
Pre-Feasibility Study

LPG MARKETING & DISTRIBUTION BUSINESS



Small and Medium Enterprises Development Authority

Ministry of Industries & Production

Government of Pakistan

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December 2020

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1 DISCLAIMER

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Document Control

Document No.	PREF-NO 25
Revision	No. 2
Prepared by	SMEDA Punjab - OS
Revision Date	December, 2020
For information	Helpdesk.punjab@smeda.org.pk

2 EXECUTIVE SUMMARY

LPG (Liquefied Petroleum Gas) is the generic name for commercial propane and commercial butane. These are hydrocarbon products produced by the oil and gas industries. LPG is used as fuel for cooking and heating in the rural and northern areas of Pakistan. It is also used as fuel in vehicles particularly taxi and rickshaws. The demand of LPG in major cities is consistent throughout the year and increases during winters in Punjab and Northern Pakistan.

LPG production is a capital intensive business and requires huge investment. However, LPG Marketing and Distribution business comparatively requires low investment and can be executed on small levels. This particular pre-feasibility study provides basic information for setting up 'LPG Marketing and Distribution Company', in any major city of Pakistan. The proposed marketing and distribution company will setup a bottling plant with storage tanks and filling dispensers.

The proposed LPG Marketing and Distribution Company will have a capacity of filling and distributing around 66,000 tons of LPG annually. The starting operational capacity is assumed at 60% (i.e. 3,960 tons) with a gradual increase of 10% in subsequent years. This production capacity is estimated to be economically viable and justifies the project costs. However, entrepreneur's knowledge of industry, timely allocation of LPG quota, and strong linkage with sub-distributors and retailers network are key factors for the success of this business.

The proposed LPG plant entails a total investment of Rs. 48.527 million. This includes capital investment of Rs. 42.510 million and Rs. 6.017 million as initial working capital. The project assumed to be financed through 100% equity. The Net Present Value (NPV) of the project is Rs. 38.785 million with an Internal Rate of Return (IRR) of 31% and a Payback Period of 3.74 years. The project will provide employment opportunities to 18 individuals including owner / manager. The legal business status of this project is proposed as 'Sole Proprietorship'.

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 **LPG Marketing & Distribution Business** 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 its 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

LPG (Liquefied Petroleum Gas) is the generic name for commercial propane and commercial butane. These are hydrocarbon products produced by the oil and gas industries. Commercial Propane predominantly consists of hydrocarbons containing three carbon atoms, mainly propane (C₃H₈). LPG is used as fuel for cooking and heating as a replacement of conventional fuels like coal, firewood, kerosene, dung cake etc, in rural, peri-urban and the northern areas of Pakistan. It is also used as fuel in vehicles particularly taxi and Rickshaws.

LPG production is a capital intensive business and requires huge investment depending upon the technology and methodology employed for the extraction and processing of LPG. However, LPG Marketing and distribution needs comparatively less investment and can be considered by the Small and Medium scale investors. The proposed project envisages setting up of a LPG marketing and distributing company which is generally known as LPG bottling plant business.

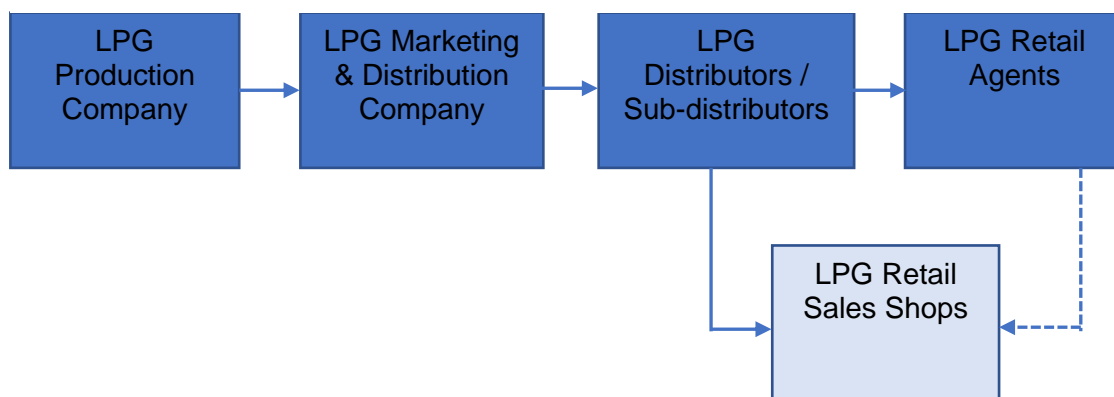
LPG marketing and distribution business will setup a bottling plant with 2 storage tanks (60 tonnes of storage capacity each) and filling dispensers. The business facility will hold a certain quantity of LPG quota, allocated by one of the LPG producer and this allocated LPG will be supplied to the proposed marketing and distribution company through Bowzer (gas supplying trucks). The company will store this LPG in its storage facility from where, supply to the sub-distributors will be made. Sub-distributors will bring their cylinders and get them filled against payment.

The legal status of the business in this document has been kept as 'Sole Proprietorship.

5.1 LPG Distribution Process (Supply Chain)

Typical distribution process and supply chain of LPG has been illustrated in the following diagram:

Figure 1: LPG Distribution Process Flow



Marketing and distribution companies uplift LPG from the production site using own/rented bowzers and store it at their storage site. In Karachi such sites are located at Port Qasim, Hub, Super Highway etc. Marketing/distribution companies which are also known as bottling companies fill gas cylinders with LPG and store them for distribution.

Appointed Distributors/Sub-distributors bring their gas cylinders on their own vehicles on the marketing company site, get them filled (or exchange them with the filled cylinders), make payment and carry their cylinders on the distribution point.

From distribution points cylinders are supplied to the retailers or agents from where it is provided to the end user. In case of household or commercial use small capacity cylinders (normally 6 kg to 11.8 kg) are further filled and supplied to the users directly by the sub-distributor. This filling process also be carried out at marketing company site and sub-distributors uplift cylinders from the site and store them at their location, from where they are distributed among households and commercial users i.e., hotels etc.

5.2 Installed And Operational Capacities

For this project it is assumed that total capacity of LPG Marketing and Distribution Business is 6,600 tonnes per year, where initial capacity utilization will be 60% with an annual growth of 10%. Maximum capacity utilization of the project is assumed at 100%.

Table 1 Installed and Operational Capacity

Description	Total Capacity (Tons)	Operational Capacity 60 % (Year 1) Tons	Maximum Operational Capacity 100% (Year 4) Tons
LPG	6,600	3,960	6,600

6 CRITICAL SUCCESS FACTORS

- ⇒ LPG quota allocation: Most of the existing plants with fully operational facilities are out of work because of delays in their quota allocation by the LPG producers.
- ⇒ Dealing with the sub-distributors: Sub-distributors play important role in the successful operations of a LPG Marketing company because they distribute gas among agency holders who further sale it to the retailers.
- ⇒ Survival during the critical period when cheap Irani LPG is available in the market: In such circumstances when cheap Iranian gas is available, a LPG marketing and distribution company may face a situation where it would be forced to lift its quota as per agreement from the producer at a higher cost and sell it at lower price.

⇒ High service quality of Bowzer operators will ensure efficient operations.

7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

Location for setting up a LPG distribution plant has imperial implications on fixed costs, operational costs and procedures. The proposed LPG plant can be established at Port Qasim, Karachi in Sindh, and Multan Road in Punjab. These locations have basic infrastructure and facilities required for LPG bottling and distribution plant, however for the purpose of this pre-feasibility study Multan Road Lahore has been assumed.

8 POTENTIAL TARGET CUSTOMERS / MARKETS

The potential target customers for the proposed LPG Marketing and Distribution Company are general household consumers and hospitality sector as commercial users, e.g. Local Restaurants, Hotels, Food Points etc, across Pakistan. The demand of LPG in the major cities is consistent throughout the year and increases during winters in Punjab and Northern Pakistan.

Accordingly, areas having presence of middle-income groups in the urban cities and commercial centers will be an ideal location for the distribution of LPG. Subsequently, LPG has a huge demand in the Northern Areas, especially from the Hospitality Sector.

9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of LPG Marketing and Distribution. Various cost and revenue related assumptions along with results of the analysis are outlined in this section.

The projected Income Statement, Cash Flow Statement and Balance Sheet are attached as annexures.

9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales revenue of Rs. 336.867 million in the year one. The capacity utilization during year one is worked out at 60% with 10% increase in subsequent years up to the maximum capacity utilization of 100%.

The following table shows Internal Rate of Return, Payback Period and Net Present Value of the proposed venture.

Table 2: Project Economics (100% Equity Based)

Description	Details
Internal Rate of Return (IRR)	31%
Payback Period (Yrs.)	3.74
Net Present Value (Rs.)	38,784,880

Calculation of break-even analysis is as follows:

Table 3: Breakeven (100% Equity Based)

BREAKEVEN ANALYSIS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break-Even Revenue	187,200,675	194,175,329	203,415,655	214,820,688	227,949,352	306,360,755	322,985,758	341,021,123	360,882,913	382,938,081
Break-Even Unit	2,201	2,283	2,391	2,525	2,680	3,601	3,797	4,009	4,242	4,502
Margin of Safety	44%	55%	63%	68%	72%	66%	68%	69%	70%	71%

However, for the purposes of further explanation the Project Economics based on Debt:Equity (i.e. 50:50) Model has also been computed. On the basis of Debt:Equity model the Internal Rate of Return, Payback Period and Net Present Value of the proposed project are provide in the table below:

Table 4: Project Economics Based on Debt (50%) : Equity (50%)

Description	Details
Internal Rate of Return (IRR)	30%
Payback Period (Yrs.)	3.77
Net Present Value (Rs.)	49,697,333

The financial assumptions for Debt:Equity are as follows:

Table 5: Financial Assumptions for Debt:Equity Model

Description	Details
Debt	50%
Equity	50%
Interest Rate on Debt	12%
Debt Tenure	5 Years

Debt Payment / Year

Annual

The projected Income Statement, Cash Flow Statement and Balance Sheet enclosed as annexures are based on 100% Equity Based Business Model.

9.2 Project Cost

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

Table 6: Project Cost

Description	Amount
Capital Cost	
Plant and Machinery	25,852,000
Building/Infrastructure	10,438,040
Licensing and Legal fee	3,510,000
Office Equipment	1,054,000
Pre-operating Cost	928,500
Furniture and Fixtures	588,700
Computer Equipment	139,000
Total Capital Cost	42,510,240
Working Capital	
Raw Material Inventory	5,140,800
Cash	615,262
Up-front Building Rent	249,996
Equipment spare part inventory	10,772
Total Working Capital	6,016,830
Total Project Cost	48,527,070

9.3 Space Requirement

The space requirement for the proposed **LPG Marketing and Distribution** is estimated considering various facilities including filling platform, labour room, bowser platform etc. An estimated land of around 12 Kanals will be required for the proposed venture. The land is proposed to be acquired on lease basis,

amounting Rs. 20,833 per kanal annually. Details of the space requirement and cost related to construction of building is given below.

Table 7: Space Requirement

Description	Estimated Area (Sq. ft.)	Unit Cost (Rs.)	Total Cost (Rs.)
Filling Platform	3,200	1,000	3,200,000
Labour Rooms	504	2,200	1,108,800
Bowser Platform	960	1,000	960,000
Water Tank Firefighting	200	4,800	960,000
Boundary Wall	-	-	918,000
Parking Area	576	1,000	576,000
CEO Office	224	2,500	560,000
Accounts Office	168	2,500	420,000
Washroom	216	1,800	388,800
Plant In charge - Engineer Office	120	2,500	300,000
Retiring Room	120	2,200	264,000
Water Tank Office	100	2,500	250,000
Open Space	47,448	5	237,240
Gate Room	64	1,800	115,200
Store	64	1,800	115,200
Kitchen	36	1,800	64,800
Total	49,136		10,438,040

9.4 Machinery & Equipment Requirement

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

Table 8: Machinery & Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Storage Tank (60 tons)	2	6,300,000	12,600,000
Support Structure - Piping & Valves	1	3,500,000	3,500,000
Fire Fighting Equipment	1	3,000,000	3,000,000
Cylinders (45.4 KG)	500	5,200	2,600,000
Pumps	2	850,000	1,700,000
Dispenser	4	350,000	1,400,000
Cylinders (11.8 KG)	500	2,000	1,000,000
Generator	1	980,000	980,000
Security Equipment	1	52,000	52,000
Total			26,832,000

9.5 Furniture & Fixtures Requirement

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

Table 9: Furniture & Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Air conditioner (1 ton Split)	4	60,000	240,000
Miscellaneous Furniture	1	80,000	80,000
Sofa Set	1	42,000	42,000
Table & Chairs	1	35,000	35,000
Bracket Fans	9	3,800	34,200
Table & Chairs	1	30,000	30,000
Table & Chairs	1	20,000	20,000
Security Lights	8	2,500	20,000
Visitor Chairs	2	8,000	16,000
Cupboard	2	15,000	30,000
Visitor Chairs	4	6,000	24,000
Exhaust Fans	4	2,200	8,800
LED Bulbs (18 Watts)	29	300	8,700
Total	67		588,700

9.6 Office and Other Equipment Requirement

Following office and other equipment will be required for the project are given below.

Table 10: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Laptops	1	70,000	70,000
Fridge	1	51,500	51,500
Desktop Computer	2	18,000	36,000
Computer printer	1	23,000	23,000
Water Dispenser	1	20,000	20,000
Scanner	1	10,000	10,000
Telephone	1	2,500	2,500
Total	8		213,000

9.7 Human Resource Requirement

In order to run operations of LPG Marketing and Distribution smoothly, details of human resources required along with number of employees and monthly salary are recommended as under;

Table 11: Human Resource Requirement

Description	No. of Employees	Monthly Salary per person (Rs.)
Chief Executive Officer	1	100,000
Plant In charge – Engineer	1	40,000
Business Development Executive	2	35,000
Accountant	1	25,000
Technical Staff	1	25,000
Operators - Dispenser	4	20,000
Guard	2	18,000
Gate Keeper	1	17,500
Office Assistant	2	17,500

Helpers	2	17,500
Office Boys	1	17,500
Total	18	

9.8 Licensing and Legal Requirements

Licensing and registration from various government authorities / departments will be required before starting operations of the proposed project. An estimated total cost of 3.5 million will be incurred on obtaining these licenses from the following Government authorities;

- Oil and Gas Regularity Authority (OGRA), Pakistan
Any company willing to distribute and market Oil and Gas needs to obtain a license from OGRA. OGRA issues provisional licenses to technically and financially sound applicants/ parties for construction of works commensurate with their work program, for a period of one year. OGRA inducts reputable third party inspectors to check / monitor compliance with the terms and conditions of licenses. The licenses can be cancelled in case of non-compliance with licensing terms and conditions.
- License and clearance certification from Explosive Control Department
- Environmental Department, etc.

9.9 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. 18,242 per month and the cost of diesel consumed for generator, per month will be Rs. 27,560 during the first year of operations.

9.10 Revenue Generation

Based on the capacity utilization of 60%, sales revenue during the first year of operations is provided in the table below.

Table 12: Revenue Generation – Year 1

Description	Tonnes available for Sale (No.)	Sale Price / unit (Rs.)	Sales Revenue (Rs.) 60%
Household Consumers	3,240	103,750	336,150,000
Hospitality Sector Consumers	720	996	717,120
Total	3,960		336,867,120

10 CONTACT DETAILS

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

Table 13: Names of Suppliers

Name of Supplier	Address	Phone
Hi-Tek Manufacturing (Pvt) Limited	House # 1, Service Lane, Quaid-e-Azam Interchange, Ring Road, Lahore. 53704, Pakistan.	0423-6556686 0423-6550053
Haier Pakistan – Lahore	8th Floor, Mega Tower, Main Boulevard Gulberg II	042-111142437
Woodpecker		0331-8999222, 0331-7151566
Craft Vision		042-34004994 0324-4790092

11 USEFUL WEB LINK

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 and Exchange 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 Vocational Training Council (PVTC)	www.pvtc.gop.pk
Oil and Gas Regulatory Authority	www.ogra.org.pk
Ministry of Industries and Production	www.moip.gov.pk
Ministry of Energy	www.mprn.gov.pk

12 ANNEXURES

12.1 Income Statement

Calculations										
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	336,867,120	432,312,804	543,478,954	672,555,205	822,011,917	904,213,109	994,634,420	1,094,097,862	1,203,507,648	1,323,858,413
<i>Cost of sales</i>										
Cost of goods sold	308,448,000	395,841,600	497,629,440	615,816,432	752,664,528	827,930,981	910,724,079	1,001,796,487	1,101,976,135	1,212,173,749
Direct labor	2,370,000	2,607,000	2,867,700	3,154,470	3,469,917	3,816,909	4,198,600	4,618,460	5,080,305	5,588,336
Bowser rent	9,180,000	11,781,000	14,810,400	18,327,870	22,400,730	24,640,803	27,104,883	29,815,372	32,796,909	36,076,600
Machinery maintenance	258,520	255,935	250,247	240,863	227,099	739,553	709,258	665,509	605,918	527,753
Direct electricity	329,776	362,753	399,028	438,931	482,824	531,107	584,218	642,639	706,903	777,594
Total cost of sales	320,586,296	410,848,288	515,956,816	637,978,566	779,245,099	857,659,352	943,321,038	1,037,538,466	1,141,166,170	1,255,144,031
Gross Profit	16,280,824	21,464,516	27,522,138	34,576,639	42,766,818	46,553,757	51,313,382	56,559,396	62,341,478	68,714,382
<i>General administration & selling expenses</i>										
Administration expense	3,402,000	3,742,200	4,116,420	4,528,062	4,980,868	5,478,955	6,026,851	6,629,536	7,292,489	8,021,738
Land lease rental expense	249,996	274,996	302,495	332,745	366,019	402,621	442,883	487,171	535,889	589,477
Electricity expense	219,850	241,835	266,019	292,621	321,883	354,071	389,478	428,426	471,269	518,396
Water expense	23,700	26,070	28,677	31,545	34,699	38,169	41,986	46,185	50,803	55,883
Travelling expense	340,200	374,220	411,642	452,806	498,087	547,896	602,685	662,954	729,249	802,174
Communications expense (phone, fax, mail, internet, etc.)	118,500	130,350	143,385	157,724	173,496	190,845	209,930	230,923	254,015	279,417
Office expenses (stationary, entertainment, janitorial services, etc.)	94,800	104,280	114,708	126,179	138,797	152,676	167,944	184,738	203,212	223,533
Professional fees (legal, audit, consultants, etc.)	336,867	432,313	543,479	672,555	822,012	904,213	994,634	1,094,098	1,203,508	1,323,858
Depreciation expense	3,317,242	3,317,242	3,317,242	3,325,862	3,324,472	6,623,915	6,633,894	6,632,285	6,632,285	6,643,837
Amortization of pre-operating costs	185,700	185,700	185,700	185,700	185,700	-	-	-	-	-
Amortization of legal, licensing, and training costs	351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000
Bad debt expense	67,373	86,463	108,696	134,511	164,402	180,843	198,927	218,820	240,702	264,772
Miscellaneous expense 1	340,200	374,220	411,642	452,806	498,087	547,896	602,685	662,954	729,249	802,174
Subtotal	9,047,429	9,640,888	10,301,105	11,044,115	11,859,522	15,773,100	16,662,898	17,629,089	18,693,669	19,876,260
Operating Income	7,233,396	11,823,628	17,221,033	23,532,523	30,907,296	30,780,656	34,650,485	38,930,307	43,647,808	48,838,122
Other income (interest on cash)	61,415	214,417	387,170	523,607	700,843	1,119,481	1,821,924	2,645,917	3,559,220	4,839,571
Other income 2										
Gain / (loss) on sale of machinery & equipment	-	-	-	-	10,340,800	-	-	-	-	-
Gain / (loss) on sale of computer equipment	-	-	34,750	-	-	74,977	-	-	121,546	97,036
Earnings Before Interest & Taxes	7,294,811	12,038,045	17,642,953	24,056,130	41,948,939	31,975,115	36,472,408	41,576,224	47,328,574	53,774,729
Earnings Before Tax	7,294,811	12,038,045	17,642,953	24,056,130	41,948,939	31,975,115	36,472,408	41,576,224	47,328,574	53,774,729
Tax	2,115,495	3,491,033	5,116,457	6,976,278	12,165,192	9,272,783	10,576,998	12,057,105	13,725,286	15,594,672
NET PROFIT/(LOSS) AFTER TAX	5,179,316	8,547,012	12,526,497	17,079,852	29,783,747	22,702,332	25,895,410	29,519,119	33,603,288	38,180,058

12.2 Balance Sheet

Calculations											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
Assets											
<i>Current assets</i>											
Cash & Bank	615,262	4,297,957	12,855,420	18,118,220	23,770,337	32,297,088	57,261,397	88,492,494	123,180,900	161,556,689	225,609,021
Accounts receivable		27,687,708	31,610,134	40,101,031	49,974,007	61,420,567	70,940,755	78,034,830	85,838,313	94,422,144	103,864,359
Equipment spare part inventory	10,772	11,197	11,496	11,618	11,502	39,328	39,603	39,018	37,301	34,113	-
Raw material inventory	5,140,800	6,597,360	8,293,824	10,263,607	12,544,409	13,798,850	15,178,735	16,696,608	18,366,269	20,202,896	-
Pre-paid annual land lease	249,996	274,996	302,495	332,745	366,019	402,621	442,883	487,171	535,889	589,477	-
Total Current Assets	6,016,830	38,869,218	53,073,368	68,827,221	86,666,273	107,958,454	143,863,372	183,750,122	227,958,671	276,805,319	329,473,380
<i>Fixed assets</i>											
Building/Infrastructure	10,438,040	9,916,138	9,394,236	8,872,334	8,350,432	7,828,530	7,306,628	6,784,726	6,262,824	5,740,922	5,219,020
Machinery & equipment	25,852,000	23,266,800	20,681,600	18,096,400	15,511,200	45,920,431	40,035,788	34,151,145	28,266,502	22,381,859	16,497,215
Furniture & fixtures	588,700	529,830	470,960	412,090	353,220	294,350	235,480	176,610	117,740	58,870	-
Computer equipment	139,000	93,130	47,260	162,300	107,810	54,709	187,882	124,803	63,333	217,497	144,475
Office equipment	1,054,000	948,600	843,200	737,800	632,400	527,000	421,600	316,200	210,800	105,400	-
Total Fixed Assets	38,071,740	34,754,498	31,437,256	28,280,924	24,955,062	54,625,020	48,187,378	41,553,484	34,921,199	28,504,548	21,860,711
<i>Intangible assets</i>											
Pre-operation costs	928,500	742,800	557,100	371,400	185,700	-	-	-	-	-	-
Legal, licensing, & training costs	3,510,000	3,159,000	2,808,000	2,457,000	2,106,000	1,755,000	1,404,000	1,053,000	702,000	351,000	-
Total Intangible Assets	4,438,500	3,901,800	3,365,100	2,828,400	2,291,700	1,755,000	1,404,000	1,053,000	702,000	351,000	-
TOTAL ASSETS	48,527,070	77,525,516	87,875,724	99,936,545	113,913,035	164,338,474	193,454,751	226,356,606	263,581,870	305,660,867	351,334,091
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable		26,408,789	33,780,320	42,362,059	52,322,331	63,739,929	70,153,875	77,160,320	84,866,465	93,342,175	100,835,340
Total Current Liabilities	-	26,408,789	33,780,320	42,362,059	52,322,331	63,739,929	70,153,875	77,160,320	84,866,465	93,342,175	100,835,340
<i>Other liabilities</i>											
Total Long Term Liabilities	-	-	-	-	-	-	-	-	-	-	-
<i>Shareholders' equity</i>											
Paid-up capital	48,527,070	48,527,070	48,527,070	48,527,070	48,527,070	57,751,164	57,751,164	57,751,164	57,751,164	57,751,164	57,751,164
Retained earnings		2,589,658	5,568,335	9,047,416	13,063,634	42,847,381	65,549,713	91,445,122	120,964,241	154,567,529	192,747,587
Total Equity	48,527,070	51,116,728	54,095,405	57,574,486	61,590,704	100,598,545	123,300,876	149,196,286	178,715,405	212,318,693	250,498,750
TOTAL CAPITAL AND LIABILITIES	48,527,070	77,525,516	87,875,724	99,936,545	113,913,035	164,338,474	193,454,751	226,356,606	263,581,870	305,660,867	351,334,091

12.3 Cash Flow Statement

Calculations											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Operating activities</i>											
Net profit		5,179,316	8,547,012	12,526,497	17,079,852	29,783,747	22,702,332	25,895,410	29,519,119	33,603,288	38,180,058
Add: depreciation expense		3,317,242	3,317,242	3,317,242	3,325,862	3,324,472	6,623,915	6,633,894	6,632,285	6,632,285	6,643,837
amortization of pre-operating costs		185,700	185,700	185,700	185,700	185,700	-	-	-	-	-
amortization of training costs		351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000	351,000
Accounts receivable		(27,687,708)	(3,922,425)	(8,490,897)	(9,872,975)	(11,446,560)	(9,520,188)	(7,094,075)	(7,803,483)	(8,583,831)	(9,442,214)
Equipment inventory	(10,772)	(425)	(299)	(122)	116	(27,827)	(275)	585	1,718	3,187	34,113
Raw material inventory	(5,140,800)	(1,456,560)	(1,696,464)	(1,969,783)	(2,280,802)	(1,254,441)	(1,379,885)	(1,517,873)	(1,669,661)	(1,836,627)	20,202,896
Accounts payable		26,408,789	7,371,531	8,581,739	9,960,272	11,417,599	6,413,945	7,006,445	7,706,145	8,475,710	7,493,165
Cash provided by operations	(5,151,572)	6,297,352	14,153,297	14,501,376	18,749,026	32,333,690	25,190,844	31,275,385	34,737,123	38,645,012	63,462,855
<i>Financing activities</i>											
Add: land lease expense		249,996	274,996	302,495	332,745	366,019	402,621	442,883	487,171	535,889	589,477
Land lease payment	(249,996)	(274,996)	(302,495)	(332,745)	(366,019)	(402,621)	(442,883)	(487,171)	(535,889)	(589,477)	-
Issuance of shares	48,527,070	-	-	-	-	9,224,094	-	-	-	-	-
Purchase of (treasury) shares											
Cash provided by / (used for) financing activities	48,277,074	(25,000)	(27,500)	(30,250)	(33,274)	9,187,492	(40,262)	(44,288)	(48,717)	(53,589)	589,477
<i>Investing activities</i>											
Capital expenditure	(42,510,240)	-	-	(160,910)	-	(32,994,431)	(186,273)	-	-	(215,635)	-
Acquisitions											
Cash (used for) / provided by investing activities	(42,510,240)	-	-	(160,910)	-	(32,994,431)	(186,273)	-	-	(215,635)	-
NET CASH	615,262	6,272,353	14,125,798	14,310,216	18,715,751	8,526,751	24,964,309	31,231,097	34,688,406	38,375,789	64,052,333

13 KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Description	Details
Water expense	1% of Direct staff salaries
Travelling expense	10% of administration expense
Communication expense	5% of Direct staff salaries
Office vehicles running expense	2% of vehicles cost
Office expenses (stationary, entertainment, janitorial services, etc.)	4% of Direct staff salaries
Professional fees (legal, audit, consultants, etc.)	0.1% of revenue
Bad debt expense	0.02% of revenue
Miscellaneous expense	10% of administration expense
Depreciation Method	Accelerated depreciation
Depreciation Rate	10% on Machinery 10% on Office Equipment 10% on Furniture & Fixture 33% Computer Equipment
Inflation Growth Rate	10%
Electricity Price Growth Rate	10%
Wage Growth Rate	5%

13.2 Production Cost Assumptions

Description	Details
Maximum Storage Capacity	120 Tons
Production Capacity in First Year	60%
Percentage Increase in Production Capacity every Year	10%
Maximum Production Capacity	100%

13.3 Revenue Assumptions

Description	Details
Growth in Sales Price	10%
Days Operational / Year	300
Maximum Operational Capacity	6,600 Tons