



August 2018

CAPACITY BUILDING OF LOCAL SERVICE PROVIDERS (LSP) UNDER GEF-UNIDO-BEE PROJECT “PROMOTING EE/RE IN SELECTED MSME CLUSTERS IN INDIA”

Workshop Proceedings Report- Jamnagar Brass Cluster

Submitted to
(Prepared under GEF-UNIDO-BEE Project)



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Prepared by



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List of Abbreviations

AC	Alternate Current
ANSI	American National Standards Institute
BEE	Bureau of Energy Efficiency
DC	Direct Current
DPR	Detailed Project Report
EE	Energy Efficiency
GEF	Global Environmental Facility
IRR	Internal Rate of Return
kW	Kilo Watt
LSP	Local Service Provider
MSME	Micro and Medium Scale Industries
NPV	Net Present Value
OEM	Original Equipment Manufacturer
PGVCL	Paschim Gujarat Vij Company Ltd
PV	Photovoltaic
RE	Renewable Energy
TOE	Tons of Oil Equivalent
UNIDO	United Nation Development Organization
JFOA	Jamnagar Factory Owners Association, Jamnagar
IGBT	Insulated Gate Bipolar Transistor

1. EXECUTIVE SUMMARY

Bureau of Energy Efficiency (BEE), a statutory body under Ministry of Power, Government of India, in collaboration with United Nations Industrial Development Organization (UNIDO) is executing a Global Environment Facility (GEF) funded national project “Promoting energy efficiency and renewable energy in selected MSME clusters in India”.

The overall aim of the project is to develop and promote a market environment for introducing energy efficiency and enhanced use of renewable energy technologies in process applications in 12 selected energy-intensive MSME clusters across 5 sectors in India (with expansion to more clusters later). This will enable improvement in the productivity and competitiveness of units, as well as reduce overall carbon emissions and improve the local environment.

Key activities involved in the project are shown below

- Detailed Mapping of LSPs in the cluster
- Preparation of 10 Bankable DPRs
- Development of 5 customized training materials
- Conduct 4 training programs in the cluster for the capacity building of local service providers
- Facilitation of LSPs in becoming local dealers of OEMs

The report summarized the four training programs conducted in Jamnagar Brass cluster to train the local service providers and dairy units on Energy Efficiency/Renewable Energy. The objective of the workshop was to provide awareness on the concept of EE to fill the knowledge gaps and assist in creating an enabling environment for implementation energy efficient measures in the Cluster. In these workshop lectures and presentations were delivered by representatives of Major OEMs, Brass units, UNIDO, and CII and the proceedings of all the workshop are discussed in this report.

2. WORKSHOP PROCEEDINGS

In Jamnagar brass cluster four training programs were conducted at Jamnagar in Jamnagar Factory Owner’s Association office to train the local service providers and brass units on best operating practices, latest technologies/innovations and create awareness on importance of energy efficiency & renewable energy. These workshops also provided a platform to 160+ stakeholders to interact with each other in the cluster.

The detailed agenda for each workshop was decided based on the training need assessment survey and multiple meetings conducted with all the stakeholders in the cluster. At each event, CII introduced the workshop, followed by UNIDO providing vision and more details of the project. This was followed by presentations from technology suppliers on energy efficient technologies and services available in the market with open Q & A sessions after each presentation. Each workshop was attended by different stakeholders such as MSMEs, consultants, association, technology suppliers and subject experts.

The following table shows the summary of workshops completed at Jamnagar Brass cluster

Table 1: Workshop summary

S. No	Dates	Workshop Theme	No of LSPs/OEMs	Total No of Participants
1	10-Apr-18	Thermal System	97	183
2	28-Apr-18	Electrical System and Renewable Energy		
3	15-May-18	Thermal System and Utilities		
4	30-May-18	Utilities and Renewable Energy		

2.1 First LSP Training Program, Jamnagar

The first training program was organized on 10th April 2018 at Jamnagar Factory Owners’ Associations office which had a participation of 49 people including local service providers, OEMs and representation from Brass units .The program started with a welcome address by Mr. Tulasi bhai, President, Jamnagar Factory Owners Association (JFOA) and special remarks by Mr. Paresh bhai Vadhar, Head of Energy Management cell, JFOA.



Figure 1: First Training Program

Thereafter a detailed presentation was made on the project objectives and deliverables by Mr. Jasbir Singh, Associate Counsellor, and CII-GBC and Mr. Samir Patel, Cluster Leader, BEE gave a session on UNIDO’s activities in brass cluster. During the opening session the participants were briefed on the key project elements such as technology feasibility studies for the preparation of DPR and different models for engaging the LSPs with OEMs to promote EE/RE in the cluster.

The technical sessions started with presentation by Mr. Prasen Mehta, Inductotherm India on best operating and energy efficient practices in induction furnaces. He also highlighted about the new IGBT type induction furnace having more efficiency and less harmonics. This



Figure 2: Presentation on Induction Furnace

was followed by session on Natural gas

(NG) fired energy efficient melting and reheating furnaces by Mr. Jadish Guwad, AFFECO heating system. He introduced melting furnaces with better design, energy efficient burners along with recuperator for waste heat recovery so that fuel consumption can be



Figure 3: Explaining about WHR Potential

optimized. Post tea break session started with presentation by Mr. Ashwin K P, Promethean Energy on waste heat recovery in reheating furnaces and energy efficiency improvements in melting as well as reheating furnace, he also shared specific case studies related to waste heat recovery from reheating furnaces .The next presentation was from Mr. R D Mehta, Inductotherm India on induction billet heater applications in billet reheating. He explained about the various benefits and product quality improvements due to induction heating for brass billets. This was followed by presentation from Mr. Tushar Shah, Wesman India on the importance of energy efficient burners to reduce the overall cost of production. He highlighted about the various advantages and energy saving potential by replacing existing inefficient burners with energy efficient one with the help of case studies done by Wesman in different parts of Gujarat. The last two technical session was on new design of melting furnaces with natural gas and scope of natural gas in Jamnagar brass cluster by Mr. Rajesh Gohel, Matfab Engineering and Mr. Amit Goswami, Gujarat gas limited respectively.

The following table shows the summary of 1st LSP workshop at Jamnagar

Table 2: Summary of 1st Workshop

1 st LSP Workshop , JFOA	
Total no of Participants	49
No of technical sessions	7
No of LSP's attended	24
No of Brass Units attended	25
Outcomes	<p>Increased capacity building of LSPs and other stake holders</p> <ul style="list-style-type: none"> • Facilitated B2B discussion between LSPs and OEMs • Training for LSPs to consider EE as an important parameter in their services (mechanical fitter, technicians, welders, dealers etc.)

	<ul style="list-style-type: none"> • Facilitated B2B meeting between LSPs and Promethean energy with an objective of LSPs becoming service provider for Promethean on waste heat recovery. • Training given on EE measures such as <ol style="list-style-type: none"> 1. Energy Efficient reheating and melting furnaces 2. Best operating practices in Induction furnace 3. Waste heat recovery from Exhaust gases 4. Energy Efficient burners and induction billet heater applications <p>Supplier Unit Engagement</p> <ul style="list-style-type: none"> • Facilitation of Inductotherm’s visit to 3 units for induction furnace as well as billet heater scope • Discussion on feasibility of WHR at two units with Promethean Energy • Facilitation of AFFECO’s visit to 4 units for detailed engineering feasibility study for replacing coal based melting furnace with NG based • Facilitation of Metfab’s visit to 2 units for assessment of furnace operation and feasibility of replacement <p>Introduction of new technology/services</p> <ul style="list-style-type: none"> • Introduced the concept of IGBT induction furnace • Better design recuperator for waste heat recovery
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2.2 Second LSP Training Program, Jamnagar

The second training program was organized on 28th April 2018 at Jamnagar Factory Owners’ Associations office which had a participation of 50 people including local service providers, OEMs and representation from Brass units. The program started with a welcome address by Mr. Tulasi bhai, President, Jamnagar Factory Owners Association (JFOA). A detailed presentation was made on the project objectives and deliverables by Mr. Jasbir Singh, Associate Counsellor, and CII-GBC. Thereafter



Figure 5: Second Training Program

Mr. Niranjan Rao Devela, National Project Manager, UNIDO gave a brief insight on UNIDO activities in Gujarat dairy cluster. During the opening session the participants were briefed on the



Figure 4: Bharat Bijlee explaining IE3 & IE4 Motors

key project elements such as technology feasibility studies for the preparation of DPR and different models for engaging the LSPs with OEMs to promote EE/RE in the cluster. The theme of the second was electrical system and Renewable energy and first technical sessions started with presentation by Dr. Hasan J Mydin, Independent consultant Counsellor, on best operating and

energy efficient practices in electrical system. Some of the key topics covered during the session were importance of power factor management and harmonics mitigation to improve system reliability and saving energy. This was followed by session on optimization of compressed air usage by Mr. Kaushal raj, General Imsubs . He introduced a new type of air guns for compressed air cleaning usage called transvector nozzle where compressed air consumption is reduced by 50% and thus reducing power consumption. The next technical presentation was from Bharat Bijlee on IE3 and IE4 energy efficient motors and discussed about energy saving potential in smaller rating IE3 in case of replacement with standard motors and also the applications of new generation IE4 motors in units. Post lunch the session started with presentation by Mr. Rohan Purani, Grundfos India on energy efficient pumps and best operating practices on pumping system. This was followed by session from Mr. Vibhor Gupta, SMR Energy Pvt. Ltd. on solar rooftop-O&M and various project implementation models available in market. The workshop concluded with presentations on solar light pipe to harness day light and government energy efficiency schemes by Mr. Nilay Upadhay, Eview Global Pvt. Ltd and Mr. Jitendra Jain, SIDBI respectively.



Figure 6: Eview Global Explaining Light Pipe concept

The following table shows the summary of 2nd LSP workshop at Jamnagar

Table 3: Summary of 2nd Workshop

2 nd LSP Workshop , JFOA	
Total no of Participants	50
No of technical sessions	7
No of LSP's attended	28
No of Brass Units attended	22
Outcomes	<p>Increased capacity building of LSP's and other stake holders</p> <ul style="list-style-type: none"> • Facilitated discussion between LSPs and OEMs • Training for LSPs to consider EE as an important parameter in their services (Electrical vendors, Electricians, motor repair and maintenance, compressor dealer etc.) • Training given on EE measures such as <ol style="list-style-type: none"> 1. Power Factor Management and Harmonics 2. Best operating practices in Pumps and Pumping system 3. Energy efficient motors, IE3 and IE4 4. Energy saving opportunities in compressed air system 5. Various operational models of Solar roof top and Solar Light pipe 6. Government subsidy schemes <p>Supplier Unit Engagement</p>

	<ul style="list-style-type: none"> • Facilitated the visit of SMR energy to conduct site feasibility study and scope of RE rooftop • Facilitated the visit of Power quality supplier to understand the scope of active harmonic filter scope • Facilitated the visit of Eview Global to understand the feasibility of Solar light pipe in 3 units <p>Introduction of new technology/services</p> <ul style="list-style-type: none"> • Introduced the concept of solar Light pipe • Active harmonic filter
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2.3 Third LSP Training Program, Jamnagar

The third training program was organized on 15th May 2018 at Jamnagar Factory Owners’ Associations office which had a participation of 47 people including local service providers, OEMs and representation from Brass units.



Figure 7: Third Training Program

The program started with a welcome address by Mr. Tulasi bhai, President, Jamnagar Factory Owners Association (JFOA) and special remarks by Mr. Paresh bhai Vadhar, Head of Energy Management cell, JFOA. Thereafter a detailed presentation was made on the project objectives and deliverables by Mr. Jasbir Singh, Associate Counsellor, and CII-GBC and Mr. Samir Patel, Cluster Leader, BEE gave a session on UNIDO’s activities in brass cluster. During the opening session the participants were briefed on the key project elements such as technology feasibility studies for the preparation of DPR and different models for engaging the LSPs with OEMs to promote EE/RE in the cluster.

The technical sessions started with presentation by Mr. Mr. Jadish Gruad, AFFECO heating system



Figure 9: AFFECO Explaining about NG Fired Melting furnace

and shared the best operating practices and design features of the energy efficient NG fired furnaces. He was followed by Mr. Amit Goswami, Gujarat gas limited, who shared the polices and key basic requirements for taking an industrial gas connection. He also discussed various technical doubts of unit owners



Figure 8: Presentation on Hydroxy Generator

regarding the gas pressure and safety aspects. After tea break Mr. Kalpesh Chawda, Electrotherm India started the next session on

IGBT based induction furnaces and Induction billet heater. He highlighted about the best operating practices for existing Induction furnaces along with the scope of new IGBT type induction furnace having more efficiency and less harmonics and also shared the benefits of Induction type billet heater. Post lunch the Mr. E Manoharan, AL Owais Group of Companies, discussed about a new product called hydroxyl fuel generator. In this technology hydrolysis of water is done by passing electricity to create mixture of oxygen and hydrogen gas, which can be added either to fuel or combustion air-line. The addition of this mixture will reduce the fuel consumption, since oxygen and hydrogen are very good fuel. The next session was on induction furnace crucibles by Morgan crucibles, which can reduce the melting energy consumption and increase the life of coils. The last two technical session was on new design of melting furnaces with natural gas and thermo ceramic coatings to avoid radiation losses by Mr. Rajesh Gohel, Matfab Engineering and Mr. Pankaj Patil, Innovative surface coating respectively.

The following table shows the summary of 3rd LSP workshop at Jamnagar

Table 4: Summary of 3rd Workshop

3 rd LSP Workshop , JFOA	
Total no of Participants	47
No of technical sessions	8
No of LSP's attended	27
No of Brass Units attended	20
Outcomes	<p>Increased capacity building of LSPs and other stake holders</p> <ul style="list-style-type: none"> • Facilitated B2B discussion between LSPs and OEMs • Training for LSPs to consider EE as an important parameter in their services (mechanical fitter, technicians, welders, dealers etc.) • Facilitated B2B meeting between LSPs and OEMs with an objective of LSPs becoming service provider for the bigger OEM • Training given on EE measures such as <ol style="list-style-type: none"> 1. Energy Efficient NG fired on reheating and melting furnaces 2. Best operating practices in Induction furnace 3. Hydroxy fuel generator for fuel saving 4. Furnace crucibles for energy saving 5. Energy Efficient induction billet heater applications 6. Thermo ceramic coatings for reheating furnaces <p>Supplier Unit Engagement</p> <ul style="list-style-type: none"> • Facilitation of Electotherm's visit to 5 units for induction furnace as well as billet heater scope • Facilitation of Hydroxy technology supplier's visit in 3 units; Rajhans metals, Senor metals and Jay International • Facilitation of AFFECO's visit to 2 units for detailed engineering feasibility study for replacing coal based melting furnace with NG based • Facilitation of Metfab's visit to 1 units for assessment of furnace operation and feasibility of replacement • Facilitation of Thermo-ceramic coating supplier's visit in 4 units <p>Introduction of new technology/services</p>

	<ul style="list-style-type: none"> • Introduced the hydroxyl fuel saving technology • Thermo-ceramic Coatings
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2.4 Fourth LSP Training Program, Jamnagar

The Fourth training program was organized on 30th May 2018 at Jamnagar Factory Owners' Associations office which had a participation of 37 people including local service providers, OEMs and representation from Brass units. The program started with a welcome address by Mr. Tulasi bhai, President, Jamnagar Factory Owners Association (JFOA). Thereafter a detailed presentation was made on the project objectives and deliverables by Mr. Jasbir Singh, Associate Counsellor, and CII-GBC. The theme of the fourth Program was utilities and Renewable energy and first technical sessions



Figure 11: Fourth Training Program



Figure 12: Presentation on PM compressor

started with presentation by Energy efficiency Services Limited (EESL) on motor replacement program. He discussed in details about the key steps involved the whole program and the basic requirements and criticalities of each step. This was followed by Mr. Sandip Patel, Deep Pneumatics Pvt. Ltd. on energy efficient permanent magnet (PM) screw compressor and discussed about the energy saving in the PM motors in comparison to normal induction motors. After tea break Dr. Malini Balakrishnan spoke about the importance of resource efficient and cleaner production role in helping the MSME units to become energy efficient and competitive. The next session was from Groilla fans on energy efficient BLDC ceiling fans and implementation models for brass cluster, Jamnagar. Post lunch the technical presentation started with Mr. Parshwah Shah, Waree Solar on different implantation models of solar rooftop and also covered in detail about the investment and cash flow through projects and highlighted the economic returns and environment benefits possible through renewable energy



Figure 10: DIC Presentation on Subsidy schemes

interventions. In fourth workshop we had a presentation from local District Industries center about the different subsidy schemes of Gujarat government for energy efficiency projects. Ms Vaishali Khimsuriya discussed in details about the requirements and criteria for providing subsidy to energy efficiency related projects. This was followed by the presentation on solar light pipe by Mr. Nilay Upadhyay, Eview Global Pvt. Ltd, he discussed about the importance of harnessing solar light during day time along with cost saving that can achieved by switching off the artificial lights.

The workshop concluded with presentation on government energy efficiency schemes Mr. Jitendra Jain, SIDBI, he shared the various schemes under which the units can avail soft loans for financing energy efficiency and renewable energy projects.

Following table shows the summary of 4th LSP workshop at Jamnagar

Table 5: Summary of 4th Workshop

4 th LSP Workshop , JFOA	
Total no of Participants	37
No of technical sessions	8
No of LSP's attended	18
No of Brass Units attended	19
Outcomes	<p>Increased capacity building of LSP's and other stake holders</p> <ul style="list-style-type: none"> • Facilitated discussion between LSPs and OEMs • Training for LSPs to consider EE as an important parameter in their services (Electrical vendors, Electricians, motor repair and maintenance, compressor dealer etc.) • Training given on EE measures such as <ol style="list-style-type: none"> 1. IE3 Motor replacement program –EESL 2. Energy efficient Permanent magnet compressor 3. Resource efficient and cleaner production 4. BLDC ceiling fans and implementation model for cluster 5. DIC energy efficiency subsidy schemes 6. Various operational models of Solar roof top and Solar Light pipe 7. Government subsidy schemes <p>Supplier Unit Engagement</p> <ul style="list-style-type: none"> • Facilitated the visit of Waree Solar to conduct site feasibility study and scope of RE rooftop • Facilitated the visit of PM compressor technology supplier to unit • Facilitated the visit of Eview Global to understand the feasibility of Solar light pipe in 2 units <p>Introduction of new technology/services</p> <ul style="list-style-type: none"> • PM motor energy efficient screw compressor • Resource efficient and cleaner production

3. CONCLUION OF TRAINING PROGRMAMES

The four training programs organized in Jamnagar Brass cluster helped in the capacity building of all the stake holders in the cluster which include service providers, OEMs and dairy units. All the workshops had several discussions among the participants focusing on various energy efficient technologies, various technical challenges faced in implementing a new technology in the cluster and also on availability of local service providers for any technology.

The graph below shows the workshop participation in Jamnagar.

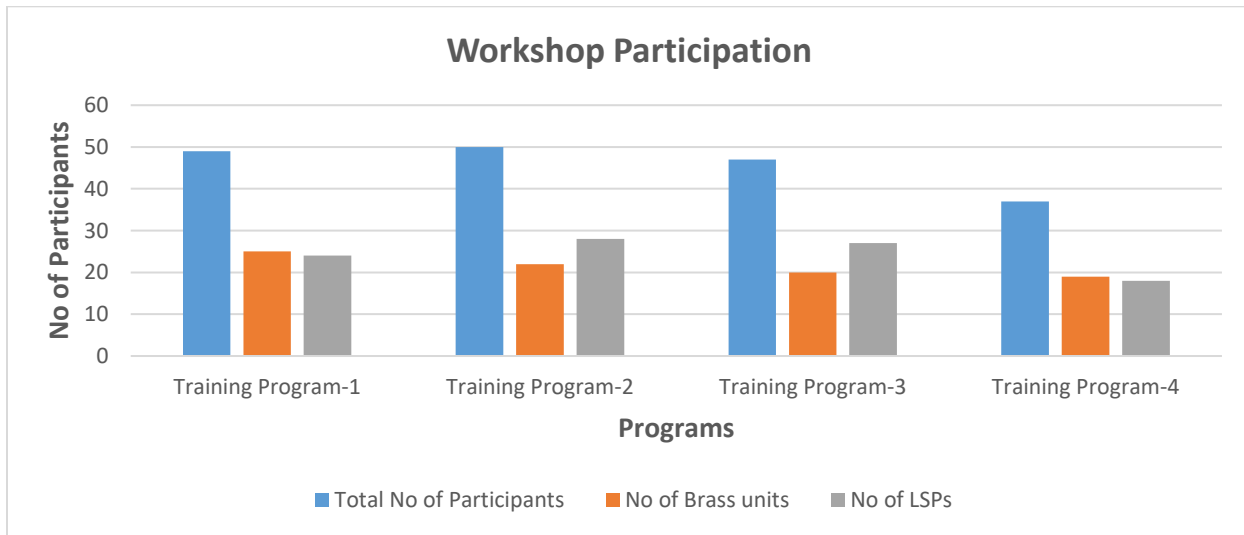


Figure 13: Workshop participation

Following are some of the key highlights of the workshops:-

- 183 stakeholders trained through four workshops which include 86 people from brass units and 97 LSPs associated with the brass cluster
 - LSP includes local fabricators and technicians associated with dairy units, solar consultants, dealers for boiler and refrigeration, DG set suppliers, electrical system service providers, pump and compressor dealers etc.
- 18 different technical topics covered during the four training programs in which several new technologies like EE Melting furnace , Recuperator, PM magnet screw compressor, Hydroxy generator, IGBT induction furnace, Thermo-ceramic coating etc. were introduced to the cluster
- Training given by major OEMs such as Inductotherm , Electrotherm, Wesman, AFFECO heating and Grundfos India to the local service providers associated with the brass cluster
- Facilitated B2B meeting between Promethean Energy and LSPs with an objective of LSP becoming local service provider for promethean.

4. ANNEXURE

4.1 Scan copy of training programs Agenda



Capacity Building of Local Service Providers Training Workshop - Thermal System

Date: 10th Apr 2018 | **Venue:** Jamnagar Factory Owners Association, Jamnagar

Agenda

Registration: 0930hrs

1000 hrs – 1100 hrs: Opening Session		
1000 hrs	Welcome Remarks	Mr. Tulasi Bhai President Jamnagar Brass Factory Owner's Association
1010 hrs	Special Remarks	Mr. Paresh Bhai Vadhar Head of Energy Management Cell Jamnagar Brass Factory Owner's Association
1020 hrs	About LSP Project	Mr. Jasbir Singh Associate Counsellor CII – Godrej GBC
1040 hrs	Activities in Brass Cluster	UNIDO/BEE
1050 hrs	Heath Break	
1100 hrs – 1500 hrs: Presentation on Energy Efficiency in Thermal Utilities		
1100 hrs	EE in Induction Coreless Furnaces	Inductotherm India Ltd
1130 hrs	NG fired Energy efficient melting furnaces	AFECO heating system
1200 hrs	NG fired Reheating furnace and Waste heat recovery – Recuperators	Promethean Energy Pvt. Ltd.
1230 hrs	Induction billet heater	Inductotherm India Ltd
1300 hrs	Lunch Break	
1400 hrs	EE in Burners and Auto Fuel control system	Wesman
1430 hrs	Design of Melting Furnaces and EE Crucibles	Matfab Engineering
1500 hrs	Policies and NG gas scenario in Jamnagar	Gujarat gas Limited
1510 hrs – 1630 hrs: B2B Meetings and way forward		
1510 hrs	B2B Meeting Sessions	
1610 hrs	Discussions and Agreement on way forward	
1630 hrs	Close	



Capacity Building of Local Service Providers Training Workshop

Date: 28th Apr 2018 | **Venue:** Jamnagar Factory Owners Association, Jamnagar

Agenda – Electrical System and Renewable Energy

Registration: 1030hrs

1100 hrs – 1130 hrs: Opening Session		
1100 hrs	Welcome Remarks	Mr. Tulasi Bhai President Jamnagar Brass Factory Owner's Association
1105 hrs	Special Remarks	Mr. Paresh Bhai Vadhar Head of Energy Management Cell Jamnagar Brass Factory Owner's Association
1110 hrs	About LSP Project	CII – Godrej GBC
1120 hrs	Activities in Brass Cluster	UNIDO/BEE
1130 hrs – 1330 hrs: Presentation on Energy Efficiency in Electrical Utilities		
1130 hrs	Power Factor Management and Harmonics	Independent Consultant(Expert)
1200 hrs	Transvector Nozzle for Compressed air cleaning	General imsubs
1230 hrs	Energy efficient Motors (IE3 and IE4)	Bharat Bijlee
1300 hrs	EE Cooling water Pumps	Grundfos India
1330 hrs	Networking Lunch Break	
1430 hrs – 1530 hrs: Presentation on Renewable Energy and EE/ RE Financial schemes for MSMEs		
1430 hrs	Solar Rooftop – O&M and various models available in market	SMR Energy (P) Ltd
1500 hrs	Solar Light Pipe	E View Global (P) Ltd
1530 hrs	Government schemes on EE/RE for MSMEs	SIDBI
1600 hrs – 1630 hrs: B2B Meetings and way forward		
1600 hrs	B2B Meeting with LSPs/Units	
1630 hrs	Interactive session and way forward	
1630 hrs	Close	



Capacity Building of Local Service Providers

Training Workshop - Thermal System

Date: 15th May 2018 | **Venue:** Jamnagar Factory Owners Association, Jamnagar

Agenda

Registration: 0930hrs

1000 hrs – 1100 hrs: Opening Session		
1000 hrs	Welcome Remarks	Mr. Tulasi Bhai President Jamnagar Brass Factory Owner's Association
1010 hrs	Special Remarks	Mr. Paresh Bhai Vadhar Head of Energy Management Cell Jamnagar Brass Factory Owner's Association
1020 hrs	Progress in LSP Project and Approach & methodology for Energy Saving	Mr. Jasbir Singh Associate Counsellor CII – Godrej GBC
1100 hrs – 1600 hrs: Presentation on Energy Efficiency in Thermal Utilities		
1100 hrs	EE NG fired Melting Furnace, Recuperator and Project Implementation models for Jamnagar	AFECO heating system
1130 hrs	Policies and NG Gas scenario in Jamnagar	Gujarat Gas Limited
1200 hrs	EE in Induction Coreless Furnaces	Electrotherm India
1230 hrs	Induction Billet Heater	Electrotherm India
1300 hrs	Networking Lunch Break	
1400 hrs	Hydro Fuel Generator for Fuel saving	AL Owais Group of Companies
1430 hrs	Furnace Crucibles for Improving Energy Efficiency	Morgan Crucibles
1500 hrs	EE NG fired Melting Furnaces, Burners and Project Implementation models for Jamnagar	Matfab Engineering
1530 hrs	Ceramic Coating for the Reheating Furnace	Pankaj Patil
1600 hrs – 1730 hrs: B2B Meetings and way forward		
1600 hrs	B2B Meeting Sessions	
1700 hrs	Agreement on way forward	
1730 hrs	Close	



Capacity Building of Local Service Providers Training Workshop





Date: 30th May 2018 | **Venue:** Jamnagar Factory Owners Association, Jamnagar

Agenda – Utilities and Renewable Energy

Registration: 1430hrs

1500 hrs – 1530 hrs: Opening Session		
1500 hrs	Welcome Remarks	Mr. Tulasi Bhai President Jamnagar Brass Factory Owner's Association
1505 hrs	Special Remarks	Mr. Paresh Bhai Vadhar Head of Energy Management Cell Jamnagar Brass Factory Owner's Association
1510 hrs	Progress in LSP Project	CII – Godrej GBC
1515 hrs	Case studies and activities	UNIDO Cluster Leader
1530 hrs – 1800 hrs: Presentation on Energy and Resource Efficiency		
1530 hrs	IE 3 Motors – Replacement Programme and case studies	EESL
1600 hrs	Energy Efficient Permanent Magnet compressor	Deep Pneumatics Pvt Ltd
1630 hrs	Resource Efficiency and Cleaner Production	TERI
1730 hrs	BLDC ceiling Fan and implementation model for Jamnagar	Gorilla Fan
1750 hrs	Health Break	
1800 hrs – 1930 hrs: Presentation on Renewable Energy and EE/ RE Financial schemes for MSMEs		
1800 hrs	Energy efficiency projects subsidy schemes	District Industries Center
1820 hrs	Solar Rooftop – O&M and various models available in market	Waree Solar
1850 hrs	Solar Light Pipe	E View Global (P) Ltd
1910 hrs	Government schemes on EE/RE for MSMEs	SIDBI
1930 hrs – 2000 hrs: B2B Meetings and way forward		
1930 hrs	B2B Meeting with LSPs/Units and Way forward	
2000 hrs	Networking Dinner and Close	

4.2 Scan copy of attendance sheet for training programs

Confederation of Indian Industry

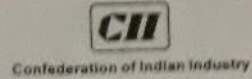
Capacity Building of Local Service Providers – Jamnagar

Brass Cluster

First Training Program

Date: 10th April 2018 | Venue: Factory Owners Association, Jamnagar

List of Participants					
S.N O	Name	Company/Plant	Email Id	Mobile No.	Sign.
01	Rajeshkumar Gohel	Mettjab Eng	rajeshgohel@mettjabeng.com	8161347273	[Signature]
02	Shah Tushar T.	Wesman	tushar-shah@wesman.com	9427048715	[Signature]
03	Ravishsinh Jadhav	Inductotherm	rajesh@inductotherm.com	9376018271	[Signature]
04	Sunil Kumar	Inductotherm	skumar@inductotherm.com	904577919	[Signature]
05	Ajay Kumar	Inductotherm	Ajay@inductotherm.com	941727273	[Signature]
06	Nishant Singh	Inductotherm	nsingh@inductotherm.com	937522675	[Signature]
07	Prasen Mehta	inductotherm			[Signature]
08	R.D Mehta	inductotherm	rdmehta@inductotherm.com		[Signature]
09	Jagdish Choudhary	Heat & Heating	marketing@heatandheating.com	9371634910	[Signature]
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11	Hetal Choudhary	M Steel		9377766246	[Signature]
12	Vaibhav Mundori	Steel swastik.	swastik@steelswastik.com	990488898	[Signature]
13	Kohit Kothari	wardman Sales Corporation	vskjani@wardman.com	9427210433	[Signature]
14	Pravin bhav Patel	J.P. Electrical	jpel315@gmail.com	9824283894	[Signature]
15	Top manufacturing Mangani Patel.	Top Manufacturing	m.patel@topmanufacturing.com	9824512448	[Signature]
16	Ashwin Krishna	Pepl Pvt. Ltd.	ashwin@pepl.com	910757044	[Signature]
17	Metulab	Metulab			[Signature]
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21	Anil bhav Romaliya	Meridian Corporation		9426984179	[Signature]
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Capacity Building of Local Service Providers – Jamnagar Brass Cluster First Training Program

Date: 10th April 2018 | Venue: Factory Owners Association, Jamnagar

List of Participants

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29	Prakash boradiya	Deemark bath fitting	deemarkbathfitting@gmail.com	9426714106	[Signature]
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32	Gaurav Kothari	Metal mech Engineering	mail@metalmecheng.biz	9925043879	[Signature]
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38	Jadhav Kalshiya	Jay Vabache	-	3924228853	[Signature]
39	Ambarish Bhavsani	7 Seasons Resort	-	9925698016	[Signature]
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Capacity Building of Local Service Providers – Gujarat Dairy Cluster

Second Training Program

Date: 28th April 2018 | Venue: Jamnagar Factory Owners Association

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7	VSEP No. 14				
8	Vignesh	India Elctro	vignesh@indiaelctro.com	9628722222	[Signature]
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16	Rehit Kothari	VARDHMAN SALES COR.	VSCJAM@yhoi.com	9427210411	[Signature]
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19	MAHESH V. GADKARIYA	SHIVSHAKTI ELE.S.		94271475791	[Signature]
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Confederation of Indian Industry

Capacity Building of Local Service Providers – Gujarat Dairy Cluster

Second Training Program

Date: 28th April 2018 | Venue: Jamnagar Factory Owners Association

List of Participants

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27	Bhonar Bobadiya	Sneh Metal		9427167353	Bhonar
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31	Mahesh J. Trivedi	Assoc. sum	Parekh, Trivedi	25007	Mahesh
32	Harshank Shrivastava	Vikram Jm	H.D. Shrivastava	25007	Harshank
33	Piyush Kuchhadia	navkare ent	navkare-ent@9mail.com	9099797474	Piyush
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36	Pooresh Patel	Aifu etc co	aifu@electro.dyn	9426938644	Pooresh
37	Mansuk Faldy	Boreis tech Surs. Rtd	info@boreistech.com	9978914930	Mansuk
38	Kashik Maniyar	Phreshik Surs.	poreshik@gmail.com		Kashik
39	Jaydeep	Jaydeep	jaydeep@jaydeep.com	9975374115	Jaydeep
40	Bharik Maldhe	Gomey Plastic	info@gomeyplastic.com	9879226911	Bharik
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Aravindan 2162



Capacity Building of Local Service Providers – Gujarat Dairy Cluster

Second Training Program

Date: 28th April 2018 | **Venue:** Jamnagar Factory Owners Association

List of Participants

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Capacity Building of Local Service Providers Brass Cluster Third Training Program

Date: 15th May 2018 | Venue: Jamnagar Factory Owner's Association, Jamnagar

List of Participants					
S.NO	Name	Company/Plant	Email Id	Mobile No.	Sign.
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24	2121212121	2121212121		9824243583	<i>[Signature]</i>
25	Brasstech Eng.	2. 3081		9978914950	<i>[Signature]</i>



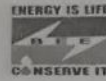
Confederation of Indian Industry

Capacity Building of Local Service Providers Brass Cluster Third Training Program

Date: 15th May 2018 | Venue: Jamnagar Factory Owner's Association, Jamnagar

List of Participants

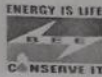
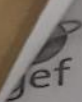
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36	Vijay Jain	ET	'	587510006	[Signature]
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38	Suchin Patel	'	'	9723422222	[Signature]
39	Anup. Rathod	JSR Metal	'	8000066007	[Signature]
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Capacity Building of Local Service Providers – Jamnagar Brass Cluster Fourth Training Program

Date: 30th May 2018 | Venue: Jamnagar Factory Owners Association

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Capacity Building of Local Service Providers – Jamnagar Brass Cluster

Fourth Training Program

Date: 30th May 2018 | Venue: Jamnagar Factory Owners Association

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