PROJECT PROFILE
ON
DOMESTIC LPG STOVE

PART – I

PRODUCT CODE : 340504005.


PRODUCTION CAPACITY : Quantity – 30,000 Nos. (per annum)
Value – 2,73,00,000/-

MONTH & YEAR OF PREPARATION : December, 2011.

PREPARED BY : MSME - Development Institute,
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DOMESTIC LPG STOVE

PART – II

Introduction

L.P.G is the most convenient and clean fuel for domestic use and is very popular in this modern age. The LPG stove industry is about 50+ years old and is mainly concentrated in the small-scale sector. LPG is a by product formed during petroleum distillation and is stored and marketed in gas cylinders of 14.2 KG (for domestic purpose) capacity and used generally for cooking stoves and to some extent for industrial purpose also. The domestic LPG stove is primarily being used in the urban areas as well as in rural areas. The industry of domestic LPG stove has grown considerably over the last 18 years and offers a wide range of products i.e.:

i) Gas stove with one burner,
ii) Gas stove with two burners,
iii) Gas stove with two burners, one grill also called as cooking grill,
iv) Gas stove with three burners,
v) Gas stove with four burners etc.

Market Potential

In 1980, the Government of India had planned to push the exploration and production of LPG from Bombay High Project, thereby providing tremendous push to the LPG Stove Industry. More and more number of new connections are being released by the Govt. and therefore the demand of LPG stove is also increasing day by day. Major portion of the production of LPG Stove is contributed by MSMEs. Most of the units are located in the state of Delhi and Haryana.

Basis and Presumptions

1. The basis for calculation of production capacity is on single shift, working of 25 days per month on 75% efficiency. The time period required for achieving envisaged capacity utilization is assumed as one year.

2. Break-even Point for the scheme has been calculated on full capacity utilization.
3. Rate of interest has been taken @ 16% on an average. This, however, is likely to change depending upon the location of the project.

4. Labour wages have been taken on the basis of minimum applicable. These are likely to change depending upon the location of the project.

5. Rental charges of Rs. 80 per Sq. Mtr. per month have been taken on an average. This figure is likely to vary depending upon the location of the unit.

6. Margin money requirement differs from project to project and type of entrepreneurs such as women, SC/ST, physically handicapped etc. and the minimum margin money usually asked by the financial institutions and banks is 15%. Margin money up to 25% in some cases is also asked. The entrepreneurs may check the margin money requirement from financial institutions for the project.

7. Terms of loan differ from one financial institution to another and in general minimum gestation period is 6 months and it could be 2 years also. Maximum period for repayment of loan is 7 years including gestation period. The entrepreneurs may find the exact terms and conditions from the concerned financial institutions.

8. The cost of machinery and equipments as indicated in the scheme is approximate ruling at the time of preparation of the scheme. The entrepreneur may check the exact price for specific make and model of the machine selected.

9. Non-refundable deposits, cost of preparation of project report etc. may be considered under pre-operative expenses.

10. The provision made in other respects viz; raw materials, utilities, overheads etc. is drawn on the basis of standard variation and output. The cost indicated against each is approximate based upon local market conditions and observations. The entrepreneur may find out the exact cost from the concerned sources.

11. The operative period of this project is estimated to be about 10 years considering technology obsolescence.

12. Calculations are based on manufacture of double burner stove only.

**Implementation Schedule**

It is envisaged that from the conception to commercial production, it may take about one and half years, which also includes time for preparation of project report, provisional registration, procurement of Machinery and Equipments, their installation and electrification, clearance from all local authorities, obtaining loan from financial institutions. However, the duration for implementation of project/unit may vary depending upon the circumstance.
Technical Aspects

Process of Manufacture

C.R. sheet is to be cut according to the desired length and width on the guillotine-shearing machine. Then it has to be fed in the double action deep draw press for giving shape of the body of LPG stove. The holes may be cut on power press in the body and burrs must be removed. After that, the small holes are done on drilling machine. Then it is sent for Ni-chrome plating. Then all bought out components like burners, burner tops, pan supporting casting, Gas pipe assembly, gas cook assembly knobs, rubber rolls and name plates etc. are to be fitted on the body. Finally the stove must be tested as per ISI mark requirement and packed for despatching/selling.

Quality Control and Standards

The LPG stove may be manufactured and checked according to IS 11480:1998 and IS 5116:1996. The following testing facilities are required for getting ISI certification mark:

i) Strength testing equipment.
ii) Thermal efficiency apparatus.
iii) Combustion apparatus.
iv) Gas soundness testing equipment.
v) Floor wall and ceiling temperature-measuring equipment.
vi) Gas consumption testing apparatus.

Production Capacity (per annum)

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>30,000 Nos.</td>
<td>Rs. 2,73,00,000/-</td>
</tr>
</tbody>
</table>

Motive Power 50 KW.

Pollution Control

No pollution control is required in the unit as the unit has to get nickel crome plating from outside. However, the general feature for pollution control must be taken into consideration during the process of the unit.

Energy Conservation
General precautions must be taken into consideration to conserve energy such as shunt capacitors must be used on electric motors and carbide gas must be used with due care while welding and general lighting system.

Financial Aspects

A. Fixed Capital

(i) Land and Building

Covered area 200 Sq. mtr. on Rent
@ Rs. 80 per Sq.mtr. (per month) (200 × 80)

(ii) Machinery and Equipment

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Ind./ Imp.</th>
<th>Qty.</th>
<th>Amount (In Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Treadle guillotine shearing machine cap. 1250×1.6 mm with 3 HP motor and accessories</td>
<td>Ind</td>
<td>1</td>
<td>2,00,000</td>
</tr>
<tr>
<td>2.</td>
<td>Double action deep draw press 100 Tonne with 15 HP motor and accessories</td>
<td>Ind</td>
<td>1</td>
<td>16,00,000</td>
</tr>
<tr>
<td>3.</td>
<td>Power press cap. 100 tonne with 10 HP motor and accessories</td>
<td>Ind.</td>
<td>1</td>
<td>6,00,000</td>
</tr>
<tr>
<td>4.</td>
<td>Power press cap. 50 tonne with 5 HP motor and accessories</td>
<td>-do-</td>
<td>1</td>
<td>4,00,000</td>
</tr>
<tr>
<td>5.</td>
<td>Circle cutting machine cap. 50mm dia with one HP motor and accessories</td>
<td>-do-</td>
<td>1</td>
<td>50,000</td>
</tr>
<tr>
<td>6.</td>
<td>Bench drilling machine cap. up to 20 mm with 1 HP motor and accessories</td>
<td>-do-</td>
<td>1</td>
<td>40,000</td>
</tr>
<tr>
<td>7.</td>
<td>Double ended bench grinder</td>
<td>-do-</td>
<td>1</td>
<td>16,000</td>
</tr>
</tbody>
</table>
200 mm wheel size with 0.5 HP motor and accessories

8. Flexible shaft grinder -do- 1 10,000
9. Edge folding press No. 12 -do- 1 50,000
10. Fly press No. 4 -do- 1 20,000
11. Gas welding set complete with all accessories -do- 1 24,000
12. Portable drilling machine 12 mm cap. with motor -do- 2 10,000
13. Spot welding set -do- 1 1,00,000
14. Electric welding set cap. 300 amp -do- 1 10,000

Cost of power connection 31,000

Electrification and installation charges @ 10% of the cost of machinery 3,13,000

Office furniture racks etc. 40,000
Measuring instruments and testing apparatus etc. 1,00,000

Tools dies and fixtures etc. 1,00,000

Total 37,14,000/-

(iii) Pre-operative Expenses 86,000/-

Total Fixed Capital (ii+iii) Rs. 38,00,000/-
B. Working Capital (per month)

(i) Salary and Wages

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Designation</th>
<th>Nos.</th>
<th>Salary (Rs.)</th>
<th>Amount (In Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Administration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Sales-cum-Marketing Manager</td>
<td>1</td>
<td>16000</td>
<td>16000</td>
</tr>
<tr>
<td>ii.</td>
<td>Clerk-cum-Typist</td>
<td>1</td>
<td>5000</td>
<td>5000</td>
</tr>
<tr>
<td>iii.</td>
<td>Accountant-cum-Cashier</td>
<td>1</td>
<td>7000</td>
<td>7000</td>
</tr>
<tr>
<td>iv.</td>
<td>Chowkidar/Peon</td>
<td>2</td>
<td>4000</td>
<td>8000</td>
</tr>
<tr>
<td>v.</td>
<td>Sweeper (part time)</td>
<td>1</td>
<td>2000</td>
<td>2000</td>
</tr>
<tr>
<td>b.</td>
<td>Technical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Engineer</td>
<td>1</td>
<td>12000</td>
<td>12000</td>
</tr>
<tr>
<td>ii.</td>
<td>Supervisor</td>
<td>1</td>
<td>10000</td>
<td>10000</td>
</tr>
<tr>
<td>iii.</td>
<td>Skilled Workers</td>
<td>4</td>
<td>6000</td>
<td>24000</td>
</tr>
<tr>
<td>iv.</td>
<td>Semi-skilled Workers</td>
<td>3</td>
<td>5000</td>
<td>15000</td>
</tr>
<tr>
<td>v.</td>
<td>Helper</td>
<td>1</td>
<td>4000</td>
<td>4000</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1,03,000/-</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Perquisites @15%*

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,18,450/-</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(ii) Raw Material (per month)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Particulars</th>
<th>Rate (Rs.)</th>
<th>Qty.</th>
<th>Amount (In Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>CR sheet</td>
<td>1.00 mm</td>
<td>10 tonne</td>
<td>400000</td>
</tr>
<tr>
<td></td>
<td>thickness (20 SWG)</td>
<td>40000/tonne</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Burners and burners tops</td>
<td>100/set</td>
<td>2500 pair</td>
<td>2,50,000</td>
</tr>
<tr>
<td></td>
<td>(ISI mark)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>Pan support</td>
<td>24/set</td>
<td>2500 set</td>
<td>60,000</td>
</tr>
</tbody>
</table>

*Bought out Components*
ting casted rings
d. Gas pipe assembly   40   2500 nos.   1,00,000
e. Gas cock assembly ISI mark   160/pair   2500 pair   4,00,000
f. On and off knob   10/pair   2500 Nos.   25,000
g. Name plates   2/each   2500 Nos.   5,000
h. Card board boxes for packing   24/box   2500 Nos.   60,000

Total   13,00,000/-

(iii) Utilities (per month) (In Rs.)

Power -7500 kWH @ Rs. 8/unit   60,000
Water - LS   1,000

Total   61,000/-

(iv) Other Contingent Expenses (per month) (Rs.)
i. Rent   16,000
ii. Telephone   1,000
iii. Postage and Stationery   1,000
iv. Transport Charges   5,000
v. Repair and Maintenance   5,000
vi. Nickel crome plating charges 2500 × 120   3,00,000
vii. Consumables like carbide, gas welding rods, oxygen gas etc.   10,000
viii. Advertisement and Publicity   2,000
ix. Insurance   3,000
x. Miscellaneous/sales Expenses   7,000

Total   3,50,000/-

(v) Total Recurring Expenditure (per month) = Rs. 18,29,450/-
[i + ii + iii + iv] = Rs. 18,30,000/-

Say

(vi) Total Working Capital (for 3 months) = Rs. 54,90,000/-
Rs. 18,30,000 × 3

C. Total Capital Investment

(1) Fixed Capital   Rs. 38,00,000/-
(2) Working Capital (for 3 months)  
Rs. 54,90,000/-

Total  
Rs. 92,90,000/-

Machinery Utilisation
The number of machines to be installed has been determined in such a way that planned schedule of process will not cause any bottleneck in operation during bulk production. As such the unit will make utilization of machinery envisaged.

Financial Analysis
(1) Cost of Production (per annum)  
(Rs.)

i. Total recurring cost  
2,19,60,000

ii. Depreciation on machinery @ 10%  
3,13,000

iii. Depreciation on office furniture @ 20%  
8,000

iv. Depreciation on dies, tools and fixture @ 25%  
25,000

v. Depreciation on measuring and testing apparatus @ 10%  
10,000

vi. Interest on Total Capital Investment @ 16%  
14,86,400

Total  
2,38,02,400

Say  
2,38,02,000

(2) Turnover (per year)  
Rs. 2,73,00,000/-

By sales of domestic LPG stoves
@ Rs. 910/- per stove 30,000 Nos.

(3) Net Profit (per year)

Turnover – Cost of Production

2,73,00,000 – 2,38,02,000  
= Rs. 34,98,000/-

(4) Net Profit Ratio

\[
= \frac{\text{Net profit} \times 100}{\text{Turn over}}
\]

\[
= \frac{34,98,000 \times 100}{2,73,00,000}
\]

= 12.8%

(5) Rate of Return

\[
= \frac{\text{Net profit} \times 100}{\text{Total Capital Investment}}
\]

\[
= \frac{34,98,000 \times 100}{92,90,000}
\]

= 37.6%
(6) Break-even Point

<table>
<thead>
<tr>
<th>Fixed Cost</th>
<th>(Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Total Depreciation</td>
<td>3,56,000</td>
</tr>
<tr>
<td>2. Total interest</td>
<td>14,86,400</td>
</tr>
<tr>
<td>3. Insurance</td>
<td>36,000</td>
</tr>
<tr>
<td>4. Rent</td>
<td>1,92,000</td>
</tr>
<tr>
<td>5. 40% of Salaries</td>
<td>4,94,400</td>
</tr>
<tr>
<td>6. 40% of other contingent expenses</td>
<td>1,48,800</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>27,13,600/-</strong></td>
</tr>
</tbody>
</table>

**B.E.P.**

\[
\text{B.E.P.} = \frac{\text{Fixed cost} \times 100}{\text{Fixed cost} + \text{profit}}
\]

\[
= \frac{27,13,600 \times 100}{27,13,600 + 34,98,000}
\]

\[
= 43.7\%
\]

Addresses of Machinery Suppliers

   5, Nyayamurthi, G.N Vaidya Marg, Post Box No. 2,
   Behind State Bank, Fort,
   Mumbai-400001

   C-162, Mayapuri Indl. Area,
   Phase-II,
   New Delhi.

3. M/s. JNW Engineers
   Commercial Complex,
   Mayapuri Indl. Area, Phase-I,
   New Delhi.

   B-96, Mayapuri Indl. Area,
   New Delhi.

5. M/s. Prem Engg. Works
   20, Okhla Indl. Area,
   New Delhi-110020.

   2-B, DLF Indl. Area,
   Nazafgarh Road, New Delhi.
20, DLF Indl. Area,
Nazafgarh Road,
New Delhi.

8. M/s. Simplicity Engineers
B-99, Mayapuri Indl. Area,
New Delhi.

G. T. Road,
Batala

B-1, Indl. Estate,
Aligarh.

11. M/s. S.S. Mechanical Works
Indl. Estate_B,
Ludhiana.

**Raw Material Suppliers**

Raw Material can be purchased from local market, as it is available easily. Moreover, it can also be had from the Government Depots and Corporations