inks as an extender assisting in the control of strength and body of the

ink. As a polishing agent in window and mirror cleaners and polishes. In powder coatings
In talcum powder, Calcium Carbonate is used to increase fluffiness and control absorption characteristics, depilatory creams, face powders as a perfume carrier, sunscreen preparations.

As a filler in leather cloth sheeting's, paper coating for brightness, smoothness, opacity and ink receptivity, cigarette paper for control of opacity and burning rate. As a cost-effective filler in alkaline sized papers giving high brightness and opacity.

- As a calcium source
- As an antacid
- As a neutralization and filtration aid in antibiotic manufacture
- As a buffering and dissolution aid in soluble tablets.
- As a bulking agent in tableting
- Food and Beverages
- As a calcium supplement
- In effervescent powder drinks
- In chewing gum
- To neutralize excess acid in food and wine manufacture
- As a filtration aid.

In PVC plastisol's as a rheology modifier, particularly for car underbody. Sealant applications on polyurethane, polysulphide and silicone. Sealants for construction and insulation glass applications, as rheology modifier giving slump control.

Significance of the applications

Calcium carbonate is used as fillers in the above joint fillers.
Caulks and sealants require less Calcium carbonate than putty due to their lower viscosity.
Flue gas desulphurization - Calcium Carbonate traps the sulfur oxygen compounds produced in the combustion of coal, Insecticides, polishes, shoe dressings, filler in matches, pencils, crayons etc., linoleum, insulating compounds, welding rods

For water analysis and in preparing Calcium carbonate solutions for standardizing soap solutions.

Thrust Area for Demand in the Market

The paper industry is the largest consumer of Calcium carbonate, as a filler and in coatings. Coarser particle size grades (over 2 micron) are used as fillers, where alkaline pigment with low water demand is preferred. Most of the Calcium carbonate go into paper coatings alone or in conjunction with clay. In this

application, Calcium carbonate adds brightness, opacity and better printing ink receptivity.

Paint industry is second in consumption of Calcium carbonate. They are widely used both in alkyd and latex flat wall paints. These grades provide uniform floating, as well as good colour and uniformity on recoat and overlap.

The miscellaneous end use areas are in foods and pharmaceuticals. Calcium carbonate are approved by the Foods and Drug Administration, primarily for Calcium enrichment for chewing gum based and for cherry brining.

Following key parameters must be addressed as per pre-feasibility study under preparation

- **Technology:** This proposed unit with modern processing and production machines including Jaw Crusher, Hammer Crusher, Ball Mill, Pin Mill, Hopper Assy, Calssifier, Feeder, Elevators and Silos, Powder Collector, Dust Cleaner, Air Compressor, Induced Draft Fan, Sound Proof Space, Cyclone, etc.
- **Location:**The unit would be located in or near an area where the raw material is available easily like Quetta, Loralai, Sibi, Kohlu Barkhan, Mardan, Mohmand Agency, Peshawar, Lahore, Faisalabad, Lasbela, Hub, Karachi, Islamabad or any other site where raw material can be transported easily.
- **Product:** The unit would produce Calcium Carbonate Powder industrial and commercial uses.
- **Target Market:** As domestic consumption is available, Calcium Carbonate industry will be dependent largely on the local market. But Calcium Carbonate powder can be exported.
- **Employment Generation:** The proposed project will provide direct employment to 18 people. Financial analysis shows the unit shall be profitable from the very first year of operation.

5.2 Production Process Flow

5.3 Manufacturing Process:

The process flow shows processing of Calcium Carbonate via classifying separation. Feed preparation involves primary and secondary crushing and grinding followed by classifying to a predetermined size (5 to 20 micron). The Calcium Carbonate is elevated to Hammer Mill to produce a preliminary Calcium Carbonate concentrate, producing the final Calcium Carbonate product the coarse Calcium Carbonate goes into ball mill and then into classifier which classifies and send Calcium Carbonate powder according to specific micron size to the specified silo for packing. Larger size is diverted toward ball mill for further fine grinding according to the size. The final Calcium Carbonate product is used as a feed to produce high quality dry-ground Calcium Carbonate Powder.
Finally, laborers pack the Calcium Carbonate powder.

5.4 Installed And Operational Capacities

The total installed capacity of the project is 35,000 Tons of Calcium Carbonate Powder along with assumed operational capacity of 60% during the first year of operations i.e. 21,000 Tons of Calcium Carbonate Powder. A gradual increase of 4% in production capacity per annum.

6 CRITICAL FACTORS

Calcium Carbonate Powder have a wide range of application, not only in industrial sector but also in the beauty and other industries. Certain critical factors involved during the production process of Calcium Carbonate Powder are:

- Proximity to the source of good quality Limestone or Calcite. The Calcium Carbonate units have to be located near the deposits.

- The operating parameters of the project from the point of view of the energy requirements have to be carefully studied.
- Considering the fact that the consumers of Calcium Carbonate like toothpaste would opt for good quality of the product even without consideration for marginal increase in price, ensuring adequate quality would significantly help the project in the competitive market.
- It is necessary to avoid putting up small size plant, since it would make it difficult to introduce adequate energy and quality management techniques in small plants.
- The scope for optimization of the quality and energy management and also the growth rate in demand would justify a plant of large capacity.
- Availability of skilled labor.
- Awareness about the environmental issues related to the processing of Calcium Carbonate.
- Higher return on investment and a steady growth of business is closely associated with regular training and capacity building of the entrepreneur and employees.
- Prior experience and related education in the related field of business.

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

It is suitable to establish the production unit Quetta, Kohlu, Barkhan, Hub, Loralai, Bostan, Sibi, Peshawar, Lahore and Karachi. However such a unit could be established in other parts of the country provided the main conditions are fulfilled such as Availability of Limestone and Calcite with high percentage of calcium carbonate. Along with, manpower availability, accessibility to markets, and reasonable demand & usage of Calcium Carbonate Powder should be considered.

8 POTENTIAL TARGET CUSTOMERS / MARKETS

As domestic consumption is available, calcium carbonate industry will be dependent largely on the local market. Most of the calcium carbonate used for industrial and commercial applications could be produced.

9 PROJECT COST SUMMARY

9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 215.65 million in the year one. The capacity utilization during year one is worked out at 60% with 4% 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)	37%
Payback Period (yrs.)	3.473
Net Present Value (Rs.)	95,380,864

9.2 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. 31,098,570
Bank Loan (50%)	Rs. 31,098,570
Markup to the Borrower (%age / annum)	16%
Tenure of the Loan (Years)	5 Years

9.3 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	
Land	6,433,333
Building / Infrastructure	22,327,240
Plant and Machinery	23,549,000
Furniture & Fixture	532,500
Office Equipment	497,500
Pre-operating Cost	807,059
Office vehicle	4,242,000
Total Capital Cost	**58,388,631**
Working Capital	
Equipment Spare Parts Inventory	481,250
Raw Material Inventory	1,437,709
Up-front Insurance Payments	1,389,550
Cash	500,000
Total Working Capital	**3,808,509**
Total Project Cost	**62,197,140**

9.4 Space Requirement

The space requirement for the proposed **Calcium Carbonate Production Unit** is estimated considering various facilities including management office, production hall, storage, open space, etc. Details of space requirement and cost related to land & building is given below;

Table 4: Space Requirment

Description	Estimated Area (Sqft)	Unit Cost (Rs.)	Total Cost (Rs.)
Management Office	500	1,200	600,000
Working Shed Area	15,000	1,258	18,867,240
Cafeteria	400	1,000	400,000
Drive way / Pavement	20,000	50	1,00,000
Grounds	22,000	30	660,000
Restrooms	800	1,000	800,000
Total	**58,700**		**22,327,240**

9.5 Machinery & Equipment Requirement

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

Table 5: Machinery & Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Jaw Crusher	1	2,500,000	2,500,000
Hammer Mill	1	2,800,000	2,800,000
Ball Mill	1	2,800,000	2,800,000
Pin Mill	1	3,400,000	3,400,000
Classifier	1	3,200,000	3,200,000
Feeder	1	400,000	400,000
Elevators and Silos	1	450,000	450,000
Powder Collector	1	300,000	300,000
Dust Cleaner	1	500,000	500,000
Air Compressor	1	800,000	800,000
Induced Draft Fan	1	200,000	200,000
Generator	1	800,000	800,000
Packing Machine	1	800,000	800,000
Cyclone	1	300,000	300,000
Installation	1	450,000	450,000
Total machinery cost			19,700,000
GST 17%		0.17	
Total			23,049,000

Transportation charges	1	500,000	500,000
Total			**23,549,000**

9.6 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.)
Tables	3	6,000	18,000
Executive Chairs	3	5,000	15,000
Visitors Chairs	7	3,500	24,500
Carpeting & Wiring	1,000	385	385,000
Air Conditioners (2 ton Split)	1	90,000	90,000
Total			**532,500**

9.7 Office Equipment Requirement

Following office equipment will be required for **Calcium Carbonate Production Unit**;

Table 7: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Laptop	2	50,000	50,000
Printer	1	20,000	20,000
Fax Machine	1	20,000	20,000
Telephone Exchange	1	150,000	150,000
Telephone Sets	3	2,500	7,500
Photo Copier	1	200,000	200,000
Total			**497,500**

9.8 Human Resource Requirement

In order to run operations of **Calcium Carbonate Production Unit** smoothly, details of human resources required along with number of employees and monthly salary are recommended as under;

Table 8: Human Resource Requirment

Description	No. of Employees	Monthly Salary per person (Rs.)
CEO	1	50,000
Manager	1	45,000
Supervisor	1	35,000
Electrician	1	25,000
Accountant cum Receptionist	1	22,000
Salesman	2	22,000
Skilled Worker	4	22,000
Semi-Skilled Worker	4	18,000
Mechanic	1	25,000
Security Guard	2	18,000
Total	**18**	**442,000**

9.9 Utilities and other costs

An essential cost to be borne by the project is the cost of electricity and gas. The electricity expenses are estimated to be around Rs. 712,890 / year. Furthermore, promotional expense being essential for marketing of **Calcium Carbonate Production Unit** is estimated as 1% of administrative / Cost of Sales expenses.

9.10 Revenue Generation

Based on the capacity utilization of 60% for Calcium Carbonate powder Sales revenue during the first year of operations is estimated as under;

Table 9: Revenue Generation – Year 1

Description	No. of Tons Produced (No.)	Finished Goods Inventory (Tons)	Units available for Sale (Tons)	Sale Price / Ton (Rs.)	Sales Revenue (Rs.)
Calcium Carbonate Powder	21,000	1,750	19,250	11,203	215,656,375

10 CONTACT DETAILS

In order to facilitate potential investors, contact details of private sector Service Providers relevant to the proposed project be given.

10.1 Machinery Suppliers

Name of Supplier	Address	Phone	Fax	E-mail	Website
Turchmir Engineering (services) Comapny	Nawab Chowk, Bagrian Road, Town ship, Lahore	042-35113377	042-35123388	info@ turchmir .pk	www. turchmir .pk
New England Machinery	Main G.T.Road Daroghawala Chowk, Lahore	042-6559373		new_england_ machines @yahoo.com	www.new England machinery store.enic.pk

10.2 Raw Material Suppliers

Name of Supplier	Address	Phone	Fax	E-mail	Website
Syed Saif Ullah	Quetta	03003901366			
Abdul Qayyum	Quetta	03458346975			

10.3 Technical Experts / Consultants

Name of Expert/ Organization	Address	Phone	Fax	E-mail	Website
Pakistan mineral Development Corporation (PMDC)	13-H/9, Islamabad, Pakistan	051-9265123-4	051-9265127-28	pmdc@ isb.com sats.net .pk	www.p mdc.go v.pk
PCSIR Laboratories Quetta	Mastung Road, near Main Ghundi, Quetta	081-2460128, 2460161	081-2460158	pcsirqta @qta.p aknet.c om.pk	www.pc sir.gov. pk

11 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
Ministry of Education, Training & Standards in Higher Education	http://moptt.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
State Bank of Pakistan (SBP)	www.sbp.org.pk
Punjab Small Industries Corporation	www.psic.gop.pk
Sindh Small Industries Corporation	www.ssic.gos.pk
Pakistan Horticulture Development and Export Company (PHDEC)	www.**phdec**.org.pk
Punjab Vocational Training Council (PVTC)	www.**pvtc**.gop.pk
Technical Education and Vocational Training Authority (TEVTA)	www.**tevta**.org
Pakistan Readymade Garment Technical Training Institute	www.prgmea.org/**prgtti**/
Pakistan Council of Scientific and Industrial Research (PCSIR).	http://www.pcsir.gov.pk
Punjab Industrial Estates (PIE)	www.pie.com.pk
Faisalabad Industrial Estate Development and Management Company (FIEDMC)	www.fiedmc.com.pk

12 ANNEXURES

12.1 Income Statement

Statement Summaries **SMEDA**
Income Statement

Rs. in actuals

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	215,656,375	274,602,451	321,040,457	374,020,040	434,385,134	503,083,048	581,176,692	669,858,236	770,464,320	876,017,932
Cost of goods sold	186,655,100	237,378,915	276,801,640	321,735,033	372,887,011	431,051,963	497,120,974	572,093,211	657,088,635	746,359,435
Gross Profit	29,001,275	37,223,536	44,238,817	52,285,007	61,498,124	72,031,084	84,055,718	97,765,025	113,375,685	129,658,497
General administration & selling expenses										
Administration expense	2,719,200	3,722,689	4,085,135	4,482,870	4,919,328	5,398,281	5,923,865	6,500,621	7,133,531	7,828,061
Rental expense	-	-	-	-	-	-	-	-	-	-
Utilities expense	712,890	784,179	862,597	948,856	1,043,742	1,148,116	1,262,928	1,389,220	1,528,143	1,680,957
Travelling & Comm. expense (phone, fax, etc.)	24,720	33,843	37,138	40,753	44,721	49,075	53,853	59,097	64,850	71,164
Office vehicles running expense	127,260	139,986	153,985	169,383	186,321	204,954	225,449	247,994	272,793	300,072
Office expenses (stationary, etc.)	24,720	33,843	37,138	40,753	44,721	49,075	53,853	59,097	64,850	71,164
Promotional expense	2,156,564	2,746,025	3,210,405	3,740,200	4,343,851	5,030,830	5,811,767	6,698,582	7,704,643	8,760,179
Insurance expense	1,389,550	1,250,595	1,111,640	972,685	833,730	694,775	555,820	416,865	277,910	138,955
Professional fees (legal, audit, etc.)	1,078,282	1,373,012	1,605,202	1,870,100	2,171,926	2,515,415	2,905,883	3,349,291	3,852,322	4,380,090
Depreciation expense	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462
Amortization expense	161,412	161,412	161,412	161,412	161,412	(0)	(0)	(0)	(0)	(0)
Property tax expense	-	-	-	-	-	-	-	-	-	-
Miscellaneous expense	-	-	-	-	-	-	-	-	-	-
Subtotal	12,393,059	14,244,044	15,263,112	16,425,475	17,748,214	19,088,984	20,791,881	22,719,229	24,897,504	27,229,105
Operating Income	16,608,216	22,979,492	28,975,705	35,859,532	43,749,909	52,942,101	63,263,838	75,045,796	88,478,182	102,429,393
Other income	-	-	-	-	-	-	-	-	-	-
Gain / (loss) on sale of assets	-	-	-	-	-	-	-	-	-	-
Earnings Before Interest & Taxes	16,608,216	22,979,492	28,975,705	35,859,532	43,749,909	52,942,101	63,263,838	75,045,796	88,478,182	102,429,393
Interest expense	4,566,685	3,662,162	2,825,404	1,844,497	694,608	-	-	-	-	-
Earnings Before Tax	12,041,531	19,317,329	26,150,301	34,015,035	43,055,301	52,942,101	63,263,838	75,045,796	88,478,182	102,429,393
Tax	3,853,290	6,181,545	8,368,096	10,884,811	13,777,696	16,941,472	20,244,428	24,014,655	28,313,018	32,777,406
NET PROFIT/(LOSS) AFTER TAX	8,188,241	13,135,784	17,782,205	23,130,224	29,277,605	36,000,628	43,019,410	51,031,141	60,165,164	69,651,987
Balance brought forward		8,188,241	15,993,019	25,331,418	36,346,231	49,217,877	63,913,879	80,199,967	98,423,331	118,941,371
Total profit available for appropriation	8,188,241	21,324,025	33,775,224	48,461,641	65,623,836	85,218,505	106,933,289	131,231,108	158,588,494	188,593,358
Dividend	-	5,331,006	8,443,806	12,115,410	16,405,959	21,304,626	26,733,322	32,807,777	39,647,124	47,148,339
Balance carried forward	8,188,241	15,993,019	25,331,418	36,346,231	49,217,877	63,913,879	80,199,967	98,423,331	118,941,371	141,445,018

12.2 Balance Sheet

Statement Summaries **SMEDA**
Balance Sheet

Rs. in actuals

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
Current assets											
Cash & Bank	500,000	573,512	7,422,704	12,726,534	18,603,347	24,671,421	38,591,025	53,375,251	69,234,142	86,509,506	123,922,006
Accounts receivable	-	7,385,492	8,394,843	10,199,365	11,901,721	13,842,554	16,052,537	18,566,091	21,421,831	24,663,057	28,193,189
Finished goods inventory	-	16,968,645	19,885,145	23,180,433	26,935,956	31,210,807	36,071,294	41,591,795	47,855,706	54,956,504	62,360,727
Equipment spare part inventory	481,250	643,431	789,854	966,209	1,178,259	1,432,830	1,738,011	2,103,374	2,540,244	3,032,670	-
Raw material inventory	1,437,709	2,013,751	2,589,726	3,318,804	4,239,889	5,401,469	6,863,933	8,702,428	11,010,391	13,770,696	-
Pre-paid annual land lease	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Pre-paid insurance	1,389,550	1,250,595	1,111,640	972,685	833,730	694,775	555,820	416,865	277,910	138,955	-
Total Current Assets	3,808,509	28,835,427	40,193,912	51,364,031	63,692,901	77,253,855	99,872,620	124,755,804	152,340,224	183,071,389	214,475,922
Fixed assets											
Land	6,433,333	6,433,333	6,433,333	6,433,333	6,433,333	6,433,333	6,433,333	6,433,333	6,433,333	6,433,333	6,433,333
Building/Infrastructure	22,327,240	21,210,878	20,094,516	18,978,154	17,861,792	16,745,430	15,629,068	14,512,706	13,396,344	12,279,982	11,163,620
Machinery & equipment	23,549,000	21,194,100	18,839,200	16,484,300	14,129,400	11,774,500	9,419,600	7,064,700	4,709,800	2,354,900	0
Furniture & fixtures	532,500	479,250	426,000	372,750	319,500	266,250	213,000	159,750	106,500	53,250	-
Office vehicles	4,242,000	3,817,800	3,393,600	2,969,400	2,545,200	2,121,000	1,696,800	1,272,600	848,400	424,200	-
Office equipment	497,500	447,750	398,000	348,250	298,500	248,750	199,000	149,250	99,500	49,750	-
Total Fixed Assets	57,581,572	53,583,110	49,584,648	45,586,187	41,587,725	37,589,263	33,590,801	29,592,339	25,593,877	21,595,415	17,596,953
Intangible assets											
Pre-operation costs	807,059	645,647	484,235	322,823	161,412	(0)	(0)	(0)	(0)	(0)	(0)
Legal, licensing, & training costs	-	-	-	-	-	-	-	-	-	-	-
Total Intangible Assets	807,059	645,647	484,235	322,823	161,412	(0)	(0)	(0)	(0)	(0)	(0)
TOTAL ASSETS	62,197,140	83,064,185	90,262,796	97,273,041	105,442,038	114,843,118	133,463,420	154,348,143	177,934,100	204,666,803	232,072,874
Liabilities & Shareholders' Equity											
Current liabilities											
Accounts payable	-	14,873,201	18,938,223	22,168,309	25,861,640	30,080,111	34,893,723	40,381,670	46,633,575	53,737,551	59,529,286
Export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Short term debt	-	-	-	-	-	-	-	-	-	-	-
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Total Current Liabilities	-	14,873,201	18,938,223	22,168,309	25,861,640	30,080,111	34,893,723	40,381,670	46,633,575	53,737,551	59,529,286
Other liabilities											
Lease payable	-	-	-	-	-	-	-	-	-	-	-
Deferred tax	-	3,853,290	4,039,328	4,175,072	4,310,816	4,446,560	3,557,248	2,667,936	1,778,624	889,312	-
Long term debt	31,098,570	25,050,882	20,193,656	14,499,672	7,824,780	-	-	-	-	-	-
Total Long Term Liabilities	31,098,570	28,904,172	24,232,984	18,674,744	12,135,596	4,446,560	3,557,248	2,667,936	1,778,624	889,312	-
Shareholders' equity											
Paid-up capital	31,098,570	31,098,570	31,098,570	31,098,570	31,098,570	31,098,570	31,098,570	31,098,570	31,098,570	31,098,570	31,098,570
Retained earnings	-	8,188,241	15,993,019	25,331,418	36,346,231	49,217,877	63,913,879	80,199,967	98,423,331	118,941,371	141,445,018
Total Equity	31,098,570	39,286,811	47,091,589	56,429,988	67,444,801	80,316,447	95,012,449	111,298,537	129,521,901	150,039,941	172,543,588
TOTAL CAPITAL AND LIABILITI	62,197,140	83,064,185	90,262,796	97,273,041	105,442,038	114,843,118	133,463,420	154,348,143	177,934,100	204,666,803	232,072,874
Note: Total assets value will differ from project cost due to first installment of leases paid at the start of year 0	-	-	-	-	-	-	-	-	-	-	-

12.3 Cash Flow Statement

Statement Summaries **SMEDA**

Cash Flow Statement

Rs. in actuals

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Operating activities											
Net profit	-	8,188,241	13,135,784	17,782,205	23,130,224	29,277,605	36,000,628	43,019,410	51,031,141	60,165,164	69,651,987
Add: depreciation expense	-	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462	3,998,462
amortization expense	-	161,412	161,412	161,412	161,412	161,412	(0)	(0)	(0)	(0)	(0)
Deferred income tax	-	3,853,290	186,038	135,744	135,744	135,744	(889,312)	(889,312)	(889,312)	(889,312)	(889,312)
Accounts receivable	-	(7,385,492)	(1,009,351)	(1,804,522)	(1,702,356)	(1,940,834)	(2,209,983)	(2,513,554)	(2,855,740)	(3,241,227)	(3,530,132)
Finished good inventory	-	(16,968,645)	(2,916,499)	(3,295,288)	(3,755,523)	(4,274,851)	(4,860,487)	(5,520,501)	(6,263,911)	(7,100,798)	(7,404,223)
Equipment inventory	(481,250)	(162,181)	(146,423)	(176,355)	(212,049)	(254,571)	(305,181)	(365,363)	(436,870)	(492,426)	3,032,670
Raw material inventory	(1,437,709)	(576,042)	(575,975)	(729,078)	(921,084)	(1,161,580)	(1,462,465)	(1,838,495)	(2,307,963)	(2,760,305)	13,770,696
Pre-paid building rent	-	-	-	-	-	-	-	-	-	-	-
Pre-paid lease interest	-	-	-	-	-	-	-	-	-	-	-
Advance insurance premium	(1,389,550)	138,955	138,955	138,955	138,955	138,955	138,955	138,955	138,955	138,955	138,955
Accounts payable	-	14,873,201	4,065,021	3,230,087	3,693,331	4,218,471	4,813,612	5,487,947	6,251,905	7,103,975	5,791,735
Other liabilities	-	-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(3,308,509)	6,121,200	17,037,424	19,441,621	24,667,115	30,298,813	35,224,231	41,517,549	48,666,667	56,922,488	84,560,839
Financing activities											
Change in long term debt	31,098,570	(6,047,688)	(4,857,226)	(5,693,984)	(6,674,891)	(7,824,780)	-	-	-	-	-
Change in short term debt	-	-	-	-	-	-	-	-	-	-	-
Change in export re-finance facility	-	-	-	-	-	-	-	-	-	-	-
Add: land lease expense	-	-	-	-	-	-	-	-	-	-	-
Land lease payment	-	-	-	-	-	-	-	-	-	-	-
Change in lease financing	-	-	-	-	-	-	-	-	-	-	-
Issuance of shares	31,098,570	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares	-	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financ	62,197,140	(6,047,688)	(4,857,226)	(5,693,984)	(6,674,891)	(7,824,780)	-	-	-	-	-
Investing activities											
Capital expenditure	(58,388,631)	-	-	-	-	-	-	-	-	-	-
Acquisitions	-	-	-	-	-	-	-	-	-	-	-
Cash (used for) / provided by invest	(58,388,631)	-	-	-	-	-	-	-	-	-	-
NET CASH	500,000	73,512	12,180,198	13,747,636	17,992,223	22,474,032	35,224,231	41,517,549	48,666,667	56,922,488	84,560,839
Cash balance brought forward		500,000	573,512	7,422,704	12,726,534	18,603,347	24,671,421	38,591,025	53,375,251	69,234,142	86,509,506
Cash available for appropriation	500,000	573,512	12,753,710	21,170,340	30,718,758	41,077,380	59,895,651	80,108,574	102,041,919	126,156,630	171,070,345
Dividend	-	-	5,331,006	8,443,806	12,115,410	16,405,959	21,304,626	26,733,322	32,807,777	39,647,124	47,148,339
Cash carried forward	500,000	573,512	7,422,704	12,726,534	18,603,347	24,671,421	38,591,025	53,375,251	69,234,142	86,509,506	123,922,006

13 KEY ASSUMPTIONS

13.1 Operating Assumptions

Description	Details
Days operational per month	22.5
Days operational per year	270

13.2 Production Assumptions

Description	Details
Maximum Capacity Utilization	95%
Total Production of tons per day	130
Total Production of tons per month	2916.7
Total Production of the unit per year (100%)	35,000

13.3 Economy Related Assumptions

Description	Details
Electricity price growth rate	10%
Wage growth rate	10%
Sales price growth rate	10%

13.4 Cash Flow Assumptions

Description	Details
Accounts Receivable cycle (in days)	13
Accounts payable cycle (in days)	30

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