

## **1 ENERGY FOOD**

### **1.1 Introduction**

With growing health awareness, many people have become very selective about their diet and there is a marked preference for low calorie high protein food supplements. At the same time, poor people cannot afford costly energy food available in the market. Thus, there is a growing market for good quality health food if the prices are reasonable. Growing children is yet another target group.

### **1.2 Objective**

The primary objective of the model report is to facilitate the entrepreneurs in understanding the importance of setting up unit of energy food with latest technology. This model report will serve as guidance to the entrepreneurs on starting up such a new project and basic technical knowledge for setting up such a facility.

### **1.3 Raw Material Availability**

Materials like wheat, gram dal, edible groundnut cake and jaggery shall be available locally. Major requirement will be wheat for which arrangements for bulk supply must be made. The total production of the wheat in the MP is 71.76 lakh MT. The state ranks fourth in the country with the percentage share of 10.04.

### **1.4 Market Opportunities**

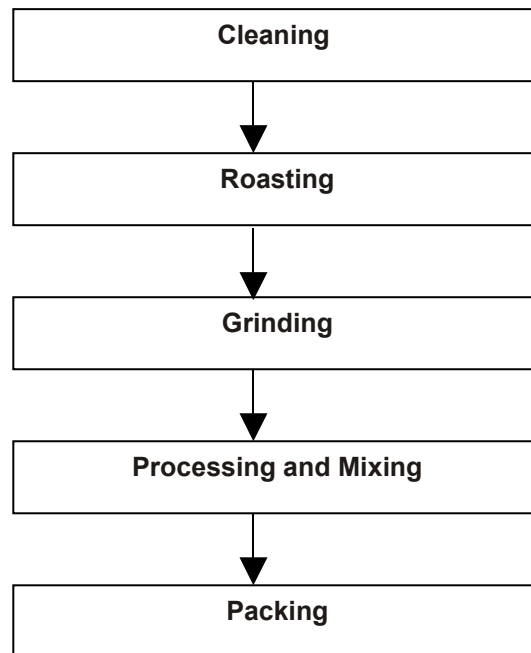
There are many health foods especially targeted at urban markets as they are priced at around Rs.100-120 per kg. But bulk of them is for children. But there is a large semi-urban and rural market wherein these products are considered to be very costly. With greater health awareness, people prefer diet food but presently such products are not easily available in the price range of around Rs.25-30 per kg. If such product is made available then many people who can not afford prices of some of the existing products may also opt for such a product. Adequate publicity, proper distribution channels and affordable pricing would play a major role.

### **1.5 Project description**

#### **1.5.1 Manufacturing process**

It is not very complicated. Cleaned wheat is roasted in the roaster into golden brown colour and then ground in a hammer mill. Similarly, gram dal and edible groundnut cake are also roasted and ground. Jaggery is mixed with calcium carbonate and wheat flour and processed in multi-mill to obtain coarse flour. Finally, all the ingredients alongwith pre-mixed minerals

and vitamins are thoroughly mixed and packed. The typical mix could be 60% wheat flour, 10% gram dal, 10% edible groundnut cake, 15-16% jaggery and balance would be calcium carbonate and vitamins. It is imperative to maintain strict quality control. The process flow Chart is as under:



### 1.5.2 Products

Energy food is prepared from easily available ingredients like wheat, gram dal, jaggery, edible groundnut cake and minerals and vitamins. It is ready-to-eat food item and does not require extensive cooking. Some water or milk can be added depending upon individual choice. It can also be used along with other materials while making halwa, chapati etc. This product is a common product and can be produced across the nation. However, this note considers MP as a potential location.

### 1.6 Availability of know how and compliances

CFTRI, Mysore, has successfully developed the technical know-how. Compliance under the PFA Act is compulsory. CFTRI, Mysore, has standardised the process long time back.

### 1.7 Capacity of the Plant

The rated annual capacity of the energy food plant would be 240 MT / annum.

## 1.8 Project component and cost

The cost of the various components will depend on the location of the project. Item wise assumptions are as under:

Particulars	Unit	Qty	Cost/unit	Total
<b>LAND &amp; BUILDING</b>				<b>10.30</b>
Land	SqM	200	250.00	0.50
<b>Land Development</b>				
Land Area		200	500.00	1.00
<b>Building</b>				
<b>Production Block</b>				
Main Production Area	SqM	60	5,000.00	3.00
Store cum packing room & Sales Counter	SqM	100	5,000.00	5.00
Contingencies		10%		0.80
<b>PLANT &amp; MACHINERY</b>				<b>4.50</b>
Electrically Operated Roaster		1	125,000.00	1.25
Hammer Mill		1	60,000.00	0.60
Multi Mill		1	70,000.00	0.70
Homogeniser		1	70,000.00	0.70
Misc.		1	50,000.00	0.50
Contingencies		20%		0.75
<b>MISCELLANEOUS FIXED ASSETS</b>				<b>0.90</b>
Furniture and Fixture	LS	1	40,000	0.40
Weighing Scale	No	1	15,000	0.15
Others	LS	1	20,000	0.20
Contingencies		20%		0.15
<b>PRE-OPERATIVE EXPENSES</b>				<b>13.14</b>
Establishment		1	1,074,000	10.74
Professional Charges		1	100,000	1.00
Security Deposits		1	140,000	1.40
<b>TOTAL</b>				<b>28.84</b>

## 1.9 Plant and Machinery

The main machineries are electrically operated roaster, mill, Homogeniser, sieves etc. The total cost of plant and machinery is Rs. 4.50 lakhs.

## 1.10 Building

The main production block will cost around around Rs. 8.80 lakhs. The entire building will be divided into two zones – production, storage cum packing room and sales counter.

## 1.11 Miscellaneous Assets

Other assets like furniture & fixtures, packing tables, plastic tubs, storage racks etc. would cost Rs. 90000/-.

### 1.12 Preliminary & Pre-operative Expenses

A provision of Rs. 13.14 lakhs would take care of pre-production expenses like establishment, professional charges, security deposits etc.

### 1.13 Working capital assessment

(RS IN LACS)

ITEMS	Year 1	Year 3	Year 5
STOCK OF RAW MATERIAL & PACKING MATERIAL	2.69	4.15	4.15
SUNDRY DEBTORS	6.38	9.82	9.82
<b>TOTAL</b>	<b>9.08</b>	<b>13.96</b>	<b>13.96</b>
<b>MARGIN</b>	2.27	3.49	3.49
<b>MPBF</b>	6.81	10.47	10.47
<b>INTEREST ON WC</b>	0.75	1.15	1.15

### 1.14 Means of Finance

<b>EQUITY CAPITAL</b>			35.00%	<b>10.89</b>
<b>MOFPI SUBSIDY</b>	25%	50.00	25.00%	<b>7.78</b>
<b>TERM LOAN</b>				
FINANANCIAL INSTITUTIONS		10.00%	40.00%	<b>12.44</b>
<i>-Payable half yearly Installments</i>	10	1.20		
<b>TOTAL</b>			100%	<b>31.11</b>

### 1.15 Cash flow statement

PARTICULARS	Year 1	Year 3	Year 5	Year 7
<b>SOURCES OF FUNDS</b>				
EQUITY CAPITAL	-	-	-	-
SUBSIDY				
NET PROFIT	0.51	9.89	8.77	7.56
(INTEREST ADDED BACK)				
DEPRECIATION	0.85	0.85	0.85	0.85
PRELIMINARY EXP.W/O	1.88	1.88	1.88	1.88
INCREASE IN TERM LOAN	-	-	-	-
INCREASE IN BANK BORROWINGS-WC	6.81	2.62	-	-
<b>TOTAL</b>	<b>10.04</b>	<b>15.23</b>	<b>11.49</b>	<b>10.28</b>

### 1.16 Projected balance sheet

PARTICULARS	Year 1	Year 3	Year 5	Year 7
<b>LIABILITIES</b>				
EQUITY CAPITAL	10.89	10.89	10.89	10.89
RESERVES & SURPLUS	6.29	15.00	30.04	43.55
TERM LOAN	11.24	6.44	1.64	-
BANK BORROWINGS-WC	<b>6.81</b>	<b>10.47</b>	<b>10.47</b>	10.47
<b>TOTAL</b>	<b>35.23</b>	<b>42.80</b>	<b>53.04</b>	<b>64.91</b>

### 1.17 Projected profit and loss account

PARTICULARS	Year 1	Year 3	Year 5	Year 7
NET REVENUE REALISATION	46.80	72.00	72.00	72.00
TOTAL EXPENSES	43.57	59.39	60.51	61.72
GROSS PROFIT	3.23	12.61	11.49	10.28
DEPRECIATION	0.85	0.85	0.85	0.85
INTEREST	1.99	1.98	1.50	1.15
PRELIMINARY EXP.W/O	1.88	1.88	1.88	1.88
PROFIT BEFORE TAX	(1.48)	7.91	7.27	6.41
RETAINED PROFIT	(1.48)	7.91	7.27	6.41

### 1.18 Key Indicators

NET PRESENT VALUE at current Inflation (Rs. in lakhs)	46.20
INTERNAL RATE OF RETURN %	31.39
AVERAGE DSCR	2.75
BREAK EVEN POINT %	83.48
PAY BACK PERIOD ( YEARS)	3.55

### 1.19 Manpower Requirement

PARTICULARS	NOs.
<b>SUPERVISORY STAFF</b>	
Production Manager	1
Accountant	2
<b>WORKERS</b>	
Production Supervisor	3
Skilled Workers	3
Semi-Skilled Labour	6
Salesman	1
<b>TOTAL</b>	16.00

### 1.20 Assumptions

<b>Project &amp; Financing</b>			
Contingencies on Building			10%
Contingencies on Equipment			20%
Term Loan			40%
Rate of Interest on Term Loan			10%
Subsidy Considered	Subject to ceiling		25%
Expected time of Installation	Months		10
Moratorium	Months		6
<b>CAPACITY</b>			
Rated Capacity Per Annum	80% of Installed capacity	TPA	200
Number of Operational Days	DAYS		300
Working Hours Per day	Hrs		20
<b>CAPACITY UTILIZATION</b>			
Year I			65%
Year II			75%
Year III			100%
<b>SALES PRICE</b>			
W S Price			36,000
<b>OTHER EXPENSE</b>			
Commission			10.00%
Marketing Expenses			2.50%
<b>POWER</b>			
Connected Load	HP		35

<b>DEPRICIATION AS PER COMPANY'S ACT</b>	
BUILDING	3.34%
PLANT & MACHINERY	10.34%
MISC. FIXED ASSETS	7.07%
LAND & SITE DEVELOPMENT	1.63%
<b>MAINTENANCE</b>	
BUILDING	1.00%
PLANT & MACHINERY	2.00%
MISC. FIXED ASSETS	2.00%
LAND & SITE DEVELOPMENT	1.00%

### 1.20.1 Sources of technology

- Gardeners Corpn, 158, Golf Links, New Delhi 110 003
- B. Sen. Berry & Co, 65/11, Rohtak Rd., Karol Bagh, New Delhi 110 005
- SP Engg. Corpn, Fazalgunj, Kanpur

**The actual cost of projects may deviate on change of any of the assumptions.**