



Promoting Energy Efficiency and Renewable Energy In selected MSME Clusters In India

A Joint Initiative of GEF, UNIDO and BEE



SAMEEEKSHA meeting

January 12, 2019



Physical Project Progress





Recent Project Activities (till 30th November 2018)

- LSPs Capacity building workshops is 11 clusters completed (four workshops in each cluster with minimum 20 participants were attended in each workshop)
- Developed 120 technology specific DPRs in 12 clusters (10 DPRs in each clusters on 5 to 7 technologies)
- Sanctioned 21 pilot projects. 16 pilot project are implemented
- Two Energy audits at Sikkim completed
- Energy audit activities at Kerala (4 completed, 2 pending), Morbi (all 20 are completed)
- Organized project launch workshop at Kerala Dairy Cluster in August 2018
- Organized one international study tour to New Zealand and one inter cluster visit to Rajkot Foundry Cluster
- Organized three in-house training programs at AIP-NPC Chennai (Nagaur, Khurja and Jamnagar)
- Organized one Energy Clinics workshop at Coimbatore





Current Ongoing Activities (till 31st March 2019)

- Organizing three in-house training programs at AIP-NPC Chennai (Kerala, Sikkim and Morbi)
- Organized stakeholder consultation workshop to finalize Component 3 & 4 on 10th December, 2018
- Expanding Energy Clinics at 6 more clusters
- Energy Audits and post energy audit workshops in Kerala and Morbi
- Developing Knowledge dissemination material such as case studies, BOP and CMPs in Kerala Dairy and Morbi Ceramic clusters
- Organizing state level event at Sikkim in January or February 2019
- Coffee table book on project (will hire a short term consultant to develop the same)
- Organizing national summit in Delhi in 2019
- Recruitment of cluster leaders in four clusters
- Inspecting the pilot project installations and processing the payments
- Developing another new set of pilot projects (20 to 25) in new and leftover clusters
- Finalizing and issuing the RFP documents for component 3 and 4 by March 2019
- Organizing inter cluster visit for Khurja Ceramic cluster to Thangadh Ceramic Cluster
- Developing four sector specific and one project specific calendars for 2019
- 8th PSC is planning in February 2019
- Hiring a agency to develop the project specific videos



Cluster Level Project Activities Summary

Activities	Dairy			Foundry		
	Gujarat	Kerala	Sikkim	Coimbatore	Belgaum	Indore
Energy Audits conducted by consultants	6	6	2	6	6	6
EMC Establishments	1	1	0	1	1	1
Energy Audits conducted by Cluster Leaders	70	0	0	55	45	6
DPR's Developed by Cluster Leaders	110	0	0	68	49	20
DPR's Developed by consultants	10	10	10	10	10	10
Small Scale projects implemented	92	0	0	39	71	19
Pilot project demonstrations implemented	4	0	0	6	4	1
LSP's Training workshops organised	4 (30)	0	2 (10)	4 (40)	4 (25)	4 (15)
In house training workshop at AIP-NPC Chennai organized	1	0	0	1	1	1
Knowledge Dissemination Workshops	3	3	3	3	3	3
Inter cluster visits	0	0	1	0	1	1
International study tours	1	1	1	1	1	1
Energy Clinics	0	0	0	1	0	0

Cluster Level Project Activities Summary

Activities	Ceramics			Hand tools		Brass
	Thangadh	Khurja	Morbi	Jalandhar	Naguar	Jamnagar
Energy Audits conducted by consultants	6	6	20	6	6	6
EMC Establishments	1	1	1	1	1	1
Energy Audits conducted by Cluster Leaders	15	6	5	40	30	45
DPR's Developed by Cluster Leaders	19	8	12	39	25	38
DPr's Developed by consultants	10	10	10	10	10	10
Small Scale projects implemented	7	5	5	58	39	38
Pilot project demonstrations implemented	2	4	0	0	1	0
LSP's Training workshops organised	4 (35)	4 (22)	4 (35)	4 (25)	4 (10)	4 (35)
In house training workshop organised	1	1	0	1	1	1
Knowledge Dissemination Workshops	3	3	3	3	3	3
Inter cluster visits	0	0	0	0	1	0
International study tours	1	1	0	1	1	1
Energy Clinics	0	0	0	0	0	0

Energy Efficiency Project Implementation

Cluster Name	Small Scale Projects	Energy Savings (TOE/year)	CO ₂ Reduction (Tonnes/year)	Monetary Savings (Lakh ₹ /year)	Investment (Lakh ₹)	Simple Payback Period (months)
Jalandhar	58	247	1892	179	119	8
Coimbatore	39	111	1079	130	79	7.3
Nagaur	39	19	190	21	5	2.9
Jamnagar	38	113	667	137	270	23.6
Khurja	5	357	1271	54	14	3.1
Indore	19	63	164	32	15	5.6
Gujarat	92	5565	29337	2428	3563	17.6
Belgaum	71	325	2417	212	260	14.7
Thangadh	7	798	5424	499	867	20.8
Morbi	5	564	1404	42	18	5.1
Kerala	0	0	0	0	0	0
Sikkim	0	0	0	0	0	0
Total	373	8162	43845	3734	5210	16.7

109
*technologies
 have been
 identified and
 some of them
 replicated
 multiple times*

Project Targets



Energy Savings

Annual Targets: 2.7 lakh MWh
Achieved: 1 lakh MWh



Carbon Emission Reduction

Annual Target: 84700 Tonnes
Achieved: 46500 Tonnes

Cumulative Target: 1.2 million Tonnes
Achieved: 0.62 million Tonnes

15 years



Participants attended workshops

2383
>100%



EE & RE Measures implemented

373
>100%



MSME Units Benefited

305



Energy Savings Achieved
(TOE/Year)

8162
>34.31%



Workshops Organized

84
>100%



Monetary Savings Achieved
(Lakhs/year)

3734



Case Studies Prepared

250
>100%



Co-financing on EE & RE
Investments (Lakhs/year)

5210
>50.87%



DPRs Developed

135
>60%



Carbon Emissions Avoided
(Tonnes/year)

46500
>52.76%



Pilot Projects Sanctioned

27
>90%



Cumulative Carbon Emissions
Avoided in 15 years (tonnes)

620357
>50.10%

Deepening and Widening Project Activities in Existing and New Clusters (RFP -1)

Step-1

- Hiring Consulting Agency (a team of 3 resources/experts will be deployed in each cluster for continuous hand holding of MSME units for EE measures)
- Developing Technology Specific Compendium (technology, cost, vendors, classification)

Step-2

- Baseline and Walkthrough Energy Audits (target to reach 80% of cluster members)
- Pooling of units by involving OEMs and big corporates in possible clusters
- Select possible EE measures from Compendium along with acceptance from unit owner

Step-3

- Handholding and implementation support for MSMEs on selected EE measures

Deepening and Widening Project Activities in Existing and New Clusters (RFPs) - Payment

Step-1

- Part of the payment will be made for developing Technology Specific Compendium (technology, cost, vendors, classification)

Step-2

- Part of the payment will be made for baseline and walk through audits

Step-3

- Payment based on EE implementation results (number, type and technology)

Hiring will be on sector specific??

Strategy for Indore and Sikkim will be different

Strategy for Dairy Sector will be different

Scope to expand for three new clusters – Sea-food processing

Making Energy Management Centers (EMC) Self-Sustainable (RFP-2)

- Appoint an agency to develop strategy by considering following:
 - Assessment of existing cluster associations to run the EMCs
 - Explore other local institutes to hold the EMCs (Engineering colleges, ITIs, etc.)
 - Building a self-sustainable business model
 - Involve local energy stakeholders
 - Develop a rate card for instruments
 - Access of technical experts (preferably local)

Benchmarking and Energy Data Base (RFP-3)

- Option -1: Cloud based data analytics
 - Assessment tools will be developed
 - Development of web-based cluster specific data analytic system
 - Units will enter daily production as well as energy details
 - Indices and KPIs will be shared to participating units daily, weekly and monthly
 - Benchmarking will be possible with real-time data
 - Continuous process in 24 months
 - Sustainability after project??
- Option-2: Physical data collection
 - One year data collection during walk or baseline energy audits
 - Benchmarking and cluster level data base is created
 - Easy to implement
 - Less time consuming

Implementation support can be taken from RFP-1

Knowledge Management (RFP-4)

- Mix of physical/web based/multi media based knowledge dissemination tools
- Create centralized knowledge repository
- Use social media for active dissemination
- Create knowledge exchange blogs
- Rollout of cluster level/sector level competitions and recognitions

Time Lines

RFPs	Initial Draft	PMU inputs	Second Draft	PMU & BEE inputs	Final Document	PSC approval	UNDIO HQ Procurement	Notification	Last Date	Evaluation	Award of Contract	Total Days
Deepening and Widening Project Activities in Existing and New Clusters (RFP -1)	26/12/18	03/01/19	10/01/19	15/01/19	20/01/19	06/02/19	08/02/19	18/02/19	12/03/19	22/03/19	28/03/19	
		8	6	4	4	14	2	9	21	9	5	82
Making Energy Management Centers (EMC) Self-Sustainable (RFP-2)	03/12/18	10/01/19	15/01/19	20/01/19	25/01/19	06/02/19	08/02/19	18/02/19	12/03/19	22/03/19	28/03/19	
		8	6	4	4	14	2	9	21	9	5	82
Benchmarking and Energy Data Base (RFP-3)	11/01/19	15/01/19	20/01/19	23/01/19	28/01/19	05/02/19	10/02/19	22/02/19	12/03/19	28/03/19	10/04/19	
		8	6	4	4	14	2	9	21	9	5	82
Knowledge Management (RFP-4)	26/12/18	03/01/19	10/01/19	15/01/19	20/01/19	06/02/19	08/02/19	18/02/19	12/03/19	22/03/19	28/03/19	
		8	6	4	4	14	2	9	21	9	5	82

Component- 4

4.1 Improved monitoring and evaluation of energy use and development of a benchmarking system

- ✓ Cluster leaders have done surveys in respective clusters and regularly upkeep the records*
- ✓ A survey conducted on locally available biomass resources and sustainability of biomass supply determined. (In the Foundry and Brass Sectors)*
- ✓ Sustainability standards developed for biomass use*



Financial Progress



Project Expenditure (till 31st March 2019)

Expenditure (In USD)			
Time Frame	BEE	UNIDO	Total
Total Allocated Budget	25,45,392	44,47,692	69,93,084
Actual spent till 30 November 2018	9,56,470 (37.58%)	12,78,388 (28.74%)	22,34,858 (23.36%)
Already committed till 31st March 2019	2,89,550 (11.38%)	1,78,476 (4.0%)	4,68,026 (6.69%)
Estimated between 1st December 2018 and 31st March 2019	1,15,942 (04.60%)	1,81,159 (4.1%)	2,97,101 (4.24%)
Total (by end FY 2018-19)*	13,61,962 (53.51%)	16,38,023 (36.8%)	29,99,985 (42.90%)
Remaining Available Budget (FY 19-20 & FY 20-21)	11,83,430	28,09,669	39,93,099

(approx. numbers in USD @ 1 US\$ = INR 69)

* Expected by end of FY 2018-19

Planned Project Expenditure (For FY 2019-20 and FY 2020-21)

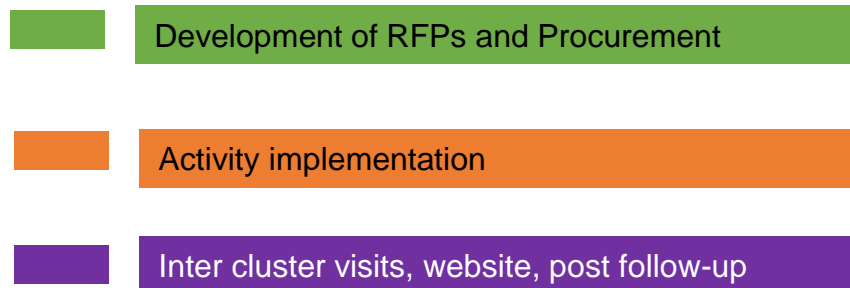
Expenditure (In USD)

Time Frame	BEE	UNIDO	Total
Remaining Available Budget (FY 19-20 & FY 20-21)	11,83,430	28,09,669	39,93,099
Bankers Training	2,02,899	0	2,02,899
Three National Workshops	1,44,928	0	1,44,928
Sustainability of Energy Management Centres (EMC)	86,957	72,464	1,59,420
International and Inter Cluster Visits	0	11,594	11,594
Deepening and Widening to new and similar MSME Clusters/Sectors	0	12,85,714	12,85,714
Benchmarking, Energy Data Base and Exit Strategy	0	3,62,319	3,62,319
Knowledge Management	2,89,855	2,17,391	5,07,246
Pilot Projects	0	3,81,159	3,81,159
Project Management	3,47,826	3,13,043	6,60,870
Total	10,72,462	18,10,145	28,82,609
Remaining Funds available	1,10,966	1,65,984	2,76,950

(approx. numbers in USD @ 1 US\$ = INR 69)

Workplan

Activities	2019				2020				2021	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Bankers Training										
Three National Workshops										
Sustainability of Energy Management Centres (EMC)										
International and Inter Cluster Visits										
Deepening and Widening to new and similar MSME Clusters/Sectors										
Benchmarking and Energy Data Base										
Knowledge Management										
Pilot Projects										
Handing Over										
Operational Closure										





Thank you

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