SMALL AND MEDIUM ENTERPRISES (SME)

With Climate Change, transition towards an energy efficient economy is highly imperative for the manufacturing sector, including Micro, Small and Medium Enterprises (MSMEs), which account for a large part of the world's consumption of resources. The MSME sector occupies a position of prominence in the Indian economy, contributing to more than 45% of the industrial output and 40% of the country's exports in value addition terms.

MSMEs, the critical growth driver of the Indian economy, play an important role in the context of energy-intensive industries. Although their individual energy consumption is rather low, their collective use is considerable. Lack of access to latest technologies makes this sector vulnerable to energy security and competitiveness in global market. The poor energy and environmental performance are directly related to the lack of technical capacity in these enterprises to identify, access, adapt and adopt better technologies and operating practices.

National Programme on Energy Efficiency and Technology Upgradation of MSMEs

In 2007, to recognize the importance of MSMEs in promoting energy efficiency, 'National Programme on Energy Efficiency and Technology Upgradation of MSMEs' was flagged off by Bureau of Energy Efficiency. Lack of access to finance for MSMEs is one of the stumble blocks for implementing energy conservation measures and energy efficient technologies. With this cognizance, Bureau, under XII plan has implemented 21 pilot energy efficient technologies with financial assistance in 4 SME sectors. To aid the replication of these technologies across the sectors, cluster level entities (i.e. local service providers, industrial associations etc.) were also strengthened. To effectively

manage the experience so generated and spreading the same nationwide, knowledge management products like case studies, audio visuals were also developed.

Due to continuous efforts of Bureau, SDAs and its stakeholders, MSMEs in India have started to shift from a traditional strictly cost and quality approach to energy efficiency, zero waste and reduced carbon emissions.

Energy Efficiency in Small and Medium Enterprises (SMEs) sector – Introduction to MSME Sector

The MSME (micro, small and medium enterprises) sector, is a heterogeneous sector in terms of the products manufactured, sizes, manufacturing processes, output and technology used in manufacturing. MSMEs engaged in manufacturing, account for about 33% of India's manufacturing output and around 28% contribution in the GDP as whole. MSMEs typically are characterized with a high degree of heterogeneity within the manufacturing processes across various geographic locations even for similar product offerings. When compared with large enterprises they have smaller scale of operations, smaller capital base and do not have access to cheaper finance and readily available technology solutions. Hence, they prefer low-cost sub-standard solutions leading to inefficient production. Further enterprises engaged in energy intensive operations incur disproportionately higher costs. Vulnerability of MSMEs to increasing energy prices is higher as they pay more per unit of energy as compared to larger industries. The MSMEs in India are around Sixty-Three million – and a majority of them have not been implemented any energy efficiency (or) technology upgradation measures since they commissioned and continue to depend on obsolete, low efficiency technologies that result in wasteful energy consumption, also reducing profitability and competitiveness of MSMEs sector in India. The sector holds immense potential in fostering energy efficiency and upgradation of the technologies in routine processes. Nevertheless, there is still plenty of room for improvement in terms of concrete measures, most of the SME entrepreneurs claim not to have been able to identify any potential savings in their

businesses. Considering the urgent need to develop, demonstrate and disseminate energy efficient technologies at the cluster level, "National Programme on Energy Efficiency and Technology Upgradation in SMEs" was evolved by Bureau of Energy Efficiency to address the various challenges faced by MSMEs in India.

Objective of BEE – SME Programme

To improve energy efficiency of SME sector in India through accelerating adoption of energy efficient technologies, knowledge sharing, capacity building and development of financial of innovative financial mechanisms.

Implementation of BEE – SME Programme to Promote Energy Efficiency

Following activities were undertaken to encourage efficient energy consumption in the Micro Small and Medium Enterprises (MSMEs) in India are –

1. Energy Use and Technology Analysis
2. Capacity building and Outreach awareness
3. Implementation of EE measures 4. Development of Innovative Financing Mechanisms

Achievements of the programme till March 2017

a) **Technological gap analysis and Strengthening of LSPs** – The above activities lead to preparation of 375 Technology specific bankable DPRs enlisting energy efficiency technologies, which were identified through a technology gap assessment study conducted in 35 energy intensive SME clusters belonging to 12 SME sectors (List enclosed at Annexure – 1). Local service providers were also identified to provide the energy efficient technologies in the clusters, detailed cluster specific manuals were prepared to serve as baseline reports to attract various stake holders towards energy efficiency improvements, particularly in SMEs clusters of India.

b) **Unleashing the Large Potential in SME sector:** BEE has implemented energy efficient technologies as demo projects in 21 units of 4 selected

clusters for further replication of the technologies across the sector. The list of these clusters is at Annexure – 2. These implementations led to savings of more than 1100 TOE per year with further replication potential of 74,824 TOE in 4 clusters.

c) **Best Operating Practices and Common Monitorable Parameters** - For upbringing the behavioral changes towards energy efficiency, documents like Best Operating Practices, Common Monitorable Parameters, and Case Studies were developed in consultation of SME entrepreneurs. These documents are also circulated to SMEs of these clusters.

d) **Dissemination of EE technologies and Awareness:** More than 60 Capacity building cum Knowledge dissemination programme were organized in SME clusters for dissemination of available energy efficient technologies in SME sectors. National Summit on Energy Efficiency in SMEs was also organized in consultation with leading stakeholders for further scaling up the project for transformational results.

e) **Identification of Local Service Providers and Suppliers:** About 70 local service providers were identified for offering services and supplies of various technologies in 5 clusters for ensuring the replication of the identified technologies in the clusters.

f) **Multimedia Learning approach** - To promote knowledge of energy efficiency efficiently and effectively among the SME entrepreneurs, six multimedia tutorials are developed. These tutorials also have a real techno-economic analysis and savings that may be realised after adopting the technology. To cover more SME sectors, fifty multimedia tutorials are in production phase.

BEE – SME Programme during year 2017 - 2020

With the collective efforts of Bureau towards improving the energy performance, the current state of awareness, perception and responsiveness towards energy efficiency programmes of MSME segment in India, Energy Efficiency interventions in SME sector are yet to become the mainstream across the country. Although the energy saving potential is immense in this sector which BEE intends to unlock, there are quite a challenge faced by

Indian MSME entrepreneurs which are risk averseness, cumbersome documentation and lack of awareness/motivation. Following are the key activities under implementation –

a) Technical Assistance and Capacity Building of energy intensive SME sectors.
b) Promoting Energy Efficiency and Technology Upgradation in SMEs through ESCO route.
c) Energy mapping of SME clusters on pan India basis.

Energy Mapping of SME clusters on pan India basis

Due to continuous efforts of Bureau, SDAs and its stakeholders, MSMEs in India have started to shift from a traditional strictly cost and quality approach to energy efficiency, zero waste and reduced carbon emissions.

Further, for bringing more competitiveness and making this sector more energy efficient, it is quintessential to understand the consumption of energy and its flow within the facility along with the classification of energy usage and its relationship to processes and production outputs in present scenario. Thus, it is envisaged that energy mapping of MSMEs will cover energy usage pattern, detailed analysis and technology gap analysis.

The need of the same was also highlighted during a meeting under the chairmanship of Development Commissioner, Ministry of MSME. It was further agreed that O/o DC, MSME and BEE will ink a MoU for joint implementation of the programme titled “Promoting Energy Security of MSME sector”.

Bureau has analyzed the list of MSME clusters in India. The tentative list of energy intensive sectors/clusters of which energy mapping is envisaged is placed at Annexure – A.

GEF Funded Programme in Indian SME sector

Bureau of Energy Efficiency has also implemented EE technologies in many energy intensive clusters of India with the support from Global Environment Facility through UNIDO and World Bank.

GEF – UNIDO – BEE Project

The project "Promoting Energy Efficiency and Renewable Energy in MSMEs in India" aims towards developing and promotion of market environment for introducing energy efficient technologies and enhancing the use of renewable energy technologies in process applications in energy-intensive MSMEs in 5 sectors (brass, ceramics, dairy, foundry and hand tools).

The project further has scaled up the activities to national level (in 12 Clusters) (list enclosed at Annexure – 3) in order to reduce energy usage per unit of product, improve the productivity and competitiveness of units, thereby reducing overall carbon emissions and improving the local environment.

Achievements of the GEF – UNIDO – BEE programme

a) Energy Management Centres has been established under this project in 12 clusters, which in turn are be helpful to make regular energy audits in the SME units and capturing the potential of energy saving opportunities in the clusters.
b) The project has so far implemented a total of over 400 distinct energy saving projects and renewable energy options towards the felicitating cleaner and efficient energy uses in MSME units. More than 350 Case Studies and DPRs are also prepared and shared across the MSME entrepreneurs of further implementation.
c) Implementation of more than 50 energy efficient technologies as pilot projects. Around Rs. 1 Crore have been sanctioned as grant for implementation of the pilot projects".
d) More than 40 Workshops were organized on Best Operating Practices and Capacity Building of the Local Service Providers on energy efficient technologies.
e) The project has so far achieved annual energy savings of more than 8500 TOE with Annual monetary savings of 3802 Lakhs rupees.
f) Four international tours were also organized for adoption of best operating practices following in the world.

g) 187 units owners, plant managers, shop-floor personnel on energy auditing and best operating practices were provided hands-on training at NPC, Chennai
h) More than 800 Local service providers were strengthened through capacity building programmes.
i) Benchmarking report for Ceramic and Dairy sector were developed.
j) Facilitated installation one 100kWp Solar Photovoltaic power plant at Thangadh Ceramic Cluster and total installation reached 1 MWp.
k) Implemented 17 demo projects in 7 clusters with financial assistance of INR 87.9 Lakh.

GEF – WB – BEE Project

The project "Financing of Energy Efficiency at MSMEs" is part of the Global Environmental Facility (GEF) Programmatic Framework for Energy Efficiency in India with an objective to increase demand for energy efficiency investments in target micro, small and medium enterprise clusters and to build their capacity to access commercial finance. The project is being implemented in two phases and more than 20 clusters in India. (list enclosed at Annexure – 4)

Achievements of the GEF – WB – BEE programme

Overall, the project has created confidence among MSMEs, local banks and energy efficiency technology companies for carrying out energy efficiency projects in the SME sector. DPRs, Best Operating Practices, Common Monitorable Parameters and Case Studies were prepared for the selected MSME cluster which contains detailed information on technical and financial aspects of energy efficiency projects, so that the success of the pilot can be replicated elsewhere.

- Technical Assistance to Energy Professionals (750 Nos.)
- Training Programs for Bankers/FI on EE Projects and Appraisals (1120 nos. from 75 Govt., Private & Cooperative Banks / FIs / NBFCs)

- More than 5000 MSME units are covered through various awareness and capacity building initiatives under this project along with a focused web-based knowledge management system and Web platform.
- Annual Energy savings of 25000 TOE with average ROI of 18 months has been achieved under this project so far.
- Implementation support to fifty (50) MSME units of Twenty (20) clusters was provided for implementation of ISO – 50001. More than 450 MSME entrepreneurs were trained during implementation process.
- Three Hundred Fifty (350) energy saving measures were identified during implementation of ISO – 50001. Thus, annual saving of INR 900 Lakhs was estimated.
- Knowledge Management Portal was redeveloped to showcase the success stories, key performance indicators, best operating practices, case studies etc.
- 63 'Felicitation and Certification Programme cum Capacity Building Workshops' on 'Resource Efficiency and Cleaner Production' were organized to felicitate top performing units in their respective industrial clusters under this project.
- Approximately, 330 crores rupees of investment made by participating MSMEs to implement 3000 energy efficiency measures.
- Mobile application to facilitate and enhance the auditing process for energy efficiency, lean manufacturing and cleaner production.
- Developed Key Performance Indicators (KPI) and EE Benchmarks for the Paper (RFB), Ceramics (Tiles) and Forging sector.

Annexure – 1

List of clusters where technology specific 375 DPRs prepared under "National Programme on Energy Efficiency and Technology Upgradation of MSMEs"

Energy Efficiency in Small and Medium Enterprises (SMEs) sector

1. Introduction to MSME Sector

The MSME (micro, small and medium enterprises) sector, is a heterogeneous sector in terms of the products manufactured, sizes, manufacturing processes, output and technology used in manufacturing. MSMEs engaged in manufacturing, account for for about 33% of India's manufacturing output and around 28% contribution in the GDP as whole.

MSMEs typically are characterised with a high degree of heterogeneity within the manufacturing processes across various geographic locations even for similar product offerings. When compared with large enterprises they have smaller scale of operations, smaller capital base and do not have access to cheaper finance and readily available technology solutions. Hence, they prefer low-cost sub-standard solutions leading to inefficient production. Further enterprises engaged in energy intensive operations incur disproportionately higher costs. Vulnerability of MSMEs to increasing energy prices is higher as they pay more per unit of energy as compared to larger industries.

The MSMEs in India are around Sixty-Three million – and a majority of them have not been implemented any energy efficiency (or) technology upgradation measures since they commissioned and continue to depend on obsolete, low efficiency technologies that result in wasteful energy consumption, also reducing profitability and competitiveness of MSMEs sector in India.

The sector holds immense potential in fostering energy efficiency and upgradation of the technologies in routine processes. Nevertheless, there is still plenty of room for improvement in terms of concrete measures, most of the SME entrepreneurs claim not to have been able to identify any potential savings in their businesses.

Considering the urgent need to develop, demonstrate and disseminate energy efficient technologies at the cluster level, “National Programme on Energy Efficiency and Technology Upgradation in SMEs” was evolved by Bureau of Energy Efficiency to address the various challenges faced by MSMEs in India.

2. Objective of BEE – SME Programme

To improve energy efficiency of SME sector in India through accelerating adoption of energy efficient technologies, knowledge sharing, capacity building and development of financial of innovative financial mechanisms.

3. Implementation of BEE – SME Programme to Promote Energy Efficiency –

Following activities were undertaken to encourage efficient energy consumption in the Micro Small and Medium Enterprises (MSMEs) in India are –

1. Energy Use and Technology Analysis
2. Capacity building and Outreach awareness
3. Implementation of EE measures
4. Development of Innovative Financing Mechanisms

3. Achievements of the programme till March 2017

a) Technological gap analysis and Strengthening of LSPs – The above activities lead to preparation of 375 Technology specific bankable DPRs enlisting energy efficiency technologies, which were identified through a technology gap assessment study conducted in 35 energy intensive SME clusters belonging to 12 SME sectors (List enclosed at **Annexure – 1**). Local service providers were also identified to provide the energy efficient technologies in the clusters, detailed cluster specific manuals were prepared to serve as baseline reports to attract various stake holders towards energy efficiency improvements, particularly in SMEs clusters of India.

b) Unleashing the Large Potential in SME sector: BEE has implemented energy efficient technologies as demo projects in 21 units of 4 selected clusters for further replication of the technologies across the sector. The list of these clusters is at **Annexure – 2.** These implementations led to savings of more than 1100 TOE per year with further replication potential of 74,824 TOE in 4 clusters.

c) Best Operating Practices and Common Monitorable Parameters - For upbringing the behavioural changes towards energy efficiency, documents like Best Operating Practices, Common Monitorable Parameters, Case Studies were developed in consultation of SME entrepreneurs. These documents are also circulated to SMEs of these clusters.

d) Dissemination of EE technologies and Awareness: More than 60 Capacity building cum Knowledge dissemination programme were organised in SME clusters for dissemination of available energy efficient technologies in SME sectors. National Summit on Energy Efficiency in SMEs was also organized in consultation with leading stakeholders for further scaling up the project for transformational results.

e) Identification of Local Service Providers and Suppliers: About 70 local service providers were identified for offering services and supplies of various technologies in 5 clusters for ensuring the replication of the identified technologies in the clusters.

f) Multimedia Learning approach - To promote knowledge of energy efficiency efficiently and effectively among the SME entrepreneurs, six multimedia tutorials are developed. These tutorials also have a real techno-economic analysis and

savings that may be realised after adopting the technology. To cover more SME sectors, fifty multimedia tutorials are in production phase.

4. BEE – SME Programme during year 2017 - 2020 –

With the collective efforts of Bureau towards improving the energy performance, the current state of awareness, perception and responsiveness towards energy efficiency programmes of MSME segment in India, Energy Efficiency interventions in SME sector are yet to become the mainstream across the country. Although the energy saving potential is immense in this sector which BEE intends to unlock, there are quite a challenge faced by Indian MSME entrepreneurs which are risk averseness, cumbersome documentation and lack of awareness/motivation. Following are the key activities under implementation –

a) Technical Assistance and Capacity Building of energy intensive SME sectors.
b) Promoting Energy Efficiency and Technology Upgradation in SMEs through ESCO route.
c) Energy mapping of SME clusters on pan India basis.

5. Energy Mapping of SME clusters on pan India basis

Due to continuous efforts of Bureau, SDAs and its stakeholders, MSMEs in India have started to shift from a traditional strictly cost and quality approach to energy efficiency, zero waste and reduced carbon emissions.

Further, for bringing more competitiveness and making this sector more energy efficient, it is quintessential to understand the consumption of energy and its flow within the facility along with the classification of energy usage and its relationship to processes and production outputs in present scenario. Thus, it is envisaged that energy mapping of MSMEs will cover energy usage pattern, detailed analysis and technology gap analysis.

The need of the same was also highlighted during a meeting under the chairmanship of Development Commissioner, Ministry of MSME. It was further agreed that O/o DC, MSME and BEE will ink a MoU for joint implementation of the programme titled "Promoting Energy Security of MSME sector".

Bureau has analysed the list of MSME clusters in India. The tentative list of energy intensive sectors/clusters of which energy mapping is envisaged is placed at **Annexure – A**.

6. GEF Funded Programme in Indian SME sector -

Bureau of Energy Efficiency has also implemented EE technologies in many energy intensive clusters of India with the support from Global Environment Facility through UNIDO and World Bank.

6.1 GEF – UNIDO – BEE Project –

The project "Promoting Energy Efficiency and Renewable Energy in MSMEs in India" aims towards developing and promotion of market environment for introducing energy efficient technologies and enhancing the use of renewable energy technologies in process applications in energy-intensive MSMEs in 5 sectors (brass, ceramics, dairy, foundry and hand tools).

The project further has scaled up the activities to national level (in 12 Clusters) (list enclosed at **Annexure – 3**) in order to reduce energy usage per unit of product, improve the productivity and competitiveness of units, thereby reducing overall carbon emissions and improving the local environment.

6.1.1 Achievements of the GEF – UNIDO – BEE programme –

a) Energy Management Centres has been established under this project in 12 clusters, which in turn are be helpful to make regular energy audits in the SME units and capturing the potential of energy saving opportunities in the clusters.
b) The project has so far implemented a total of over 400 distinct energy saving projects and renewable energy options towards the felicitating cleaner and efficient energy uses in MSME units. More than 350 Case Studies and DPRs are also prepared and shared across the MSME entrepreneurs of further implementation.
c) Implementation of more than 50 energy efficient technologies as pilot projects. Around Rs. 1 Crore have been sanctioned as grant for implementation of the pilot projects".
d) More than 40 Workshops were organized on Best Operating Practices and Capacity Building of the Local Service Providers on energy efficient technologies.
e) The project has so far achieved annual energy savings of more than 8500 TOE with Annual monetary savings of 3802 Lakhs rupees.
f) Four international tours were also organized for adoption of best operating practices following in the world.
g) 187 units owners, plant managers, shop-floor personnel on energy auditing and best operating practices were provided hands-on training at NPC, Chennai
h) More than 800 Local service providers were strengthened through capacity building programmes.
i) Benchmarking report for Ceramic and Dairy sector were developed.
j) Facilitated installation one 100kWp Solar Photovoltaic power plant at Thangadh Ceramic Cluster and total installation reached 1 MWp.
k) Implemented 17 demo projects in 7 clusters with financial assistance of INR 87.9 Lakh.

6.2 GEF – WB – BEE Project –

The project "Financing of Energy Efficiency at MSMEs" is part of the Global Environmental Facility (GEF) Programmatic Framework for Energy Efficiency in India with an objective to increase demand for energy efficiency investments in target micro, small and medium enterprise clusters and to build their capacity to access commercial finance. The project is being implemented in two phases and more than 20 clusters in India. (list enclosed at **Annexure – 4**)

6.2.1 Achievements of the GEF – WB – BEE programme –

Overall, the project has created confidence among MSMEs, local banks and energy efficiency technology companies for carrying out energy efficiency projects in the SME sector. DPRs, Best Operating Practices, Common Monitorable Parameters and Case Studies were prepared for the selected MSME cluster which contains detailed information on technical and financial aspects of energy efficiency projects, so that the success of the pilot can be replicated elsewhere.

- Technical Assistance to Energy Professionals (750 Nos.)
- Training Programs for Bankers/FI on EE Projects and Appraisals (1120 nos. from 75 Govt., Private & Cooperative Banks / FIs / NBFCs)
- More than 5000 MSME units are covered through various awareness and capacity building initiatives under this project along with a focused web-based knowledge management system and Web platform.
- Annual Energy savings of 25000 TOE with average ROI of 18 months has been achieved under this project so far.
- Implementation support to fifty (50) MSME units of Twenty (20) clusters was provided for implementation of ISO – 50001. More than 450 MSME entrepreneurs were trained during implementation process.
- Three Hundred Fifty (350) energy saving measures were identified during implementation of ISO – 50001. Thus, annual saving of INR 900 Lakhs was estimated.
- Knowledge Management Portal was redeveloped to showcase the success stories, key performance indicators, best operating practices, case studies etc.
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- Approximately, 330 crores rupees of investment made by participating MSMEs to implement 3000 energy efficiency measures.
- Mobile application to facilitate and enhance the auditing process for energy efficiency, lean manufacturing and cleaner production.
- Developed Key Performance Indicators (KPI) and EE Benchmarks for the Paper (RFB), Ceramics (Tiles) and Forging sector.

Annexure – 1

List of clusters where technology specific 375 DPRs prepared under "National Programme on Energy Efficiency and Technology Upgradation of MSMEs"

	Cluster Location	Product
1	Ahmedabad	Chemicals & Dyes
2	Jamnagar	Brass
3	Morvi	Ceramics
4	Pali	Textiles
5	Surat	Textiles
6	Solapur	Textiles
7	Warangal	Rice Milling
8	Alwar	Oil Milling
9	Bangalore	Machine Tools
10	Batala, Jalandhar & Ludhiana	Foundry
11	Bhimavarm	Ice Making
12	Bhubaneshwar	Brass
13	E&W Godavari	Refractories
14	Ganjam	Rice Milling
15	Gujarat	Dairy
16	Howrah	Galvanizing
17	Jagadhri	Brass & Aluminium
18	Jodhpur	Limestone
19	Jorhat	Tea
20	Kochi	Sea Food Processing
21	Muzaffarnagar	Paper
22	Orissa	Sponge Iron
23	Vapi	Chemicals & Dyes
24	Varanasi	Brick
25	Vellore	Rice Milling
26	Belgaum	Foundry
27	Coimbatore	Foundry
28	Firozabad	Glass
29	Rajkot	Foundry
30	Alleppey	Coir
31	Dewas Ujjain	Oil Milling
32	Mangalore	Tiles
33	Meerut	Khandsari
34	Ratnagiri	Food Processing
35	Tirupur	Textiles

Annexure – 2

List of clusters where demonstration projects have been implemented under "National Programme on Energy Efficiency and Technology Upgradation of MSMEs"

Sr. No.	Sector	Cluster
1	Textile	Pali, Rajasthan
2	Food Processing	Indore and Ujjain, Madhya Pradesh
3	Bricks	Varanasi, Uttar Pradesh
4	Forging	Ludhiana, Punjab

Annexure – 3

List of clusters covered under GEF – UNIDO – BEE Programme

Sr. No.	Sector	Clusters
1	Brass	Jamnagar, Gujrat
2	Ceramics	Khurja, Uttar Pradesh
3		Thangarh, Gujrat
4		Morbi, Gujarat
5	Dairy	Sikkim
6		Gujrat
7		Kerala
8	Foundry	Belgaum, Karnatka
9		Coimbatore, Tamilnadu
10		Indore, Madhya Pradesh
11	Hand Tools	Nagaur, Rajasthan
12		Jalandhar, Punjab

Annexure – 4

List of clusters covered under GEF – World Bank – BEE Programme

Sr. No.	Sector	Clusters
1	Forging	Pune
2	Chemical	Ankleshwar
3	Limekiln	Tirunelveli
4	Foundry	Kolhapur
5	Mixed Industries	Faridabad
6		Delhi NCR
7		Varanasi, Uttar Pradesh
8		Kundali, Panipat
9		Ludhiana, Jalandhar, Chandigarh
10		Mumbai Thane
11		Morbi, Rajkot
12		Dehradun, Uttarakhand
13		Coimbatore, Erode, Virudhachalam, Tirupur
14		Surat, Vapi, Valsad

Annexure – A

List of Clusters Identified for Energy Mapping

Sr. No.	State	Cluster	Sector
1	Assam	Hajo, Kamrup	Brass
2	Bihar	Pareb	Brass
3	Gujarat	Jamnagar	Brass
4	Jharkhand	Vishnugarh, Hazaribagh	Brass
5	Odisha	Khurda	Brass
6	Andhra Pradesh	YSR Kadapa	Bricks
7	Assam	Barpeta	Bricks
8	Jharkhand	Jamshedpur, East Singhbhum	Bricks
9	Karnataka	Khanapur, Belguam	Bricks
10	Madhya Pradesh	Guna	Bricks
11	Gujarat	Ahmedabad	Chemicals
12	Haryana	Karnal	Chemicals
13	Jharkhand	Jamshedpur	Chemicals
14	Kerala	Ernakulam	Chemicals
15	Maharashtra	Thane	Chemicals
16	Assam	Vill. Gorukhuti, Darrang	Dairy
17	Gujarat	Anand	Dairy
18	Haryana	Karnal	Dairy
19	Maharashtra	Buldhana	Dairy
20	Punjab	Malerkotla	Dairy
21	Delhi	Patparganj	Forging
22	Arunachal Pradesh	West Siang	Forging
23	Jharkhand	Dumka	Forging
24	Punjab	Jalandhar	Forging
25	Meghalaya	Mylliem	Forging
26	West Bengal	Howrah Foundry	Foundry
27	Uttar Pradesh	Agra Foundry	Foundry
28	Tamil Nadu	Coimbatore Foundry	Foundry
29	Rajasthan	Jaipur Foundry	Foundry
30	Punjab	Batala Foundry	Foundry
31	Bihar	Rampur(bkhari), Chainpur (Bangra)	Glass

32	Haryana	Ambala	Glass
33	Maharashtra	Amravati	Glass
34	Rajasthan	Jaipur	Glass
35	Uttar Pradesh	Firozabad	Glass
36	Bihar	Vill- Moratalab, Block-Rahui, Dist.- Nalanda	Leather
37	Haryana	Manesar, Gurgaon	Leather
38	Jharkhand	Hazaribagh	Leather
39	Karnataka	Bagalkot	Leather
40	Maharashtra	Mumbai	Leather
41	Assam	Darrang	Paper
42	Jammu & Kashmir	Zadibal, Srinagar	Paper
43	Kerala	Malappuram	Paper
44	Rajasthan	Jaipur	Paper
45	Tripura	Agartala City, West Tripura	Paper
46	Goa	Margao	Pharma
47	Gujarat	Ahmedabad	Pharma
48	Haryana	Ambala	Pharma
49	Karnataka	Kolhar Industrial Area, Bidar	Pharma
50	Kerala	Thrissur	Pharma