

Comprehensive LSPs Mapping Report Belgaum Foundry Cluster

GEF-UNIDO-BEE Project Promoting Energy Efficiency and Renewable Energy in selected MSME clusters in India

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Abbreviations

BEE	Bureau of Energy Efficiency
BFC	Belgaum Foundry Cluster
BHEL	Bharat Heavy Electricals Limited
DIC	District Industries Centre
DPR	Detailed Project Report
EE	Energy Efficiency
EMC	Energy Management Cell
GEF	Global Environment Facility
HMT	Hindustan Machine Tools
IIF	The Institute of Indian Foundrymen
LSP	Local Service Provider
MSME	Micro, Small & Medium Enterprises
OEM	Original Equipment Manufacturers
RE	Renewable Energy
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TERI	The Energy and Resources Institute
UNIDO	United Nations Industrial Development Organization
VFDs	Variable Frequency Drives

1.0 Introduction

Bureau of Energy Efficiency (BEE) is Promoting Energy Efficiency and Renewable Energy in selected MSME clusters in India under the GEF-UNIDO-BEE Project. A proposal for capacity building of local service providers (LSPs) was submitted by TERI to BEE under GEF-UNIDO- BEE project.

A contract for providing the consultancy services was awarded to TERI by BEE as per the terms of reference given in the Lol No. 13/GEF-UNIDO-BEE/LSP/14/4561 and 13/GEF-UNIDO-BEE/LSP/14/4562 dated 2nd August, 2017 for the following Ceramic and Foundry clusters on 26th September 2017.

Table 1.0: Focus sectors/ clusters awarded to TERI

Sector	Clusters
Ceramic	<ul style="list-style-type: none">• Khurja• Morbi• Thangadh
Foundry	<ul style="list-style-type: none">• Belgaum• Coimbatore• Indore

This comprehensive LSPs mapping report of the project outlines the methodology followed for identification and mapping of LSPs based on demand and supply needs of local industries for Belgaum foundry cluster. This report should be read in conjunction with the 'Cluster specific list of LSPs' submitted separately.

The following sections in the report outlines the cluster background, methodology adopted, production process flow-sheet, demand-supply matrix and SWOT analysis for the LSPs in the Belgaum foundry cluster.

2.0 Background of the cluster

2.1 General information

Belgaum, located in the state of Karnataka, is an important foundry cluster in India. The foundry industry at Belgaum has its origin to 1940s, when the first cupola was set-up there to manufacture agricultural implements for local farming community. The industry grew rapidly between 1950 and 1960 with demand for castings for machine tools, diesel oil engines, electric motors and pump sets by Original Equipment Manufacturers (OEMs) such as Kirloskar. The growth in automobile industry in and around Pune, gave a further boost to the demand for cast iron castings from the Belgaum cluster. Setting up of public sector plants such as BHEL and HMT in Bangalore also helped in the growth of foundry industries at Belgaum.

There are about 100 foundry units in Belgaum cluster. Majority of the units are located in three industrial estates Udyambagh, Macche and Belgaum Manufacturers Cooperative Industrial Estate Limited. Automobile components accounts for the major share of castings produced in the cluster followed by pumps and valves, gears, machine tools, elevators, food processing and other industrial applications. The production of casting at cluster level is about 12,000 tonnes per month.

2.2 Production process

The major steps in the production process include mould sand preparation, charge preparation, melting, pouring, knockout and finishing.

A simplified process flow chart of a typical foundry is given in the figure 2.2.

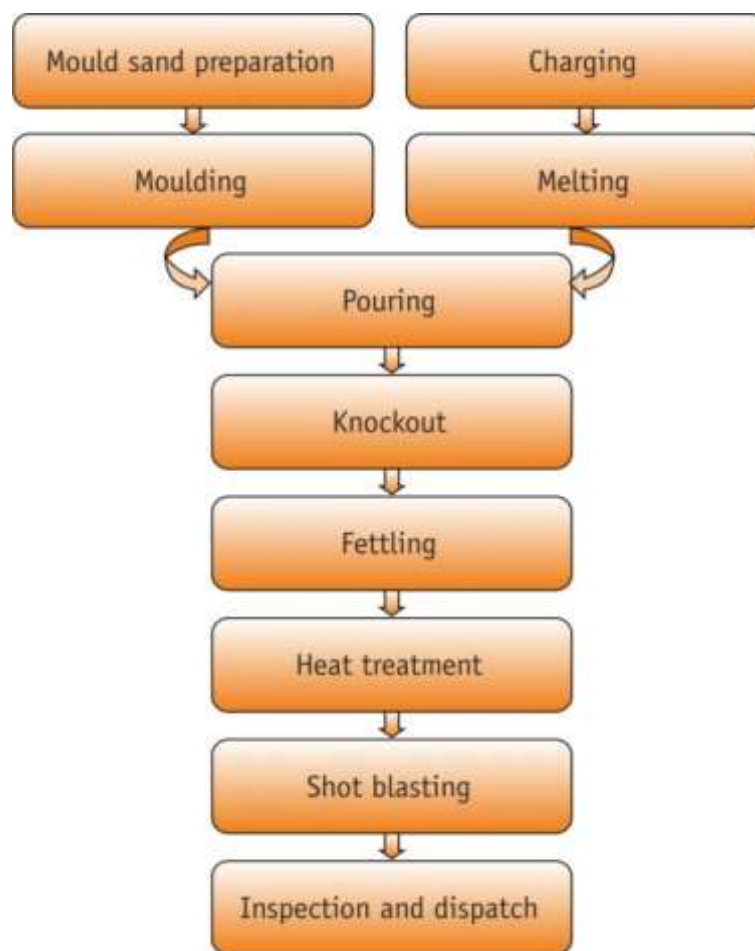


Figure 2.2: Typical flow sheet of a foundry

2.3 Major stakeholders

The major stakeholders in the cluster like industry associations, training institutions and government support institutions for MSMEs, identified through secondary literature survey are given below:

2.3.1 Industry Associations

There are a number of industry associations in Belgaum. The major industry associations are the following:

- Belgaum Foundry Cluster (BFC)
- The Institute of Indian Foundrymen (IIF) – Belgaum Chapter
- Belagavi Chamber of Commerce & Industries
- Belgaum District Small Scale Industries Association

These associations are closely linked to each other and even some of the officer-bearers are common.

2.3.2 Training Institutions

There are a large number of colleges in the Belgaum offering high class undergraduate engineering courses. The following institutes are particularly known for offering courses with specialisation in foundry technology in and around Belgaum:

- KLS Gogte Institute of Technology, Belgaum
- Belgaum Foundry Cluster (BFC), Belgaum
- Dhatu Tantra Prabodhini, Department of Metallurgy, Kolhapur

2.3.3 Government Support Institutions

Some of the major government supported institutions related to foundry industry in Belgaum are the following:

- MSME – Development Institute, Ministry of Micro, Small and Medium enterprises (MSME), Government of India
- District Industries Centre (DIC), Department of Industries and Commerce, Government of Karnataka

3.0 Methodology adopted

3.1 Identification and mapping of LSPs

Before the identification and mapping of the LSPs, the project undertook an extensive exercise to understand the equipment/sections in the plant where LSPs are used by industry. TERI interacted with key stakeholders like progressive industrial entrepreneurs, cluster-level industry associations and selected LSPs to understand the needs and supply of LSPs in the cluster.

In order to understand the equipment/sections in the plant, TERI prepared the process flow-diagram for the foundry industry. The identification of the major equipment/ sections and services used was done in consultation with industry stakeholders.

TERI then prepared structured survey questionnaires, separately for MSMEs and service providers, to understand the demand supply gaps for LSPs in the cluster. The MSME and LSP questionnaires used for the survey are provided in Annexure 1 and Annexure 2 respectively.

Efforts were made to classify the LSPs keeping in view the major equipment/sections and related services used by the industry. The structured questionnaires were used for discussions with MSMEs and LSPs to understand the demand and supply side barriers in the cluster.

TERI undertook an extensive survey for collection of cluster level information related to needs of LSPs. Key stakeholders like progressive MSMEs and LSPs were covered in the survey. The inputs from the stakeholders helped in obtaining a holistic view of the demand and supply needs of local industries.

The information about the cluster's needs was summarized using structured analytical tools like 'SWOT' and demand-supply matrix. The SWOT analysis helped to determine the strengths, weaknesses, opportunities and threats pertaining to the LSPs in the cluster. The demand-supply matrix was useful to

determine the demand side and supply side constraints with respect to key services at the cluster level.

These analyses helped in better understanding of the gaps in services available locally as well as to identify the capacity building needs of the LSPs for promotion of EE & RE in the cluster. There was continuous dialogue with the industry association in the cluster to brief them about the gaps identified and remedial measures. The analyses and dialogue also helped to identify potential EE & RE technologies which can be taken up for preparation of detailed project reports (DPRs) under the assignment.

The study was designed in two parts; quantitative survey of LSPs and MSMEs (through structured questionnaire), and qualitative discussion with focused groups, opinion leaders, and a variety of stakeholders in the cluster.

A questionnaire survey of about 20 MSMEs and LSPs was done in the cluster. Some of the MSMEs and LSPs provided response as per the structured questionnaire while some provided feedback through a generic discussion with regard to the demand-supply requirements of services in the cluster. Sample survey questionnaires filled during the field survey are enclosed in Annexure 3.

4.0 Analysis of LSP segregation based on questionnaire survey

4.1 Type of process/technology and role of LSP's

A questionnaire survey was conducted in the cluster to understand the present status of LSPs in the cluster and the needs of the local industry. Based on the questionnaire survey, the current LSPs were classified into different categories according to the types (process, utilities, and support services). The information on current LSPs in the cluster is summarized in table 4.1a.

Table 4.1a: Types of LSPs in Belgaum cluster

Sr. No	Type of LSPs	Nos.
1	Process (furnaces, major process equipment)	26
2	Utilities (electrical)	16
3	Utilities (mechanical)	09
4	Other services	09
	Total	61

The information collected on the LSPs in the cluster was further analyzed to categorize them according to the type of main process/technology commonly in use and the role of LSP. The detailed classification and the types of LSPs and their role are provided in table 4.1b.

Table 4.1b: Detailed classification of the types of LSPs and their role

Category	Section	Equipment/service	Role of LSP
Process equipment	Melting	Induction melting furnace & spares Cupola melting furnace /fabricators Pollution control system Refractory & thermal insulation	Manufacture/ sales/ service
	Material handling system	Cranes, skip charger and forklift machines Ladles, ladle preheating & pouring system	
	Moulding	Sand plant, sand preparation machinery, moulding machine	

Category	Section	Equipment/service	Role of LSP
		Moulding boxes Moulding machines Knockout/ shakeout machines Sand recovery / reclamation unit Pattern & die making Accessories & consumables	
	Core shop	Core shooter machines Core ovens Sand dryer	
	Heat treatment	Heat treatment furnace Burners & combustion system	
	Fettling shop	Shot blasting machine Grinders Tumblast machine	
	Testing laboratory	Testing services	
Utility equipment	Electrical equipment	Motors, voltage controllers, stabilizers, lighting, harmonic filters, transformers etc. Electrical motors Motor rewinding	Manufacture/ sales/ service
	Mechanical	Air compressors Compressed air system spares and accessories, auto-drain valve Pumps, spares & service	
Other services	Awareness programs and training	Government schemes Financing & taxation Environment & energy conservation Technical skill development Energy conservation	
	Consultants	Financial, Energy conservation, technology & process, Lean Manufacturing	Training and technical consultancy
	Renewable Energy	Solar PV, solar heaters, solar lighting, waste management	
	Foundry automation	Energy monitoring system, process automation & Foundry simulation software	

4.2 Mapping needs based on demand and availability of services

Based on the information collected on LSPs, an exercise to analyse the demand side and supply side constraints with respect to services available in Belgaum Foundry Cluster was undertaken. The summary of the analysis is presented in table 4.2.

Table 4.2: Demand and supply side analysis of LSPs in Belgaum foundry cluster

Sr. No.	Area	LSP	
		Demand side constraints	Supply side constraints
01	EE motors and skill development of motor re-winders	Need for training and capacity building of local motor re-winders and foundry maintenance staff	Competent trainers not available
02	Application of kaizen in induction furnace	Lack of knowledge on proper lean/kaizen for furnace, which is major energy consumer Technical know-how/expertise needed for low cost automation and manufacturing system	Providers do not have adequate know-how/expertise in 5S, Kaizen, etc.
03	EE in compressed air and cooling water system	Lack of awareness issues in compressed air system and cooling water system No mandatory requirement to save energy among MSMEs	Providers not aware of exact needs of foundry and the available EE solutions Foundries lack in-house expertise on the subject
04	EE in thermal applications	Lack of knowledge on equipment and components No mandatory requirement to save energy among MSMEs	Providers do not have full know-how/expertise Foundries lack in-house expertise on the subject

5.0 SWOT analysis of LSPs

A SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of LSPs in the cluster was done to understand the demand supply gaps of the technical services available in the cluster. The SWOT analysis table is given in table 5.0.

Table 5.0: SWOT analysis of LSPs in Belgaum cluster

Current situation		Future	
Strengths	Weaknesses	Opportunities	Threats
Large number of foundries present in the cluster	Lack of training /exposure latest developments in lean manufacturing, Kaizen etc.	Industry association proactive towards energy efficiency	Foundries reluctant to invest in capital equipment
Industry association is active	Lack of implementation of EE technologies in air compressor, pumps, cooling towers	Willingness to learn/acquire new skills	Equipment selected based on lowest capital cost rather than life-cycle cost
Technical training institutes present	Lack of knowledge on energy efficient technologies in thermal applications	Disciplined work culture	Low cost/low competence service providers
Presence of Energy Management Cell (EMC) with portable instruments	Limited skill of best operating and maintenance practices	Increased level of mechanization	Technological obsolescence of MSME foundry units
Bulk procurement of raw material by association	Lack of instrumentation to monitor process parameters	Dissemination of best practices	Competition from service providers from Kolhapur, Pune and Bangalore
Presence of sand reclamation plant at cluster level	No skill up-gradation training for LSPs	Develop specialized LSP for products /services required by local industry	
		Reduce energy cost through energy audits/energy services	

6.0 Conclusions

A questionnaire survey was conducted in the six clusters between September 2017 to January 2018, to get information about the services in the clusters with respect to each of the above categories and also to access the industry's perception of the need to develop these services within the clusters.

The exercise helped to analyse the demand side and supply side constraints with respect to local service providers in the six clusters. The summary of the demand side and supply side needs of local industries is presented in table 6.1.

Table 6.1: Demand and supply side analysis of LSPs Belgaum cluster

Sr. No.	Area	LSP	
		Demand side constraints	Supply side constraints
01	EE motors and skill development of motor re-winders	Need for training and capacity building of local motor re-winders and foundry maintenance staff	Competent trainers not available
02	Application of Kaizen in induction furnace	Lack of knowledge on proper lean/kaizen in induction furnace, which is the largest energy consuming area Technical know-how/expertise needed for low cost automation and manufacturing system	Providers do not have adequate know-how/ expertise in 5S, Kaizen, etc.
03	EE in compressed air and cooling water system	Lack of awareness on energy efficiency improvements in compressed air system and cooling water system No mandatory requirement to save energy among MSMEs	Providers not aware of exact needs of foundry and the available EE solutions Foundries lack in-house expertise on the subject
04	EE in thermal applications	Lack of knowledge on efficient thermal equipment and components No mandatory requirement to save energy among MSMEs	Providers do not have full know-how/ expertise Foundries lack in-house expertise on the subject

Annexures

Annexure 1: Questionnaire 1: For collecting information of the LSPs from foundry MSMEs

QUESTIONNAIRE / DETAILS

1. Company background

- Name of the Company :
- Address :
- Contact Person :
- Mobile / Landline :
- Email ID :
- Product Manufactured : Grey Iron/SG/Steel

2. Local Service Providers (LSPs) :

Section	Equipment/Service	LSPs
Process Machinery		
Melting	Induction Furnace maintenance services	
	Cupola Furnace (fabricators)	
	Pollution control systems (designers)	
	Refractory suppliers	
	Others	
Material Handling	Furnace Charging Systems	
	Ladles/ Lid covers	
	Ladle preheaters	
	Mould handling system	
	Others	
Moulding	Sand Plant	
	Sand Preparation machinery (Mixers/Mullers)	
	Moulding Boxes	
	Knockout machine	
	Sand Regeneration plant	
	Moulding machine	
	Other areas (pattern makers)	
Core Shop	Core shooter machine	
	Shell moulding machine	
	Core oven	

Section	Equipment/Service	LSPs
	Resin coating machine	
	Sand dryer	
Heat Treatment	Heat Treatment furnace	
	Burners/Controllers	
Fettling shop	Shot Blasting machine	
	Grinders	
	Sand/water jet blasting	
	Tumblast machine	
Testing Laboratory	Material testing services	
	Hardness tester	
	Spectrometer	
	Tensile tester	
	Sand testing	
	Ultrasonic/Radiography/NDT	
	Universal testing machine	
Utilities		
Induction Motor	Energy Efficient Motors (Distributors)	
	Motor Rewinding Services	
VFD (Variable Frequency Drives)	Suppliers	
Air Compressor	Air Compressor (servicing)	
	Auto Drain Valves/Spares supplier	
	Air Piping	
Pumping	Energy Efficient Pumps	
	AMC/Maintenance	
	Automation	
Fans & Blowers	Energy Efficient Fans	
	AMC/Maintenance	
	Automation	
Belt & Gear System	High-torque cog belts	
Bearing	Energy Efficient (E2) bearings	
Lighting	Electrical maintenance	
	LED lamps	
Solar	PV Solar	
Energy Monitoring System		
Harmonic controller	Consultants/Filter suppliers	

Section	Equipment/Service	LSPs
Power factor	Consultants/capacitor suppliers	
Others		
Others		
Other Services		
Support services	Government liasoning	
	Financial consultants	
	Energy Audits	
	Lean Manufacturing	
	Foundry simulation software	
	Others	
	Others	

3. Are there any areas where reliable local service providers are not available

Annexure 2: Questionnaire 2: For collecting information about the type of services offered by the LSPs

Questionnaire for EE (Energy Efficiency) /RE (Renewable Energy) Service Providers

Belgaum Cluster

1. General information

Name of the firm		
Nature of firm	Individual/sole proprietorship/Pvt. Limited/Limited/Partnership	
Year of establishment		
Name of the CEO/MD	Dr/Mr./Ms.	
Contact person(s) regional		
Mobile		
Email		
Mailing address		
Factory/H.O. address		
Number of employees	Technical:	Non-technical:

2. Categories of business/service (please tick one or more boxes)

Category	Technology/Service	Please specify
Energy Efficiency (EE)		
<input type="checkbox"/>	EE Equipment Manufacturer	
<input type="checkbox"/>	EE Material Manufacturer	
<input type="checkbox"/>	EE Consultancy	
<input type="checkbox"/>	EE Fabrication	
<input type="checkbox"/>	EE Maintenance	
<input type="checkbox"/>	EE Others	
Renewable Energy (RE)		
<input type="checkbox"/>	RE Equipment Manufacturer	
<input type="checkbox"/>	RE Material Manufacturer	
<input type="checkbox"/>	RE Consultancy	
<input type="checkbox"/>	RE Operation	
<input type="checkbox"/>	RE Maintenance	
<input type="checkbox"/>	RE Others	
Other services (Please specify)		

3. Technology features, projects and clients

Technology/Service*	Features and benefits (e.g. rating, energy saving, investment, payback period)	No. of implementations	Clients

* Please attach technical brochure, if available

4. Any other information

Annexure 3: Sample survey questionnaires filled during the field surveys

QUESTIONNAIRE / DETAILS

1. Company background

- Name of the Company : Big Castings Pvt. Ltd
- Address : #75, KIADB Industrial Estate, Honaga
- Contact Person : Mr Ajit A. Chougala/ Manjunat Savadatil
- Mobile / Landline : 9513395170/ 9964763950/ 9513395172
- Email ID : ajit.chougala@bigcastings.com
- Product Manufactured : Steel

2. Local Service Providers (LSPs) :

Section	Equipment/Service	LSPs
Process Machinery		
Melting	Induction Furnace maintenance services	Electrotherm Induction Furnace
	Cupola Furnace (fabricators)	--
	Pollution control systems (designers)	Own
	Refractory suppliers	1) Jogalekar 2) VRJ Traders 3) Bhadrawati
	Others	--
Material Handling	Furnace Charging Systems	Manual crane system
	Ladles/ Lid covers	2 Nos. with lid covers , own design
	Ladle preheaters	Yes, own design
	Mould handling system	Manual crane operation CO ₂ sand had moulding
	Others	--
Moulding	Sand Plant	Own fabrication assembled
	Sand Preparation machinery (Mixer/Muller)	Muller In-house Fabrication
	Moulding Boxes	Moulding box in-house 30x30x5/6/7
	Knockout machine	Shree Shakti
	Sand Regeneration plant	--
	Moulding machine	Table Vibration, own make

Section	Equipment/Service	LSPs
	Other areas (pattern makers)	Aluminium patters & core box made in sister concern group
Core Shop	Core shooter machine	--
	Shell moulding machine	Dum box own design
	Core oven	--
	Resin coating machine	--
	Sand dryer	Own design
Heat Treatment	Heat Treatment furnace	Batch type own design
	Burners/Controllers	Continuous type
Fettling shop	Shot Blasting machine	Shree Shakti Equipments Pvt Ltd
	Grinders	Sai Marketing (Dewalt & Bosch make)
	Sand/water jet blasting	--
	Tumblast machine	--
Testing Laboratory	Material testing services	Kelson Engineering
	Hardness tester	Kelson Engineering
	Spectrometer	Metal power – 108N+
	Tensile tester	Kelson Engineering
	Sand testing	Kelson Engineering
	Ultrasonic/Radiography/NDT	Outsource – Rohit Radiography
	Universal testing machine	Yama Engineering
Utilities		
Induction Motor	Energy Efficient Motors (Distributors)	Om Electricals
	Motor Rewinding Services	Om Electricals
VFD (Variable Frequency Drives)	Suppliers	Delta Engg.
Air Compressor	Air Compressor (servicing)	Prakash Sales Agencies
	Auto Drain Valves/Spares supplier	--
	Air Piping	--
Pumping	Energy Efficient Pumps	--

Section	Equipment/Service	LSPs
	AMC/Maintenance	Self & outside service
	Automation	PLC control Sand Muller
Fans & Blowers	Energy Efficient Fans	--
	AMC/Maintenance	Self & outside service
	Automation	--
Belt & Gear System	High-torque cog belts	V-belt
Bearing	Energy Efficient (E2) bearings	Sterling bearings
Lighting	Electrical maintenance	Self
	LED lamps	Havells & Syska
Solar	PV Solar	--
Energy Monitoring System		--
Harmonic controller	Consultants/Filter suppliers	B K Electrical
Power factor	Consultants/capacitor suppliers	Treffer Power System Solution
Others	--	--
Others	--	--
Other Services		
Support services	Government liasoning	--
	Financial consultants	--
	Energy Audits	--
	Lean Manufacturing	Aditya Consultancy
	Foundry simulation software	--
	Others	--
	Others	--

Questionnaire for EE (Energy Efficiency) /RE (Renewable Energy) Service Providers

Belgaum Cluster**1. General information**

Name of the firm	AFECO Heating Systems	
Nature of firm	Partnership	
Year of establishment	1990 – 91	
Name of the CEO/MD	Mr. Prakash R. Maladkar	
Contact person(s) regional	Mr. Jagdish G	Mr. Prakash R. Maladkar
Mobile	9371634910	9922864999
Email	marketing@afecoheating.com	maladkar@afecoheating.com
Mailing address	F-23, MIDC, Gokul Shirgoan, Kolhapur – 416234	
Factory/H.O. address	F-23, MIDC, Gokul Shirgoan, Kolhapur – 416234	
Number of employees	Technical: 10	Non-technical: 15

2. Categories of business/service (please tick one or more boxes)

Category	Technology/Service	Please specify
Energy Efficiency (EE)		
	EE Equipment Manufacturer	Yes
	EE Material Manufacturer	Yes
	EE Consultancy	Yes
	EE Fabrication	Yes
	EE Maintenance	Yes
	EE Others	We do export also
Renewable Energy (RE)		
	RE Equipment Manufacturer	Yes
	RE Material Manufacturer	--
	RE Consultancy	Yes
	RE Operation	--
	RE Maintenance	--
	RE Others	--
Other services (Please specify)		

3. Technology features, projects and clients

Technology/Service*	Features and benefits (e.g. rating, energy saving, investment, payback period)	No. of implementations	Clients
Energy Efficient Heat Treatment Furnaces Gas fired/ Electrical Heated	Payback period: 24-30 months for gas fired with pneumatic sealing with combustion efficiency. Payback period: Less than 24 months for gas fired with pneumatic sealing with combustion efficiency.	100+	Menon bearing Ltd., Endurance, Kirloskar, Aqua Alloy, Jina Bakul, Ashok Iron Works etc.
Energy Efficient Melting/ Holding Furnaces Electrical/ Gas	Holding furnace payback period: 18 months	100+	Minda Industries (Bawal), Endurance Technologies etc.
Rapid Quenching with manipulator with PLC/ SCADA control.	--	2+	Al Muscobat Steel Casting (Jeddah)

Questionnaire for EE (Energy Efficiency) /RE (Renewable Energy) Service Providers

Belgaum Cluster**1. General information**

Name of the firm	Akxa Tech Pvt. Ltd.	
Nature of firm	Private Limited	
Year of establishment	2016	
Name of the CEO/MD	Mr. Raghuraj K. Rao	
Contact person(s) regional	Mr. Vishwanath S K	
Mobile	8884656590	
Email	vishwanath.sk@akxatech.com	
Mailing address	--	
Factory/H.O. address	--	
Number of employees	Technical: 20	Non-technical: 2

2. Categories of business/service (please tick one or more boxes)

Category	Technology/Service	Please specify
Energy Efficiency (EE)		
	EE Equipment Manufacturer	--
	EE Material Manufacturer	--
	EE Consultancy	Process fluctuations assessment & optimization
	EE Fabrication	--
	EE Maintenance	--
	EE Others	--
Renewable Energy (RE)		
	RE Equipment Manufacturer	--
	RE Material Manufacturer	--
	RE Consultancy	--
	RE Operation	--
	RE Maintenance	--
	RE Others	--
Other services (Please specify)		

3. Technology features, projects and clients

Technology/Service*	Features and benefits (e.g. rating, energy saving, investment, payback period)	No. of implementations	Clients
Process assessment & optimization through data	Within 6 months payback period	4	Zuari Ago chemicals Ltd. (ZACL) (Fertilizer), Cement (VCL), Power plant
VFD optimization	Within 6 months payback period	1	Aqua alloys Pvt. Ltd
Process quality optimization	Within 2 months payback period	2	Coromandel Fertilizer
Process assessment & control system optimization	Within 3 months payback period	1 year service contract	Hindustan Zinc

Questionnaire for EE (Energy Efficiency) /RE (Renewable Energy) Service Providers

Belgaum Cluster**1. General information**

Name of the firm	WESMAN	
Nature of firm	Pvt. Limited	
Year of establishment	1950	
Name of the CEO/MD	Mr. Anil Vaswani	
Contact person(s) regional	Mr. Shivraj Zambare	
Mobile	9403373552	
Email	shiv0523@gmail.com	
Mailing address	--	
Factory/H.O. address	WESMAN Centre, 8, Mayfair Road, Kolkata	
Number of employees	Technical: 65	Non-technical: 100

2. Categories of business/service (please tick one or more boxes)

Category	Technology/Service	Please specify
Energy Efficiency (EE)		
	EE Equipment Manufacturer	Burners, Sand dryer, furnaces
	EE Material Manufacturer	--
	EE Consultancy	--
	EE Fabrication	--
	EE Maintenance	--
	EE Others	--
Renewable Energy (RE)		
	RE Equipment Manufacturer	--
	RE Material Manufacturer	--
	RE Consultancy	--
	RE Operation	--
	RE Maintenance	--
	RE Others	--
Other services (Please specify)		

3. Technology features, projects and clients

Technology/Service*	Features and benefits (e.g. rating, energy saving, investment, payback period)	No. of implementations	Clients
Burners	One month	30000+	Bajaj, Yuken, Cooper, Jindal
Multi cooler	Two years	30+	Yash, Caspro (Kolhapur)

QUESTIONNAIRE / DETAILS

1. Company background

- Name of the Company : YCP Industries
- Address : KSSIDC, B-118, Angol Industrial Estate, Belgaum
- Contact Person : Mr Ranjit/ Mr Sandeep Bidikar
- Mobile / Landline : 7411538292/ 9916273548
- Email ID : info@ycpindustries.com
- Product Manufactured : Grey Iron/ SG

2. Local Service Providers (LSPs) :

Section	Equipment/Service	LSPs
Process Machinery		
Melting	Induction Furnace maintenance services	150 kg/ 300 kg Inductotherm make induction furnace
	Cupola Furnace (fabricators)	--
	Pollution control systems (designers)	--
	Refractory suppliers	--
	Others	--
Material Handling	Furnace Charging Systems	Manual
	Ladles/ Lid covers	--
	Ladle preheaters	--
	Mould handling system	Manual
	Others	--
Moulding	Sand Plant	Resin coated sand plant of 75 kg batch capacity
	Sand Preparation machinery (Mixers/Muller)	Mixer 75 kg capacity
	Moulding Boxes	yes
	Knockout machine	--
	Sand Regeneration plant	No
	Moulding machine	Yes
	Other areas (pattern makers)	--
Core Shop	Core shooter machine	Spam make core shooter machine
	Shell moulding machine	12 x 12, 14 x 12, 16 x 16 Manuel dumping shell moulding

Section	Equipment/Service	LSPs
	Core oven	Manuel core oven
	Resin coating machine	75 kg resin coated sand plant
	Sand dryer	Diesel operated sand dryer
Heat Treatment	Heat Treatment furnace	--
	Burners/Controllers	--
Fettling shop	Shot Blasting machine	Shree Shakti Equipments Pvt Ltd
	Grinders	All type of grinders
	Sand/water jet blasting	--
	Tumblast machine	As above
Testing Laboratory	Material testing services	Available
	Hardness tester	Available
	Spectrometer	Available
	Tensile tester	Available
	Sand testing	Available
	Ultrasonic/Radiography/NDT	--
	Universal testing machine	Available
Utilities		
Induction Motor	Energy Efficient Motors (Distributors)	Neha Electricals
	Motor Rewinding Services	--
VFD (Variable Frequency Drives)	Suppliers	--
Air Compressor	Air Compressor (servicing)	--
	Auto Drain Valves/Spares supplier	--
	Air Piping	--
Pumping	Energy Efficient Pumps	--
	AMC/Maintenance	Self & outside service
	Automation	--
Fans & Blowers	Energy Efficient Fans	--
	AMC/Maintenance	Self & outside service
	Automation	--

Section	Equipment/Service	LSPs
Belt & Gear System	High-torque cog belts	--
Bearing	Energy Efficient (E2) bearings	--
Lighting	Electrical maintenance	Self
	LED lamps	--
Solar	PV Solar	--
Energy Monitoring System		--
Harmonic controller	Consultants/Filter suppliers	--
Power factor	Consultants/capacitor suppliers	Treffer Power System Solution Pvt. Ltd
Others		--
Others		--
Other Services		
Support services	Government liasoning	--
	Financial consultants	--
	Energy Audits	--
	Lean Manufacturing	--
	Foundry simulation software	--
	Others	--
	Others	--

Questionnaire for EE (Energy Efficiency) /RE (Renewable Energy) Service Providers

Belgaum Cluster**1. General information**

Name of the firm	Dhanaprakash Industrial Corporation	
Nature of firm	Partnership	
Year of establishment	1982	
Name of the CEO/MD	Mr Dhananjay Navangul	
Contact person(s) regional	Dhananjay Navangul	
Mobile	9975377377	
Email	dhana@dhanaprakash.com	
Mailing address	L 37 , MIDC ,Kopwad Sangli 416436	
Regd Office	L1+L2 ,G M Industrial Estate ,Miraj 416410	
Number of employees	Technical: 70	Non-technical:10

2. Categories of business/service (please tick one or more boxes)

Category	Technology/Service	Please specify
Energy Efficiency (EE)		
	EE Equipment Manufacturer	Burners ,Ovens ,Ladle Preheaters ,Heat Treatment Furnaces , Pollution Control Equipment's ,Bio Medical and Electronic Waste Incinerators
	EE Material Manufacturer	
	EE Consultancy	Yes
	EE Fabrication	
	EE Maintenance	
	EE Others	Simulation services
Renewable Energy (RE)		
	RE Equipment Manufacturer	Solar Energy based Hybrid Furnaces
	RE Material Manufacturer	
	RE Consultancy	
	RE Operation	
	RE Maintenance	
	RE Others	
Other services (Please specify)		

3. Technology features, projects and clients

Technology/Service*	Features and benefits (e.g. rating, energy saving, investment, payback period)	No. of implementations	Clients
Instant Ladle Preheaters	Overall Energy Efficiency is increased from mere 12-15 % to 35 %	300	All over India and abroad Tata Motors ,Suzuki , Honda etc
High Velocity Burners Automatic	COMBUSTION Efficiency –99 %	500 Nos involving 2000 Burners	India and Abroad BHEL, TATA, Larsen and TOUBRO ETC
Rapid Quench Heat Treatment Plants	Hardening Tempering Plants as per CQI9 ,API 6 A , AMS 2750	25	India , Middle East ,Mexico , Peru
Core Ovens	Flash Drying of Cores and Moulds	30	India

* Please attach technical brochure, if available

4. Any other information

Our company is dedicated to Energy Efficiency and innovated no of Energy Saving Equipment's .We have Lab scale and Pilot Plants for pretesting of innovations

Questionnaire for EE (Energy Efficiency) /RE (Renewable Energy) Service Providers

Belgaum Cluster**1. General information**

Name of the firm	Phoenix Components	
Nature of firm	Individual/sole proprietorship/Pvt. Limited/Limited/Partnership	
Year of establishment	1991	
Name of the CEO/MD	Dr/Mr./Ms. Sameer S Kanabargi	
Contact person(s) regional	Sameer Kanabargi	
Mobile	9448480724	
Email	Darshan Ladi	
Mailing address	9449819832	
	phoenix_bgm@hotmail.com	
	D-87, Industrial Estate,	
	Udyambag, Belgaum -08	
	Karnataka	
Factory/H.O. address	D-87, Industrial Estate, Udyambag, Belgaum -08	
Number of employees : 20	Technical: 12	Non-technical: 8

2. Categories of business/service (please tick one or more boxes)

Category	Technology/Service	Please specify
Energy Efficiency (EE)		
	EE Equipment Manufacturer	Biomass Gasifier / Biomass water heater/ cook stoves
	EE Material Manufacturer	Yes
	EE Consultancy	Yes (Biomass Energy Plantation)
	EE Fabrication	Yes
	EE Maintenance	OK
	EE Others	Yes
Renewable Energy (RE)		
	RE Equipment Manufacturer	Yes
	RE Material Manufacturer	Yes (Biomass Processing)
	RE Consultancy	Yes (Biomass Energy)
	RE Operation	Yes
	RE Maintenance	Yes
	RE Others	
Other services (Please specify) : Biomass Awareness and Dissemination		

3. Technology features, projects and clients

Technology/Service*	Features and benefits (e.g. rating, energy saving, investment, payback period)	No. of implementations	Clients
Gasifier	Less than a year	30 nos	Various foundries, Aluminum Processing
Water heater	Biomass insulated water heater	6000 nos	Domestic houses / Hotels , Hostels
Cook Stoves	Biomass Energy Efficient	3000 nos	Domestic houses / Hotels , Hostels
Biomass Processing	Briquetting Sized Biomass for Gasifier	16 Tons / day 10 Tons /day	Fuel Supply for all Biomass Applications

*Please attach technical brochure, if available

4. Any other information :

Sameer S Kanabargi of Phoenix has been actively involved in Biomass renewable energy dissemination and has all the required resources.

He has been actively involved with TERI, IISc, IIT Mumbai and other research institutions for Energy Efficiency and renewable energy sources.

Phoenix has been in this activity for past 25 years and has vast experience in the field.